

**DoD MODELING AND SIMULATION (M&S) GLOSSARY**  
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394			<u>P1. PART I -- ACRONYMS/ABBREVIATIONS</u>
395	P1.1.	<u>A</u>	
396			
397	P1.1.1	ADSS A/D	Analog-to-Digital
398	P1.1.2	A2ATD	Anti-Armor Advanced Technology Demonstration
399	P1.1.3	Aa	Achieved Availability
400	P1.1.4	AA	Accelerated Acquisition
401	P1.1.5	AAAS	American Association for the Advancement of Science
402	P1.1.6	AAAV	Advanced Amphibious Assault Vehicle
403	P1.1.7	AAIS	Advanced Airborne Interceptor Simulator
404	P1.1.8	AAL	ATM Adaptation Layer
405	P1.1.9	AAODL	Atmospheric Aerosols and Optics Data Library
406	P1.1.10	AAR	1. After Action Review
407			2. After Action Report
408	P1.1.11	AARS	After Action Review System
409	P1.1.12	AAS	Advanced Automation System
410	P1.1.13	AASP	Army Automation Security Program
411	P1.1.14	AASPEM	Air-to-Air System Performance Evaluation Model
412	P1.1.15	AATD	Army Advanced Technology Demonstration(s)
413	P1.1.16	ABCS	Army Battle Command System
414	P1.1.17	ABCSIM	Atmospheric, Biological, and Chemical Simulation
415	P1.1.18	ABE	ALSP Broadcast Emulator
416	P1.1.19	ABM	Armor Breakpoint Model
417	P1.1.20	ABS	Advanced Battle Simulation
418	P1.1.21	ABU	Analog Backup
419	P1.1.22	ACAAM	Air Courses of Action Assessment Model
420	P1.1.23	ACAD	Advanced Computer Aided Design
421	P1.1.24	ACALS	Army Computer-aided Acquisition & Logistics Support
422	P1.1.25	ACC	Aegis Computer Center
423	P1.1.26	ACDI	Asynchronous Communications Device Interface
424	P1.1.27	ACEC	Army Communications-Electronics Command (now
425			CECOM)
426	P1.1.28	ACEM	1. Advanced Campaign Effectiveness Model
427			2. Air Combat Evaluation Model
428	P1.1.29	ACETEF	Air Combat Environment Test and Evaluation Facility
429	P1.1.30	ACI	AWSIM CTAPS Interface
430	P1.1.31	ACISD	Advanced Computational and Information Sciences
431			Directorate
432	P1.1.32	ACM	ALSP Common Module
433	P1.1.33	ACMI	Air Combat Maneuvering Instrumentation

434	P1.1.34	ACMS	Air Combat Maneuvering Simulator
435	P1.1.35	ACMT	Automated Configuration Management Tool
436	P1.1.36	ACOE	Army Common Operating Environment
437	P1.1.37	ACPA	Allied Communications Publication
438	P1.1.38	ACPT	Automated Corporate Planning Tool
439	P1.1.39	ACQSIM	Acquisition Simulation
440	P1.1.40	ACR	Advanced Concepts and Requirements
441	P1.1.41	ACS	Access Control System
442	P1.1.42	ACSIT	Aegis Combat System Interactive Trainer
443	P1.1.43	ACT	1. Advanced Concepts and Technology
444			2. ALSP Control Terminal
445			3. Architecture Characterization Template
446	P1.1.44	ACTD	Advanced Concept Technology Demonstration See: JCTD
447			- Joint Capability Technology Demonstration
448	P1.1.45	Ada	High Level Computer Programming Language
449	P1.1.46	ADDS	1. Advanced Data Distribution System
450			2. Automated Data Distribution System
451	P1.1.47	ADEPT	Administrative Data Entry for Processing Transmission
452	P1.1.48	ADL	1. Ada Design Language
453			2. Advanced Distributed Learning
454	P1.1.49	ADLP	Advanced Data Link Program
455	P1.1.50	ADM	1. Acquisition Decision Memorandum
456			2. Advanced Development Model
457			3. Application Distribution module
458	P1.1.51	ADMP	Army Data Management Program
459	P1.1.52	ADO	Army Digitization Office
460	P1.1.53	ADP	Automatic Data Processing
461	P1.1.54	ADPA	American Defense Preparedness Association
462	P1.1.55	ADPE	Automatic Data Processing Equipment
463	P1.1.56	ADPSO	Automatic Data Processing Security Officer
464	P1.1.57	ADPSSEP	Automatic Data Processing System Security Enhancement
465			Program
466	P1.1.58	ADPSSO	Automatic Data Processing System Security Officer
467	P1.1.59	ADRG	Arc Digitized Raster Graphics
468	P1.1.60	ADS	1. Advanced Distributed Simulation
469			2. Authoritative Data Source
470			3. Automated Data System
471	P1.1.61	ADSI	Advanced Distributed System Interface
472	P1.1.62	ADSIM	Air Defense Simulation
473			

474	P1.1.63	ADSS	1. Air Defense Simulation System
475			2. Army Data Standardization System
476	P1.1.64	ADST	Advanced Distributed Simulation Technology
477	P1.1.65	ADTAM	Air Defense Tanker Analysis Model
478	P1.1.66	ADUA	Administrative Directory User Agent
479	P1.1.67	AESAT	Avionics & Electrical Systems Advanced Trainer
480	P1.1.68	AESOP	Army EMP Simulator Operations
481	P1.1.69	AETS	Airborne Electronic Threat Simulator
482	P1.1.70	AFAMS	Air Force Agency for Modeling and Simulation
483	P1.1.71	AFAM	Advanced Field Artillery Model
484	P1.1.72	AFATDS	Advanced Field Artillery Tactical Data System
485	P1.1.73	AFCENT	Allied Forces Central Europe
486	P1.1.74	AFEWES	Air Force Electronic Warfare Evaluation Simulator
487	P1.1.75	AFIN	Air Force Information Network
488	P1.1.76	AFIT	Air Force Institute of Technology
489	P1.1.77	AFMC	Air Force Materiel Command
490	P1.1.78	AFMSIS	Air Force M&S Information Service
491	P1.1.79	AFMSRR	Air Force Modeling and Simulation Resource Repository
492	P1.1.80	AFNET	Air Force Network
493	P1.1.81	AFO	Awaiting Further Occurrence
494	P1.1.82	AFOR	Automated Forces
495	P1.1.83	AFS	Advanced Flight Simulator
496	P1.1.84	AFSAA	Air Force Studies and Analyses Agency
497	P1.1.85	AFSATCOM	Air Force satellite communications (system)
498	P1.1.86	AFSCN	Air Force Satellite Control Network
499	P1.1.87	AFWG	1. Acquisition Functional Working Group
500			2. Analysis Functional Working Group
501	P1.1.88	AG	Application Gateway
502	P1.1.89	AGCCS	Army Global Command and Control System
503	P1.1.90	AGES	Air to Ground Engagement Simulation
504	P1.1.91	AGIS	Analysis and Gaming Information System
505	P1.1.92	AGRAM	Air-to-Ground Assessment Model
506	P1.1.93	AGRMET	Agricultural Meteorological Model
507	P1.1.94	AHP	Analytic Hierarchical Process
508	P1.1.95	AHPCRC	Army High Performance Computer Research Center
509	P1.1.96	AI	Artificial Intelligence
510	P1.1.97	AI-ESTATE	Artificial Intelligence and Expert System Tie to Automatic
511			Test Equipment
512	P1.1.98	AI2	Advanced Image Intensification
513	P1.1.99	AID	AUTODIN Interface Device

514	P1.1.100	AIN	Advanced Intelligent Network
515	P1.1.101	AIRES	Automated Information Retrieval And Expert System
516	P1.1.102	AirSAF	Air Semi-Automated Forces
517	P1.1.103	AIS	1. ALSP Infrastructure Software
518			2. Automated Information System
519	P1.1.104	AISSAP	Automatic Information System Security Assessment
520			Program
521	P1.1.105	AISSO	Automated Information System Security Officer
522	P1.1.106	AITS	Advance Information Technology Systems
523	P1.1.107	AIU	Advanced Interface Unit
524	P1.1.108	ALARM	Advance Low-Altitude Radar Model
525	P1.1.109	ALBAM	Air Land Battle Assessment Model
526	P1.1.110	ALBE	Air Land Battlefield Environment
527	P1.1.111	ALBM	Air Land Battle Management
528	P1.1.112	ALES	Air Land Engagement Simulation
529	P1.1.113	ALISS	Advanced Lightweight Influence Sweep System
530	P1.1.114	ALM	Airlift Loading Model
531	P1.1.115	ALS	Ada Language System
532	P1.1.116	ALSP	Aggregate Level Simulation Protocol
533	P1.1.117	ALWSIM	Army Laser Weapon Simulation
534	P1.1.118	AMASS	ATO Mission Analysis and Simulation System
535	P1.1.119	AMES	Advanced Multiple Environment Simulator
536	P1.1.120	AMG	Architecture Management Group
537	P1.1.121	AMHS	Automated Message Handling System
538	P1.1.122	AMIP	Army Model Improvement Program
539	P1.1.123	AMM	1. Advanced Missile Model
540			2. Army Mobility Model
541	P1.1.124	AMME	Automated Multi-Media Exchange
542	P1.1.125	AMOS	Air Mobility Operations Simulation
543	P1.1.126	AMP	Analysis of Mobility Platform
544	P1.1.127	AMPE	Automated Message Processing Exchange
545	P1.1.128	AMPES	Automatic Message Processing Exchange System
546	P1.1.129	AMPS	1. Association of Modeling, Planning, and Simulation
547			2. Automated Mission Planning System
548			3. Aviation Mission Planning System
549	P1.1.130	AMSAA	Army Materiel Systems Analysis Activity
550	P1.1.131	AMSDL	Acquisition Management Systems and Data Requirements
551			Control List
552	P1.1.132	AMSEC	Army Model and Simulation Executive Council

553	P1.1.133	AMSGOSC	Army Model and Simulation General Officer Steering Council
554			
555	P1.1.134	AMSMC	Army Model and Simulation Master Catalog
556	P1.1.135	AMSMP	Army Modeling and Simulation Management Program
557	P1.1.136	AMSO	Army Model and Simulation Office
558	P1.1.137	AMSS	Ammunition Management Standard System
559	P1.1.138	ANDF	1. Application Neutral Data Format
560			2. Architecture Neutral Distribution Format
561	P1.1.139	ANM	Automated Network Manager
562	P1.1.140	ANN	Artificial Neural Networks
563	P1.1.141	ANS	Artificial Neural Systems
564	P1.1.142	ANSI	American National Standards Institute
565	P1.1.143	AoA	Analysis of Alternatives
566	P1.1.144	AOR	Area of Responsibility
567	P1.1.145	APHIDS	Advanced Panoramic Helmet Interface Demonstrator System
568			
569	P1.1.146	API	1. Application Programmer's Initiative
570			2. Application Program Interface
571	P1.1.147	APIU	Adaptable Programmable Interface Unit
572	P1.1.148	APM	Advanced Penetration Model
573	P1.1.149	APMM	Activity Planning and Management Model
574	P1.1.150	APMS	Automated Program Management Information System
575	P1.1.151	APP	Application Portability Profile
576	P1.1.152	APS	Asynchronous Protocol Specification
577	P1.1.153	APSE	Ada Programming Support Environment
578	P1.1.154	AR	Augmented Reality
579	P1.1.155	ARES	1. Advanced Regional Exploratory System
580			2. Advanced Research Electromagnetic Simulator
581	P1.1.156	ARGUS	Advanced Realtime Gaming Universal Simulation
582	P1.1.157	ARI	Army Research Institute (for the Behavioral and Social Sciences)
583			
584	P1.1.158	ARIEM	Army Research Institute of Environmental Medicine
585	P1.1.159	ARIES	Automated Real-Time Instrumented Experimentation System
586			
587	P1.1.160	ARTBASS	Army Tactical Battlefield Simulation System
588	P1.1.161	ARTDT	Advanced Real-Time Data Tool
589	P1.1.162	ASBAT	Air/Sea Battle Model
590	P1.1.163	ASC	1. Advanced Simulation Center
591			2. Aeronautical Systems Center (Air Force)
592			3. American Standards Committee

593	P1.1.164	ASCIET	All-Service Combat Identification Evaluation Team
594	P1.1.165	ASCII	American Standard Code for Information Interchange
595	P1.1.166	ASCM	Advanced Space Computing Module
596	P1.1.167	ASD	Assistant Secretary of Defense
597	P1.1.168	ASD(C3I)	Assistant Secretary of Defense for Command, Control, 598 Communications, and Intelligence
599	P1.1.169	ASD (NII)	Assistant Secretary of Defense (Networks and Information 600 Integration)
601	P1.1.170	ASEM	Anti-Satellite (ASAT) Engagement Model
602	P1.1.171	ASIC	Application-Specific Integrated Circuit
603	P1.1.172	ASIS	Ada Semantic Interface Specification
604	P1.1.173	ASME	American Society of Mechanical Engineers
605	P1.1.174	ASN	1. Abstract Syntax Notation 606 2. Assistant Secretary of the Navy
607	P1.1.175	ASNE MSEA	Air and Space Natural Environment Modeling and 608 Simulation Executive Agent
609	P1.1.176	ASPT	Advanced Simulator for Pilot Training
610	P1.1.177	ASSIST	Acquisition Streamlining and Standardization Information 611 System
612	P1.1.178	ASTC	Advanced Simulation Technology Center
613	P1.1.179	ASTO	Advanced Systems Technology Office
614	P1.1.180	ASTT	Advanced Simulation Technology Thrust
615	P1.1.181	ATASS	Adaptive Training, Analysis, and Simulation System
616	P1.1.182	ATB	Analytical Tool Box
617	P1.1.183	ATCAL	Attrition Model Using Calibrated Parameters
618	P1.1.184	ATD	Advanced Technology Demonstration
619	P1.1.185	ATDL	1. Army Tactical Data Link 620 2. Automated Tactical Data Link
621	P1.1.186	ATDL-	Army Tactical Data Link-One
622	P1.1.187	ATE	Automatic Test Equipment
623	P1.1.188	ATEMS	Advanced Threat Emitter Simulator
624	P1.1.189	ATEWES	Advanced Tactical Electronic Warfare Environment 625 Simulator
626	P1.1.190	ATF	Advanced Tactical Fighter
627	P1.1.191	ATFM&S	Acquisition Task Force on Modeling and Simulation
628	P1.1.192	ATM	Asynchronous-Transfer Mode
629	P1.1.193	ATO	Air Tasking order
630	P1.1.194	ATR	Automatic Target Recognition
631	P1.1.195	ATRJ	1. Advanced Tactical Radar Jammer 632 2. Advanced Threat Radar Jammer

633	P1.1.196	ATS	1. Advanced Threat Simulator
634			2. Automatic Telecommunication System
635			3. Automated Tracking System
636	P1.1.197	ATTD	Advanced Technology Transition Demonstration
637	P1.1.198	ATV	ALSP (Aggregate Level Simulation Protocol) Translator
638			Validator
639	P1.1.199	ATVSS	Automatic Tracking and (with) Video Scene Simulation
640			System
641	P1.1.200	AU	Access Unit
642	P1.1.201	AURA	Army Unit Resiliency Analysis Model
643	P1.1.202	AUT	Application Under Test
644	P1.1.203	AUTODIN	Automatic Digital Network
645	P1.1.204	AVCATT	Aviation Combined Arms Tactical Trainer (virtual
646			simulator)
647	P1.1.205	AVO ADA	Validation Office, part of AJPO
648	P1.1.206	AWACS	Airborne Warning and Control System
649	P1.1.207	AWD	1. Advanced Warfighting Demonstration
650			2. Alternate World Database
651	P1.1.208	AWE	1. Advanced Warfighting Experiment
652			2. Area Weapons Effects
653	P1.1.209	AWESS	Automatic Weapon Effect Signature Simulator
654	P1.1.210	AWIPS	Advanced Weather Interactive Processing System
655	P1.1.211	AWIS	Army World-Wide Information Systems
656	P1.1.212	AWSIM	Air Warfare Simulation
657	P1.1.213	AWSIM-R	Air Warfare Simulation-Reengineered



658	P1.2. <u>B</u>		
659			
660	P1.2.1	BADD	Battlefield Awareness and Data Dissemination
661	P1.2.2	BASEWAM	Battlefield Surveillance Electronic Warfare Analysis Model
662	P1.2.3	BASOPS	Base Operating Information System
663	P1.2.4	BATTS	Basic Air Tactics Trainer
664	P1.2.5	BAUD	Characters Xmitted/sec Serially From a Computer
665	P1.2.6	BBN	1. Broad Band Noise
666	P1.2.7	BBS	1. Brigade/Battalion Simulation
667			2. Bulletin Board System
668	P1.2.8	BCBL	Battle Command Battle Lab
669	P1.2.9	BCC	Base Communications-Computer Center
670	P1.2.10	BCCS	Battlefield Command and Control System
671	P1.2.11	BCOM	Battalion Combat Outcome Model
672	P1.2.12	BCS	Battery Computer System
673	P1.2.13	BDS	Battlefield Distributed Simulation
674	P1.2.14	BDS-D	Battlefield Distributed Simulation. Developmental
675	P1.2.15	BEES	Battlefield Environmental Effects Software
676	P1.2.16	BER	1. Basic Encoding Rules
677			2. Basic Error Rate
678			3. Bit Error Rate
679	P1.2.17	BERT	Bit-Error-Rate Test
680	P1.2.18	BES	Background Environment Simulator
681	P1.2.19	BEWSS	Battlefield Environment Weapon System Simulation
682	P1.2.20	BFA	Battlefield Functional Area
683	P1.2.21	BFIT	Battle Force In-Port Trainer
684	P1.2.22	BFM	Battlefield Forecast Model
685	P1.2.23	BFTT	Battle Force Tactical Trainer (naval virtual simulator)
686	P1.2.24	BG	Battle Group
687	P1.2.25	BGEM	Battle Group Effectiveness Model
688	P1.2.26	BIA	Battlefield Information Architecture
689	P1.2.27	BICES	Battlefield Information Collection & Exploitation System
690	P1.2.28	BICM	Battlefield Intelligence Collection Model
691	P1.2.29	BIS	1. Battlespace Information System
692			2. Built-in Simulation
693	P1.2.30	BISDN	Binary Integrated Services Digital Network
694	P1.2.31	BIT	Built-In Test
695	P1.2.32	BITE	Built-in-Test Equipment
696	P1.2.33	BLC	Base Level Computing
697	P1.2.34	BLCI	Base Level Communication Infrastructure

698	P1.2.35	BLDM	Battalion Level Differential Model
699	P1.2.36	BLERT	Block-Error-Rate Test
700	P1.2.37	BLII	Base Level Information Infrastructure
701	P1.2.38	BLOB	Binary Large Object
702	P1.2.39	BLRSI	Battle Lab Reconfigurable Simulator Initiative
703	P1.2.40	BLRSIM	Battle Lab Reconfigurable Simulator
704	P1.2.41	BLSM	Base Level System Modernization Phase II (See GCCS-
705			AF)
706	P1.2.42	BM	Battlespace Management
707	P1.2.43	BMC3	Battle Management, Command, Control, and
708			Communications
709	P1.2.44	BMDDES	Ballistic Missile Defense Engagement Simulation
710	P1.2.45	BMDO	Ballistic Missile Defense Organization
711	P1.2.46	BMTA	Backbone Message Transfer Agent
712	P1.2.47	BODAS	Brigade operations Display and AAR System
713	P1.2.48	BODESIM	Barrier/Obstacle Deployment and Effectiveness
714			Simulation
715	P1.2.49	BOS	1. Battlefield Operating System
716			2. Basic Operating System
717	P1.2.50	BOSM	Balance of Sustainment Model
718	P1.2.51	BOSS	Binary Object Storage System
719	P1.2.52	bps	Bits Per Second
720	P1.2.53	BPS	Battlefield Planning System
721	P1.2.54	BRACE	Base Resource and Capability Estimator
722	P1.2.55	BRIDGESIM	Bridge Simulator
723	P1.2.56	BSC	Battle Simulation Center
724	P1.2.57	BST	Basic Skills Trainer
725	P1.2.58	BT	Behavioral Taxonomy
726	P1.2.59	BTA	Best Technical Approach
727	P1.2.60	BUCS	Back-up computer system
728	P1.2.61	BULLET	Battalion/Unit Level Logistics Evaluation Tool
729	P1.2.62	BV	Battlefield Visualization
730	P1.2.63	BW	Bandwidth



731	P1.3. <u>C</u>		
732			
733	P1.3.1	C-CS	Communications-Computer Systems
734	P1.3.2	C2	Command and Control
735	P1.3.3	C2I	Command, Control, and Intelligence
736	P1.3.4	C2IPS	Command and Control Information Processing System
737	P1.3.5	C2IS	C2 Information Systems
738	P1.3.6	C2W	Command and Control Warfare
739	P1.3.7	C3	Command, Control, and Communications
740	P1.3.8	C3CM	Command, Control and Communications Countermeasures
741	P1.3.9	C3I	Command, Control, Communications, and Intelligence
742	P1.3.10	C3I/IS	C3I/Information Systems
743	P1.3.11	C3S	C3 Systems
744	P1.3.12	C3ISR	Command, Control, Communications, Intelligence, 745 Surveillance, and Reconnaissance
746	P1.3.13	C4	Command, Control, Communications, and Computers
747	P1.3.14	C4I	Command, Control, Communications, Computers, and 748 Intelligence
749	P1.3.15	C4I2	Command, Control, Communications, Computers, and 750 Intelligence Integration
751	P1.3.16	C4IFTW	C4I for the Warrior
752	P1.3.17	C4ISR	Command, Control, Communications and Computer 753 Intelligence, Surveillance and Reconnaissance
754	P1.3.18	C4SMP	C4 System Master Plan
755	P1.3.19	CAA	Concepts Analysis Agency (U.S. Army)
756	P1.3.20	CAAM	Composite Area Analysis Model
757	P1.3.21	CAAN	Combined Arms Assessment Network
758	P1.3.22	CACE	Computer-Aided Cost Estimating
759	P1.3.23	CACEAS	Computer-Assisted Circuit Engineering and Allocating 760 System
761	P1.3.24	CACTIS	Community Automated Counter-Terrorism Intelligence 762 System
763	P1.3.25	CAD	Computer-Aided Design
764	P1.3.26	CAD/CAM	Computer-Aided Design/Computer Aided Manufacturing
765	P1.3.27	CADD	Computer-Aided Design and Drafting
766	P1.3.28	CADDS	Computer-Aided Design and Drafting System
767	P1.3.29	CADE	Computer-Aided Design Equipment
768	P1.3.30	CADEX	Computer Adjunct Data Evaluator – X
769	P1.3.31	CADIS	Communication Architecture for Distributed Interactive 770 Simulation

771	P1.3.32	CADMAT	Computer-Aided Design, Manufacture and Test
772	P1.3.33	CADS	Computer-Assisted Display System
773	P1.3.34	CAE	1. Common Application Environment
774			2. Component Acquisition Executive
775			3. Computer-Aided Engineering
776			4. Computer-Aided Exercise
777	P1.3.35	CAESAR	Computer-Aided Exploration of Synthetic Aperture Radar
778	P1.3.36	CAETI	Computer-Aided Education and Training Initiative
779	P1.3.37	CAFMS	Computer-Assisted Force Management System
780	P1.3.38	CAI	Computer-Aided Instruction
781	P1.3.39	CAINES	Computer-Assisted Instructional Evaluation System
782	P1.3.40	CAIV	Cost As An Independent Variable
783	P1.3.41	CAL	Computer-Aided Learning
784	P1.3.42	CALOW	Contingency/Limited Objective Warfare
785	P1.3.43	CALS	1. Computer-Aided Acquisition and Logistic Support
786			2. Continuous Acquisition and Life-Cycle Support
787	P1.3.44	CAM	1. Civil Affairs Model
788			2. Computer-Aided Manufacturing
789	P1.3.45	CAMAC	Computer-Aided Measurement and Control
790	P1.3.46	CAMDSS	Common Architecture for Model Development and
791			Simulation Support
792	P1.3.47	CAMEO	Computer-Aided Management of Emergency Operations
793	P1.3.48	CAMERA	Computational Algorithm for Missile Exhaust Radiation
794	P1.3.49	CAMEX	Computer-Assisted Map Exercise
795	P1.3.50	CAMMS	Condensed Army Mobility Model System
796	P1.3.51	CAMPS	Computer-Aided Mission Planning System
797	P1.3.52	CAN	Computer Network Attack
798	P1.3.53	CANES	Consolidated Afloat Networks and Enterprise Services
799	P1.3.54	CAPE	Computer-Aided Project Engineering
800	P1.3.55	CAPP	Computer-Aided Process Plan
801	P1.3.56	CAPS	1. Computer-Aided Paperless System
802			2. Contingency Analysis Planning System
803	P1.3.57	CARD	Computer-Aided Remote Driving
804	P1.3.58	CARDS	1. Catalog of Approved Requirements Documents (Army)
805			2. Central Archive for Reusable Defense Software
806			3. Comprehensive Approach to Reusable Defense
807			Software
808	P1.3.59	CARE	Computer Assistance Resource Exchange
809	P1.3.60	CARES	Cratering and Related Effects Simulation

810	P1.3.61	CASDM	Common Approach to Software Development and Maintenance
811			
812	P1.3.62	CASE	1. Computer-Aided Software Engineering
813			2. Computer-Assisted Software Engineering
814			3. Computer-Assisted Systems Engineering
815	P1.3.63	CASES	1. Capabilities Assessment Expert System
816			2. Contingency Assessment Simulation and Evaluation System
817			
818	P1.3.64	CASMO	Combat Analysis Sustainability Model
819	P1.3.65	CASP	Computer-Assisted Search Planning
820	P1.3.66	CASS	Consolidated Automated Support System
821	P1.3.67	CAST	Computer-Aided Software Testing
822	P1.3.68	CASTFOREM	Combined Arms and Support Task Force Evaluation Model
823	P1.3.69	CASTFOREM-DIS	Combined Arms and Support Task Force Evaluation Model with DIS
824			
825	P1.3.70	CATIA	Computer-Aided Three Dimensional Interactive Application
826			
827	P1.3.71	CATIS	1. Computer-Aided Tactical Information System
828			2. Computer-Assisted Tactical Information System
829	P1.3.72	CATT	Combined Arms Tactical Trainer
830	P1.3.73	CAU	Cell Adapter Unit
831	P1.3.74	CAX	1. Combined Arms Exercise
832			2. Computer-Aided Exercise
833			3. Computer-Assisted Exercise (NATO)
834	P1.3.75	CB	Compromise Band
835	P1.3.76	CBAM	Combat Base Assessment Model
836	P1.3.77	CBI	Computer-Based Instruction
837	P1.3.78	CBITS	Computer-Based Instructional Training System
838	P1.3.79	CBL	Computer-Based Learning
839	P1.3.80	CBR	Constant Bit Rate
840	P1.3.81	CBS	Corps Battle Simulation
841	P1.3.82	CBS-ATCCS	Corps Battle Simulation. Army Tactical Command and Control System Interface
842			
843	P1.3.83	CBT	Computer-Based Training
844	P1.3.84	Cbt STTAR	Combat Synthetic Test and Training Assessment Range
845	P1.3.85	CCB	Configuration Control Board
846	P1.3.86	CCBD	Configuration Control Board Directives
847	P1.3.87	CCDR	Combatant Commander
848	P1.3.88	CCEB	Combined Communications-Electronics Board
849	P1.3.89	CCF	Central Computer Facility

850	P1.3.90	CCH	Computer-Controlled Hostiles
851	P1.3.91	CCIB	Command and Control Interoperability Board
852	P1.3.92	CCIR	Commander's Critical Information Requirement
853	P1.3.93	CCIS	1. Command and Control Information System
854			2. Command, Control, and Intelligence System (NATO)
855	P1.3.94	CCOMEN	Conventional Collateral Mission Effectiveness Model
856	P1.3.95	CCSIL	Command and Control Simulation Interface Language
857	P1.3.96	CCSP	Consolidated Computer Security Program
858	P1.3.97	CCTB	Close Combat Test Bed
859	P1.3.98	CCTT	Close Combat Tactical Trainer
860	P1.3.99	CCU	Computer Control Unit
861	P1.3.100	CDP	Commander's Dissemination Policy
862	P1.3.101	CD-R	Compact Disk. Recordable
863	P1.3.102	CD-ROM	Compact Disk. Read Only Memory
864	P1.3.103	CD-V	Compact Disk. Video
865	P1.3.104	CD-WO	Compact Disk. Write Once
866	P1.3.105	CDA	1. Central Design Activity
867			2. Cognitive Decision Aids
868	P1.3.106	CDAd	Component Data Administrator
869	P1.3.107	CDB	1. Common Database
870			2. Cartographic Database
871	P1.3.108	CDD	Common Data Dictionary
872	P1.3.109	CDDI	Copper Distributed Data Interface
873	P1.3.110	CDE	Common Desktop Environment
874	P1.3.111	CDI	Compact Disk Interactive
875	P1.3.112	CDIN CONUS	Defense Integrated Network
876	P1.3.113	CDP	Classified Data Processing
877	P1.3.114	CDRL	Contract Data Requirements List
878	P1.3.115	CDRUSSTRATCOM	Commander, United States Strategic Command
879	P1.3.116	CDS	Congressional Data Sheets
880	P1.3.117	CDU	Control Display Unit
881	P1.3.118	CE	Command Entity
882	P1.3.119	CEESIM	Combat Electromagnetic Environment Simulator
883	P1.3.120	CEM	Concepts Evaluation Model
884	P1.3.121	CEOI	Communications-electronics Operating Instructions
885	P1.3.122	CERS	Combat Environment Realism System
886	P1.3.123	CERT	Computer Emergency Response Team
887	P1.3.124	CES	Cognitive Environment Simulator
888	P1.3.125	CET	Computers and Electronic Technology
889	P1.3.126	CEWI	Communications Electronic Warfare Intelligence

890	P1.3.127	CFAW	Contingency Force Analysis War Game
891	P1.3.128	CFAM	Combat Forces Assessment Model
892	P1.3.129	CFC	Combined Forces Command, Korea
893	P1.3.130	CFDB	Conventional Forces Database
894	P1.3.131	CFE	1. Center for Engineering
895			2. Contractor Furnished Equipment
896			3. Conventional Forces in Europe
897	P1.3.132	CFII	Center for Integration and Interoperability
898	P1.3.133	CFOR	Command Forces
899	P1.3.134	CGF	Computer Generated Forces
900	P1.3.135	CGI	1. Computer Generated Imagery
901			2. Computer Graphics Interface
902	P1.3.136	CGM	Computer Graphics Metafile
903	P1.3.137	CHANCES	Climatological and Historical Analysis of Cloud for
904			Environmental Simulations
905	P1.3.138	CHAS	Chemical Hazard Assessment System
906	P1.3.139	CHS	Common Hardware/Software
907	P1.3.140	CI	Configuration Item
908	P1.3.141	CIC	1. Combat In Cities
909			2. Combat Information Center
910	P1.3.142	CICS	Customer Information Control System
911	P1.3.143	CIDS	Computerized Information Delivery Service
912	P1.3.144	CIE	Computer Integrated Engineering
913	P1.3.145	CIE-PAT	Computer Integrated Engineering-Process Action Team
914	P1.3.146	CIG	1. Computer Image Generation
915			2. Computer Image Generator
916	P1.3.147	CIITA	Computer Improved Instructor's Training Aid
917	P1.3.148	CIM	1. Computer Integrated Manufacturing
918			2. Corporate Information Management
919	P1.3.149	CIM/EI	Corporate Information Management/Enterprise Integration
920	P1.3.150	CIMNET	Center for Information Management Network
921	P1.3.151	CIMP	1. Cartographic Imaging Modeling Program
922			2. Corporate Information Management Plan
923	P1.3.152	CIO	Chief Information Officer
924	P1.3.153	CIP	1. Capital Investment Plan
925			2. Combat Information Processor
926			3. Combined Interoperability Program
927	P1.3.154	CIRIS	Completely Integrated Reference Instrumentation System
928	P1.3.155	CIRRUS	Clouds, IR, Real, for Use in Simulations

929			
930	P1.3.156	CIS	1. CASE Integration Services
931			2. Combat Instruction Set
932			3. Command Information System
933	P1.3.157	CISC	Complex Instruction Set Computer
934	P1.3.158	CISS	Center for Information Systems Security
935	P1.3.159	CITS	Combat Information Transport System
936	P1.3.160	CIU	Cell Interface Unit
937	P1.3.161	CIWG	Communications Interoperability Working Group
938	P1.3.162	CJCS	Chairman of the Joint Chiefs of Staff
939	P1.3.163	CJCSI	Chairman of the Joint Chiefs of Staff Instruction
940	P1.3.164	CJCSM	Chairman of the Joint Chiefs of Staff Manual
941	P1.3.165	CL	Closed Loop
942	P1.3.166	CLA	Conventional Land Attack
943	P1.3.167	CLAP	C++Library Actor Programming
944	P1.3.168	CLCGF	Corps Level Computer Generated Forces
945	P1.3.169	CLCGF-	HS Corps Level Computer Generated Forces-Hybrid State
946	P1.3.170	CLD	Center Line Data
947	P1.3.171	CLDGEN	Cloud Scene Generator
948	P1.3.172	CLDSIM	Cloud Simulation
949	P1.3.173	CLEAR	Campaign Logistics Expenditure And Replenishment Model
950			
951	P1.3.174	CLNP	Connectionless Network Protocol
952	P1.3.175	CLNS	Connectionless Network Service
953	P1.3.176	CM	Configuration Management
954	P1.3.177	CMAS	Crisis Management ADP System
955	P1.3.178	CMASS	Counterdrug Modeling and Simulation System
956	P1.3.179	CMI	Computer Managed Instruction
957	P1.3.180	CMIP	Common Management Information Protocol
958	P1.3.181	CMIS/P	Common Management Information Services & Protocols
959	P1.3.182	CMMS	Conceptual Model of the Mission Space
960	P1.3.183	CMP	Configuration Management Plan
961	P1.3.184	CMR	Common Model Repository
962	P1.3.185	CMS	Combat Mission Simulator
963	P1.3.186	CMT	Confederation Management Tool
964	P1.3.187	CMTC	Combat Maneuver Training Center
965	P1.3.188	CMTC-IS	Combat Maneuver Training Center-Instrumented Systems
966	P1.3.189	CMUES	Campaign Model Utilizing Environmental Simulator
967	P1.3.190	CMWG	Configuration Management Working Group
968	P1.3.191	CN	Communications Network

969	P1.3.192	CNAD	Conference of National Armament Directors (NATO)
970	P1.3.193	CNC	Communications Network Control
971	P1.3.194	CND	Computer Network Defense
972	P1.3.195	CNMS	Consolidated Network Management System
973	P1.3.196	COA	Course of Action
974	P1.3.197	COADS	Comprehensive Ocean Atmosphere Data Set
975	P1.3.198	COAST	Course of Action Selection Tool
976	P1.3.199	COBOL	Common Business Oriented Language
977	P1.3.200	COBRA	Combat Outcome Based on Rules of Attrition
978	P1.3.201	COCOM	Combatant Command (command authority)
979	P1.3.202	COE	Common Operating Environment
980	P1.3.203	COEA	Cost and Operational Effectiveness Analysis (replaced by
981			the term AOA)
982	P1.3.204	COLD	Computer Output to Laser Disk
983	P1.3.205	COM	Computer Output Microform
984	P1.3.206	COMBIC	Combined Obscurant Model for Battlefield-Induced
985			Contaminants
986	P1.3.207	COMBIC/STATIC	Combined Obscuration Model for Battlefield Induced
987			Contaminants/Statistical Texturing Applied to Battlefield
988			Induced Contaminants
989	P1.3.208	COMINT	Communications Intelligence
990	P1.3.209	COMNET	Communications Network
991	P1.3.210	COMPASS	Common Operational Modeling, Planning, and Simulation
992			Strategy
993	P1.3.211	COMPUSEC	Computer Security
994	P1.3.212	COMSAT	Communications Satellite
995	P1.3.213	COMSEC	Communications Security
996	P1.3.214	CONMOD	Conflict Model
997	P1.3.215	CONOPS	Concept of Operations
998	P1.3.216	CONUS	Continental United States
999	P1.3.217	COP	Common Operational Picture
1000	P1.3.218	CORBA	Common Object Request Broker Architecture
1001	P1.3.219	CORBAN	Corps Battle Analyzer
1002	P1.3.220	CORDIVEM	Corps/Division Evaluation Model
1003	P1.3.221	CORN	Computer Resource Nucleus
1004	P1.3.222	COSAGE	Combat Sample Generator
1005	P1.3.223	COSE	Common Open Software Environment
1006	P1.3.224	COTS	Commercial-Off-The-Shelf
1007	P1.3.225	COVART	Computation of Vulnerable Area and Repair Time
1008	P1.3.226	CPCI	Computer Program Configuration Item

1009	P1.3.227	CPIPT	Cost/Performance Integrated Process Team
1010	P1.3.228	CPM	Critical Path Method
1011	P1.3.229	CPU	Central Processing Unit
1012	P1.3.230	CPX	Command Post Exercise
1013	P1.3.231	CRB	Configuration Review Board
1014	P1.3.232	CRLCMP	Computer Resource Life-Cycle Management Plan
1015	P1.3.233	CRMP	Computer Resources Management Plan
1016	P1.3.234	CROSSBOW-S	Construction of a Radar to Operationally Simulate Signals
1017			Believed to Originate Within the Soviet Union
1018	P1.3.235	CRRA	Capabilities Review and Risk Assessment
1019	P1.3.236	CRRB	Capabilities Requirements Review Board
1020	P1.3.237	CRT	Cathode Ray Tube
1021	P1.3.238	CRWG	Computer Resource Working Group
1022	P1.3.239	CS	1. Constraint Set
1023			2. Content Staging
1024			3. Cruise Simulator
1025	P1.3.240	CSC	Computer Software Component
1026	P1.3.241	CSCI	Computer Software Configuration Item
1027	P1.3.242	CSE	Common Support Equipment
1028	P1.3.243	CSERIAC	Crew System Ergonomics Information Analysis Center
1029	P1.3.244	CSIDS	CENTCOM/SOCOM Integrated Data System
1030	P1.3.245	CSII	Center for Systems Interoperability and Integration
1031	P1.3.246	CSL	Computer Systems Laboratory (part of NIST)
1032	P1.3.247	CSM	Computer Software Module
1033	P1.3.248	CSP	1. Communications Service Processor
1034			2. Common Software Package
1035	P1.3.249	CSPEI	Computer Software Product End Item
1036	P1.3.250	CSPM	Communication System Performance Model
1037	P1.3.251	CSRDF	Crew Station Research and Development Facility (Army)
1038	P1.3.252	CSS	Communications Support System
1039	P1.3.253	CSSBL	Combat Service Support Battle Lab
1040	P1.3.254	CSSCS	Combat Service Support Computer System
1041	P1.3.255	CSSFAM	Combat Service Support Functional Area Model
1042	P1.3.256	CSSM	Cloud Scene Simulation Model
1043	P1.3.257	CSSTSS	1. Combat Service Support Tactical Simulation System
1044			2. Combat Service Support Training Simulation System
1045	P1.3.258	CSU	Computer Software Unit
1046	P1.3.259	CT	Computer Tomography
1047	P1.3.260	CTAPS	1. Contingency Tactical Air Planning System
1048			2. Contingency Theater Automated Planning System

1049			
1050	P1.3.261	CTC	1. Critical Technical Characteristics
1051			2. Combat Training Center
1052	P1.3.262	CTE	Center for Test and Evaluation
1053	P1.3.263	CTEIP	Central Test And Evaluation Investment Program
1054	P1.3.264	CTF	Common Technical Framework
1055	P1.3.265	CTIA	Common Training Instrumentation Architecture
1056	P1.3.266	CTIS	1. Combat Terrain Information System
1057			2. Command Tactical Information System
1058	P1.3.267	CTLS	Concurrent Theater Level Simulation
1059	P1.3.268	CTOS	Convergent Technologies Operating Systems
1060	P1.3.269	CTP	Common Tactical Picture
1061	P1.3.270	CUTM	Computer Understandable Terrain Model
1062	P1.3.271	CVAT	Combat Vehicle Appended Trainer
1063	P1.3.272	CVF	Compressed Volume File
1064	P1.3.273	CVGA	Color Video Graphics Array
1065	P1.3.274	CVIT	Combat Vehicle Institutional Trainer
1066	P1.3.275	CVSA	Combat Vehicle Simulation Architecture
1067	P1.3.276	CVTS	Combat Vehicle Training System
1068	P1.3.277	CWASAR	Cruise Weapon Analysis Simulation and Research
1069	P1.3.278	CWM	Composite Warfare Model



1070	P1.4. <u>D</u>		
1071			
1072	P1.4.1	D/A	Digital-to-Analog
1073	P1.4.2	DA	1. Developmental Agent
1074			2. Department of the Army
1075			3. Data Administrator
1076	P1.4.3	DAA	Designated Approving Authority
1077	P1.4.4	DAB	Defense Acquisition Board
1078	P1.4.5	DACS	1. Data and Analysis Center for Software
1079			2. Digital Access and Cross-Connect System
1080	P1.4.6	DAD	Data Administrator
1081	P1.4.7	DAdm	Data Administration
1082	P1.4.8	DADS	Dynamic Analysis and Design System
1083	P1.4.9	DAE	Defense Acquisition Executive
1084	P1.4.10	DAES	Defense Acquisition Executive Summary
1085	P1.4.11	DAG	1. Data Analysis Group
1086			2. Data Authentication Group
1087	P1.4.12	DAI	Distributed Artificial Intelligence
1088	P1.4.13	DAISY	Defense Automated Information System
1089	P1.4.14	DAMIS	Defense Analysis and Management Information System
1090	P1.4.15	DAP	1. Data Access Protocol
1091			2. Data Administration Program
1092			3. Directory Access Protocol
1093	P1.4.16	DAPG	Data Analysis Programming Group
1094	P1.4.17	DAPM	1. Data Administration Program Manager
1095			2. Domain Analysis Process Model
1096	P1.4.18	DAPMO	Data Administration Program Management Office
1097	P1.4.19	DAPS	Data Acquisition and Processing System
1098	P1.4.20	DARIC	Defense Automation Resources Information Center
1099	P1.4.21	DARMP	Defense Automation Resources Management Program
1100	P1.4.22	DARPA	Defense Advanced Research Projects Agency
1101	P1.4.23	DASD	1. Direct Access Storage Device
1102			2. Deputy Assistant Secretary of Defense
1103	P1.4.24	DASD(IM)	Deputy Assistant Secretary of Defense for Information
1104			Management
1105	P1.4.25	DASP	Data Administration Strategic Plan
1106	P1.4.26	DASS	Digital Acoustic Sensor Simulator
1107	P1.4.27	DATS	Data Automated Tower Simulator
1108	P1.4.28	DAU	Data Acquisition Unit
1109	P1.4.29	DAWN	Defense Attached Worldwide Network

1110	P1.4.30	db	Decibel
1111	P1.4.31	DB	Database
1112	P1.4.32	DBA	1. Design-Based Analysis
1113			2. Dominant Battlespace Awareness
1114	P1.4.33	DBAd	Database Administrator
1115	P1.4.34	DBAdM	Database Administration
1116	P1.4.35	DBD	Database Document
1117	P1.4.36	DBK	Dominant Battlespace Knowledge
1118	P1.4.37	DBMS	Database Management System
1119	P1.4.38	DBOF	Defense Business Operations Fund
1120	P1.4.39	DCA	1. Data Collection and Analysis
1121			2. Defense Communications Agency (now DISA)
1122	P1.4.40	DCAC	Digital Concepts Analysis Center
1123	P1.4.41	DCE	Distributed Computing Environment
1124	P1.4.42	DCI	1. Data Communication Interface
1125			2. Director for Central Intelligence
1126	P1.4.43	DCID	Director for Central Intelligence Directive
1127	P1.4.44	DCN	Defense Communications Network
1128	P1.4.45	DCP	1. Decision Coordinating Paper
1129			2. Distributed Collaborative Planning
1130	P1.4.46	DCPDS	Defense Civilian Personnel Data System
1131	P1.4.47	DCPS	Data Communications Protocol Standards
1132	P1.4.48	DCT	1. Desktop Computer Terminal
1133			2. Digital Communication Terminal
1134	P1.4.49	DCTN	Defense Commercial Telephone Network
1135	P1.4.50	DCTS	Defense Collaboration Tool Suite
1136	P1.4.51	DCW	Digital Chart of the World
1137	P1.4.52	DD/DS	Data Dictionary/Directory System
1138	P1.4.53	DDA	Domain Defined Attribute
1139	P1.4.54	DDARS	Distributed Data Archive and Retrieval System
1140	P1.4.55	DDBMS	Distributed Database Management System
1141	P1.4.56	DDDS	Defense Data Directory System
1142	P1.4.57	DDI	Director of Defense Information
1143	P1.4.58	DDL	Data Definition Language
1144	P1.4.59	DDM	Distributed Data Management
1145	P1.4.60	DDMS	DoD Discovery Metadata Specification
1146	P1.4.61	DDN	Defense Data Network
1147	P1.4.62	DDR	DoD Data Repository
1148	P1.4.63	DDR&E	Director of Defense Research and Engineering

1149			
1150	P1.4.64	DDS	1. Digital Data Service
1151			2. Direct Digital Synthesizer
1152			3. Distributed Data System
1153			4. Distributed Defense Simulation
1154	P1.4.65	DDSS	Distributed Defense Simulation System
1155	P1.4.66	DE	Data Engineering
1156	P1.4.67	DEA	Data Exchange Agreement
1157	P1.4.68	DECA	Digital Electronic Control Assembly
1158	P1.4.69	DECC	Defense Enterprise Computing Center
1159	P1.4.70	DED	Data Extraction Device
1160	P1.4.71	DEEM	Dynamic Environmental Effects Model
1161	P1.4.72	DEF	Data Exchange Format
1162	P1.4.73	DELTA	Data Element Tool-Based Analysis
1163	P1.4.74	DEM	Digital Elevation Model
1164	P1.4.75	DES	1. Data Encryption Standard
1165			2. Digital Encryption Standard
1166			3. Discrete Event Simulation
1167	P1.4.76	DESCEM	Dynamic Electromagnetic Systems Combat Effectiveness
1168			Model
1169	P1.4.77	DESP	Data Element Standardization Program
1170	P1.4.78	DESS	Differential Equation System Specifications
1171	P1.4.79	DET	Dynamic Environment and Terrain
1172	P1.4.80	DEVS	Discrete Event System Specifications
1173	P1.4.81	DEWCOM	Divisional Electronic Warfare Combat Model
1174	P1.4.82	DEXES	Deployable Exercise System
1175	P1.4.83	DFAD	Digital Features Analysis Data
1176	P1.4.84	DFNS	Data File Management System
1177	P1.4.85	DFON	Derived Federation Object Model
1178	P1.4.86	DFSAM	Direct Fire Stand-Alone Model
1179	P1.4.87	DGCC	Defense Information Systems Agency Global Control
1180			Center
1181	P1.4.88	DGDEM	Dynamic Generalized Digital Environmental Model
1182	P1.4.89	DGIS	Direct Graphics Interface Standard
1183	P1.4.90	DGIWG	Digital Geographic Information Working Group
1184	P1.4.91	DGSA	Defense Goal Security Architecture
1185	P1.4.92	DGTS	Dynamic Ground Target Simulator
1186	P1.4.93	DHIS	Distributed Heterogeneous Information Systems
1187	P1.4.94	DI	1. Date Integrity
1188			2. Dismounted Infantry

1189	P1.4.95	DIA	Defense Intelligence Agency
1190	P1.4.96	DIAL	Distributed Intelligent Architecture for Logistics
1191	P1.4.97	DIB	1. Defense Information Base
1192			2. Directory Information Base
1193	P1.4.98	DICE	1. DARPA Initiative for Concurrent Engineering
1194			2. Distributed Interactive C31 Effectiveness Simulation
1195			Program
1196	P1.4.99	DID	1. Data Item Description
1197			2. Digital Interface Device
1198	P1.4.100	DIDHS	Deployed Intelligence Data Handling System
1199	P1.4.101	DIDOP	Digital Image Data Output Product
1200	P1.4.102	DIP	Data Interchange Format
1201	P1.4.103	DIGEST	Digital Geographic Information Exchange Standard
1202	P1.4.104	DII	Defense Information Infrastructure
1203	P1.4.105	DIICC	Defense Information Infrastructure Control Concept
1204	P1.4.106	DIM	Director of Information Management
1205	P1.4.107	DIME	Digital Integrated Modeling Environment
1206	P1.4.108	DIRSP	Dynamic Infrared Scene Projector
1207	P1.4.109	DIS	1. Defense Information System
1208			2. Distributed Interactive Simulation
1209	P1.4.110	DISA	Defense Information Systems Agency
1210	P1.4.111	DISA/CI	Defense Information Systems Agency/Center for
1211			Information
1212	P1.4.112	DISA-IS	DISA Information System
1213	P1.4.113	DISA-LO	Defense Information Systems Agency – liaison officer
1214	P1.4.114	DISANet	DISA Information Network
1215	P1.4.115	DISC	Defense Information System Council
1216	P1.4.116	DISC4	Director of Information Systems Command, Control,
1217			Communications, and Computers
1218	P1.4.117	DISN	Defense Information Systems Network
1219	P1.4.118	DISP	Directory Information Shadowing Protocol
1220	P1.4.119	DISR	Defense Information Technology Standards Registry
1221	P1.4.120	DISS	Distributed Interactive Simulation and Stimulation
1222	P1.4.121	DISSIT	Distributed Interactive Simulation Synthesis with
1223			Interactive Television
1224	P1.4.122	DISSP	Defense Information System Security Program
1225	P1.4.123	DIST	Defense Integration Support Tool
1226	P1.4.124	DISTAR	Distributed Interactive Simulation Technologies in After
1227			Action Review
1228	P1.4.125	DIST-EAGLE	Distributed Interactive System for Eagle

1229	P1.4.126	DITPRO	Defense Information Technical Procurement Office
1230	P1.4.127	DIVE	Dismounted Infantry in a Virtual Environment
1231	P1.4.128	DJS	Director, Joint Staff
1232	P1.4.129	DKP	Distributed Knowledge Processing
1233	P1.4.130	DL	1. Data Link
1234			2. Distance Learning
1235	P1.4.131	DLI	Data Link Interface
1236	P1.4.132	DLMS	Digital Land Mass System
1237	P1.4.133	DLPS	Data Links Processor System
1238	P1.4.134	DMAP	Data Management and Analysis Plan
1239	P1.4.135	DMD	Digital Message Device
1240	P1.4.136	DME	1. Distributed Management Environment
1241			2. Distance Measuring Equipment
1242	P1.4.137	DMF	Data Management Facility
1243	P1.4.138	DMG	Digital Map Generator
1244	P1.4.139	DMGMP	Database Generation/Modification Program
1245	P1.4.140	DMO	Distributed Mission Operations
1246	P1.4.141	DMS	1. Defense Message System
1247			2. Digital Modeling and Simulation
1248			3. Distributed Models and Simulations
1249	P1.4.142	DMSCC	Defense Modeling and Simulation Coordination Center
1250	P1.4.143	DMSI	Defense Modeling and Simulation Initiative
1251	P1.4.144	DMSIS	Defense Modeling and Simulation Information System
1252	P1.4.145	DMSO	Defense Modeling and Simulation office
1253	P1.4.146	DMSP	Defense Message System Program
1254	P1.4.147	DMSTTIAC	Defense Modeling, Simulation, and Tactical Technology
1255			Information Analysis Center
1256	P1.4.148	DNSIX	DODIIS Network Security for Information Exchange
1257	P1.4.149	DNVT	Digital Non-Secure Voice Telephone
1258	P1.4.150	DOD	Department of Defense
1259	P1.4.151	DoDCSEC	DoD Computer Security Evaluation Center
1260	P1.4.152	DODD	Department of Defense Directive
1261	P1.4.153	DODI	Department of Defense Instruction
1262	P1.4.154	DoDIIS	DoD Intelligence Information System
1263	P1.4.155	DoDISS	DoD Index of Specifications and Standards
1264	P1.4.156	DoDMSEA	DoD M&S Executive Agent
1265	P1.4.157	DOE	1. Distributed Object Environment
1266			2. Department of Energy
1267	P1.4.158	DOF	Degrees of Freedom
1268	P1.4.159	DOIM	Directors of Information Management

1269	P1.4.160	DOMF	Distributed Object Management Facility
1270	P1.4.161	DONMSMO	Department of the Navy, Modeling and Simulation
1271			Management Office
1272	P1.4.162	DONMSTSG	Department of the Navy, Modeling and Simulation
1273			Technical Support Group
1274	P1.4.163	DOORS	Demonstration of Dynamic Object Oriented Requirements
1275			System
1276	P1.4.164	DOS	Disk Operating System
1277	P1.4.165	DOT	Distributed Object Technologies
1278	P1.4.166	DOTBF	Digitization of the Battlefield
1279	P1.4.167	DOTMLPF	Doctrine, Organizations, Training, Materiel, Leadership
1280			and Education, Personnel, and Facilities
1281	P1.4.168	DOW	Day of the Week
1282	P1.4.169	DP	Data Processing
1283	P1.4.170	DPA	1. Defense Production Act
1284			2. Demand Protocol Architecture
1285	P1.4.171	DPDB	Digital Product Database
1286	P1.4.172	DPI	Data Processing Installation
1287	P1.4.173	DPPDB	Digital Point Positioning Database
1288	P1.4.174	DPS	Digital Production System
1289	P1.4.175	DR	1. Data Repositories
1290			2. Dead Reckoning
1291	P1.4.176	DRAM	Dynamic Random Access Memory
1292	P1.4.177	DRDA	Distributed Relational Database Architecture
1293	P1.4.178	DREN	Defense Research and Engineering Network
1294	P1.4.179	DRFM	Digital RF Memory
1295	P1.4.180	DRLMS	Digital Radar Landmass Simulator
1296	P1.4.181	DRN	Data Representation Notation
1297	P1.4.182	DRRB	Data Requirements Review Board
1298	P1.4.183	DRSN	Defense Red Switch Network
1299	P1.4.184	DRTWG	Data and Repositories Technology Working Group
1300	P1.4.185	DRU	1. Data Retrieval Unit
1301			2. Direct Reporting Unit
1302	P1.4.186	DQ	Data Quality
1303	P1.4.187	DS	1. Data Security
1304			2. Digital Signal
1305			3. Direct Support
1306	P1.4.188	DSA	1. Directory System Agent
1307			2. Distribution Systems Analyzer
1308	P1.4.189	DSAMS	Defense Security Assistance Management System

1309	P1.4.190	DSB	Defense Science Board
1310	P1.4.191	DSCS	Defense Satellite Communications System
1311	P1.4.192	DSE	1. Data Storage Equipment
1312			2. Dynamic Synthetic Environments
1313	P1.4.193	DSF	Display Simulation Facility
1314	P1.4.194	DSI	Defense Simulation Internet
1315	P1.4.195	DSMAC	Digital Scene Matching Area Correlator
1316	P1.4.196	DSMC	Defense Systems Management College
1317	P1.4.197	DSN	Defense Switching Network (formerly Autovon)
1318	P1.4.198	DSP	Digital Signal Processing
1319	P1.4.199	DSPO	Defense Standardization Program Office
1320	P1.4.200	DSREDS	Digital Storage and Retrieval Engineering Data System
1321	P1.4.201	DSRS	Defense Software Repository System
1322	P1.4.202	DSS	1. Decision Support System
1323			2. Distribution Standard System
1324			3. Digital Signature Standard
1325	P1.4.203	DSSA	Domain-Specific Software Architecture
1326	P1.4.204	DSSCS	Defense Special Security Communications System
1327	P1.4.205	DSSE	Developmental Software Support Environment
1328	P1.4.206	DSSEP	Developmental Software Support Environment Plan
1329	P1.4.207	DSTS-G	DISN Satellite Transmission Services - Global
1330	P1.4.208	DSU	1. Data Service Units
1331			2. Digital Signal Unit
1332	P1.4.209	DSVT	1. Digital Secure Voice Terminal
1333			2. DoD Standards Vetting Tool
1334	P1.4.210	DTAD	Digital Terrain Analysis Data
1335	P1.4.211	DTAMS	Digital Terrain Analysis Mapping System
1336	P1.4.212	DTAP	Defense Technology Area Plan
1337	P1.4.213	DTD	Data Transfer Device
1338	P1.4.214	DTE/DCE	Data Terminal Equipment/Data Circuit-Terminating
1339			Equipment
1340	P1.4.215	DTED	Digital Terrain Elevation Data
1341	P1.4.216	DTED1	Digital Terrain Elevation Data, Level 1
1342	P1.4.217	DTED2	Digital Terrain Elevation Data, Level 2
1343	P1.4.218	DTIC	Defense Technical Information Center
1344	P1.4.219	DTLOMS	Doctrine, Training, Leader Development, Organization,
1345			Materiel, and Soldier
1346	P1.4.220	DTLS	Distributed Theater-Level Simulation
1347	P1.4.221	DTM	1. Data Transfer Module
1348			2. Digital Terrain Matrix

1349	P1.4.222	DTMP	Data Communications Protocol Standards Technical
1350			Management Plan
1351	P1.4.223	DTOP	Digital Topographic Data
1352	P1.4.224	DTS	1. Data Terminal Set
1353			2. Digital Terrain System
1354	P1.4.225	DTSE&E	Director, Test, Systems Engineering and Evaluation
1355	P1.4.226	DVW	Dynamic Virtual Worlds
1356	P1.4.227	DWS	Distributed Wargaming System



1357	P1.5. <u>E</u>		
1358			
1359	P1.5.1	E-MAIL	Electronic Mail
1360	P1.5.2	E-R	Entity-Relationship model
1361	P1.5.3	E2DIS	Environmental Effects for Distributed Interactive
1362			Simulation
1363	P1.5.4	E3	1. Electromagnetic Environmental Effects
1364			2. End-To-End Encryption
1365	P1.5.5	E3SM	Electromagnetic Environmental Effects and Spectrum
1366			Management
1367	P1.5.6	EA	1. Environmental Assessment
1368			2. Evaluation Authority
1369			3. Evolutionary Acquisition
1370			4. Executive Agent
1371	P1.5.7	EAC	Echelon Above Corps
1372	P1.5.8	EAD	Executive Agent Developer
1373	P1.5.9	EADSIM	Extended Air Defense Simulation
1374	P1.5.10	EADTB	Extended Air Defense Test Bed
1375	P1.5.11	EAGLE	U.S. Army Corps-Division Combat Model
1376	P1.5.12	EAM	Emergency Action Message
1377	P1.5.13	EAROM	Electrically Alterable Read Only Memory
1378	P1.5.14	EBB	Electronic Bulletin Board
1379	P1.5.15	EBBS	Electronic Bulletin Board System
1380	P1.5.16	EBCDIC	Extended Binary Coded Decimal Interchange Code
1381	P1.5.17	EBM	Entity Based Model
1382	P1.5.18	EC/EDI	Electronic Commerce/Electronic Data Interchange
1383	P1.5.19	EC	Electronic Combat
1384	P1.5.20	ECCM	Electronic Counter Countermeasures
1385	P1.5.21	ECDES	Electronic Combat Digital Evaluation Simulation
1386	P1.5.22	ECDIS	Electronic Chart Display and Information System
1387	P1.5.23	ECESL	Electronic Combat Evaluation and Simulation Laboratory
1388	P1.5.24	ECM/EOCM	Electronic Countermeasures/Electro-Optical
1389			Countermeasures
1390	P1.5.25	ECM	Electronic Countermeasures
1391	P1.5.26	ECSRL	Electronic Combat Simulation Research Laboratory
1392	P1.5.27	EDA	Electronic Design Automation
1393	P1.5.28	EDECSIM	Extended Directed Energy Combat Simulation
1394	P1.5.29	EDI	1. Electronic Data Interchange
1395			2. Electronic Document Interchange
1396	P1.5.30	EDIF	Electronic Document Interchange Format

1397	P1.5.31	EDIFACT	Electronic Data Interchange for Administration, Commerce, and Transportation
1398			
1399	P1.5.32	EDIM	Enhanced Diagnostic Inference Model
1400	P1.5.33	EDM	1. Electronic Document Management Program
1401			2. Engineering Development Model
1402	P1.5.34	EDP	1. Electronic Data Processing
1403			2. ELINT Data Processor
1404	P1.5.35	EEAT	Environmental Effects Architecture Toolkit
1405	P1.5.36	EEI	External Environment Interface
1406	P1.5.37	EEM	Environmental Event Modeler
1407	P1.5.38	EEPROM	Electrically Erasable/Programmable Read Only Memory
1408	P1.5.39	EGA	Enhanced Graphics Adapter
1409	P1.5.40	EGM	Earth Gravity Model
1410	P1.5.41	EHF	Extremely High Frequency
1411	P1.5.42	EHP	Entity Handover Protocol
1412	P1.5.43	EKMS	Electronic Key Management System
1413	P1.5.44	ELINT	Electronic Intelligence
1414	P1.5.45	ELIST	Enhanced Logistics Intratheater Support Tool
1415	P1.5.46	ELMC	Electronics Maintenance Company Model
1416	P1.5.47	EM	Electro-Magnetic
1417	P1.5.48	EMA	Electronic Messaging Association
1418	P1.5.49	EMB	Extended Memory Block
1419	P1.5.50	EMD	Engineering and Manufacturing Development
1420	P1.5.51	EMI	Electromagnetic Interference
1421	P1.5.52	EMIS	Environmental Management Information System
1422	P1.5.53	EMP	Electromagnetic Pulse
1423	P1.5.54	EMPRESS EMP	Radiation Environment Simulator for Ships
1424	P1.5.55	EMPRS	Electronic Military Personnel Records System
1425	P1.5.56	EMS	Engineering Modeling Software
1426	P1.5.57	ENIAC	Electronic Numerical Integrator and Computer
1427	P1.5.58	ENSOP	Environmental/Nuclear Simulation Oversight Panel
1428	P1.5.59	ENWGS	Enhanced Naval Warfare Gaming System
1429	P1.5.60	EO	Electro-Optical
1430	P1.5.61	EOB	Electronic Order of Battle
1431	P1.5.62	EOC	End of Conversion
1432	P1.5.63	EOD	Erasable Optical Disk
1433	P1.5.64	EOF	End Of File
1434	P1.5.65	EOI	End Of Identity
1435	P1.5.66	EOJ	End Of Job
1436	P1.5.67	EOSAEL	Electro-Optical Systems Atmospheric Effects Library

1437	P1.5.68	EOSDIS	Earth Observing System Data and Information System
1438	P1.5.69	EOSS	Electro-Optical Simulation System
1439	P1.5.70	EOTDA	Electro-Optical Tactical Decision Aids
1440	P1.5.71	EPL	ELINT Parameter List
1441	P1.5.72	EPROM	Electronic Programmable Read Only Memory
1442	P1.5.73	ERD	Entity Relationship Diagram
1443	P1.5.74	ERDAS	Earth Resources Data Analysis System
1444	P1.5.75	ERIM	Environmental Research Institute of Michigan
1445	P1.5.76	EROM	Erasable Read-Only Memory
1446	P1.5.77	ERTWG	Environmental Representation Technical Working Group
1447	P1.5.78	ESAMS	Enhanced Surface-to-Air missile Simulation
1448	P1.5.79	ESC	Air Force Electronic Systems Center
1449	P1.5.80	ESD	Exploitation Support Data
1450	P1.5.81	ESDD	Earth Science Data Directory
1451	P1.5.82	ESDI	Enhanced Small Data Interface
1452	P1.5.83	ESP	External Simulation Protocol
1453	P1.5.84	ESPDU	Entity State Protocol Data Unit
1454	P1.5.85	ESTEL	E-2C Simulation Test and Evaluation Laboratory
1455	P1.5.86	ETDA	Environmental Tactical Decision Aids
1456	P1.5.87	EW	Electronic Warfare
1457	P1.5.88	EWIRD	Electronic Warfare Integrated Reprogrammable Database
1458	P1.5.89	EWTES	Electronic Warfare Threat Environment Simulator
1459	P1.5.90	EXRTAS	Exercise Temporal Analysis System



1460	P1.6.	<u>F</u>	
1461			
1462	P1.6.1	FAC	Feature Analysis Code
1463	P1.6.2	FADAC	Field Artillery Digital Automatic Computer
1464	P1.6.3	FADT	Feature Analysis Data Table
1465	P1.6.4	FAMSIM	Family of Simulations (Army term for their approved suite of models)
1466			
1467	P1.6.5	FAQ	Frequently Asked Questions
1468	P1.6.6	FAR	Federal Acquisition Regulation
1469	P1.6.7	FAST	1. Federal Automated System for Travel
1470			2. Field Assistance in Science and Technology
1471			3. Framework for Advanced Simulation Technology
1472	P1.6.8	FASTALS	Force Analysis and Simulation of Theater Administrative and Logistic Support
1473			
1474	P1.6.9	FASTC	Foreign Aerospace Science and Technology Center
1475	P1.6.10	FDAD	Functional Data Administrator
1476	P1.6.11	FDB	Functional Description of the Battlespace
1477	P1.6.12	FDC	Functional Data Coordinator
1478	P1.6.13	FDD	Federation Object Model Document Data
1479	P1.6.14	FDDI	Fiber Digital Data Interface
1480	P1.6.15	FDM	Force Design Model
1481	P1.6.16	FE	Finite Element
1482	P1.6.17	FEBA	Forward Edge of the Battle Area
1483	P1.6.18	FECFR	Fidelity, Exercise Control, and Feedback Requirements
1484	P1.6.19	FED	1. Federation Execution Date
1485			2. Federation Execution Data
1486	P1.6.20	FEDEP	Federation Execution and Development Process
1487	P1.6.21	FEM	Finite Element Method
1488	P1.6.22	FFRDC	Federally Funded Research and Development Center
1489	P1.6.23	FI	Field Instrumentation
1490	P1.6.24	FIFO	First In, First Out
1491	P1.6.25	FILO	First In, Last Out
1492	P1.6.26	FIM	Functional Information Manager
1493	P1.6.27	FIP	Federal Information Process
1494	P1.6.28	FIPC	Federal Information Processing Center
1495	P1.6.29	FIPS	Federal Information Processing Standards
1496	P1.6.30	FIRESTORM	Federation of Intelligence, Reconnaissance, Surveillance and Targeting Operations, and Research Models
1497			
1498	P1.6.31	FIRMA	Federal Information Resources Management Act
1499	P1.6.32	FIRMR	Federal Information Resources Management Regulation

1500	P1.6.33	FIS	Federal Information System
1501	P1.6.34	FLAMES	Force Level Analysis and Mission Effectiveness System
1502	P1.6.35	FLOT	Forward Line of Own Troops
1503	P1.6.36	FLS	Force Level Simulation
1504	P1.6.37	FLTSATCOM	Fleet Satellite Communications
1505	P1.6.38	FMO	Frequency Management Office
1506	P1.6.39	FOA	Field Operating Agency
1507	P1.6.40	FODA	Feature-Oriented Domain Analysis
1508	P1.6.41	FODDS	Fact-Oriented Data Distribution System
1509	P1.6.42	FOF	Force-on-Force
1510	P1.6.43	FOHMD	1. Fiber-Optic Helmet-Mounted Device
1511			2. Fiber-Optic Helmet-Mounted Display
1512	P1.6.44	FOM	Federation Object Model
1513	P1.6.45	FON	Fiber Optic Network
1514	P1.6.46	FORCEGEN	Force Generation for Modeling and Simulation
1515	P1.6.47	FORCEM	1. Force Concepts Evaluation Model
1516			2. Force Evaluation Model
1517	P1.6.48	FORCES	Force and Organization Cost Estimating System
1518	P1.6.49	FORGE	Force Evaluation Model Gaming Evaluator
1519	P1.6.50	ForMAT	Force Management and Analysis Tool
1520	P1.6.51	FOV	Field Of View
1521	P1.6.52	FPDC	Federal Procurement Data Center
1522	P1.6.53	FPM	Force Protection Model
1523	P1.6.54	FQT	Formal Qualification Testing
1524	P1.6.55	FRAM	Fleet Requirements Analysis Model
1525	P1.6.56	FRED	Federation Required Execution Details
1526	P1.6.57	FRT	Faster than Real Time
1527	P1.6.58	FS	Flight Simulators
1528	P1.6.59	FSCATT	Fire Support Combined Arms Tactical Trainer
1529	P1.6.60	FSK	Frequency Shift-Keying
1530	P1.6.61	FSM	Finite State Machine
1531	P1.6.62	FST	Fleet Synthetic Training
1532	P1.6.63	FTAM	File Transfer, Access, and Management
1533	P1.6.64	FTM	Fault Tree Mode
1534	P1.6.65	FTP	File Transfer Protocol
1535	P1.6.66	FTS	Full Threat Simulator
1536	P1.6.67	FTT	Field Tactical Trainer
1537	P1.6.68	FV	Functional Validation
1538	P1.6.69	FWG	Functional Working Group
1539	P1.6.70	FWS	Flight and Weapons Simulator

1540	P1.6.71	FY	Fiscal Year
1541	P1.6.72	FYDP	Future-Years Defense Plan



1542	P1.7. <u>G</u>		
1543			
1544	P1.7.1	G/IDEP	Government/Industry Data Exchange Program
1545	P1.7.2	G-WARS	Ground Wars (Computer simulation model)
1546	P1.7.3	GAIS	Government Automated Information System
1547	P1.7.4	GAMS	Generalized Algebraic Modeling System
1548	P1.7.5	GAR	Gateway Access Request
1549	P1.7.6	GASS	Generic Acoustic Simulation System
1550	P1.7.7	GATERS	Ground Air Teleoperated Robotic System
1551	P1.7.8	GAWS	Graphical Analysis Workstation
1552	P1.7.9	GBS	1. Global Broadcast System
1553			2. Global Broadcasting System
1554			3. Global Broadcasting Service
1555	P1.7.10	GCCS	Global Command and Control System
1556	P1.7.11	GCSS	Global Combat Support System
1557	P1.7.12	GCSS- AF	Global Combat Support System. Air Force (formerly
1558			BLSM II)
1559	P1.7.13	GCDIS	Global Change Data and Information System
1560	P1.7.14	GCSS	Global Command Support System
1561	P1.7.15	GDAS	Global Deployment Analysis System
1562	P1.7.16	GDD/D	Global Data Dictionary and Directory
1563	P1.7.17	GDDM	Graphics Data Display Manager
1564	P1.7.18	GDEM	Generalized Digital Environmental Model
1565	P1.7.19	GDI	Graphics Device Interface
1566	P1.7.20	GDIP	General Defense Intelligence Program
1567	P1.7.21	GDMS	Global Data Management System
1568	P1.7.22	GDSS	Global Decision Support System
1569	P1.7.23	GEM	Global Information Grid (GIG) Enterprise Management
1570	P1.7.24	GENESSIS	Generic Scene Simulation Software
1571	P1.7.25	GEOLOC	Geographic Location
1572	P1.7.26	GEOREF	Geographic Reference
1573	P1.7.27	GFE	Government-Furnished Equipment
1574	P1.7.28	GFI	Government-Furnished Information
1575	P1.7.29	GFM	Government-Furnished Material
1576	P1.7.30	GFP	Government-Furnished Property
1577	P1.7.31	GFS	Government-Furnished Software
1578	P1.7.32	GHz	Giga Hertz
1579	P1.7.33	GI	Geospatial Information
1580	P1.7.34	GIAC	Graphical Input Aggregate Control
1581	P1.7.35	GIANT	GPS Interference & Navigation Tool

1582	P1.7.36	GICOD	Good Idea Cutoff Data
1583	P1.7.37	GIF	1. Graphic Imagery Files
1584			2. Graphics Interchange Format
1585	P1.7.38	GIG	Global Information Grid
1586	P1.7.39	GII	Global Information Infrastructure
1587	P1.7.40	GIN	Graphics Input
1588	P1.7.41	GIS	Geographic Information System
1589	P1.7.42	GKS	Graphical Kernel System
1590	P1.7.43	GLM	General Linear Model
1591	P1.7.44	GMF	Ground Mobile Force
1592	P1.7.45	GMT	Greenwich Mean Time
1593	P1.7.46	GNC	Global Network Operations (NETOPS) Center
1594	P1.7.47	GNCC	Global Network Operations (NETOPS) Control Center
1595	P1.7.48	GND	Global Information Grid (GIG) Network Defense
1596	P1.7.49	GNMP	Government Network Management Profile
1597	P1.7.50	GNO	Global Network Operations
1598	P1.7.51	GNSC	Global Network Operations (NETOPS) Support Center
1599	P1.7.52	GOB	Ground Order of Battle
1600	P1.7.53	GOCO	Government-Owned, Contractor-Operated
1601	P1.7.54	GOE	Government-Owned Equipment
1602	P1.7.55	GOGO	Government-Owned, Government-Operated
1603	P1.7.56	GOSC	General Officer Steering Committee
1604	P1.7.57	GOSG	General Officer Steering Group
1605	P1.7.58	GOSIP	Government Open System Interconnection Protocol
1606	P1.7.59	GOTS	Government-Off-the-Shelf
1607	P1.7.60	GPS	Global Positioning System
1608	P1.7.61	GPSS	General Purpose Simulation System
1609	P1.7.62	GREWMS	Global Requirements Estimator for Wartime Medical
1610			Support
1611	P1.7.63	GRWSIM	Ground Warfare Simulation
1612	P1.7.64	GSCC	Global Simulation Coordination Center
1613	P1.7.65	GSM	Global Shared Memory
1614	P1.7.66	GSS	1. Generalized Stimulation Simulation
1615			2. Ground Station Simulator
1616	P1.7.67	GST	Greenwich Sidereal Time
1617	P1.7.68	GTCT	Global Tropical Cyclone Tracks Database
1618	P1.7.69	GTDB	Generic Transformed Database
1619	P1.7.70	GTE	Ground Threat Emitter
1620	P1.7.71	GTM	Ground Truth Model
1621	P1.7.72	GTMV	Ground Target Modeling and Validation

1622	P1.7.73	GTN	Global Transportation Network
1623	P1.7.74	GTSIMS	Georgia Tech Simulations Integrated Modeling System
1624	P1.7.75	GTWAPS	Global Theater Weather Analysis and Prediction System
1625	P1.7.76	GUARDFIST	Guard Unit Armory Device Full Crew Interactive Simulation Trainer
1626			
1627	P1.7.77	GUI	Graphical User Interface
1628	P1.7.78	GWEF	Guided Weapons Evaluation Facility



1629	P1.8.	<u>H</u>	
1630			
1631	P1.8.1	H/W	Hardware
1632	P1.8.2	HAMPS	Host AUTODIN Message Processing System
1633	P1.8.3	HAP	1. Host Access Protocol
1634	P1.8.4	HBTWG	Human Behavior Technology Working Group
1635	P1.8.5	HBV	Human Behavior Variables
1636	P1.8.6	HCI	1. Human Computer Interaction
1637			2. Human Computer Interface
1638	P1.8.7	HD	1. Hard Disk
1639			2. High Density
1640	P1.8.8	HDF	Hierarchical Data Format
1641	P1.8.9	HDL	Harry Diamond Laboratories
1642	P1.8.10	HDLC	High-level Data Link Control Protocol
1643	P1.8.11	HDR	High-Data-Rate
1644	P1.8.12	HDS	High Definition Systems
1645	P1.8.13	HDTV	High Definition Television
1646	P1.8.14	HDU	Helmet Display Unit
1647	P1.8.15	HEFS	Hierarchical Environmental Feature Structure
1648	P1.8.16	HELIPAC	Helicopter Piloted Air Combat Model
1649	P1.8.17	HERO	Heuristic Route Organization
1650	P1.8.18	HES	Hostile Environment Simulator
1651	P1.8.19	HET	Harpoon Embedded Trainer
1652	P1.8.20	HF	High Frequency
1653	P1.8.21	HF-ATSS	High Fidelity Acoustic Time Series Simulator
1654	P1.8.22	HFE	Human Factors Engineering
1655	P1.8.23	HFEA	1. Human Factors Engineering Analysis
1656			2. Human Factors Engineering Assessment
1657	P1.8.24	HITL	1. Human-in-the-Loop
1658			2. Hardware-in-the-Loop
1659	P1.8.25	HLA	High-Level Architecture
1660	P1.8.26	HMD	Helmet-Mounted Display
1661	P1.8.27	HMI	Human-Machine Interface
1662	P1.8.28	HMMRSS	Helmet-Mounted Mission Rehearsal Simulation System
1663	P1.8.29	HMS	Helmet-Mounted Sight
1664	P1.8.30	HMS/DS	Helmet-Mounted Sight/Display System
1665	P1.8.31	HMU	Helmet-Mounted Unit
1666	P1.8.32	HOL	High Order Language
1667	P1.8.33	HOM	Higher Order Model

1668	P1.8.34	HOTMAC	High Order Turbulence Model for Atmospheric Circulations
1669			
1670	P1.8.35	HPC	High Performance Computer
1671	P1.8.36	HPCC	High Performance Computing and Communications
1672	P1.8.37	HPCCIT	High Performance Computing, Communications, and Information Technology
1673			
1674	P1.8.38	HPCMP	High Performance Computing Modernization Program
1675	P1.8.39	HPMWAM	High Power Microwave Weapon Assessment Model
1676	P1.8.40	HPPI	High Performance Parallel Interface
1677	P1.8.41	HQ	Headquarters
1678	P1.8.42	HRCP	High Resolution Cloud Prognosis Model
1679	P1.8.43	HRIS	Human Resource Information System
1680	P1.8.44	HS	High Speed
1681	P1.8.45	HSC	Air Force Human Systems Center
1682	P1.8.46	HSDC	High Speed Digital Chart
1683	P1.8.47	HSI	1. Human Systems Integration
1684			2. High Speed Serial Interface
1685	P1.8.48	HTML	Hyper Text Mark-Up Language
1686	P1.8.49	HTTP	Hyper Text Transfer Protocol
1687	P1.8.50	HTU	Handheld Thermal Unit
1688	P1.8.51	HUMINT	Human Intelligence
1689	P1.8.52	HW/SWIL	Hardware/Software-In-The-Loop
1690	P1.8.53	HWIL	Hardware-in-the-Loop
1691	P1.8.54	HYTIME	Hypermedia/Time-Based Structuring Language



1692	P1.9. I		
1693			
1694	P1.9.1	IA	Information Assurance
1695	P1.9.2	IAVM	Information Assurance Vulnerability Management
1696	P1.9.3	IAW	In Accordance With
1697	P1.9.4	I/DBTWG	Information/Database Technology Working Group
1698	P1.9.5	I/ITSEC	Interservice Industry Training Systems and Education
1699			Conference
1700	P1.9.6	IO	1. Information Operations
1701			2. Input/Output
1702	P1.9.7	I&M	Improvement and modernization
1703	P1.9.8	I-TES	I-Band Threat Environment Simulator
1704	P1.9.9	I3	Intelligent Integration of Information
1705	P1.9.10	IAC	Information Analysis Center
1706	P1.9.11	IADS	Integrated Air Defense System
1707	P1.9.12	IAS	Intelligence Analysis System
1708	P1.9.13	IC	1. Individual Combatant
1709			2. Image Computer
1710			3. Integrated Circuit
1711			4. Intelligence Community
1712	P1.9.14	ICA	Integrated Communications Architecture
1713	P1.9.15	ICASE	Integrated Computer-Aided Software Engineering
1714	P1.9.16	ICATT	Intelligent Computer-Assisted Training Testbed
1715	P1.9.17	ICC	Integrated Control Center
1716	P1.9.18	ICCOG	Intelligence Community Coordination Group
1717	P1.9.19	ICD	Interface Control Document
1718	P1.9.20	ICDB	Integrated Communications Database
1719	P1.9.21	I-CLCGF-CBS	Integrated CLCGF Combat Battle Simulation
1720	P1.9.22	ICM	Intelligence Correlation Model
1721	P1.9.23	ICMP	Internet Control Message Protocol
1722	P1.9.24	ICOC	Integrated Combat Operations Center
1723	P1.9.25	ICODES	Integrated Computerized Deployment System
1724	P1.9.26	ICOM	Input, Control, Output, and Mechanism
1725	P1.9.27	I-CRRA	Integrated Capabilities Review and Risk Assessment
1726	P1.9.28	ICW	Interactive Courseware
1727	P1.9.29	IDB	Integrated Database
1728	P1.9.30	IDBEF	Integrated Database Extract Format
1729	P1.9.31	IDBTF	Integrated Database Transaction Format
1730	P1.9.32	IDEA	Integrated Design/Engineering Aide
1731	P1.9.33	IDEEAS	Interactive Distributed Early Entry Analysis Simulation

1732	P1.9.34	IDEF	Integration Definition
1733	P1.9.35	IDFIX	Integration Definition Language for Information Modeling
1734	P1.9.36	IDEFO	Integration Definition for Function Modeling
1735	P1.9.37	IDHS	Intelligence Data Handling System
1736	P1.9.38	IDIQ	Indefinite Delivery, Indefinite Quantity
1737	P1.9.39	IDL	1. Interface Definition Language
1738			2. Interface Design Language
1739	P1.9.40	IDM	1. Improved Data Modem
1740			2. Information Dissemination Management
1741	P1.9.41	IDP	Initial Domain Part
1742	P1.9.42	IDPS	Integrated Database Preparation System
1743	P1.9.43	IDRL	Integrated Data Requirements List
1744	P1.9.44	IEEE	Institute of Electrical and Electronic Engineers
1745	P1.9.45	IER	Information Exchange Requirement
1746	P1.9.46	IEWTPT	Intelligence and Electronic Warfare Tactical Proficiency
1747			Trainer
1748	P1.9.47	IFIP	International Federation of Information Processing
1749	P1.9.48	IFM	Ionospheric Forecast Model
1750	P1.9.49	IFOR	Intelligent Forces
1751	P1.9.50	IG	Image Generator
1752	P1.9.51	IGES	1. Initial Graphics Exchange Standard
1753			2. Initial Graphics Exchange Specification
1754	P1.9.52	IGO	Intergovernmental Organization
1755	P1.9.53	IGOSS	Industry/Government Open System Specification
1756	P1.9.54	IHADSS	Integrated Helmet and Display Sight System
1757	P1.9.55	IIS	Intelligence Information System
1758	P1.9.56	IM	Information Management
1759	P1.9.57	IMA	Information Mission Area
1760	P1.9.58	IMAG	Information Management and Analysis Group
1761	P1.9.59	IMB	Interoperability Management Board
1762	P1.9.60	IMD	Information Management Directorate
1763	P1.9.61	IMDS	Integrated Maintenance Data System
1764	P1.9.62	IMINT	Imagery Intelligence
1765	P1.9.63	IMIT	Interoperability Management Information Tool
1766	P1.9.64	IMP	Information Management Plan
1767	P1.9.65	IMR	Information Management Representative
1768	P1.9.66	IMS	Information Management System
1769	P1.9.67	IMSP	Information Management Support Plan
1770	P1.9.68	INCA	Intelligence Communications Architecture
1771	P1.9.69	INCOMMS	Individual Combatant Modeling and Simulation

1772	P1.9.70	INFOCON	Information Operations Condition
1773	P1.9.71	INFORMS	Institute for Operations Research and Management Science
1774	P1.9.72	INFOSEC	Information Security
1775	P1.9.73	INMARSAT	International Maritime Satellite
1776	P1.9.74	INMS	Integrated Network Management System
1777	P1.9.75	INST	Information Standards and Technology Standardization
1778	P1.9.76	INX	Information Exchange
1779	P1.9.77	IO	Information Operations
1780	P1.9.78	IOC	1. Initial Operational Capability
1781			2. Industrial Operations Command (Army)
1782	P1.9.79	IODA	Information Oriented Decision Architecture
1783	P1.9.80	IOT&E	Initial Operational Test and Evaluation
1784	P1.9.81	IP	1. Image Processor
1785			2. Information Processor
1786			Internet Protocol
1787	P1.9.82	IPA	Imagery Product Archive
1788	P1.9.83	IPB	Intelligence Preparation of the Battlefield
1789	P1.9.84	IPC	Information Policy Council
1790	P1.9.85	I-Plan	Implementation Plan
1791	P1.9.86	IPM	Interpersonal Messaging
1792	P1.9.87	IPMS	Interpersonal Messaging System
1793	P1.9.88	IPPD	Integrated Product and Process Development
1794	P1.9.89	IPPM	Integrated Product Process Model
1795	P1.9.90	IPR	In-Process Review
1796	P1.9.91	IPS	1. Illustrative Planning Scenarios
1797			2. Interim Polar System
1798	P1.9.92	IPT	1. Integrated Product Team (See: OIPT)
1799			2. Integrated Process Team
1800	P1.9.93	IPTL	Integrated Priority Target List
1801	P1.9.94	IPv6	Internet Protocol version 6
1802	P1.9.95	IR&D	Independent Research and Development
1803	P1.9.96	IRDS	Information Resource Dictionary System
1804	P1.9.97	IREM	Integrated Research, Evaluation, and System Analysis
1805			Model
1806	P1.9.98	IRIAC	Infrared Information Analysis Center
1807	P1.9.99	IRIAM	Integrated Radar and Infrared Analysis and Modeling
1808	P1.9.100	IRIG	Inter-Range Instrumentation Group
1809	P1.9.101	IRIS	Internettted Range Interactive Simulations
1810	P1.9.102	IRM	Information Resource Management

1811			
1812	P1.9.103	IS	1. Information System
1813			2. International Standardization
1814			3. Interface Specification
1815			4. International Staff (NATO)
1816			5. Information Superiority
1817	P1.9.104	ISA	1. Integrated Support Activity
1818			2. Information System Architecture
1819			3. Industry Standard Architecture
1820	P1.9.105	ISATS	Information System ADP Tracking System
1821	P1.9.106	ISC	Information Systems Command (U.S. Army)
1822	P1.9.107	ISDN	Integrated Services Digital Network
1823	P1.9.108	ISEE	Integrated Software Engineering Environment
1824	P1.9.109	ISEM	Integrated Space Environmental Model
1825	P1.9.110	ISG	Industry Steering Group
1826	P1.9.111	ISGMS	Industry Steering Group on Modeling and Simulation
1827	P1.9.112	ISLE	Integrated Simulation Language Environment
1828	P1.9.113	ISM	Industrial, Scientific, and Medical
1829	P1.9.114	ISMC	Imagery Standards Management Committee
1830	P1.9.115	ISMT	Indoor Simulated Marksmanship Trainer
1831	P1.9.116	ISO	International Standards Organization
1832	P1.9.117	ISR	Intelligence, Surveillance, and Reconnaissance
1833	P1.9.118	ISS	Interactive Survivability Simulation (Army aviation manned simulator/tester)
1834			
1835	P1.9.119	ISSAA	Information Systems Selection and Acquisition Agency
1836	P1.9.120	ISSA AV	Integrated Space Situational Awareness - Analyst Version
1837	P1.9.121	ISSC	Information Systems Software Center
1838	P1.9.122	ISSM	Information Systems Security Manager
1839	P1.9.123	ISSO	Information System Security Officer
1840	P1.9.124	ISSPM	Information Systems Security Program
1841	P1.9.125	IST	Infantry Squad Trainer (marksmanship trainer)
1842	P1.9.126	IT	Information Technology
1843	P1.9.127	ITAM	Interdiction Tanker Analysis Model
1844	P1.9.128	ITD	1. Interim Terrain Data
1845			2. Interim Terrain Database
1846	P1.9.129	ITDN	Integrated Tactical Data Network
1847	P1.9.130	ITEC	International Training Equipment Conference
1848	P1.9.131	ITEM	Integrated Theater Engagement Model
1849	P1.9.132	ITEMM	Integrated Terrain-Environment-Multipath Model
1850	P1.9.133	ITEMS	Interactive Tactical Environment Management System

1851	P1.9.134	ITMRA	Information Technology Management Reform Act
1852	P1.9.135	ITN	Identification Tasking and Networking
1853	P1.9.136	ITPB	Information Technology Policy Board
1854	P1.9.137	ITRI	Information Technology Reuse Initiative
1855	P1.9.138	ITRUS	Information Technology Reuse
1856	P1.9.139	ITS	1. Individual Training Standards
1857			2. Intelligent Tutoring System
1858	P1.9.140	ITSDN	Integrated Tactical/Strategic Data Network
1859	P1.9.141	ITSP0	Information Technology Standards Program Office
1860	P1.9.142	ITTS	Instrumentation Targets and Threat Simulators
1861	P1.9.143	ITU	Information Transport Utility
1862	P1.9.144	ITV	Interactive Television
1863	P1.9.145	ITVGS	Interactive Television Generic Server
1864	P1.9.146	IUSS	Integrated Unit Simulation System
1865	P1.9.147	IV&V	Independent Verification and Validation
1866	P1.9.148	IVEPSS	Immersive Virtual Environment Prototyping Simulation
1867			System
1868	P1.9.149	IVIS	Inter-Vehicular Information System
1869	P1.9.150	IW	1. Information Warfare
1870			2. Irregular Warfare
1871	P1.9.151	IWG	Interface Working Group
1872	P1.9.152	IWSDB	Integrated Weapon Systems Database
1873	P1.9.153	IWSS	Interactive Weapon System Simulation



1874	P1.10. J		
1875			
1876	P1.10.1	J-2	Intelligence Directorate of a Joint Staff
1877	P1.10.2	J-3	Operations Directorate of a Joint Staff
1878	P1.10.3	J-4	Logistics Directorate of a Joint Staff
1879	P1.10.4	J-5	Plans Directorate of a Joint Staff
1880	P1.10.5	J-6	Communications System Directorate of a Joint Staff
1881	P1.10.6	J-SPACES	Joint Space Combat Environment Simulation
1882	P1.10.7	JAC	Joint Analysis Center
1883	P1.10.8	JACG	Joint Aeronautical Commanders Group
1884	P1.10.9	JACTS	Joint Aircrew Combat Training System
1885	P1.10.10	JADS	Joint Advanced Distributed Simulation
1886	P1.10.11	JADS-I	Joint Advanced Distributed Simulation-Improved
1887	P1.10.12	JADS/JFS	Joint Advanced Distributed Simulation Joint Feasibility
1888			Study
1889	P1.10.13	JAFLME	Joint Automated Field Logistics model for Employment
1890	P1.10.14	JAMC	Joint Amphibious Mine Countermeasure
1891	P1.10.15	JANNAF	Joint Army, Navy, NASA, Air Force
1892	P1.10.16	JANUS-A	Joint Army Navy Uniform Simulation-Army
1893	P1.10.17	JANUS App	JANUS Applique
1894	P1.10.18	JAS	Joint Analysis System (formerly JWARS)
1895	P1.10.19	JAWS	Joint Analytic Warfare Systems
1896	P1.10.20	JBC	Joint C4ISR Battle Center
1897	P1.10.21	JCALS	Joint Computer-Aided Acquisition and Logistics Support
1898	P1.10.22	JCAS	Joint Command and Control Attack Simulation
1899	P1.10.23	JCATS	Joint Conflict and Tactical Simulation
1900	P1.10.24	JCCC	Joint Communications Control Center
1901	P1.10.25	JCCD	Joint Camouflage, Concealment and Deception
1902	P1.10.26	JC2WC	Joint Command and Control Warfare Center (formerly J
1903			EWC)
1904	P1.10.27	JCSS	Joint Communications Simulation System
1905	P1.10.28	JCG	Joint Commanders Group
1906	P1.10.29	JCG(T&E)	Joint Commanders Group (Test and Evaluation)
1907	P1.10.30	JCISA	Joint Command Information Systems Activity
1908	P1.10.31	JCM	Joint Conflict Model
1909	P1.10.32	JCMO	Joint CALS Management Organization
1910	P1.10.33	JCOS	Joint Countermine Operational Simulation
1911	P1.10.34	JCS	Joint Chiefs of Staff
1912	P1.10.35	JCSE	1. Joint Command Support Element
1913			2. Joint Communications Support Element
1914	P1.10.36	JCTD	Joint Capability Technology Demonstration

1915	P1.10.37	JDA	1. Japan Defense Agency
1916			2. Joint Duty Assignment
1917	P1.10.38	JDAL	Joint Duty Assignment List
1918	P1.10.39	JDBE	Joint Database Elements
1919	P1.10.40	JDC	Joint Doctrine Center (merged with Joint Warfare Center
1920			(JWC) to form Joint Warfighting Center (JWFC) at Ft.
1921			Monroe, VA)
1922	P1.10.41	JDISS	Joint Deployable Intelligence Support System
1923	P1.10.42	JDL	Joint Director of Laboratories
1924	P1.10.43	JDN	Joint Data Network
1925	P1.10.44	JDS	Joint Data Support
1926	P1.10.45	JDSS	Joint Decision Support System
1927	P1.10.46	JEAP	Joint Electronic Analysis Program
1928	P1.10.47	JECEWSI	Joint Electronic Combat Electronic Warfare Simulation
1929	P1.10.48	JEDMICS	Joint Engineering Data Management Information and
1930			Control System (formerly EDMICS)
1931	P1.10.49	JECG	Joint Exercise Control Group
1932	P1.10.50	JEL	Joint Electronic Library
1933	P1.10.51	JEPES	Joint Engineering Planning and Execution System
1934	P1.10.52	JESS	Joint Exercise Support System
1935	P1.10.53	JETTA	Joint Environment for Testing, Training, and Analysis
1936	P1.10.54	JEWC	Joint Electronic Warfare Center (outdated. See: JC2WC)
1937	P1.10.55	JFACC	Joint Force Air Component Commander
1938	P1.10.56	JFAST	Joint Flow and Analysis System for Transportation
1939	P1.10.57	JFC	Joint Force Commander
1940	P1.10.58	JFCC	Joint Functional Component Commands
1941	P1.10.59	JFMO	Joint Frequency Management Office
1942	P1.10.60	JIC	Joint Intelligence Center
1943	P1.10.61	JICM	1. Joint Integrated Contingency Model
1944			2. Joint Intelligence Collection Module
1945	P1.10.62	JIEO	Joint Interoperability and Engineering Organization
1946	P1.10.63	JIMASS	Joint Intelligence Modeling and Simulation System
1947	P1.10.64	JIMB	Joint Information Management Board
1948	P1.10.65	JIMM	Joint Integrated Mission Model
1949	P1.10.66	JINTACCS	Joint Interoperability of Tactical Command and Control
1950			System
1951	P1.10.67	JIOC	Joint Information Operations Center
1952	P1.10.68	JIPTL	Joint Integrated Prioritized Target List
1953	P1.10.69	JITC	Joint Integration Test Command
1954	P1.10.70	JITF	Joint Integration Test Facility

1955	P1.10.71	JLASS	Joint Land, Aerospace, and Sea Simulation
1956	P1.10.72	JLC	Joint Logistics Commanders
1957	P1.10.73	JLOG JTF	Logistics Management Information System
1958	P1.10.74	JLOTS	Joint Logistics Over The Shore
1959	P1.10.75	JMASS	Joint Modeling And Simulation System
1960	P1.10.76	JMCIS	Joint Maritime Command Information System
1961	P1.10.77	JMEM	Joint Munitions Effectiveness Manual
1962	P1.10.78	JMETL	Joint Mission Essential Task Lists
1963	P1.10.79	JMSWG	Joint Multi-TADIL Standards Working Group
1964	P1.10.80	JNCC	Joint Network Operations (NETOPS) Control Center
1965	P1.10.81	JNETS	Joint Network Simulation
1966	P1.10.82	JOA	Joint Operations Area
1967	P1.10.83	JOC	Joint Operations Center
1968	P1.10.84	JOISIM	Joint Operations Information Simulation
1969	P1.10.85	JOPEs	Joint Operation Planning and Execution System
1970	P1.10.86	JOTS-VIDS	Joint Operations and Tactical System. Visually Integrated
1971			Data System
1972	P1.10.87	JOUST	Joint Operations on Urban Synthetic Terrain
1973	P1.10.88	JOVE	Joint Operations Visualization Environment
1974	P1.10.89	JP	Joint Publication
1975	P1.10.90	JPATS	Joint Primary Aircraft Training System
1976	P1.10.91	JPG	Joint Planning Group
1977	P1.10.92	JPL	Jet Propulsion Laboratory
1978	P1.10.93	JPO	Joint Program Office
1979	P1.10.94	JPSD	Joint Precision Strike Demonstration
1980	P1.10.95	JQRR	Joint Quarterly Readiness Review
1981	P1.10.96	JRFL	Joint Restricted Frequency List
1982	P1.10.97	JRISS	Joint Recruiting Information Support System
1983	P1.10.98	JRMB	Joint Requirements and Management Board
1984	P1.10.99	JROC	Joint Requirements Oversight Council
1985	P1.10.100	JRSOI	Joint Reception, Staging, Onward Movement, and
1986			Integration
1987	P1.10.101	JRTC	Joint Readiness Training Center
1988	P1.10.102	JSAF	Joint Semi-Automated Force
1989	P1.10.103	JSAN	Joint Staff Automation of the Nineties
1990	P1.10.104	JSEAD	Joint Suppression of Enemy Air Defense
1991	P1.10.105	JSEM	Joint Service Endgame Model
1992	P1.10.106	JSF	Joint Strike Fighter
1993	P1.10.107	JSIP	Joint Services Imagery Processing System
1994	P1.10.108	JSME	Joint Spectrum Management Element

1995	P1.10.109	JSMMPG	Joint Services Medical Modeling and Planning Group
1996	P1.10.110	JSOR	Joint Service Operational Requirement
1997	P1.10.111	JSOW	Joint Stand-Off Weapon
1998	P1.10.112	JSP	Joint Service Program
1999	P1.10.113	JSPS	Joint Strategic Planning System
2000	P1.10.114	JSRB	Joint Software Review Board
2001	P1.10.115	JSS	Joint STARS Simulator
2002	P1.10.116	JSSA	Joint Stealth Strike Aircraft
2003	P1.10.117	JSTARS	Joint Surveillance & Target Attack Radar System
2004	P1.10.118	JSTASL	Joint Scenario Tool Architecture and Script Language
2005	P1.10.119	JSTE	Joint Services Training Exercise
2006	P1.10.120	JT&E	Joint Test and Evaluation
2007	P1.10.121	JTA	Joint Technical Architecture
2008	P1.10.122	JTAGS	Joint Tactical Ground Station
2009	P1.10.123	JTAMS	Joint Tactical Missile Signatures
2010	P1.10.124	JTASC	Joint Training, Analysis, and Simulation Center
2011	P1.10.125	JTAV	Joint Total Asset Visibility System
2012	P1.10.126	JTC	1. Joint Technical Committee
2013			2. Joint Training Confederation
2014	P1.10.127	JTC3A	Joint Tactical Command, Control, and Communications
2015			Agency
2016	P1.10.128	JTCTS	Joint Tactical Combat Training System
2017	P1.10.129	JTF	Joint Task Force
2018	P1.10.130	JTF-GNO	Joint Task Force-Global Network Operations
2019	P1.10.131	JTFS	Joint Task Force Simulation
2020	P1.10.132	JTIDS	Joint Tactical Information Distribution System
2021	P1.10.133	JTLS	Joint Theater Level Simulation
2022	P1.10.134	JTMP	Joint Training Master Plan
2023	P1.10.135	JTP	Joint Training Program
2024	P1.10.136	JTS	1. Joint Tactical Simulation
2025			2. Joint Training System
2026	P1.10.137	JTSP	Joint Training Simulation Plan
2027	P1.10.138	JTSSG	Joint Telecommunications Standards Steering Group
2028	P1.10.139	JTWSG	Joint Theater of War Scenario Generator
2029	P1.10.140	JUDI	Joint Universal Data Interpreter
2030	P1.10.141	JULLS	Joint Universal Lessons Learned System
2031	P1.10.142	JUSTIS	Joint Uniform Services Technical Information System
2032	P1.10.143	JVIDS	Joint Visually Integrated Display System
2033	P1.10.144	JVL	Joint Virtual Laboratory
2034	P1.10.145	JWAC	Joint Warfare Analysis Center

2035	P1.10.146	JWCA	Joint Warfighting Capability Assessment
2036	P1.10.147	JWFC	Joint Warfighting Center
2037	P1.10.148	JWICS	Joint Worldwide Intelligence Communications System
2038	P1.10.149	JWID	Joint Warrior Interoperability Demonstration
2039	P1.10.150	JWSOL	Joint Warfare Simulation Object Library
2040	P1.10.151	JWSTP	Joint Warfighting Science and Technology Plan



2041	P1.11. <u>K</u>		
2042			
2043	P1.11.1	Ka	Kurtz-Above Band
2044	P1.11.2	KA	Knowledge Acquisition
2045	P1.11.3	KASC	Korean Air Simulation Center
2046	P1.11.4	KBE	Knowledge-Based Extraction
2047	P1.11.5	KBI	Knowledge-Based Information
2048	P1.11.6	KBLPS	Knowledge-Based Logistics Planning Shell
2049	P1.11.7	kbps	Kilobits per second
2050	P1.11.8	KBS	Knowledge-Based System
2051	P1.11.9	KBSC	Korean Battle Simulation Center
2052	P1.11.10	KDEC	Kinetic Energy Weapons Digital Emulation Center
2053	P1.11.11	KDR	Kill/Detection Ratio
2054	P1.11.12	KE	Knowledge Engineering
2055	P1.11.13	KHILS	Kinetic Kill Vehicle HITL Simulator
2056	P1.11.14	kHz	Kilohertz
2057	P1.11.15	KI	Knowledge Integration
2058	P1.11.16	KIPPL	Key Intelligence Programs Priority List
2059	P1.11.17	KNACK	Knowledge Acquisition Kernel
2060	P1.11.18	KOPS	Thousands of Operations Per Second
2061	P1.11.19	KPP	Key Performance Parameters
2062	P1.11.20	KRS	Knowledge Retrieval System
2063	P1.11.21	KSS	Knowledge Support System
2064	P1.11.22	Ku	Kurtz-Under Band
2065	P1.11.23	KWIC	Key Word In Context
2066	P1.11.24	KWOC	Key Word Out of Context



2067	P1.12. <u>L</u>		
2068			
2069	P1.12.1	LAD	Logistics Anchor Desk
2070	P1.12.2	LAM	Louisiana Maneuvers
2071	P1.12.3	LAN	Local Area Network
2072	P1.12.4	LANACS	Local Area Network Asynchronous Connection Server
2073	P1.12.5	LAPM	Link Access Procedure for Modems
2074	P1.12.6	LASER	Light Amplification by Stimulated Emission of Radiation
2075	P1.12.7	LAT	Local Access Terminal
2076	P1.12.8	LATS	Low Altitude Threat Simulator
2077	P1.12.9	LAU	LAN Access Unit
2078	P1.12.10	LAWN	Local Area Wireless Network
2079	P1.12.11	LB/TS	Large Blast/Thermal Simulator
2080	P1.12.12	LBJS	Littoral Battlespace Joint Service
2081	P1.12.13	LBTS	Lower Bound on the Time Stamp
2082	P1.12.14	LCC	Life-Cycle Cost
2083	P1.12.15	LCCE	Life-Cycle Cost Estimate
2084	P1.12.16	LCD	Liquid Crystal Display
2085	P1.12.17	LCM	1. Life-Cycle Management
2086			2. Life-Cycle Model
2087	P1.12.18	LCOM	Logistics Composite Model
2088	P1.12.19	LCSEC	Life-Cycle Software Engineering Center
2089	P1.12.20	LCSS	Life-Cycle Software Support
2090	P1.12.21	LCSSA	Life-Cycle Software Support Activity
2091	P1.12.22	LCSSE	Life-Cycle Software Support Environment
2092	P1.12.23	LCU	1. Laptop Computer Unit
2093			2. Last Cluster Used
2094			3. Lightweight Computer Unit
2095	P1.12.24	LDM	1. Logical Data Model
2096			2. Long Distance Modem
2097	P1.12.25	LDR	Low-Data-Rate
2098	P1.12.26	LEC	Local Exchange Carrier
2099	P1.12.27	LED	Light-Emitting Diode
2100	P1.12.28	LEE	Leading Edge Environment
2101	P1.12.29	LEEGCCS	Leading Edge Environment for the Global Command and
2102			Control System
2103	P1.12.30	LEM	Language Extension Module
2104	P1.12.31	LFF	Logistics Factors File
2105	P1.12.32	LFU	Least Frequently Used
2106	P1.12.33	LHN	Long-Haul Network

2107	P1.12.34	LIFO	Last In, First Out
2108	P1.12.35	LIVID	Language Identification and Voice Identification
2109	P1.12.36	LLNL	Lawrence-Livermore National Laboratory
2110	P1.12.37	LMS	Learning Management System
2111	P1.12.38	LNE	Local Network Element
2112	P1.12.39	LOC	1. Lines of Code
2113			2. Lines of Communication
2114	P1.12.40	LOCAASS	Low-Cost Anti-Armor Submunition Simulation
2115	P1.12.41	LOCIS	Library of Congress Information System
2116	P1.12.42	LOD	Level of Detail
2117	P1.12.43	LOE	Level of Effort
2118	P1.12.44	LoF	Loss Of Function
2119	P1.12.45	LoF (P)	Loss of Function for Personnel
2120	P1.12.46	LOGAIS	Logistics Automated Information System
2121	P1.12.47	LOGGEN	Logistics Plan Generator
2122	P1.12.48	LOGSAFE	Logistics Sustainability Analysis and Feasibility Estimator
2123	P1.12.49	LOGSIM	Logistics Simulation
2124	P1.12.50	LOTS	Logistics Over The Shore
2125	P1.12.51	LOTSSIM	Logistics Over The Shore Simulation
2126	P1.12.52	LP	Linear Programming
2127	P1.12.53	LPD	Low Probability of Detection
2128	P1.12.54	LPI	Low Probability of Intercept
2129	P1.12.55	LPM	Lines Per Minute
2130	P1.12.56	LRC	Learning Resource Center
2131	P1.12.57	LRI	Line Replacement Item
2132	P1.12.58	LRIP	Low-Rate Initial Production
2133	P1.12.59	LRM	Language Reference Manual
2134	P1.12.60	LRN	Local Range Network
2135	P1.12.61	LRU	Line Replaceable Unit
2136	P1.12.62	LSA	Logistics System Analysis
2137	P1.12.63	LSB	Least Significant Bit
2138	P1.12.64	LSC	Least Significant Character
2139	P1.12.65	LSE	Local Subscriber Environment
2140	P1.12.66	LSTF	Life Sciences Test Facility
2141	P1.12.67	LT2	Live Training Transformation
2142	P1.12.68	LWTB	Land Warrior Testbed
2143	P1.12.69	LWTC	Littoral Warfare Training Complex
2144	P1.12.70	LVC	Live, Virtual, and Constructive
2145	P1.12.71	LVC-IA	Live, Virtual, and Constructive Integrating Architecture



2146	P1.13.	<u>M</u>	
2147			
2148	P1.13.1	M&S	Modeling and Simulation
2149	P1.13.2	M&SCO	Modeling and Simulation Coordination Office
2150	P1.13.3	M&SF	M&S Foundations
2151	P1.13.4	M&SIPT	Modeling and Simulation Integrated Process Team
2152	P1.13.5	M&S SC	Modeling and Simulation Steering Committee
2153	P1.13.6	M2DBMS	Multi-Model, Multi-Lingual Database Management
2154			System
2155	P1.13.7	MACATAK	Maintenance Capabilities Attack Model
2156	P1.13.8	MACH	Model of Atmospheric Chemical Hazards
2157	P1.13.9	MACIPS	Military Airlift Command Information Processing System
2158	P1.13.10	MAC	Medium Access Control
2159	P1.13.11	MACS	Mutually Agreeable Commercial Software
2160	P1.13.12	MAD	Message Address Directory
2161	P1.13.13	MADCAP	Mobilization And Deployment Capability Assurance
2162			Project
2163	P1.13.14	MAHCA	Multiple Agent Hybrid Control Architecture
2164	P1.13.15	MAIS	1. Major Automated Information System
2165			2. Mobile Automated Instrumentation Suite
2166	P1.13.16	MAISRC	Major Automated Information System Review Council
2167	P1.13.17	MAJCOM	Major Command
2168	P1.13.18	MAMO	Maintenance Model
2169	P1.13.19	MAPP	Modern Aids to Planning Program
2170	P1.13.20	MARISIM	Maritime Simulation
2171	P1.13.21	MASC	Modeling Analysis and Simulation Center (U.S. Air Force)
2172	P1.13.22	MASDA	Model and Simulation Decision Aid
2173	P1.13.23	MASE	Message Administration Service Element
2174	P1.13.24	MASINT	Measurement and Signature Intelligence
2175	P1.13.25	MASS	Mobility Analysis Support System
2176	P1.13.26	MATT	Mapping and Analysis Tool for Transportation
2177	P1.13.27	MBE	Multi-Band Emitter
2178	P1.13.28	MBO	Management By Objectives
2179	P1.13.29	Mbps	Megabits per second
2180	P1.13.30	MC4	Medical Communications for Combat Casualty Care
2181	P1.13.31	MC&G	Mapping, Charting, and Geodesy
2182	P1.13.32	MCAD	Mechanical Computer-Aided Design
2183	P1.13.33	MCB	Memory Control Block
2184	P1.13.34	MCCR	Mission Critical Computer Resources
2185	P1.13.35	MCEB	Military Communications-Electronic Board

2186	P1.13.36	MCGA	Multicast Group Agent
2187	P1.13.37	MCMSMO	Marine Corps Modeling and Simulation Management Office
2188			
2189	P1.13.38	MCMSWG	Marine Corps Modeling and Simulation Working Group
2190	P1.13.39	MCS	Message Conversion System
2191	P1.13.40	MCTL	Militarily Critical Technology List
2192	P1.13.41	MCTSSA	Marine Corps Tactical Systems Support Activity
2193	P1.13.42	MDA	Milestone Decision Authority
2194	P1.13.43	MDAd	MAJCOM Data Administrator
2195	P1.13.44	MDAP	Major Defense Acquisition Program
2196	P1.13.45	MDDC	Missile Defense Data Center
2197	P1.13.46	MDR	Medium-Data-Rate
2198	P1.13.47	MDS	Meteorological Data System
2199	P1.13.48	MDSE	Message Delivery Service Element
2200	P1.13.49	MDT	Message Distribution Terminal
2201	P1.13.50	MDT2	Multi-Service Distributed Training Testbed
2202	P1.13.51	MEL	1. Master Environmental Library
2203			2. Master Events List
2204	P1.13.52	MERIT	Model Evaluation Requirements Integration Tool
2205	P1.13.53	METL	Mission Essential Task List
2206	P1.13.54	METS	Mobile Electronic Threat Simulator
2207	P1.13.55	METT-T	Mission, Enemy, Troops, Terrain, and Time
2208	P1.13.56	MFG	Multi-Function Gateway
2209	P1.13.57	MFIP	Multi-Function Interoperability Processor
2210	P1.13.58	MFS	Manned Flight Simulator
2211	P1.13.59	MGED	Multidevice Graphics Editor
2212	P1.13.60	MGRS	Military Grid Reference System
2213	P1.13.61	MHS	Message Handling System
2214	P1.13.62	MHz	MegaHertz
2215	P1.13.63	MIB	Management Information Base
2216	P1.13.64	MICRO-SAINT	Task network simulation language
2217	P1.13.65	MICSS	Marine Corps Individual Combatant Simulator System
2218	P1.13.66	MIDAS	Model for Intertheater Deployment by Air and Sea
2219	P1.13.67	MIDS	Multifunction Information Distribution System
2220	P1.13.68	MIDS-LVT	Multi-Functional Information Distribution System-Low Voltage Terminal
2221			
2222	P1.13.69	MIIDS/IDB	Military Integrated Intelligence Data System/Integrated Database
2223			
2224	P1.13.70	MITL	Man-in-The-loop
2225	P1.13.71	MILDEP	Military Department

2226	P1.13.72	MILES	Multiple Integrated Laser Engagement System
2227	P1.13.73	MILNET	Military Network
2228	P1.13.74	MIMD	1. Multiple-Input, Multiple Data
2229			2. Multiple-Instruction, Multiple-Data
2230	P1.13.75	MIME	Multipurpose Internet Mail Extension
2231	P1.13.76	MIMI	MADCAP Integration Management Initiative
2232	P1.13.77	MINX	Multimedia Information Exchange Network
2233	P1.13.78	MIPR	Military Interagency Procurement Requisition
2234	P1.13.79	MIPS	Millions of Instructions Per Second
2235	P1.13.80	MIS	Management Information System
2236	P1.13.81	MISD	Management Information Systems Directorate
2237	P1.13.82	MISMA	U.S. Army Model Improvement and Study Management
2238			Agency
2239	P1.13.83	MISSI	Multi-level Information System Security Initiative
2240	P1.13.84	MIST	Multiple Input Sensor Terminal
2241	P1.13.85	MTT	1. Management Information Tree
2242			2. Massachusetts Institute of Technology
2243	P1.13.86	MITL	Man-In-The-Loop
2244	P1.13.87	ML	Machine Language
2245	P1.13.88	MLS	Multi-Level Security
2246	P1.13.89	MM	Multi-Media
2247	P1.13.90	MMHS	Military Message Handling System
2248	P1.13.91	MMI	Man-Machine Interface
2249	P1.13.92	MMS	Multilevel Mail Server
2250	P1.13.93	MMU	1. Mass Memory Unit
2251			2. Memory Management Unit
2252	P1.13.94	MMW	Millimeter Wave
2253	P1.13.95	MMWPROP	Millimeter Wave Propagation Prediction Model
2254	P1.13.96	MNC	1. Major NATO Command (NATO)
2255			2. Major NATO Commander (NATO)
2256	P1.13.97	MNOI	Messages Not Of Interest
2257	P1.13.98	MNS	Mission Needs Statement
2258	P1.13.99	MOBA	Military Operations in Built-Up Areas
2259	P1.13.100	MOBACS	Military Operations in Built-Up Areas Combat Simulation
2260	P1.13.101	MOBCEM	Mobilization Capabilities Evaluation Model
2261	P1.13.102	MOBSAM	Mobilization Station Assessment Model
2262	P1.13.103	MODAS	Modular Ocean Data Assimilation System
2263	P1.13.104	ModSAF	Modular Semi-Automated Forces
2264	P1.13.105	MOE	Measure of Effectiveness
2265	P1.13.106	MOHLL	Machine Oriented High Level Language

2266	P1.13.107	MOM	Measure of Merit (MOMs encompass MOES, MOOs, and
2267			MOPs)
2268	P1.13.108	MOO	Measure of Outcome
2269	P1.13.109	MOOTW	Military Operations Other Than War
2270	P1.13.110	MOP	Measure of Performance
2271	P1.13.111	MORIMOC	More Operational Realism In Modeling Of Combat
2272	P1.13.112	MORS	Military Operations Research Society
2273	P1.13.113	MOSAIC	1. Models and Simulations: Army Integrated Catalog
2274			2. Modeling System for Advanced Investigation of
2275			Countermeasures
2276	P1.13.114	MOSART	Moderate Spectral Atmospheric Radiance and
2277			Transmittance Code
2278	P1.13.115	MOUT	Military Operations in Urban Terrain
2279	P1.13.116	MPC	Micro Portable Computer
2280	P1.13.117	MPD	Message Preparation Directory
2281	P1.13.118	MPDU	Message Protocol Data Unit
2282	P1.13.119	MPF	Maritime Prepositioned Force
2283	P1.13.120	MPN	MSE Packet Network
2284	P1.13.121	MR	Mixed Reality
2285	P1.13.122	MRA	Model Range of Accuracy
2286	P1.13.123	MRCI	Modular Reconfigurable C4I Interface
2287	P1.13.124	MRM	Medical Regulating Model
2288	P1.13.125	MRSE	Message Retrieval Service Element
2289	P1.13.126	MS	1. Message Store
2290			2. Milestone
2291	P1.13.127	MS&A	Modeling, Simulation, and Analysis
2292	P1.13.128	MSAC	Modeling and Simulation Architecture Council
2293	P1.13.129	MSAS	Military Simulation Assessment System
2294	P1.13.130	MSC	1. Major Subordinate Command
2295			2. Major Subordinate Commander
2296	P1.13.131	MSCC	Modeling and Simulation Coordination Center (now
2297			MSOSA)
2298	P1.13.132	MSCCTF	Modeling and Simulation Coordination Center Task Force
2299	P1.13.133	MSCR	Modeling and Simulation Capability Requirement
2300	P1.13.134	MSD	Mass Storage Device
2301	P1.13.135	MSDDB	Master Seafloor Digital Database
2302	P1.13.136	MSDOS	Microsoft Disk Operating System
2303	P1.13.137	MSDS	1. Master Simulation Data System
2304			2. Mission Scenario Data System
2305			

2306	P1.13.138	MSE	1. Mobile Subscriber Equipment
2307			2. Multiple Simulation Exercise
2308	P1.13.139	MSEA	Modeling and Simulation Executive Agent
2309	P1.13.140	MSEL	Master Scenario Events List
2310	P1.13.141	MSI	Multi-Spectral Imagery
2311	P1.13.142	MSIC-CLUTTER	Missile-Space and Intelligence Center-CLUTTER Model
2312	P1.13.143	MSIP	Modeling and Simulation Investment Plan
2313	P1.13.144	MSIS	M&S Information System
2314	P1.13.145	MSL	Mean Sea Level
2315	P1.13.146	MSMP	Modeling and Simulation Master Plan
2316	P1.13.147	MSOSA	M&S Operational Support Activity (formerly MSCC)
2317	P1.13.148	MSP	Message Security Protocol
2318	P1.13.149	MSR	Missile Simulation Round
2319	P1.13.150	MSRR	Modeling and Simulation Resource Repository
2320	P1.13.151	MSS	Millimeter Simulation System
2321	P1.13.152	MSSE	Message Submission Service Element
2322	P1.13.153	MT	Message Transfer
2323	P1.13.154	MTA	Message Transfer Agent
2324	P1.13.155	MTADME	Military Thinking and Decision Making Exercises
2325	P1.13.156	MTDS	Marine Corps Tactical Data System
2326	P1.13.157	MTF	1. Message Text Format
2327			2. Message Transfer Format
2328			3. Modulation Transfer Function
2329	P1.13.158	MTM	Model-Test-Model
2330	P1.13.159	MTOPS	Millions of Theoretical Operations Per Second
2331	P1.13.160	MTS	1. Message Transfer System
2332			2. Moving Target Simulator
2333	P1.13.161	MTW	Major Theater War
2334	P1.13.162	MTWS	MAGTF Tactical Warfare Simulation
2335	P1.13.163	MUSE	Multiple UAV Simulation Environment
2336	P1.13.164	MUTES	Multiple Threat Emitter Systems
2337	P1.13.165	MWARS	Maneuver-Warfare Analytical Research System
2338	P1.13.166	MWTB	Mounted Warfare Testbed



2339	P1.14. <u>N</u>		
2340			
2341	P1.14.1	NABEM II	Naval Air Battle Evaluation Model II
2342	P1.14.2	NADM-V	NORAD Air Defense Model-Visual
2343	P1.14.3	NAIC	National Air Intelligence Center
2344	P1.14.4	NALCOMIS	Naval Aviation Logistics Command Information System
2345	P1.14.5	NAM	Network Assessment Model
2346	P1.14.6	NARDAC	Navy Regional Data Automation Center
2347	P1.14.7	NAS	National Academy of Sciences
2348	P1.14.8	NASI	NetWare Asynchronous Services Interface
2349	P1.14.9	NASM	National Air and Space (Warfare) Model
2350	P1.14.10	NASMP	Naval Aviation Simulation Master Plan
2351	P1.14.11	NASNET	Naval Aviation Simulator Network Training
2352	P1.14.12	NATO	North Atlantic Treaty Organization
2353	P1.14.13	NATSIM	National Simulation System
2354	P1.14.14	NAU	Network Addressable Unit
2355	P1.14.15	NBS	National Bureau of Standards (now NIST)
2356	P1.14.16	NCA	National Command Authorities
2357	P1.14.17	NCARAI	Navy Center for Applied Research in Artificial Intelligence
2358	P1.14.18	NCC	1. Network Control Center
2359			2. National Coordinating Center
2360	P1.14.19	NCCS	Nuclear Command and Control System
2361	P1.14.20	NCDC	National Climatic Data Center
2362	P1.14.21	NCS	1. National Communications System
2363			2. Network Computing System
2364			3. Network Control Station
2365	P1.14.22	NCSA	National Center for Super-computing Applications
2366	P1.14.23	NCSC	National Computer Security Center
2367	P1.14.24	NCSL	National Computer System Laboratory
2368	P1.14.25	NCTE	Navy Continuous Training Environment
2369	P1.14.26	NDL	Network Data Language
2370	P1.14.27	NDOF	Nodal Degree of Freedom
2371	P1.14.28	NERF	Naval Emitter Reference File
2372	P1.14.29	NES	Network Encryption System
2373	P1.14.30	NESDIS	National Environmental Satellite Data and Information
2374			Service
2375	P1.14.31	NESSE	1. Near Earth Simulated Space Environment
2376			2. Near Earth Space Synthetic Environment
2377			
2378			

2379	P1.14.32	NET	1. Network Entity Title
2380			2. New Equipment Training
2381			3. Not Earlier Than
2382	P1.14.33	NETOPS	Network Operations
2383	P1.14.34	NETT	New Equipment Training Team
2384			
2385	P1.14.35	NEWC	New and Emerging Warfighter Capabilities
2386	P1.14.36	NFDD	NGA's Feature and Attribute Data Dictionary
2387	P1.14.37	NFS	Network File Server
2388	P1.14.38	NGA	National Geospatial-Intelligence Agency (formerly NIMA)
2389	P1.14.39	NGCR	Next Generation Computer Resources
2390	P1.14.40	NGO	Nongovernmental Organization
2391	P1.14.41	NIC	Network Information Center
2392	P1.14.42	NIDR	Network Information Discover and Retrieval
2393	P1.14.43	NII	National Information Infrastructure
2394	P1.14.44	NIMA	National Imagery and Mapping Agency (formerly DMA)
2395	P1.14.45	NIPRNET	Non-secure Internet Protocol (IP) Router Network
2396	P1.14.46	NIR	Network Information Retrieval
2397	P1.14.47	NISO	National Information Standards Organization
2398	P1.14.48	NISP	National Individual Security Program
2399	P1.14.49	NIST	National Institute of Standards and Technology
2400	P1.14.50	NITC	National Information Technology Center
2401	P1.14.51	NITES	1. Naval Integrated Tactical Environmental System
2402			2. Navy Integrated Tactical Environment Subsystem
2403	P1.14.52	NITF	1. National Imagery Test Facility
2404			2. National Imagery Transmission Format
2405	P1.14.53	NLSP	Network Layer Security Protocol
2406	P1.14.54	NLT	Not Later Than
2407	P1.14.55	NMCC	National Military Command Center
2408	P1.14.56	NMCS	National Military Command System
2409	P1.14.57	NMS	Network Management System
2410	P1.14.58	NMSO	Navy Modeling & Simulation Office
2411	P1.14.59	NODC	National Oceanographic Data Center
2412	P1.14.60	NODDS	Navy Oceanographic Data Distribution System
2413	P1.14.61	NOGAPS	Navy Operational Global Atmospheric Prediction System
2414	P1.14.62	NORAPS	Naval Operational Regional Atmospheric Predictions
2415			System
2416	P1.14.63	NOS	Network Operating System
2417	P1.14.64	NOSC	Network Operations and Security Center
2418	P1.14.65	NOVAM	Navy Oceanic Vertical Aerosol Model

2419	P1.14.66	NREN	National Research and Education Network
2420	P1.14.67	NRL	Naval Research Laboratory
2421	P1.14.68	NRMS	Near Term Mine Reconnaissance System
2422	P1.14.69	NRT	Near Real Time
2423	P1.14.70	NSA	National Security Agency
2424	P1.14.71	NSC	National Simulation Center
2425	P1.14.72	NSDE	Non-Standard Data Element
2426	P1.14.73	NSDI	National Spatial Data Infrastructure
2427	P1.14.74	NSEP	National Security Emergency Preparedness
2428	P1.14.75	NSF	National Science Foundation
2429	P1.14.76	NSG	National System for Geospatial Intelligence
2430	P1.14.77	NSIDC	National Snow and Ice Data Center
2431	P1.14.78	NSO	Network Security Officer
2432	P1.14.79	NSRD	National Software Reuse Directory
2433	P1.14.80	NSS	1. Naval Simulation System
2434			2. National Security System
2435	P1.14.81	NSTAC	National Security Telecommunications Advisory
2436			Committee
2437	P1.14.82	NSTC	National Science and Technology Council
2438	P1.14.83	NSTL	National Software Testing Labs
2439	P1.14.84	NTACMS	Navy Tactical Missile System
2440	P1.14.85	NTC	National Training Center
2441	P1.14.86	NTC-IS	National Training Center-Instrumentation System
2442	P1.14.87	NTCS-A	Navy Tactical Command Systems-Afloat
2443	P1.14.88	NTCSS	1. Naval Tactical Command Support System
2444			2. Navy Tactical Command Support System
2445	P1.14.89	NTDS	Navy Tactical Data System
2446	P1.14.90	NTF	National Test Facility
2447	P1.14.91	NTIC	1. National Technical Information Service
2448			2. Naval Technical Intelligence Center
2449	P1.14.92	NTU	New Threat Upgrade
2450	P1.14.93	NUI	Network User Interface
2451	P1.14.94	NUSSE	Non-Uniform Simple Surface Evaporation (model)
2452	P1.14.95	NV&EOL	Night Vision and Electro-Optics Laboratory
2453	P1.14.96	NVD	Night Vision Device
2454	P1.14.97	NVE	Night Vision Equipment
2455	P1.14.98	NVESD	Night Vision and Electronic Sensors Directorate
2456	P1.14.99	NVG	Night Vision Goggles
2457	P1.14.100	NVRAM	Non-Volatile Random Access Memory
2458	P1.14.101	NVS	Night Vision System

2459	P1.14.102	NW	Network Warfare
2460	P1.14.103	NWARS	National Wargaming System
2461	P1.14.104	NWP	Numerical Weather Prediction Model
2462	P1.14.105	NWTDB	Naval Warfare Tactical Database



2463	P1.15. <u>Q</u>		
2464			
2465	P1.15.1	OA	Operational Architecture
2466	P1.15.2	OAI	Open Applications Interface
2467	P1.15.3	OAML	Oceanographic and Atmospheric Master Library
2468	P1.15.4	OASIS	Operations Analysis and Simulation Interface System
2469	P1.15.5	OATS	Office Automation and Technology Services
2470	P1.15.6	ODES	Operational and Deployment Experiments Simulator
2471	P1.15.7	ODI	Open Datalink Interface
2472	P1.15.8	ODM	Organizational Domain Modeling
2473	P1.15.9	ODP	Open Distributed Processing
2474	P1.15.10	OEA	Ocean Executive Agent
2475	P1.15.11	OGA	Other Government Agency
2476	P1.15.12	OII	Operations-Intelligence Interface
2477	P1.15.13	OIRA OMB	Office of Information and Regulatory Affairs
2478	P1.15.14	OIS	Office Information System
2479	P1.15.15	OLE	Object Linking and Embedding
2480	P1.15.16	OMA	Object Management Architecture
2481	P1.15.17	OMEGA	Operational Multiscale Environment Model with Grid
2482			Adaptivity
2483	P1.15.18	OMFTS	Operational Maneuver From the Sea
2484	P1.15.19	OMG	Object Management Group
2485	P1.15.20	OMO	Other Military Operations
2486	P1.15.21	OMT	Object Model Template
2487	P1.15.22	ONC	Open Network Computing
2488	P1.15.23	OO	Object-Oriented
2489	P1.15.24	OOA	Object-Oriented Analysis
2490	P1.15.25	OOD	Object-Oriented Design
2491	P1.15.26	OODA	Object-Oriented Design with Assemblies
2492	P1.15.27	OODB	Object-Oriented Database
2493	P1.15.28	OODBMS	Object-Oriented Database Management System
2494	P1.15.29	OOM	Object-Oriented Modeling
2495	P1.15.30	OOP	Object-Oriented Programming
2496	P1.15.31	OOT	Object-Oriented Technologies
2497	P1.15.32	OOTW	Operations Other Than War
2498	P1.15.33	OPCON	Operational Control
2499	P1.15.34	OPFOR	Opposing Forces
2500	P1.15.35	OPLAN	Operation Plan
2501	P1.15.36	OPORD	Operation Order
2502	P1.15.37	OPSEC	Operations Security

2503	P1.15.38	OPT	Operations Planning Tool
2504	P1.15.39	OPTADS	Operations Tactical Data Systems
2505	P1.15.40	OR	Operations Research
2506	P1.15.41	ORACLE	Operational Research and Critical Link Evaluation
2507	P1.15.42	ORB	Object Request Broker
2508	P1.15.43	ORID	Operational Requirements Document
2509	P1.15.44	ORSA	Operations Research Systems Analysis
2510	P1.15.45	ORSMC	Off-Route Smart Mine Clearance
2511	P1.15.46	ORT	OSD Review Team
2512	P1.15.47	OS	Operating System
2513	P1.15.48	OSD	Office of the Secretary of Defense
2514	P1.15.49	OSE	Open System Environment
2515	P1.15.50	OSEA	Organization for Synthetic Environment Architecture
2516	P1.15.51	OSF	Open Software Forum
2517	P1.15.52	OSI	Open Systems Interconnection
2518	P1.15.53	OSINT	Open Source Intelligence
2519	P1.15.54	OSIRIS	Optimized Synthetic Infra-Red Interactive Simulation
2520	P1.15.55	OSP	Other Service Program
2521	P1.15.56	OSRM	Open System Reference Model
2522	P1.15.57	OSS	Operations Support System
2523	P1.15.58	OTAU	Over The Air Updating
2524	P1.15.59	OTDR	Optical Time Domain Reflector
2525	P1.15.60	OTI	Office of Technical Integration
2526	P1.15.61	OTSA	Open Training System Architecture
2527	P1.15.62	OUSD(A&T)	Office of the Under Secretary of Defense for Acquisition and Technology
2528			



2529	P1.16. <u>P</u>		
2530			
2531	P1.16.1	PACOM	Pacific Command (U.S.)
2532	P1.16.2	PADIL	PATRIOT Air Defense Information Language
2533	P1.16.3	PADS	Position Azimuth Determining System
2534	P1.16.4	PAL	Public Ada Library
2535	P1.16.5	PALOS	Planning Assistant for Logistics Systems
2536	P1.16.6	PAMS	Predictive Aircraft Maintenance System
2537	P1.16.7	PAN	Personal Area Network
2538	P1.16.8	PASS-K	PACOM ADP Site Server- Korea
2539	P1.16.9	PATGEN	Patient Generator
2540	P1.16.10	PC	Personal Computer
2541	P1.16.11	PCB	Printed Circuit Board
2542	P1.16.12	PCE	Process-Centered Environment
2543	P1.16.13	PCIS	Portable Common Interface Set
2544	P1.16.14	PCM	1. Production Cost Model
2545			2. Pulse Coded Modulation
2546	P1.16.15	PCMCIA	Personal Computer Memory Card International Association
2547	P1.16.16	PCMT	Personal Computer Message Terminal
2548	P1.16.17	PCTE	Portable Common Tools Environment
2549	P1.16.18	PDES	Product Data Exchange using STEP
2550	P1.16.19	PDL	Programmable Design Language
2551	P1.16.20	PDR	Preliminary Design Review
2552	P1.16.21	PDSS	Post Deployment Software Support
2553	P1.16.22	PDU	Protocol Data Unit
2554	P1.16.23	PEGASUS	Perspective View Generator and Analysis Systems for
2555			Unmanned Sensors
2556	P1.16.24	PEM	Program Element Monitor
2557	P1.16.25	PERT	Program Evaluation Review Technique
2558	P1.16.26	PHIGS	Programmer's Hierarchical Interactive Graphics Standard
2559	P1.16.27	PID	Protocol Identifier Data
2560	P1.16.28	PIF	Picture Interchange Format
2561	P1.16.29	PIN	1. Personal Identification Number
2562			2. Process Identification Number
2563	P1.16.30	PIO	Processor Input/Output
2564	P1.16.31	PIPS	Polar Ice Prediction System
2565	P1.16.32	PLA	Plain Language Address
2566	P1.16.33	PLAD	Plain Language Address Designator
2567	P1.16.34	PLEXUS	Phillips Laboratory Expert User System
2568	P1.16.35	PM	Program Manager

2569	P1.16.36	PMSP	Preliminary Message Security Protocol
2570	P1.16.37	PNP	Plug and Play
2571	P1.16.38	POP	Point of Presence
2572	P1.16.39	POP-Ds	Proof-of-Principle Demonstrations
2573	P1.16.40	POPS	Pyrotechnic Optical Plume Simulator
2574	P1.16.41	PORTSIM	Port Simulation Model
2575	P1.16.42	POSIX	Portable Operating System Interface
2576	P1.16.43	PPBE	Planning, Programming, Budgeting and Execution
2577	P1.16.44	PPDB	Point Positioning Database
2578	P1.16.45	PPF	Platform Proto-Federations
2579	P1.16.46	PPP	Point-to-Point Protocol
2580	P1.16.47	Pre-BADD	Pre-Battlefield Awareness Data Dissemination
2581	P1.16.48	PRETT	PATRIOT Radar Emulator Test Tool
2582	P1.16.49	PRF	Pulse Repetition Frequency
2583	P1.16.50	PRIMES	Preflight Integration of Munitions and Electronic Systems
2584	P1.16.51	PRISM	1. Parameterized Real-Time Ionospheric Specification
2585			Model
2586			2. Portable, Reusable, Integrated Software Modules
2587	P1.16.52	PROM	Programmable Read-Only Memory
2588	P1.16.53	PSDB	Perceived Situation Database
2589	P1.16.54	PSM	Portable Space Model
2590	P1.16.55	PSYOP	Psychological Operations
2591	P1.16.56	PTADB	Planning Terrain Analysis Database
2592	P1.16.57	PTCCN	Prototype Tactical Cryptological Communications Network
2593	P1.16.58	PTOS	Patriot Tactical Operations Simulation
2594	P1.16.59	PUA	Profiling User Agent
2595	P1.16.60	PVC	Permanent Virtual Circuit
2596	P1.16.61	PVD	Plain View Display
2597	P1.16.62	PWL_	PieceWise Linear Function defined by a data look up table



2598	P1.17. Q		
2599			
2600	P1.17.1	Q/I	Question/Issue
2601	P1.17.2	QA	Quality Assurance
2602	P1.17.3	QAE	Quality Assurance Evaluator
2603	P1.17.4	QBE	Query By Example
2604	P1.17.5	QBF	Query By Form
2605	P1.17.6	QC	Quality Control
2606	P1.17.7	QDE	Quality Data Evaluation
2607	P1.17.8	QDOS	Quick and Dirty Operating System
2608	P1.17.9	QDR	1. Quadrennial Defense Review
2609			2. Quality Deficiency Report
2610	P1.17.10	QFA	Quick File Access
2611	P1.17.11	QJM	Quantified Judgment Model
2612	P1.17.12	QMR	Quarterly Management Review
2613	P1.17.13	QOS	Quality of Service



2614	P1.18.	<u>R</u>	
2615			
2616	P1.18.1	R&A	Review and Analysis
2617	P1.18.2	R&D	Research and Development
2618	P1.18.3	RA	Response Action
2619	P1.18.4	R-T	Real-Time
2620	P1.18.5	RAC	Reliability Analysis Center
2621	P1.18.6	RADGUNS	Radar Directed Gun System
2622	P1.18.7	RADIUS	Research and Development for Image Understanding
2623			Systems
2624	P1.18.8	RAM	1. Random Access Memory
2625			2. Reliability, Availability, and Maintainability
2626	P1.18.9	RAPIDSIM	Rapid Intertheater Deployment Simulator
2627	P1.18.10	RASS	Random Access Storage System
2628	P1.18.11	RASSP	Rapid Prototyping of Application Specific Signal
2629			Processors
2630	P1.18.12	RAV	Robotic Air Vehicle
2631	P1.18.13	RBBS	Remote Bulletin Board System
2632	P1.18.14	RC	Routing Control
2633	P1.18.15	RCAS	Reserve Component Automation System
2634	P1.18.16	RD&A	Research, Development & Acquisition
2635	P1.18.17	RDA	1. Remote Database Access
2636			2. Research, Development, and Acquisition
2637	P1.18.18	RDADS	Real-Time Data Acquisition And Display System
2638	P1.18.19	RDAISA	Research, Development, and Acquisition Information
2639			Systems Agency
2640	P1.18.20	RDB	Relational Database
2641	P1.18.21	RDBMS	Relational Database Management System
2642	P1.18.22	RDMS	1. Range Data Management System
2643			2. Relational Data Management System
2644	P1.18.23	RDT	Remote Debriefing Tool
2645	P1.18.24	REA	Remote Entity Approximation
2646	P1.18.25	REDCAP	Real-Time Electronic Digitally Controlled Analyzer
2647			Processor
2648	P1.18.26	RESA	Research, Evaluation, and System Analysis Model
2649	P1.18.27	RESS	Radar Environment Simulator System
2650	P1.18.28	RFS	Remote File Sharing
2651	P1.18.29	RFSS	Radio Frequency Simulation System
2652	P1.18.30	RG	Remote Gateway
2653	P1.18.31	RID	RTI Initialization Data

2654	P1.18.32	RIMS	1. Radar Image Modeling System
2655			2. Research and Development Information Management
2656			System
2657	P1.18.33	RIP	Routing Information Protocol
2658	P1.18.34	RIS	Range Instrumentation Systems
2659	P1.18.35	RISC	Reduced Instruction Set Computer
2660	P1.18.36	RISM	Reduced Instruction Set Model
2661	P1.18.37	RITN	Real-Time Information Transfer and Networking
2662	P1.18.38	RLF	Reuse Library Framework
2663	P1.18.39	RLMS	Radar Land Mass Simulator
2664	P1.18.40	RMSD	Requirements, Models, Software, and Data
2665	P1.18.41	ROAMS	Reusable Object Access and Management System
2666	P1.18.42	ROI	Return On Investment
2667	P1.18.43	ROM	1. Read Only Memory
2668			2. Rough Order of Magnitude
2669	P1.18.44	ROMC	Required Operational Messaging Characteristics
2670	P1.18.45	ROSE	Remote Operation Service Element
2671	P1.18.46	ROV	1. Range Of View
2672			2. Remotely Operated Vehicle
2673	P1.18.47	ROW	Rest Of the World
2674	P1.18.48	RPC	Remote Procedure Call
2675	P1.18.49	RPG	Resource Prioritization Group
2676	P1.18.50	RRDB	Rapidly Reconfigurable Database
2677	P1.18.51	RRDS	Reduced Resolution Data Set
2678	P1.18.52	RS	Relay System
2679	P1.18.53	RSC	Regional Service Center
2680	P1.18.54	RSFCT	Road Simulator for Fire Control Testing
2681	P1.18.55	RSIS	Rotorcraft Systems Integrated Simulator
2682	P1.18.56	RSOI	Reception, Staging, Onward Movement and Integration
2683	P1.18.57	RSS	Remote Satellite Simulation
2684	P1.18.58	RSSC-LO	Regional Space Support Center-Liaison Officer
2685	P1.18.59	RTAD	Relocatable Targets Analysis Data
2686	P1.18.60	RTCA	Real-Time Casualty Assessment
2687	P1.18.61	RTCNS	Real-Time Communications Network Simulator
2688	P1.18.62	RTCS	Real-Time Clock System
2689	P1.18.63	RTF	1. Rich Text Format
2690			2. Regional Task Force
2691	P1.18.64	RTI	Runtime Infrastructure
2692	P1.18.65	RTIC	Real-Time Information in the Cockpit

2693			
2694	P1.18.66	RTOS	1. Real-Time Operating System
2695			2. Reconfigurable Tactical Operations Simulator
2696	P1.18.67	RTV	Real-Time Video
2697	P1.18.68	RWM	1. Read-Write Memory
2698			2. Relocatable Window Model

2699

2700	P1.19. <u>S</u>		
2701			
2702	P1.19.1	S/W	Software
2703	P1.19.2	S&M	Simulation and Modeling
2704	P1.19.3	S&T	Science and Technology
2705	P1.19.4	S&TP	Science and Technology Program
2706	P1.19.5	SA	1. Situational Awareness
2707			2. Studies and Analysis
2708			3. Systems Architecture
2709	P1.19.6	SAAE	Software Architecture Attribute Engineering
2710	P1.19.7	SADS	Simulated Air Defense System
2711	P1.19.8	SAE	Service Acquisition Executive
2712	P1.19.9	SAF	Semi-Automated Forces
2713	P1.19.10	SAFOR	Semi-Automated Forces
2714	P1.19.11	SALT	Society for Applied Learning Technology
2715	P1.19.12	SAMSON	Simulation and Modeling Supporting Operational Needs
2716	P1.19.13	SAS	Statistical Analysis Software
2717	P1.19.14	SASER	Synthetic Atmosphere and Space Environment
2718			Representations
2719	P1.19.15	SATCOM	Satellite Communications
2720	P1.19.16	SATT	Stand Alone TENCAP Simulator
2721	P1.19.17	SAWE-RF	Simulating Aerial Weapon Effect-Radio Frequency
2722	P1.19.18	SBA	Simulation Based Acquisition
2723	P1.19.19	SB ITS	Simulation Based Intelligent Tutoring System
2724	P1.19.20	SBB	Synthetic Battle Bridge
2725	P1.19.21	SBD	Simulation Based Design
2726	P1.19.22	SBDS	Simulation Based Design System
2727	P1.19.23	SBIS	Sustaining Base Information System
2728	P1.19.24	SBLC	Sustaining Base Level Computer
2729	P1.19.25	SBS	Seamless Battlefield Simulator
2730	P1.19.26	SCCB	Software Configuration Control Board
2731	P1.19.27	SCDL	Surveillance and Control Data Link
2732	P1.19.28	SCI	Sensitive Compartmented Information
2733	P1.19.29	SCIF	Sensitive Compartmented Information Facility
2734	P1.19.30	SCIPMIS	Standard Civilian Personnel Management Information
2735			System
2736	P1.19.31	SCM	Software Configuration Management
2737	P1.19.32	SCORES	Scenario Oriented Recurring Evaluation System
2738	P1.19.33	SCORM	Sharable Content Object Reference Model
2739	P1.19.34	SCRAM	System Configuration Reconfiguration Automation Module

2740	P1.19.35	SDA	Software Design Activity
2741	P1.19.36	SDD	System Design Document
2742	P1.19.37	SDF	Software Development File
2743	P1.19.38	SDL	1. Sensor Data Link
2744			2. Software Development Library
2745	P1.19.39	SDLC	Synchronous Data Link Control (IBM)
2746	P1.19.40	SDM	Sub-rate Data Multiplexer
2747	P1.19.41	SDNS	Secure Data Network System
2748	P1.19.42	SDP	Software Development Plan
2749	P1.19.43	SDRB	Specifications and Data Review Board
2750	P1.19.44	SDSA	Software Development and Support Activity
2751	P1.19.45	SDSF	Software Development and Support Facility
2752	P1.19.46	SE	Synthetic Environment
2753	P1.19.47	SEAROADS	Simulation, Evaluation, Analysis, and Research on Air
2754			Defense Systems
2755	P1.19.48	SEAS	System Effectiveness Analysis Simulation
2756	P1.19.49	SECOMO	Software Engineering Cost Model
2757	P1.19.50	SecDef	Secretary of Defense
2758	P1.19.51	SED	Software Engineering Directorate
2759	P1.19.52	SEDRIS	Synthetic Environment Data Representation and
2760			Interchange Specification
2761	P1.19.53	SEE	1. Software Engineering Environments
2762			2. Synthetic Environment Exercise
2763	P1.19.54	SEES	Security Exercise Evaluation System
2764	P1.19.55	SEI	Software Engineering Institute
2765	P1.19.56	SEM	1. Simulation, Engineering, and Modeling
2766			2. Spherical Earth Model
2767			3. System Engineering and Modeling
2768	P1.19.57	SESG	Software Engineering Support Group
2769	P1.19.58	SEWSIM	Space and Electronic Warfare Simulator
2770	P1.19.59	SF	Synthetic Forces
2771	P1.19.60	SFCTMP	Surface Temperature Model
2772	P1.19.61	SFTS	Synthetic Flight Training Systems
2773	P1.19.62	SGD	Symbolized Graphics Data
2774	P1.19.63	SGEN	Signal Generator
2775	P1.19.64	SGML	Standard Generalized Markup Language
2776	P1.19.65	SHF	Super-High Frequency
2777	P1.19.66	SI	Le Système International d'Unités (official abbreviation)
2778	P1.19.67	SIAM	1. Situational Influence Assessment Model
2779			2. Space Impact Assessment Methodology

2780	P1.19.68	SIDS	Standard Interoperable Datalink System
2781	P1.19.69	SIF	1. Standard Interchange Facilities
2782			2. System Integration Facilities
2783			3. Standard Interchange Format
2784	P1.19.70	SIFT	Simulation Interface Toolset
2785	P1.19.71	SIG	Special Interest Group
2786	P1.19.72	SIGINT	Signals Intelligence
2787	P1.19.73	SIGS	Synthetic Imagery Generation System
2788	P1.19.74	SIL	System Integration Laboratories
2789	P1.19.75	Sim/Stim	Simulation/Stimulation
2790	P1.19.76	SIM	Sensor Interaction Model
2791	P1.19.77	SiMAN	Simulation Management
2792	P1.19.78	SIMD	Single Instruction Multiple Data
2793	P1.19.79	SIMITAR	Simulation in Training for Advanced Readiness
2794	P1.19.80	SIMNET	1. Simulation Network
2795			2. Simulator Networking
2796	P1.19.81	SIMTECH	Simulation Technology Program
2797	P1.19.82	SIMULOGS	Simulation of Logistics Systems
2798	P1.19.83	SIMWG	Simulation Working Group
2799	P1.19.84	SIRAS	Simulation, Instrumentation, Reduction, and Analysis
2800			System
2801	P1.19.85	SISL	Secure Integration Simulation Laboratory
2802	P1.19.86	SISO	Simulation, Interoperability, and Standards Organization
2803	P1.19.87	SHAPE	Supreme Headquarters Allied Powers Europe
2804	P1.19.88	SJFHQ	Standing Joint Force Headquarters
2805	P1.19.89	SLA	Service Level Agreement
2806	P1.19.90	SLAVE	Simple Lethality and Vulnerability Simulator
2807	P1.19.91	SLF	Scalability Logger Format
2808	P1.19.92	SLIP	Serial Line Internet Protocol
2809	P1.19.93	SLOD	Simulator Level of Detail
2810	P1.19.94	SMART	1. Simulation and Modeling Anchored in Real-World
2811			Testing
2812			2. Susceptibility Model Assessment with Range Test
2813	P1.19.95	SMC	Space and Missile Center (Air Force)
2814	P1.19.96	SMDS	Switched Multi-megabit Data Service
2815	P1.19.97	SME	Subject Matter Expert
2816	P1.19.98	SMI	Soldier-Machine Interface
2817	P1.19.99	SMSE	Super Multiple Simulation Exercise
2818	P1.19.100	SMSP	Soil Moisture Strength Prediction Model
2819	P1.19.101	SMTA	Subordinate Message Transfer Agent

2820			
2821	P1.19.102	SMTP	1. Simple Mail Transfer Protocol
2822			2. Simple Message Transfer Protocol
2823	P1.19.103	SNA	System Network Architecture
2824	P1.19.104	SNAP	Simulator Network Analysis Project
2825	P1.19.105	SND	Standardized Nomenclature Database
2826	P1.19.106	SNMP	Simple Network Management Protocol
2827	P1.19.107	SNNAP	Statistical Neural Network Analysis Package
2828	P1.19.108	SNODEP	Snow Depth Model
2829	P1.19.109	SNP	Sub-Network Protocol
2830	P1.19.110	SNR	Signal to Noise Ratio
2831	P1.19.111	SNS	Secure Network Server
2832	P1.19.112	SOACMS	Special Operations Aviation Combat Mission Simulators
2833	P1.19.113	SOAR	State Operator And Result
2834	P1.19.114	SOE	1. Standard Operating Environment
2835			2. Synthetic Operating Environment
2836	P1.19.115	SOFATS	Special Operations Forces Aircrew Training System
2837	P1.19.116	SOPARS	Special Operations Forces Planning And Rehearsal System
2838	P1.19.117	SOL	Simulation Oriented Language
2839	P1.19.118	SOM	1. Simulation Object Model
2840			2. Satellite Communications Operational Manager
2841	P1.19.119	SONET	Synchronous Optical Network
2842	P1.19.120	SOO	Statement Of Objectives
2843	P1.19.121	SPAAT	Sensor-Platform Allocation Analysis Tool
2844	P1.19.122	SPCR	Software Problem Change Requests
2845	P1.19.123	SPD	Standards Planning Database
2846	P1.19.124	SPPD	Signal Processor Package Design
2847	P1.19.125	SPRAE	Stochastic Predictor of Artillery Effectiveness
2848	P1.19.126	SPS	Software Product Specification
2849	P1.19.127	SQA	Software Quality Assurance
2850	P1.19.128	SQEP	Software Quality Evaluation Plan
2851	P1.19.129	SQL	Structured Query Language
2852	P1.19.130	SQL/DS	Structured Query Language/Data System
2853	P1.19.131	SQP	Software Quality Program
2854	P1.19.132	SQPP	Software Quality Program Plan
2855	P1.19.133	SQuASH	Stochastic Quantitative Analysis of System Hierarchies
2856			(Computer model for predicting terminal ballistic effects)
2857	P1.19.134	SRF	Summary Reference File
2858	P1.19.135	SRR	1. System Readiness Review
2859			2. Software Readiness Review

2860			
2861	P1.19.136	SRS	1. Software Requirements Specification
2862			2. System Requirements Specification
2863	P1.19.137	SRT	Slower than Real Time
2864	P1.19.138	SS&T	Space, Science, and Technology
2865	P1.19.139	SSA	Software Support Activity
2866	P1.19.140	SSC	Small Scale Contingency
2867	P1.19.141	SRP	Software Reuse Program
2868	P1.19.142	SSCDB	Subsurface Currents Database
2869	P1.19.143	SSDB	Standard Simulator Database
2870	P1.19.144	SSE	1. Simulation Support Environment
2871			2. Single Simulation Exercise
2872			3. (SATCOM) Systems Expert
2873	P1.19.145	SSF	1. Software Support Facility
2874			2. Software Support Function
2875	P1.19.146	SSG	Synthetic Signature Generator
2876	P1.19.147	SSGM	Synthetic Scene Generation Model
2877	P1.19.148	SSID	Standard Simulation Interface Design
2878	P1.19.149	SSM	Soldier System Modeling
2879	P1.19.150	SSMC	Symbology Standards Management Committee
2880	P1.19.151	SSP	Simulation Support Plan
2881	P1.19.152	SSPO	Simulation Strategic Planning Office
2882	P1.19.153	SSR	Software Specification Review
2883	P1.19.154	SSSE	Small Single Simulation Exercise
2884	P1.19.155	SSTORM	Structured Scenario Torpedo Operational Requirements
2885			Model
2886	P1.19.156	STAARS	Sustainment Training for Army Aviation Readiness
2887			Through Simulation
2888	P1.19.157	STADLS	Surrogate Threat Air Defense Laser System
2889	P1.19.158	STAF	Simulation/Test Acceptance Facility
2890	P1.19.159	STAFLO	Strategic Transportation Analysis Unit Force Flow
2891	P1.19.160	STAGE	Scenario Toolkit and Generation Environment
2892	P1.19.161	STAMIS	Standard Army Management Information System
2893	P1.19.162	STARS	1. SHAPE Technical Center Adaptable Radar Simulator
2894			2. Software Technology for Adaptable, Reliable Systems
2895			3. Software Technology for Adaptable, Reliable Software
2896			4. Standard Accounting And Reporting System
2897	P1.19.163	STDL	Submarine Tactical Data Link Program
2898	P1.19.164	STDN	Secure Tactical Data Network

2899			
2900	P1.19.165	STE	1. Software Test Environment
2901			2. Special Test Equipment
2902			3. Surface Threat Emitter
2903	P1.19.166	STEMS	Software Test and Evaluation Message System
2904	P1.19.167	STEP	1. Standard for the Exchange of Product Model Data
2905			2. Standardized Tactical Entry Point
2906	P1.19.168	STM	Synchronous Transfer. Mode
2907	P1.19.169	STORM	Synthetic Theater Operations Research Model
2908	P1.19.170	STP	Software Test Plan
2909	P1.19.171	STR	Software Trouble Reports
2910	P1.19.172	STSC	Software Technology Support Center
2911	P1.19.173	STVLS	Surrogate Threat Visible Laser System
2912	P1.19.174	SUAWACS	Soviet Union Airborne Warning And Control System
2913	P1.19.175	SUE	System Unique Equipment
2914	P1.19.176	SUMM	Semantic Unification Meta-Model
2915	P1.19.177	SUMMITS	Scenario Unrestricted Mobility Model for Intratheater Simulation
2916			
2917	P1.19.178	SURVIAC	Survivability/vulnerability Information Analysis Center
2918	P1.19.179	SUT	System Under Test
2919	P1.19.180	SVS	Soldier Visualization Station
2920	P1.19.181	SWCI	Software Configuration Item
2921	P1.19.182	SWEG	Simulated Warfare Environment Generator (Navy)
2922	P1.19.183	SWIL	Software-In-the-Loop
2923	P1.19.184	SWIP	Software Improvement Program
2924	P1.19.185	SWOE	Smart Weapon Operability Enhancement
2925	P1.19.186	SWPS	Strategic War Planning System
2926	P1.19.187	SYNB	Synthetic Battlefield
2927	P1.19.188	SYNC	Synchronous
2928	P1.19.189	SYSCON	Systems Control system of metric weights and measures
2929	P1.19.190	SYSGEN	System Generator
2930	P1.19.191	SYSLOG	System Log
2931	P1.19.192	SysML	Systems Modeling Language



2932	P1.20	<u>T</u>	
2933			
2934	P1.20.1	T&E	Test and Evaluation
2935	P1.20.2	T&S	Training and Simulation
2936	P1.20.3	TA	Technical Architecture
2937	P1.20.4	TAA	Technology Area Assessment
2938	P1.20.5	TAARUS	TACSIM After Action Review User System
2939	P1.20.6	TACCIMS	Theater Automated Command Control Information
2940			Management System
2941	P1.20.7	TACCSF	Theater Air Command and Control Simulation Facility
2942	P1.20.8	TACDEW	Tactical Advanced Combat Direction and Electronic
2943			Warfare (Navy model)
2944	P1.20.9	TACDEWEGCS	Tactical Advanced Combat Direction and Electronic
2945			Warfare, Environmental Generation, and Control System
2946	P1.20.10	TACSIM	Tactical Simulation (intelligence model, air and ground
2947			sensors)
2948	P1.20.11	TACSAT	Tactical Satellite
2949	P1.20.12	TACSIM	Tactical Simulation
2950	P1.20.13	TACTICS	Tri-Service Advanced Countermeasures and Threats
2951			Integrated Combat Simulation
2952	P1.20.14	TACTS	Tactical Aircrew Combat Training System
2953	P1.20.15	TACWAR	Tactical Warfare simulation
2954	P1.20.16	TADIL	Tactical Digital Information Link
2955	P1.20.17	TADL	Tactical Digital Information Link
2956	P1.20.18	TADSS	Training Aids, Devices, Simulators, and Simulations
2957	P1.20.19	TAFIM	Technical Architecture Framework for Information
2958			Management
2959	P1.20.20	TAFSM	Target Acquisition Fire Support Model
2960	P1.20.21	TAGS	Tactical Gamma Ray Simulator
2961	P1.20.22	TAIS	Telecommunications and Automated Information Systems
2962	P1.20.23	TALON	TACSIM Analysis and Operations Node
2963	P1.20.24	TAM	Theater Analysis Model
2964	P1.20.25	TAMD	Theater Air and Missile Defense
2965	P1.20.26	TAMMIS	Theater Army Medical Management Information System
2966	P1.20.27	TAMPS	Tactical Aircraft Mission Planning System
2967	P1.20.28	TAMS	Transportation Analysis, Modeling, and Simulation
2968	P1.20.29	TAP	Technology Area Plan
2969	P1.20.30	TAR	Technology Area Review
2970	P1.20.31	TARGET	Theater Analysis and Replanning Graphical Execution
2971			Toolkit

2972	P1.20.32	TASWIT	Tactical Advanced Simulated Warfare Integrated Trainer
2973	P1.20.33	TAT	TACSIM ALSP Translator
2974	P1.20.34	TATR	Technical Advisory Team for Reuse
2975	P1.20.35	TBIS	Technology Base Investment Strategy
2976	P1.20.36	TBMCS	Theater Battle Management Core Systems
2977	P1.20.37	TCC	Telecommunications Center
2978	P1.20.38	TCG	Time Code Generator
2979	P1.20.39	TCIM	Tactical Communications Interface Module
2980	P1.20.40	TCIS	Tactical Communications Interface Software
2981	P1.20.41	TCP/IP	Transmission Control Protocol/Internet Protocol
2982	P1.20.42	TCSEC	Trusted Computer System Evaluation Criteria
2983	P1.20.43	TCT	Time-Critical Targets
2984	P1.20.44	TCU	Transportable Computer Unit
2985	P1.20.45	TD/CM	Technical Data/Configuration Management
2986	P1.20.46	TD/CMS	Technical Data/Configuration Management System
2987	P1.20.47	TDC	Theater Deployable Communications
2988	P1.20.48	TDDS	Tactical Data Distribution System
2989	P1.20.49	TDG	Tactical Decision Games
2990	P1.20.50	TDI	Trusted Database Interpretation
2991	P1.20.51	TDL	Tactical Data Link
2992	P1.20.52	TDM	Time-Division Multiplexer
2993	P1.20.53	TDMA	Time-Division Multiple Access
2994	P1.20.54	TDP	1. Technical Data Package
2995			2. Test Design Plan
2996			3. TSPI Data Processor
2997	P1.20.55	TDPS	Terrain Data Preparation System
2998	P1.20.56	TDS	Tactical Data System
2999	P1.20.57	TDSS	Training Devices, Simulations, and Simulators
3000	P1.20.58	TDT	Tactical Data Terminal
3001	P1.20.59	TEAM	Threat Engagement Analysis Model
3002	P1.20.60	TEED	Tactical End-to-End Encryption Device
3003	P1.20.61	TEGEN	Tactical Environment Generator
3004	P1.20.62	TEM	1. Terrain Effects Model
3005			2. Terrain Evaluation Model
3006	P1.20.63	TEMITS	Test and Evaluation Management Information and
3007			Tracking System
3008	P1.20.64	TEMO	Training, Exercises, and Military Operations
3009	P1.20.65	TEMPEST	Security class involving compromise of classified data
3010			through interception of electronic impulses
3011	P1.20.66	TEMS	Test and Evaluation Mission Simulator

3012	P1.20.67	TENA	Test and Evaluation Network Architecture
3013	P1.20.68	TERIS	Test and Evaluation Range Internet System
3014	P1.20.69	TERSIM	Terrain Simulation
3015	P1.20.70	TES	Tactical Engagement Simulation
3016	P1.20.71	TESS	1. Tactical Engagement Simulation System
3017			2. Tactical Environmental Support System
3018	P1.20.72	TEXIS	Theater Exercise and Intelligence Simulation
3019	P1.20.73	TFA	Transparent File Access
3020	P1.20.74	TFDD	Text File Device Driver
3021	P1.20.75	TFG	Terrain and Feature Generation
3022	P1.20.76	TFT	Time Flexible Training
3023	P1.20.77	TFTP	Trivial File Transfer Protocol
3024	P1.20.78	TGT	Tank Gunnery Trainer
3025	P1.20.79	TIBS	Tactical Information Broadcast Service
3026	P1.20.80	TID	Touch Interactive Display
3027	P1.20.81	TIDES	Threat Intelligence Data Extraction System
3028	P1.20.82	TIDS	Tactical Information Distribution System
3029	P1.20.83	TIE	TACWAR Integrate Environment
3030	P1.20.84	TIES	Terrain Imagery Exploitation System
3031	P1.20.85	TIIP	Topographic Imagery Integration Prototype
3032	P1.20.86	TIM	1. Technical Integration Manager
3033			2. Theater Information Management
3034	P1.20.87	TIP	TACSIM Interface Program
3035	P1.20.88	TIREM	Terrain-Integrated Rough-Earth Model
3036	P1.20.89	TJTN	Theater Joint Tactical Network
3037	P1.20.90	TLCS	Top-Level Computer Software Component
3038	P1.20.91	TLD	Top Level Demonstrations
3039	P1.20.92	TLSP	Transport Layer Security Protocol
3040	P1.20.93	TMDA	Target Management and Development Application
3041	P1.20.94	TMDSE	Theater Missile Defense System Exerciser
3042	P1.20.95	TMIP	Theater Medical Information Program
3043	P1.20.96	TMPO	Terrain Modeling Project Office
3044	P1.20.97	TMS	1. Target Management System
3045			2. Telecommunications Management System
3046	P1.20.98	TNC	Theater Network Operations (NETOPS) Center
3047	P1.20.99	TNCC	Theater Network Operations (NETOPS) Control Center
3048	P1.20.100	TNI	Trusted Network Interpretation
3049	P1.20.101	TOPIT	Touched Objects Positioned in Time
3050	P1.20.102	TOPS	Thermodynamic Ocean Prediction System

3051	P1.20.103	TOSL	Tactical Ocean Simulation Laboratory
3052	P1.20.104	TPFDD	Time-Phased Force and Deployment Data
3053	P1.20.105	TPFDL	Time-Phased Force and Deployment Listing
3054	P1.20.106	TPN	Tactical Packet Network
3055	P1.20.107	TRANSCAP	Transportation Systems Capability Model
3056	P1.20.108	TREEGEN	Tree Generation Model
3057	P1.20.109	TRI-TAC	Tri-Service Tactical Communications
3058	P1.20.110	TRM	Technical Reference Model
3059	P1.20.111	TRS	1. Thermal Radiation Simulator
3060			2. Training, Readiness, and Simulation
3061	P1.20.112	TSCAM	Team Signal Communications Analysis Model
3062	P1.20.113	TSIG	Trusted Systems Interoperability Group
3063	P1.20.114	TSMO	Threat Simulator Management Office
3064	P1.20.115	TSO	Time Stamp Ordered
3065	P1.20.116	TSPI	Time, Space, and Position Information
3066	P1.20.117	TTD	Tactical Terrain Data
3067	P1.20.118	TTES	Team Tactical Engagement Simulator
3068	P1.20.119	TTGT	Tank Team Gunnery Trainer
3069	P1.20.120	TTP	Tactics, Techniques, and Procedures
3070	P1.20.121	TTS	Tactical Training Strategy
3071	P1.20.122	TWG	1. Technical Working Group
3072			2. Technology Working Group
3073	P1.20.123	TWSEAS	Tactical Warfare Simulation, Evaluation, and Analysis
3074			System



3075	P1.21. <u>U</u>		
3076			
3077	P1.21.1	UA	User Agent
3078	P1.21.2	UAGC	Upper Air Gridded Climatology Database
3079	P1.21.3	UCCATS	Urban Combat Computer-Assisted Training System
3080	P1.21.4	UCI	User-Computer Interface
3081	P1.21.5	UCOFT	Unit Conduct Of Fire Trainer
3082	P1.21.6	UD	User Domain
3083	P1.21.7	UDP	User Datagram Protocol
3084	P1.21.8	UFL	Ulchi Focus Lens
3085	P1.21.9	UFO	Ultrahigh Frequency Follow-On
3086	P1.21.10	UFSP	Underground Facilities Signature Program
3087	P1.21.11	UGDF	Uniform Gridded Data Field
3088	P1.21.12	UHF	Ultrahigh Frequency
3089	P1.21.13	UIDL	User Interface Definition Language
3090	P1.21.14	UIMS	User Interface Management System
3091	P1.21.15	UISRM	User Interface System Reference Model
3092	P1.21.16	UJTL	Unified Joint Task List
3093	P1.21.17	ULANA	Unified Local Area Network Architecture
3094	P1.21.18	ULCS	Unit-Level Command Simulation
3095	P1.21.19	ULMS	Unit-Level Message Switch
3096	P1.21.20	UMEDS	User-Oriented Minimum Essential Data Sets
3097	P1.21.21	UNA	Use No Abbreviations
3098	P1.21.22	UNC	United Nations Command
3099	P1.21.23	UNIX	An open-architecture operating system
3100	P1.21.24	UNMA	Unified Network Management Architecture
3101	P1.21.25	URL	Universal Resource Location
3102	P1.21.26	USAF	United States Air Force
3103	P1.21.27	USAF/XOC	U.S. Air Force Directorate of Modeling, Simulation, and
3104			Analysis
3105	P1.21.28	USAFRICOM	United States Africa Command
3106	P1.21.29	USAISEC	U.S. Army Information Systems Engineering Command
3107	P1.21.30	USCENTCOM	United States Central Command
3108	P1.21.31	USD(A&T)	Under Secretary of Defense for Acquisition & Technology
3109	P1.21.32	USEUCOM	United States European Command
3110	P1.21.33	USFK	United States Forces, Korea
3111	P1.21.34	USJFCOM	United States Joint Forces Command
3112	P1.21.35	USMTF	1. U.S. Message Transfer Format
3113			2. U.S. Message Text Format
3114	P1.21.36	USNI	Universal Simulator Network Interface

3115	P1.21.37	USNORTHCOM	United States Northern Command
3116	P1.21.38	USO	Unix Software Organization
3117	P1.21.39	USPACOM	United States Pacific Command
3118	P1.21.40	USR	Universal Space Rectangular
3119	P1.21.41	USSOCOM	United States Special Operations Command
3120	P1.21.42	USSOUTHCOM	United States Southern Command
3121	P1.21.43	USSTRATCOM	United States Strategic Command
3122	P1.21.44	USTRANSCOM	United States Transportation Command
3123	P1.21.45	UTC	Universal Time Coordinated
3124	P1.21.46	UTE	Unmanned Threat Emitter
3125	P1.21.47	UTM	Universal Transverse Mercator
3126	P1.21.48	UTSS	Universal Threat System for Simulators
3127	P1.21.49	UUCP	Unix-to-Unix Copy
3128	P1.21.50	UW	Unconventional Warfare
3129	P1.21.51	UWEF	Underwater Evaluation Facility



3130	P1.22. V		
3131			
3132	P1.22.1	V&V	Verification and Validation
3133	P1.22.2	VAIDC	Video Artificial Intelligence Data Collection
3134	P1.22.3	VALAD	Voice Activated Logistics Anchor Desk
3135	P1.22.4	VBR	Variable Bit Rate
3136	P1.22.5	VCOMM-CLCGF	Virtual Communications in a Corps-Level Computer-Generated Forces
3137			
3138	P1.22.6	VE	1. Value Engineering
3139			2. Virtual Environment
3140	P1.22.7	VEMPS	Vertically Polarized Electromagnetic Pulse Simulator
3141	P1.22.8	VFM	Variable Format Message
3142	P1.22.9	VGDEM	Variable Generalized Digital Environmental Model
3143	P1.22.10	VHSIC	Very High Speed Integrated Circuit
3144	P1.22.11	VIC	Vector In Commander
3145	P1.22.12	VICTORS	Variable Intensity Computerized Training System
3146	P1.22.13	VIGS	Video Disk Gunnery Simulator
3147	P1.22.14	VISTA	Variable Stability In-Flight Simulator Test Aircraft
3148	P1.22.15	VIT	Virtual Interactive Target
3149	P1.22.16	VLSHSIC	Very Large Scale High Speed Integrated Circuitry
3150	P1.22.17	VM	Virtual Memory
3151	P1.22.18	VME	Virtual Memory Extension
3152	P1.22.19	VMF	Variable Message Format
3153	P1.22.20	VMS	1. Virtual Memory System
3154			2. Vertical Motion Simulator
3155	P1.22.21	VMU	Voice Message Unit
3156	P1.22.22	VPD	Virtual Prototype Demonstration
3157	P1.22.23	VPG	Virtual Proving Ground
3158	P1.22.24	VPL	Virtual Programming Language
3159	P1.22.25	VR	Virtual Reality
3160	P1.22.26	VRML	Virtual Reality Modeling Language
3161	P1.22.27	VRPE	Virtual Reality Presentation Engine
3162	P1.22.28	VRT	Variable Resolution Terrain Model
3163	P1.22.29	VSR	Visual Stimulation Research
3164	P1.22.30	VSTI	Vehicle Signature Test Instrumentation
3165	P1.22.31	VSU	Virtual Simulation Units
3166	P1.22.32	VT	Virtual Terminal
3167	P1.22.33	VTC	Video Teleconference
3168	P1.22.34	VT	Video Teletraining
3169	P1.22.35	VTTR	Virtual Test and Training Range

3170	P1.22.36	VUAV	Virtual Unmanned Aerial Vehicle
3171	P1.22.37	VV&A	Verification, Validation, and Accreditation
3172	P1.22.38	VV&C	Verification, Validation, and Certification



3173	P1.23.	<u>W</u>	
3174			
3175	P1.23.1	WAIS	Wide Area Information Server
3176	P1.23.2	WAM	1. Wave Amplitude Model
3177			2. Wide Area Mine
3178	P1.23.3	WAN	Wide Area Network
3179	P1.23.4	WARSIM 2000	Warfighters, Simulation 2000
3180	P1.23.5	WASPS	War-At-Sea Planning System
3181	P1.23.6	WAVES	Weather and Atmospheric Visualization Effects for
3182			Simulation
3183	P1.23.7	WB	Warbreaker
3184	P1.23.8	WBMOD	Wide Band scintillation Model
3185	P1.23.9	WBPDU	White Board Protocol Data Unit
3186	P1.23.10	WBSS	Wideband Digital Switching System
3187	P1.23.11	WBSV	Wideband Secure Voice
3188	P1.23.12	WEAM	Weapons Effectiveness Analysis Model
3189	P1.23.13	WEEMS	Weapons Effects and Environments Modeling and
3190			Simulation
3191	P1.23.14	WEST	1. Weapons Effectiveness Simulated Threat
3192			2. Weather Environment Simulation Technology
3193	P1.23.15	WFS	Weapon Fire Simulator
3194	P1.23.16	WGS 84	World Geodetic System 1984
3195	P1.23.17	WISDIM	Warfighting and Intelligence Systems Dictionary for
3196			Information Management
3197	P1.23.18	WISSARD	What If Simulation System for Advanced Research
3198			and Development
3199	P1.23.19	WMASC	Weapons Modification and Simulation Capability
3200	P1.23.20	WORM	Write Once. Read Many
3201	P1.23.21	WPC	Warrior Preparation Center
3202	P1.23.22	WPE	Word Processing Equipment
3203	P1.23.23	WPS	1. Wideband Packet Switch
3204			2. Worldwide Port System
3205	P1.23.24	WR	Warfighter Readiness
3206	P1.23.25	WRAP	1. Wide Area Rapid Acoustic Prediction
3207			2. Warfighter Rapid Acquisition Program
3208	P1.23.26	WWOLS	World Wide On-Line System
3209	P1.23.27	WWW	World Wide Web



3210	P1.24. <u>X</u> , <u>Y</u> , and <u>Z</u>		
3211			
3212	P1.24.1	X-Windows	A network-based graphics windowing system
3213	P1.24.2	X.400	A protocol Standard for electronic mail
3214	P1.24.3	XTERM	X-terminal
3215	P1.24.4	ZULU	time zone indicator for Universal Time

3216

3217 P2. PART II – DEFINITIONS

3218  
3219 *\*\* Note: Any term defined that is found to not have a reference is a term that was*  
3220 *originally listed in the 1998 version of the M&S glossary and was kept as it was still*  
3221 *considered relevant. \*\**

3222  
3223 P2.1. GLOSSARY A

3224  
3225 P2.1.1 3-D: Three-dimensional, refers to the visual display that exhibits perceived  
3226 or actual breadth, height and thickness or depth. (reference (n)).

3227  
3228 P2.1.2 6 DOF: The number of degrees of freedom is equal to the number of  
3229 coordinates which are used to specify the configuration of a system minus the number of  
3230 constraints. In rigid body motion with no constraints, there are 6 degrees of freedom  
3231 (6DOF). These are the combination of spatial position (X, Y, Z) and orientation (roll,  
3232 pitch, yaw). (reference (n)).

3233  
3234 P2.1.3 Absorbing Markov Chain Model: A Markov chain model that has at least  
3235 one absorbing state and in which from every state it is possible to get to at least one  
3236 absorbing state. (references (b) and (y)).

3237  
3238 P2.1.4 Absorbing State: In a Markov chain model, a state that cannot be left once  
3239 it is entered. (reference (b)).

3240  
3241 P2.1.5 Absolute error: The absolute deviation, taken without regard to sign, from  
3242 the corresponding true value. (reference (ggg)).

3243  
3244 P2.1.6 Absolute gravity: The acceleration of gravity directly determined by a  
3245 device that measures time and length. (reference (ggg)).

3246  
3247 P2.1.7 Absolute orientation: The scaling and leveling to ground control (in a  
3248 photogrammetric instrument) of a relatively oriented stereoscopic model or group of  
3249 models. (reference (ggg)).

3250  
3251 P2.1.8 Absolute positioning: The determination of the position of a point with  
3252 respect to the center of mass of the Earth as defined in the DoD World Geodetic System.  
3253 (reference (ggg)).

3254

3255 P2.1.9 Absolute timestamp: An absolute timestamp is used when simulation  
3256 application clocks are synchronized to Universal Coordinated Time (UTC). (reference  
3257 (v)).  
3258

3259 P2.1.10 Abstraction: Abstraction denotes the essential characteristics of an object  
3260 that distinguish it from all other kinds of objects and thus provide crisply defined  
3261 conceptual boundaries, relative to the perspective of the user. (reference (cccc)).  
3262

3263 a. Process of generalization by reducing the information content of a concept  
3264 or an observable phenomenon, typically in order to retain only information  
3265 which is relevant for a particular purpose. (reference (iii)).  
3266

3267 P2.1.11 Abstraction/classification: Abstraction is the process of generalization by  
3268 reducing the information content of a concept or an observable phenomenon, typically in  
3269 order to retain only information which is relevant for a particular purpose. (reference  
3270 (iii)).  
3271

3272 P2.1.12 Acceptability Criteria: (Accreditation Criteria): A set of standards that a  
3273 particular model, simulation, or federation must meet to be accredited for a specific  
3274 purpose. (reference (aaa)).  
3275

3276 P2.1.13 Accessibility: The ease of approaching, entering, or obtaining a place or  
3277 thing (e.g., software). (reference (tt)).  
3278

3279 P2.1.14 Accreditation: The official certification that a model or simulation is  
3280 acceptable for use for a specific purpose. (references (ww), (qq), (aaa), (nn), and (p)).  
3281

3282 P2.1.15 Accreditation Authority: An individual occupying a position with the  
3283 appropriate rank, grade, responsibility and/or authority to accredit a model, simulation, or  
3284 federation of models and/or simulations for a particular purpose or purposes. (reference  
3285 (aaa)).  
3286

3287 P2.1.16 Accreditation Process: The procedure followed by the M&S application  
3288 sponsor that culminates in the accreditation determination. (h)).  
3289

3290 P2.1.17 Accuracy: The measure of the maximum deviation of an attribute or a  
3291 parameter value in the simulation or federation from reality or some other chosen  
3292 standard or referent. (reference (ggg), (b) and (w)).  
3293

3294 P2.1.18 Accuracy/Resolution: The smallest change in magnitude a sensor can  
3295 detect. (reference (b)).  
3296

3297 P2.1.19 Activity: A task that consumes time and resources and whose performance  
3298 is necessary for a model or simulation to move from one event to the next. (reference  
3299 (y)).  
3300

3301 P2.1.20 Activity-Based Simulation: A discrete simulation that represents the  
3302 components of a system as they proceed from activity to activity; for example, a  
3303 simulation in which a manufactured product moves from station to station in an assembly  
3304 line. (reference (b)).  
3305

3306 P2.1.21 Activity Model: A model of the processes that make up the functional  
3307 activity showing inputs, outputs, controls, and mechanisms through which the processes  
3308 of the functional activity are (or will be) conducted. (reference (rr)).  
3309

3310 P2.1.22 Ada: A high order computer language designed and developed to DoD  
3311 requirements for a modular standard language. While the original focus was for real-time  
3312 embedded software, Ada has also been used for a variety of other software systems  
3313 including some simulation systems. (reference (dd)).  
3314

3315 P2.1.23 Adaptive Systems: A system that is able to adapt its behavior according to  
3316 changes in its environment or in parts of the system itself. (reference (iii)).  
3317

3318 P2.1.24 Advanced Concept Technology Demonstration (ACTD): See: Joint  
3319 Capability Technology Demonstration  
3320

3321 P2.1.25 Advanced Distributed Learning (ADL): An evolution of distributed  
3322 learning (distance learning) that emphasizes the collaborating on standards-based  
3323 versions of reusable objects, networks, and learning management systems, that may be  
3324 delivered synchronously or asynchronously and may include some legacy methods and  
3325 media. (reference (a)).  
3326

3327 P2.1.26 Advanced Distributed Simulation: (ADS). A set of disparate models or  
3328 simulations operating in a common synthetic environment in accordance with the DIS  
3329 standards. The ADS may be composed of three modes of simulation: live, virtual and  
3330 constructive, which can be seamlessly integrated within a single exercise. (reference (b)).  
3331

3332 P2.1.27 Affine Representation: Coordinate system that is defined by using the  
3333 location of feature points in an image. (reference (b)).  
3334

3335 P2.1.28 Affine transformation: A transformation in which straight lines remain  
3336 straight and parallel lines parallel. Angles may undergo changes and differential scale  
3337 changes may be introduced. (reference (ggg)).

3338

3339 P2.1.29 Affordable: A characteristic of an M&S component that enables us to  
3340 procure it when needed, use it to meet performance requirements at the necessary level of  
3341 accuracy and have it available whenever needed over the expected life span of the  
3342 component for a cost that falls within the available budget. (reference (nn)).

3343

3344 P2.1.30 Agent: A 3D character that exhibits human or human like behavior. Also  
3345 known as a virtual human. (reference (d)).

3346

3347 P2.1.31 Agent-Based Model: A computational model for simulating the actions and  
3348 interactions of autonomous individuals with a view to assessing their effects on the  
3349 system as a whole. It combines elements of game theory, complex systems, emergence,  
3350 computational sociology, multi-agent systems, and evolutionary programming. Monte  
3351 Carlo Methods can be used to introduce randomness. The models can be developed to  
3352 simulate the simultaneous operations of multiple agents, in an attempt to re-create and  
3353 predict the behavior of complex systems. A key notion is that simple behavioral rules  
3354 generate complex behavioral results. Most agent-based models are comprised of: (1)  
3355 numerous agents specified at various scales (typically referred to as agent-granularity);  
3356 (2) decision-making heuristics; (3) learning rules or adaptive processes; (4) an interaction  
3357 topology; and (5) a non-agent environment. (reference (iii)).

3358

3359 P2.1.32 Agent Based Modeling: Agent based modeling focuses on agents and the  
3360 sequence of actions and interactions of the agents over a period of time. Intrinsicly  
3361 social in that the actions and characteristics of the agents are influenced by the actions  
3362 and characteristics of the other agents in the social system. (reference (kk)).

3363

3364 P2.1.33 Agent Based Simulation: Agent based simulation is a specific individual-  
3365 based computational model for computer simulation extensively related to the theme in  
3366 complex systems, emergence, Monte Carlo Method, computational sociology, multi-  
3367 agent systems and evolutionary programming. (reference (iii)).

3368

3369 P2.1.34 Aggregate (unit): A group of entities considered as a single unit. The  
3370 substitution of the word “unit” is used to avoid phrases like “aggregate aggregate.”  
3371 (reference (t)).

3372

3373 P2.1.35 Aggregate Level Simulation Protocol (ALSP): A family of simulation  
3374 interface protocols and supporting infrastructure software that permit the integration of  
3375 distinct simulations and war games. Combined, the interface protocols and software  
3376 enable large-scale, distributed simulations and war games of different domains to interact  
3377 at the combat object and event level. The most widely known example of an ALSP  
3378 confederation is the Joint/Service Training Confederation that has provided the backbone  
3379 to many large, distributed, simulation-supported exercises. Other examples of ALSP

3380 confederations include confederations of analytical models that have been formed to  
3381 support U.S. Air Force, U.S. Army, and USTRANSCOM studies. (reference (qq)).

3382  
3383 P2.1.36 Aggregation: The ability to group entities while preserving the salient  
3384 effects of entity behavior and interaction while grouped. See: Disaggregation. (reference  
3385 (qq)).

3386  
3387 a. Process of changing the resolution to represent items in a simulation in less  
3388 detail. (reference (t)).

3389  
3390 P2.1.37 Air and Space Natural Environment M&S Executive Agent (ASNE  
3391 MSEA): The DoD ASNE MSEA works to enable Joint and Service M&S customers to  
3392 represent the air and space natural environment rapidly, thoroughly, and consistently in a  
3393 manner that promotes cost-effectiveness, ready access, interoperability, re-use, and  
3394 confidence. The ASNE MSEA is a member of the M&S Foundations IPT. (reference  
3395 (nn)).

3396  
3397 P2.1.38 Air Force M&S Information Services (AFMSIS): AFMSIS is a system that  
3398 gathers and disseminates electronic information to accelerate the AF M&S contribution  
3399 to the DOD mission. AFMSIS is a transactional environment where M&S suppliers, with  
3400 products, negotiate with M&S customers, who have demands. It functions as a single,  
3401 comprehensive, web-enabled information service capability for the Air Force M&S  
3402 community to locate and share quality information, make decisions, conduct staffing  
3403 actions, plan for future activities and consult with experts to build collective M&S  
3404 expertise. AFMSIS comprises the Air Force Modeling and Simulation Resource  
3405 Repository, M&S databases and decision support vetting tools, AFAMS private and  
3406 public webpages, document library, reflectors, Event Planning System, Air Force M&S  
3407 calendar, and numerous M&S collaboration tools. As a virtual collaborative environment,  
3408 AFMSIS is also "nested" within a larger DOD net-centric environment. (reference (nn)).

3409  
3410 P2.1.39 Air Force M&S Resource Repository (AFMSRR): An MSRR is a physical  
3411 location or site that contains unclassified, classified, or both unclassified and classified  
3412 M&S data and/or metadata; the AFMSRR is maintained by AFAMS. (reference (nn)).

3413  
3414 P2.1.40 Air Force M&S Vision: A published document that establishes Air Force  
3415 goals for the application of M&S for joint and common use within the Air Force.  
3416 (reference (nn)).

3417  
3418 P2.1.41 Air Warfare Simulation (AWSIM): AWSIM is a near real time interactive  
3419 simulation of the air warfare environment. AWSIM allows players from opposing sides  
3420 to view the geographic movement of friendly and enemy air assets while also providing  
3421 tabular information through video displays and selected hard copy products. AWSIM

3422 interfaces to other constructive, virtual, and live simulations through either Aggregate  
3423 Level Simulation Protocol (ALSP) or Distributed Interactive Simulation (DIS). The  
3424 system allows users to define, structure, and control friendly (Blue) and enemy (Red) air  
3425 defense assets (or both). This model is part of the AFMSTT baseline. (reference (sss)).  
3426

3427 P2.1.42 Algorithm: A prescribed set of well defined unambiguous rules or  
3428 processes for the solution of a problem in a finite number of steps. (reference (dd)).  
3429

3430 P2.1.43 Algorithm Checks: A rigorous verification of the mathematics of an  
3431 algorithm to ensure freedom from any errors in the expression (e.g., incorrect signs,  
3432 incorrect variables applied in the equations, derivation errors) and to ensure that the  
3433 algorithms are consistent with their stated intents. (reference (b)).  
3434

3435 P2.1.44 Aliasing: Having jagged edges, as a result of a discrete approach to scan  
3436 conversion in which each pixel either is replaced with the primitive's color or is left  
3437 unchanged. (reference (m)).  
3438

3439 P2.1.45 Alternate Key: Property or characteristic that can be used as a secondary  
3440 identifier for an entity or entity class. (reference (zzz)).  
3441

3442 P2.1.46 Analytical Model: A model consisting of a set of solvable equations; for  
3443 example, a system of solvable equations that represents the laws of supply and demand in  
3444 the world market. (references (b) and (y)).  
3445

3446 P2.1.47 Analytical Modeling: An analytical model is the abstraction of a system  
3447 based on probability theory. The analytical model represents the description of a formal  
3448 system consisting of equations used to estimate the performance of the system.  
3449 (reference (kk)).  
3450

3451 P2.1.48 Angle of Field: A property of a lens. The angle subtended by lines that  
3452 pass through the center of the lens and locate the diameter of the maximum image area  
3453 within the specified definition of the lens. Lenses are generally classified according to  
3454 their angles of coverage, as follows: narrow angle; wide-angle; normal angle; and  
3455 superwide-angle or ultrawide-angle. Also called angle of coverage; angular field.  
3456 (reference (ggg)).  
3457

3458 P2.1.49 Animation: Used to experience a simulation in real-time [non-  
3459 interactively] (e.g., in training simulations). (reference (kk)).  
3460

3461 P2.1.50 Application Layer (layer 7): The layer of the OSI reference model (ISO  
3462 7498: 1984) that provides the means for simulation applications to access and use the  
3463 network's communications resources. (reference (v)).

3464

3465 P2.1.51 Application Program Interface (API): A formalized set of software calls  
3466 and routines that can be referenced by an application program in order to access  
3467 supporting network services. (reference (sss)).

3468

3469 a. The interface (calling conventions) by which an application program (such  
3470 as a simulation system) accesses system-level or other services such as  
3471 those provided by middleware to transport information across a network.  
3472 An API is defined at the source code and provides a level of abstraction  
3473 between the application and the system-level utilities (or other privileged  
3474 utilities) to ensure the portability of the application code. As an example,  
3475 the High-level Architecture (HLA) provides an API that allows applications  
3476 to access the services of the Run-time Infrastructure (RTI). (reference (ttt)).

3477

3478 P2.1.52 Architecture: The structure of components in a program/system, their  
3479 interrelationships, and the principles and guidelines governing their design and evolution  
3480 over time. (references (ff), (fff), and (qq)).

3481

3482 P2.1.53 Area of Interest Displays: Generating and displaying imagery in the  
3483 direction in which the user is looking at any given moment. (reference (l)).

3484

3485 P2.1.54 Areal Feature: A topographic feature, such as sand, swamp, vegetation,  
3486 etc., which extends over an area. It is represented on the published map or chart by a solid  
3487 or screened color, by a prepared pattern of symbols, or by a delimiting line. 2. (digital  
3488 mapping) Any area enclosed by a delimiting line that has any unique characteristic, e.g.,  
3489 forest, residential, etc. 3. (raster) A block of grid cells which represent a homogeneous  
3490 portion of the earth. (reference (ggg)).

3491

3492 P2.1.55 Areal Object: A synthetic environment object that is geometrically  
3493 anchored to the terrain with a set of at least three points that comes to a closure.  
3494 (reference (t)).

3495

3496 P2.1.56 Articulated Part: A visible part of a simulated entity that is able to move  
3497 relative to the entity itself. (reference (s)).

3498

3499 P2.1.57 Articulation Parameter Record: is used to represent the state of the movable  
3500 parts of an entity. (reference (v)).

3501

3502 P2.1.58 Artificial Intelligence: Intelligence as exhibited by an artificial (man-made,  
3503 non-natural, manufactured) entity. (reference (iii)).

3504

3505 P2.1.59 Aspect Ratio: numerical ratio of picture width to height (reference (ggg)).

3506  
3507 P2.1.60 Associative Entity: An entity that inherits its primary key from two or  
3508 more other entities (those that are associated). An associative entity is used to represent  
3509 many-to-many relationships. (reference (f)).  
3510

3511 P2.1.61 Astronomical Unit: A unit of length equal to 149,600,000 kilometers  
3512 (adopted 1960) used for measuring distances within the solar system. This distance  
3513 approximates the mean distance of the Earth from the Sun. (reference (ggg)).  
3514

3515 P2.1.62 Asynchronous Transfer Mode (ATM): A form of packet transmission  
3516 using fixed-size packets, called cells. ATM is the data transfer interface for B-ISDN.  
3517 Unlike X.25, ATM does not provide error control and flow control mechanisms  
3518 (reference (sss)).  
3519

3520 P2.1.63 Asynchronous Transmission: Transmission in which each information  
3521 character is individually synchronized (usually by the use of start elements and stop  
3522 elements). (reference (vvv)).  
3523

3524 P2.1.64 Atmosphere: The mass of air surrounding the earth and the features  
3525 embedded within it, including clouds, smoke and fog.  
3526

3527 P2.1.65 Attached part: A visible part of a simulated entity that may or may not be  
3528 present. For example, a bomb on an aircraft wing station. (reference (v)).  
3529

3530 P2.1.66 Attribute: A property or characteristic of one or more entities; for example,  
3531 COLOR, WEIGHT, SEX. Also, a property inherent in an entity or associated with that  
3532 entity for database purposes. (references (rr), (w), (ss), and (yyy)).  
3533

3534 P2.1.67 Attribute Overloading: The ability of an attribute to carry one of two or  
3535 more separate facts. (reference (vv)).  
3536

3537 P2.1.68 Attribute Ownership: The property of an instance attribute that gives a  
3538 joined federate the capability to supply values for that instance attribute to its federation  
3539 execution. See also: instance attribute. (reference (w)).  
3540

3541 P2.1.69 Attributive Entity: An entity that has the same primary key as the parent  
3542 and additional attributes that eliminate the occurrence of repeating groups in the parent.  
3543

3544 P2.1.70 Augmented Reality: A type of virtual reality in which synthetic stimuli are  
3545 registered with and superimposed on real world objects; often used to make information  
3546 otherwise imperceptible to human senses perceptible. (reference (gg)).  
3547

3548 P2.1.71 Augmented Reality (Wearable): With augmented reality, a participant  
3549 wears a see through display (or views video of the real world with an opaque HMD) that  
3550 allows graphics or text to be projected in the real world. (reference (b)).  
3551

3552 P2.1.72 Augmented Reality/Mixed Reality: A field of computer research which  
3553 deals with the combination of real-world and computer generated data/the merging of  
3554 real-world and virtual reality to produce new environments where physical and digital  
3555 objects can co-exist and interact in real time, to include augmented reality. (reference  
3556 (iii)).  
3557

3558 P2.1.73 Authoring System: Any development tool suitable for developing a useable  
3559 computer-based application; for example, computer based training (CBT), HTML code  
3560 for viewing on the Internet, modeling/simulation applications, computer/Internet-based  
3561 tests/surveys, etc. (reference (iii)).  
3562

3563 P2.1.74 Authoritative Data Source: A data source whose products have undergone  
3564 producer data verification, validation and certification activities.  
3565

3566 P2.1.75 Automated Forces (AFOR): The most automated of the computer-  
3567 generated forces, which requires little or no human interaction. (reference (qq)).  
3568

3569 P2.1.76 Automated Information System (AIS): A combination of computer  
3570 hardware and computer software, data, and/or telecommunications that performs  
3571 functions such as collecting, processing, storing, transmitting, and displaying  
3572 information. Excluded are computer resources, both hardware and software, that are:  
3573 physically part of, dedicated to, or essential in real time to the mission performance of  
3574 weapon systems; used for weapon system specialized training, simulation, diagnostic test  
3575 and maintenance, or calibration; or used for research and development of weapon  
3576 systems. (references (rr) and (vv)).  
3577

3578 P2.1.77 Autonomous: A battlefield entity that does not require the presence of  
3579 another battlefield entity in order to conduct its own simulation in the battlefield  
3580 environment is said to be autonomous. All Distributed Interactive Simulation-compliant  
3581 battlespace entities are autonomous in that they are responsible for creating their own  
3582 view of the environment. (reference (vvv)).  
3583

3584 P2.1.78 Avatar: A virtual object used to represent a participant or physical object in  
3585 a virtual world; the (typically visual) representation may take any form. (reference (gg)).  
3586

3587 P2.1.79 Azimuth angle: An angle measured clockwise in the horizontal plane  
3588 between a reference direction and any other line. (reference (ggg)).  
3589

- 3590           a. (astronomy) The angle 180 degrees or less between the plane of the  
3591           celestial meridian and the vertical plane containing the observed object,  
3592           reckoned from the direction of the elevated pole. In astronomic work, the  
3593           azimuth angle is the spherical angle at the zenith in the astronomic triangle  
3594           which is composed of the pole, the zenith, and the star. In the geodetic  
3595           work, it is the horizontal angle between the celestial pole and the observed  
3596           terrestrial object. (reference (ggg)).  
3597
- 3598           b. (surveying) An angle in triangulation or in a traverse through which the  
3599           computation of azimuth is carried. In a simple traverse, every angle may be  
3600           an azimuth angle. Sometimes, in a traverse, to avoid carrying azimuths  
3601           over very short lines, supplementary observations are made over  
3602           comparatively long lines, the angles between which form azimuth angles.  
3603           In triangulation, certain angles, because of their size and position in the  
3604           figure, are selected for use as azimuth angles, and enter into the formation  
3605           of the azimuth condition, equation (azimuth equation). (reference (ggg)).

3606

3607 P2.1. GLOSSARY B

3608  
3609 P2.2.1 Ballistic Munition: Any munition that follows a predetermined ballistic  
3610 trajectory. (reference (v)).

3611  
3612 P2.2.2 Baselining: A configuration management term that implies that the item is  
3613 placed under formal control so that it cannot be changed without going through a formal  
3614 review process.

3615  
3616 P2.2.3 Bathymetric Model Data (BMD): Soundings from the Bathymetric  
3617 Archive Data layer selected to form the Bathymetric Model Data (BMD) layer. These  
3618 soundings form the model of the ocean floor for the compilation of Nautical Charts.  
3619 (reference (ggg)).

3620  
3621 P2.2.4 Bathymetry: The science of determining and interpreting ocean depths and  
3622 topography. (reference (ggg)).

3623  
3624 P2.2.5 Battlefield View: A battlefield entity incorporates a direct soldier/machine  
3625 interface that replicates the actual battlefield entity. (reference (vvv)).

3626  
3627 P2.2.6 Battlespace: Refers both to the physical environment in which the  
3628 simulated warfare will take place and the forces that will conduct the simulated warfare.  
3629 All elements that support the front line forces (e.g., logistics, intelligence) are included in  
3630 this definition of battlespace. (reference (qq)).

3631  
3632 P2.2.7 Battlespace Database: Database that defines the specific domain of an  
3633 engagement. It includes the parametric data needed to generate an operating version of  
3634 the SIMWORLD. When combined with the SESSION database (which provides the  
3635 scenario and other simulation specific data), the BATTLESPACE can generate an  
3636 exercise. The BATTLESPACE is also used as a shortened notation for "Battlespace  
3637 Database." (reference (vvv)).

3638  
3639 P2.2.8 Battlespace Entity: A simulation entity that corresponds to actual  
3640 equipment, supplies, and personnel that can be seen or sensed on a real battlefield.  
3641 (reference (vvv)).

3642  
3643 P2.2.9 Behavior: For a given object, how attribute value changes affect (or are  
3644 affected by) the object attribute value changes of the same or other objects.

3645  
3646 P2.2.10 Behavior database entity: Collection of gathered behavior data. (reference  
3647 (jjj)).

3648

3649 P2.2.11 Behavioral Modeling: Model of a human activity in which individual or  
3650 group behaviors are derived from the psychological or social aspects of humans.  
3651 Behavioral models include a diversity of approaches; however, computational approaches  
3652 to human behavior modeling that are most prevalent are social network models and  
3653 multi-agent systems. (reference (kk)).

3654  
3655 P2.2.12 Benchmark: An established point of reference against which computers or  
3656 programs can be measured in tests comparing their performance, reliability. etc.

3657  
3658 P2.2.13 Benchmarking: The activity of comparing the results of a model or  
3659 simulation with an accepted representation of the process being modeled. (reference (b)).

3660  
3661 P2.2.14 Best Effort Service: A communication service in which transmitted data is  
3662 not acknowledged. Such data typically arrives in order, complete and without errors.  
3663 However, if an error occurs, nothing is done to correct it (e.g., there is no retransmission).  
3664 (reference (v)).

3665  
3666 P2.2.15 Bit: The smallest unit of information in the binary system of notation.  
3667 (references (b) and (y)).

3668  
3669 P2.2.16 Black Box Model: A model whose inputs, outputs, and functional  
3670 performance are known, but whose internal implementation is unknown or irrelevant.  
3671 (reference (iii)).

3672  
3673 P2.2.17 Black Box Testing: Outputs are determined correct or incorrect based upon  
3674 inputs; inner workings of the module are ignored. (reference (c)).

3675  
3676 P2.2.18 Boundary Condition: The values assumed by the variables in a system,  
3677 model, or simulation when one or more of them is at a limiting value at the edge of the  
3678 domain of interest. Contrast with: final condition; initial condition. (references (b) and  
3679 (y)).

3680  
3681 P2.2.19 Bounding Box: A prism which encloses all the vertices of a given 3D  
3682 object. (reference (d)).

3683  
3684 P2.2.20 Bounding Volume: The six-sided, rectangular enclosing space whose  
3685 width, length and height are aligned with spatial extents of the entity. (reference (s)).

3686  
3687 P2.2.21 Bridge: Bridges are devices used to interconnect LANs to form extended  
3688 LANs. They operate on top of the Medium Access Control (MAC) layer, which is a  
3689 sublayer of the data link layer. A bridge has several ports connecting different LANs. A  
3690 frame sent from one LAN to another will typically go through one or more bridges. This

3691 bridged LAN environment should be transparent to hosts and should look like a single  
3692 LAN to the hosts. Upper-layer protocol transparency is a primary advantage of bridging  
3693 since bridges can rapidly forward traffic representing any network-layer protocol without  
3694 having to examine upper-layer information. Bridges allow hosts to move within the  
3695 extended LAN without changing their IP addresses. (reference (ttt)).  
3696

3697 P2.2.22 Brigade/Battalion Battle Simulation (BBS): A simulation provides the  
3698 driver for command post exercises (CPX) for command and staff training. Train  
3699 Commanders & Battle Staffs at Brigade & Battalion Level. It is designed to drive  
3700 tactical-level command post exercises (CPXs). BBS is a legacy component of the  
3701 combined arms training strategy for simulations. (reference (sss)).  
3702

3703 P2.2.23 Broadcast: A transmission model in which a single message is sent to all  
3704 network destinations; i.e., one-to-all. Broadcast is a special case of multicast. Contrast  
3705 with: multicast; unicast. (references (b) and (y)).  
3706

3707 P2.2.24 Browsing: Opportunity for users to freely examine and peruse through the  
3708 contents of a database.  
3709

3710 P2.2.25 Business Model: A business model is a conceptual tool that contains a set  
3711 of elements and their relationships and allows expressing the business logic of a specific  
3712 organization. It is a description of the value an organization offers to one or several  
3713 segments of customers. (reference (tt)).

3714

3715 P2.3. GLOSSARY C

3716  
3717 P2.3.1 C++ (C-Plus-Plus): A high order computer language used extensively in  
3718 commercial software and simulation. C++ is an object-oriented extension to the C  
3719 language. (reference (dd)).

3720  
3721 P2.3.2 Cardinal Point Effect: The increased intensity of a line or group of returns  
3722 on the radarscope occurring when the radar beam is perpendicular to the rectangular  
3723 surface of a line or group of similarity aligned features in the ground pattern. (reference  
3724 (ggg)).

3725  
3726 P2.3.3 Cartesian Coordinates: A coordinate system in which locations of points in  
3727 space are expressed by reference to three mutually perpendicular planes, called  
3728 coordinate planes. The three planes intersect in three straight lines called coordinate  
3729 axes. [Also the values representing the location of a point in a plane in relation to two  
3730 perpendicular intersecting straight lines, called axes. The point is located by measuring  
3731 its distance from each axis along a parallel to the other axis.] (reference (ggg)).

3732  
3733 P2.3.4 Cartographic Database (CDB): A database of map graphics captured from  
3734 a map or used to produce a map. A CDB incorporates a hierarchy for feature  
3735 displacement. (reference (ggg)).

3736  
3737 P2.3.5 Catalogue: An enumeration of M&S data or other items arranged  
3738 systematically with descriptive details such as setup time, running time, developer, point  
3739 of contact, etc. (reference (xxx)).

3740  
3741 P2.3.6 Causal Methods: A linear combination of the state and derivative values at  
3742 time instants  $t_{i-m}$  to  $t_{i-1}$  with coefficients chosen to minimize the error from the computed  
3743 estimate to the real value. (reference (jjjj)).

3744  
3745 P2.3.7 CAVE: A mechanism for manifesting a virtual reality experience that  
3746 involves placing the participant within a room like space that is surrounded by computer  
3747 generated imagery. (reference (gg)).

3748  
3749 P2.3.8 Celestial Sphere: An imaginary sphere of infinite radius concentric with  
3750 the Earth, on which all celestial bodies except the earth are imagined to be projected.  
3751 [For observations on bodies within the limits of the solar system, the assumed center is  
3752 the center of the Earth. For bodies where the parallax is negligible, the assumed center  
3753 may be the point of observation.] (reference (ggg)).

3754

3755 P2.3.9 Cell: Variable size rectangular geographic area, often designated by  
3756 latitude/longitude boundaries. Typically organized one degree by one degree units.  
3757 (reference (ggg)).  
3758

3759 P2.3.10 Cellular Automaton: An idealization of a physical phenomenon in which  
3760 space and time are discretized and the state sets are discrete and finite. (reference (jjjj)).  
3761

3762 P2.3.11 Central Station: A computer connected to a local area network that  
3763 transmits/receives simulation management protocol data units at the direction of the  
3764 simulation manager. (reference (vvv)).  
3765

3766 P2.3.12 Centralized Architecture: An Architecture with a central location for the  
3767 execution of the transformation and control functions of the system. (reference (c)).  
3768

3769 P2.3.13 Chaos: A system whose long-term behavior is unpredictable, tiny changes  
3770 in the accuracy of the starting value can rapidly diverge to anywhere in its possible state  
3771 space. There can, however, be a finite number of available states, so statistical prediction  
3772 can still be useful. (reference (iii)).  
3773

3774 P2.3.14 Civilian-Military Teams: Temporary organizations of civilian and military  
3775 personnel specifically task-organized to provide an optimal mix of capabilities and  
3776 expertise to accomplish specific operational and planning tasks, or to achieve objectives  
3777 at the strategic, operational, or tactical levels. Civilian-military teams may conduct both  
3778 overt and clandestine operations. (reference (uu)).  
3779

3780 P2.3.15 Class: A description of a group of items with similar properties, common  
3781 behavior, common relationships, and common semantics. (reference (w)).  
3782

3783 P2.3.16 Class Word: A word in the name of a data element describing the category  
3784 to which the data element belongs; e.g., "date," "name," "code." The word establishes the  
3785 general structure and domain of a standard data element. (references (ss) and (aaaa)).  
3786

3787 P2.3.17 Client-Server Architecture: Architecture that distinguishes between client  
3788 processes (requestors) and server processes (task completers). (reference (c)).  
3789

3790 P2.3.18 Clock Skew: Clock skew is a phenomenon in synchronous circuits in  
3791 which the clock signal (sent from the clock circuit) arrives at different components at  
3792 different times. This is typically due to two causes. The first is a material flaw, which  
3793 causes a signal to travel faster or slower than expected. The second is distance: if the  
3794 signal has to travel the entire length of a circuit, it will likely (depending on the circuit's  
3795 size) arrive at different parts of the circuit at different times. (reference (ttt)).  
3796

3797 P2.3.19 Closed-Form Solution: A closed-form solution in dynamic models is a  
3798 method in which the states or status of resources are described as explicit and  
3799 computationally tractable functions of time. Thus, the status of a resource at time "t" can  
3800 be found by evaluating the appropriate function at "t" without having to simulate combat  
3801 from the start of that combat through time "t." (reference (xxx)).  
3802

3803 P2.3.20 Cloud: Cloud-like symbol in a network diagram are used to reduce an  
3804 entire communications network into points of entry and exit. It infers that although there  
3805 may be any number of computers, switches, routers, trunks, and other network devices  
3806 within the cloud, the point of interconnection to the cloud (network) is the only technical  
3807 issue in the diagram. Clouds are often used to depict a WAN (wide area network).  
3808 (reference (sss)).  
3809

3810 P2.3.21 Code Verification: A rigorous audit of all compilable code to ensure that  
3811 the representations of verified logic have been properly implemented in the computer  
3812 code. (reference (rr)).  
3813

3814 P2.3.22 Coenetic Variable: In modeling, a variable that affects both the system  
3815 under consideration and that system's environment. (reference (y)).  
3816

3817 P2.3.23 Cohesion: Cohesion refers to the degree to which the contents of a module  
3818 are logically related. (reference (cccc)).  
3819

3820 P2.3.24 Collaborative Environment: Multiple users interacting within a virtual  
3821 world that enables interaction among participants; not necessarily manifested in virtual  
3822 reality; a collaborative VR environment can be referred to as multipresence or  
3823 multiparticipant. (reference (gg)).  
3824

3825 P2.3.25 Collimate: (Physics and astronomy) To render parallel to a certain line or  
3826 direction. To render parallel, as rays of light; to adjust the line of sight or lens axis of an  
3827 optical instrument so that it is in its proper position relative to the other parts of the  
3828 instrument. (reference (ggg)).  
3829

3830 P2.3.26 Combatant Command: A unified or specified command with a broad  
3831 continuing mission under a single commander established and so designated by the  
3832 President, through the Secretary of Defense and with the advice and assistance of the  
3833 Chairman of the Joint Chiefs of Staff. Combatant commands typically have geographic or  
3834 functional responsibilities. (reference (fff)).  
3835

3836 P2.3.27 Combatant Command (command authority): Nontransferable command  
3837 authority established by title 10 ("Armed Forces"), United States Code, section 164,  
3838 exercised only by commanders of unified or specified combatant commands unless

3839 otherwise directed by the President or the Secretary of Defense. Combatant command  
3840 (command authority) cannot be delegated and is the authority of a combatant commander  
3841 to perform those functions of command over assigned forces involving organizing and  
3842 employing commands and forces, assigning tasks, designating objectives, and giving  
3843 authoritative direction over all aspects of military operations, joint training, and logistics  
3844 necessary to accomplish the missions assigned to the command. Also called COCOM.  
3845 (reference (fff)).

3846  
3847 P2.3.28 Combination Models: The approach of combining models learned from  
3848 multiple batches of data as contrasted with the practice of learning one model from all the  
3849 available data (i.e., the data combination approach. (reference (iii))).

3850  
3851 P2.3.29 Command: The authority that a commander in the Armed Forces lawfully  
3852 exercises over subordinates by virtue of rank or assignment. Command includes the  
3853 authority and responsibility for effectively using available resources and for planning the  
3854 employment of, organizing, directing, coordinating, and controlling military forces for  
3855 the accomplishment of assigned missions. (reference (fff)).

3856  
3857 a. A unit or units, an organization, or an area under the command of one  
3858 individual. Also called CMD. (reference (fff)).

3859  
3860 P2.3.30 Command and Control: The exercise of authority and direction by a  
3861 properly designated commander over assigned and attached forces in the accomplishment  
3862 of the mission. Command and control functions are performed through an arrangement of  
3863 personnel, equipment, communications, facilities, and procedures employed by a  
3864 commander in planning, directing, coordinating, and controlling forces and operations in  
3865 the accomplishment of the mission. (reference (fff)).

3866  
3867 P2.3.31 Command and Control System: The facilities, equipment, communications,  
3868 procedures, and personnel essential to a commander for planning, directing, and  
3869 controlling operations of assigned and attached forces pursuant to the missions assigned.  
3870 (This term and its definition modify the existing term and its definition and are approved  
3871 for inclusion in the next edition of JP 1-02.) (reference (fff)).

3872  
3873 P2.3.32 Command and Control Warfare (C2W): The integrated use of operations  
3874 security (OPSEC), military deception, psychological operations (PSYOP), electronic  
3875 warfare (EW), and physical destruction, mutually supported by intelligence, to deny  
3876 information to, influence, degrade, or destroy adversary C2 capabilities, while protecting  
3877 friendly C2 capabilities against such actions. (reference (eee)).

3878

3879 P2.3.33 Commercial Off-The-Shelf (COTS): Commercial items that require no  
3880 unique government modifications or maintenance over the life cycle of the product to  
3881 meet the needs of the procuring agency. (reference (sss)).  
3882

3883 P2.3.34 Common Operational Picture (COP): A single identical display of relevant  
3884 information shared by more than one command. A common operational picture facilitates  
3885 collaborative planning and assists all echelons to achieve situational awareness.  
3886 (reference (fff)).  
3887

3888 P2.3.35 Common Training Instrumentation Architecture (CTIA): The Common  
3889 Training Instrumentation Architecture (CTIA) is the underlying architecture for the Live  
3890 Training Transformation (LT2) Product Line. The LT2 Product Line provides a common  
3891 architecture, reusable components, tools, and processes to support Army Live Training  
3892 systems, including Combat Training Center (CTC) Objective Instrumentations Systems  
3893 (OIS), Home station Instrumented Training Systems (HITS), Digital Multi-Purpose  
3894 Range Complexes (DMPRC) and Military Operations in Urban Terrain (MOUT)  
3895 facilities. Since the LT2 product line is domain-focused, the CTIA implements a set of  
3896 domain-specific services to support Army Live Training. In addition to providing  
3897 domain-specific services, CTIA also specifies a set of component interfaces that  
3898 facilitates the reuse of components across Army Live Training systems by fostering  
3899 systematic reuse (as opposed to opportunistic reuse). (reference (ttt)).  
3900

3901 P2.3.36 Common-Use M&S: M&S applications, services, or materials provided by  
3902 a DoD Component to two or more DoD Components. (references (ww) and (qq)).  
3903

3904 P2.3.37 Commonality: A quality that applies to materiel or systems possessing like  
3905 and interchangeable characteristics enabling each to be utilized, or operated and  
3906 maintained, by personnel trained on the others without additional specialized training and  
3907 having interchangeable repair parts and/or components; and applying to consumable  
3908 items interchangeably equivalent without adjustment. (reference (fff)).  
3909

3910 P2.3.38 Communicate: To use any means or method to convey information of any  
3911 kind from one person or place to another. (reference (fff)).  
3912

3913 P2.3.39 Communications Security: The protection resulting from all measures  
3914 designed to deny unauthorized persons information of value that might be derived from  
3915 the possession and study of telecommunications, or to mislead unauthorized persons in  
3916 their interpretation of the results of such possession and study. Also called COMSEC.  
3917 (This term and its definition modify the existing term and its definition and are approved  
3918 for inclusion in the next edition of JP 1-02.). (reference (fff)).  
3919

3920 P2.3.40 Communications System: Communications networks and information  
3921 services that enable joint and multinational warfighting capabilities. (This term and its  
3922 definition modify the existing term “command, control, communications, and computer  
3923 systems” and its definition and are approved for inclusion in the next edition of JP 1-02.).  
3924 (reference (fff)).  
3925

3926 P2.3.41 Complex Adaptive Systems: Natural systems (e.g., brains, immune  
3927 systems, ecologies, societies) and artificial systems (parallel and distributed computing  
3928 systems), artificial that cannot be characterized in a single quantitative manner. (reference  
3929 (iii)).  
3930

3931 P2.3.42 Complex Data: Data that cannot be characterized as a single concept, or as  
3932 an atomic data element as defined in DoD 8320.1-M-1 (reference (qq)).  
3933

3934 P2.3.43 Complexity: The interaction of many parts, giving rise to difficulties in  
3935 linear or reductionist analysis due to the non linearity of the inherent circular causation  
3936 and feedback effects. (reference (iii)).  
3937

3938 P2.3.44 Compliance Tests: Tests conducted to evaluate the consistency and  
3939 correctness of Protocol Data Unit (PDU) interpretation and utilization by a simulation.  
3940 (reference (z)).  
3941

3942 P2.3.45 Component: A subset of the physical realization (and the physical  
3943 architecture) of the system to which a subset of the system’s function have been (will be)  
3944 allocated. A component could be integrated hardware and software, a group of people,  
3945 facilities, or a combination of all of these. (reference (c)).  
3946

3947 P2.3.46 Composite Attribute: A single attribute that is composed of a specific set  
3948 of identifiable pieces of information (e.g., an address made up of a street number, city,  
3949 State, and zip code). (reference (f)).  
3950

3951 P2.3.47 Composability: A system design principle that deals with the  
3952 interrelationships of components, each of which are considered self contained and  
3953 stateless, and that can be (re-)combined to test/satisfy specific user requirements.  
3954 (reference (iii)).  
3955

3956 a. The capability to select and assemble reusable simulation components in  
3957 various combinations into simulation systems to meet user requirements.  
3958 (reference (cc)).  
3959

3960 P2.3.48 Composable: The degree and ease with which M&S components can be  
3961 arranged to conduct or model a specific event. (references (nn), (jj)).

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P2.3.49 Compression: Any of several techniques that reduce the number of bits required to represent information in data transmission or storage, therefore conserving bandwidth and/or memory, wherein the original form of the information can be reconstructed; also called compaction. (reference (vvv)).

P2.3.50 Computational Model: A model consisting of defined procedures that can be executed on a computer; for example, a model of the stock market, in the form of a set of equations and logic rules. (reference (y)).

P2.3.51 Computer Generated Forces (CGF): A generic term used to refer to computer representations of forces in simulations that attempts to model human behavior sufficiently so that the forces will take some actions automatically (without requiring man-in-the-loop interaction). Also referred to as Semi-Automated Forces. DoD programs addressing various levels of computer automation of forces include Command Forces, Intelligent Forces, Modular Semi-Automated Forces, Integrated Tactical Environment Management System, and Close Combat Tactical Trainer Semi-Automated Forces. (references (p) and (qq)).

P2.3.52 Computer Graphics: The pictorial synthesis and rendering of real or imaginary objects from their computer-based models. (reference (m)).

P2.3.53 Computer Hardware: Devices capable of accepting and storing computer data, executing a systematic sequence of operations on computer data, or producing control outputs. Such devices can perform substantial interpretation, computation, communication, control, or other logical functions. (reference (pp)).

P2.3.54 Computer Networks: Multiple computers connected together using a telecommunication system for the purpose of communicating and sharing resources. (reference (iii)).

P2.3.55 Computer Network Attack: Actions taken through the use of computer networks to disrupt, deny, or degrade information resident in computers or computer networks or the computers and networks themselves. (reference (fff)).

P2.3.56 Computer Network Defense: Actions taken to protect, monitor, analyze, detect, and respond to unauthorized activity within the Department of Defense information systems and computer networks. Also called CND. (This term and its definition modify the existing term and its definition and are approved for inclusion in the next edition of JP 1-02.) (reference (fff)).

4003 P2.3.57 Computer Resources: The totality of computer hardware, firmware,  
4004 software, personnel, documentation, supplies, services, and support services applied to a  
4005 given efforts.

4006  
4007 P2.3.58 Computer Security: The protection resulting from all measures to deny  
4008 unauthorized access and exploitation of friendly computer systems. Also called  
4009 COMPUSEC. (JP 1-02) control. Authority that may be less than full command exercised  
4010 by a commander over part of the activities of subordinate or other organizations.  
4011 (reference (fff)).

4012  
4013 P2.3.59 Computer Simulation: A dynamic representation of a model, involving  
4014 some combination of executing code, control/display interface hardware, and interfaces  
4015 to real-world equipment.

4016  
4017 P2.3.60 Computer Software (or Software): The programs used to direct the  
4018 operation of a computer, as well as documentation giving instruction on how to use them.

4019  
4020 P2.3.61 Computer Software Documentation: Technical data or information,  
4021 including computer listings and printouts, which documents the requirements, design, or  
4022 details of computer software, explains the capabilities and limitations of the software, or  
4023 provides operation instructions for using or supporting computer software during the  
4024 software's operational life. (reference (ddd)).

4025  
4026 P2.3.62 Computer War Game: A technique by which different concepts, different  
4027 pieces of hardware, or different military plans can be investigated in a multi-sided  
4028 confrontation using a computer to generate displays of the battlefield and perform  
4029 computations of outcomes. (reference (n)).

4030  
4031 P2.3.63 Conceptual Model: A statement of the content and internal representations  
4032 that are the user's and developer's combined representation of the model. It includes logic  
4033 and algorithms and explicitly recognizes assumptions and limitations. (reference (b)).

4034  
4035 a. An abstraction of the real world that serves as a frame of reference for  
4036 federation development by documenting simulation-neutral views of  
4037 important entities and their key actions and interactions. The federation  
4038 conceptual model describes what the federation will represent, the  
4039 assumptions limiting those representations, and other capabilities needed to  
4040 satisfy the user's requirements. (reference (q)).

4041  
4042 b. A simulation implementation-independent representation of the exercise  
4043 architect's understanding of the exercise objectives, requirements, and

4044 environment. The model includes logic and algorithms and explicitly  
4045 recognizes assumptions and limitations. (reference (z)).  
4046

4047 P2.3.64 Conceptual Model of the Mission Space (CMMS): First abstractions of the  
4048 real world that serve as a frame of reference for simulation development by capturing the  
4049 basic information about important entities involved in any mission and their key actions  
4050 and interactions. They are simulation-neutral views of those entities, actions, and  
4051 interactions occurring in the real world.  
4052

4053 P2.3.65 Conceptual Schema: Descriptive representation of data and data  
4054 requirements that supports the "logical" view or data administrator's view of the data  
4055 requirement. This view is represented as a semantic model of the information that is  
4056 stored about objects of interest to the functional area. This view is an integrated definition  
4057 of the data that is unbiased toward any single application of data and is independent of  
4058 how the data is physically stored or accessed. (reference (rr)).  
4059

4060 P2.3.66 Concrete Model: A model in which at least one component represented is a  
4061 tangible object; for example, a physical replica of a building. (references (b) and (y)).  
4062

4063 P2.3.67 Concurrent Engineering: Concurrent engineering is a systematic approach  
4064 to the integrated, design of products and their related processes, including manufacture  
4065 and support. This approach is intended to cause the developers, from the outset, to  
4066 consider all elements of the product life cycle from conception through disposal,  
4067 including quality, cost, schedule, and user requirements. (reference (dd)).  
4068

4069 P2.3.68 Condition: The values assumed at a given instant by the variables in a  
4070 system, model, or simulation. See: Boundary condition; final condition; initial condition;  
4071 state. (references (b) and (y)).  
4072

4073 P2.3.69 Conditional Event: A sequentially dependent event that will occur only if  
4074 some other event has already taken place. (references (b) and (y)).  
4075

4076 P2.3.70 Configuration: A collection of an item's descriptive and governing  
4077 characteristics, which can be expressed:  
4078

- 4079 a. In functional terms; i.e., what performance the item is expected to achieve;  
4080 and
- 4081
- 4082 b. In physical terms; i.e., what the item should look like and consist of when it  
4083 is built.  
4084

4085 P2.3.71 Configuration Management (CM): The application of technical and  
4086 administrative direction and surveillance to identify and document the functional and

4087 physical characteristics of a model or simulation, control changes, and record and report  
4088 change processing and implementation status. (references (h), (nn), and (www)).

4089  
4090 P2.3.72 Conformal Map Projection: A map projection on which the shape of any  
4091 small area of the surface mapped is preserved unchanged and all angles around any point  
4092 are correctly represented. Also called orthomorphic map projection. (reference (ggg)).  
4093

4094 P2.3.73 Conformal Projection: A conformal map projection of the so-called conical  
4095 type, on which all geographic meridians are represented by straight lines which meet in a  
4096 common point outside the limits of the map, and the geographic parallels are represented  
4097 by a series of arcs of circles having this common point for a center. Meridians and  
4098 parallels intersect at right angles, and angles on the Earth are correctly represented on the  
4099 projection. This projection may have one standard parallel along which the scale is held  
4100 exact; or there may be two such standard parallels, both maintaining exact scale. At any  
4101 point on the map, the scale is the same in every direction. It changes along the meridians  
4102 and is constant along each parallel. Where there are two standard parallels, the scale  
4103 between those parallels is too small; beyond them, too large. Also called Lambert  
4104 conformal map projection. (reference (ggg)).  
4105

4106 P2.3.74 Conservative Event Simulation: Implies that events are processed in a  
4107 manner that never violates the correct chronology. (reference (ee)).  
4108

4109 P2.3.75 Consistency: Data that is maintained so that it is free from variation or  
4110 contradiction. (references (rr) and (tt)).  
4111

4112 P2.3.76 Constant. A quantity or data item whose value cannot change. (reference  
4113 (y)).  
4114

4115 P2.3.77 Constructive Simulation: A constructive simulation includes simulated  
4116 people operating simulated systems. Real people stimulate (make inputs) to such  
4117 simulations, but are not involved in determining the outcomes. A constructive simulation  
4118 is a computer program. For example, a military user may input data instructing a unit to  
4119 move and to engage an enemy target. The constructive simulation determines the speed  
4120 of movement, the effect of the engagement with the enemy and any battle damage that  
4121 may occur. (reference (iii) and (nn)).  
4122

4123 P2.3.78 Continuous Model: A mathematical or computational model whose output  
4124 variables change in a continuous manner. Contrast with: Discrete Model. (references (b)  
4125 and (y)).  
4126

4127 P2.3.79 Continuous Simulation: A simulation that uses a continuous model.  
4128 (references (b) and (y)).

4129  
4130 a. Implies that the state (dependent) variables change in a continuous manner  
4131 over time. (reference (ee)).  
4132

4133 P2.3.80 Continuous Simulation Model: See: Continuous System. Note: A  
4134 continuous model is not always used to model a continuous system. (reference (aa)).  
4135

4136 P2.3.81 Continuous System: A system for which the state variables change  
4137 continuously with respect to time. (reference (dd), (ee), and (aa)).  
4138

4139 P2.3.82 Control Loading System: A system that produces feel forces, on the  
4140 simulators controls, which accurately reflect those felt by the operator in real world  
4141 conditions (e.g., pilot in actual flight). (reference (l)).  
4142

4143 P2.3.83 Control Station: A facility that provides the interfaces for individual  
4144 responsible for manipulating the simulation and also provides the capability to implement  
4145 simulation control as Protocol Data Units on a Distributed Interactive Simulation  
4146 network. (reference (b)).  
4147

4148 P2.3.84 Control Study: Divides participants into experimental and control groups.  
4149 The subjects in the experimental group perform the experiments as specified in the  
4150 protocol, while the subjects in the control group do not. (reference (d)).  
4151

4152 P2.3.85 Controllability: With respect to user interface, the ability of a user to  
4153 dynamically change the tactics or behavior of an entity force during the course of an  
4154 exercise easily and efficiently. For all exercises this can include the ability to stop and  
4155 restart an exercise from some interim point in time.  
4156

4157 P2.3.86 Coordinates: Linear or angular quantities that designate the position that a  
4158 point occupies in a given reference frame or system. Also used as a general term to  
4159 designate the particular kind of reference frame or system, such as Cartesian coordinates  
4160 or spherical coordinates. (reference (rr) and (vvv)).  
4161

4162 P2.3.87 Coordinate Axes: Geometrical images of mathematical scales or algebraic  
4163 numbers. (reference (kkkk)).  
4164

4165 P2.3.88 Coordinate System: Abstract entities that establish the one-to-one  
4166 correspondence between the elements of the Euclidean three-space and coordinates. A  
4167 coordinate system is said to be associated with a frame if the coordinates of the frame  
4168 points are time invariant. (reference (kkkk)).  
4169

4170 P2.3.89 Coordinate transformation: Relabeling of each element in Euclidean space  
4171 with new coordinates according to a certain algorithm. (reference (kkkk)).

4172  
4173 P2.3.90 Counterinsurgency: Those military, paramilitary, political, economic,  
4174 psychological, and civic actions taken by a government to defeat insurgency. (reference  
4175 (uu)).

4176  
4177 P2.3.91 Counterterrorism: Operations that include the offensive measures taken to  
4178 prevent, deter, preempt, and respond to terrorism. (reference (uu)).

4179  
4180 P2.3.92 Critical Event Simulation: A simulation that is terminated by the  
4181 occurrence of a certain event; for example, a model depicting the year-by-year forces  
4182 leading up to a volcanic eruption, that is terminated when the volcano in the model  
4183 erupts. See: Time-Slice Simulation. (references (b) and (y)).

4184  
4185 P2.3.93 Critical Infrastructure Protection (CIP): Actions taken to prevent,  
4186 remediate, or mitigate the risks resulting from vulnerabilities of critical infrastructure  
4187 assets. Depending on the risk, these actions could include: changes in tactics, techniques,  
4188 or procedures; adding redundancy; selection of another asset; isolation or hardening;  
4189 guarding, etc. Also called CIP. (reference (fff)).

4190  
4191 P2.3.94 Cross Domain Solutions: An information assurance solution that provides  
4192 the ability to manually and/or automatically access and/or transfer between two or more  
4193 differing security domains. CDS are integrated systems of hardware and software that  
4194 enable transfer of information among incompatible security domains or levels of  
4195 classification.

4196  
4197 P2.3.95 Cross-Functional Integration: The melding of acquisition functions (such  
4198 as design analysis with logistics analysis) involving shared modeling and simulation data  
4199 and information. (reference (dd)).

4200  
4201 P2.3.96 Culling: Culling based on views, makes use of the fact that not all  
4202 polygons in the virtual world are visible at all times and eliminates those polygons that  
4203 are not visible. (reference (ff)).

4204  
4205 P2.3.97 Cultural Features: Features of the environment that have been constructed  
4206 by man. Included are such items as roads, buildings, canals, marker buoys; boundary  
4207 lines, and, in a broad sense, all names and legends on a map.

4208  
4209 P2.3.98 Cybernetics: The study of human control functions and the mechanical and  
4210 electronic systems designed to replace or emulate them, including computers. "Cyber," as

4211 a prefix, denotes anything related to computer environments, especially things that  
4212 involve extensive interaction by the user. (reference (n)).

4213

4214 P2.3.99 Cybersickness: Cybersickness is a form of motion sickness that results  
4215 from interaction with or immersion in virtual environments. Its main symptoms are eye  
4216 strain, disorientation, postural instability, sweating, pallor, drowsiness, nausea, and (in  
4217 rare cases) vomiting. (reference (d)).

4218

4219 P2.4. GLOSSARY D

4220

4221 P2.4.1 Data: A representation of facts, concepts, or instructions in a formalized  
4222 manner suitable for communication, interpretation, or processing by humans or by  
4223 automatic means. (references (rr), (ss), and (yyy)).

4224

4225 P2.4.2 Data Administration (DAdm): The responsibility for definition,  
4226 organization, supervision, and protection of data within an enterprise or organization.  
4227 (references (rr) and (zz)).

4228

4229 P2.4.3 Data Administrator (DAd): A person or group that ensures the utility of  
4230 data used within an organization by defining data policies and standards, planning for the  
4231 efficient use of data, coordinating data structures among organizational components,  
4232 performing logical database design, and defining data security procedures. See: Data  
4233 Steward. (references (rr), (ss), and (bbbb)).

4234

4235 P2.4.4 Data Architecture: The framework for organizing and defining the  
4236 interrelationships of data in support of an organization's missions, functions, goals,  
4237 objectives, and strategies. Data architectures provide the basis for the incremental,  
4238 ordered design and development of databases based on successively more detailed levels  
4239 of data modeling. (reference (rr)).

4240

4241 P2.4.5 Data Attribute: A characteristic of a unit of data, such as length, value, or  
4242 method of representation. (references (ss) and (bbbb)).

4243

4244 P2.4.6 Data Center: An organization that serves as a conduit between data sources  
4245 and data customers. The data center may transform these data as necessary to meet the  
4246 operational requirements, format, security, and data verification, validation, and  
4247 certification provisions of its sources and supported users.

4248

4249 P2.4.7 Data Certification: The determination that data have been verified and  
4250 validated. Data user certification is the determination by the application sponsor or  
4251 designated agent that data have been verified and validated as appropriate for the specific  
4252 M&S usage. Data producer certification is the determination by the data producer that  
4253 data have been verified and validated against documented standards or criteria.  
4254 (references (qq) and (p)).

4255

4256 P2.4.8 Data Collection: The process of obtaining information that supports a  
4257 functional activity, or information requirement. (reference (rr)).

4258

4259 P2.4.9 Data Dictionary: A specialized type of database containing metadata that is  
4260 managed by a data dictionary system. A repository of information describing the

4261 characteristics of data used to design, monitor, document, protect, and control data in  
4262 information systems and databases. (references (ss) and (zz)).

4263  
4264 P2.4.10 Data Dictionary System: An automated system such as an IRDS that can  
4265 support one or more data dictionaries. A system specifically designed for managing a  
4266 data dictionary. (reference (bbbb)).

4267  
4268 P2.4.11 Data Distribution Management: Allows each federate to further refine RTI  
4269 data distribution by providing filters scoped to particular object instances or particular  
4270 regions of the simulation environment. (reference (hh)).

4271  
4272 P2.4.12 Data Element: A basic unit of information having a meaning and  
4273 subcategories (data items) of distinct units and values (e.g., address). (reference (zz)).

4274  
4275 P2.4.13 Data Element Standardization: The process of documenting, reviewing,  
4276 and approving unique names, definitions, characteristics, and representations of data  
4277 elements according to established procedures and conventions. (reference (ss)).

4278  
4279 P2.4.14 Data Entity: An object of interest to the enterprise, usually tracked by an  
4280 automated system. (references (h), (ss), and (aaaa)).

4281  
4282 P2.4.15 Data Exchange Standard: Formally defined protocols for the format and  
4283 content of data messages used for interchanging data between networked simulation  
4284 and/or simulator nodes used to create and operate a distributed, time and space coherent  
4285 synthetic environment. (reference (nn)).

4286  
4287 P2.4.16 Data Integrity: In information processing, the condition in which data is  
4288 accurate, current, consistent, and complete. (reference (rr)).

4289  
4290 P2.4.17 Data Item: A subunit of descriptive information or value classified under  
4291 data element. (reference (zz)).

4292  
4293 P2.4.18 Data Logger: A device that accepts data outputs (e.g., Protocol Data Units  
4294 (PDUs)) from a simulation or federation and stores them for later replay in the same time  
4295 sequence as the data were originally received. See: Protocol Data Unit. (references (b)  
4296 and (y)).

4297  
4298 P2.4.19 Data Marshalling: The process of gathering data and transforming it into a  
4299 standard format before it is transmitted over a network so that the data can transcend  
4300 network boundaries. In order for an object to be moved around a network, it must be  
4301 converted into a data stream that corresponds with the packet structure of the network  
4302 transfer protocol. This conversion is known as data marshalling. Data pieces are collected

4303 in a message buffer before they are marshaled. When the data is transmitted, the  
4304 receiving computer converts the marshaled data back into an object. Data marshalling is  
4305 required when passing the output parameters of a program written in one language as  
4306 input to a program written in another language. (reference (ttt)).  
4307

4308 P2.4.20 Data Model: The user's logical view of the data in a database, in contrast to  
4309 the physically stored data or storage structures. It also includes a description of the  
4310 organization of data in a manner that reflects the information structure of an enterprise.  
4311 (references (rr), (aaaa), (ss), and (yyy)).  
4312

4313 P2.4.21 Data Repository: A specialized database containing information about  
4314 data, such as meaning, relationships to other data, origin, usage, and format, including the  
4315 information resources needed by an organization. (reference (h)).  
4316

4317 P2.4.22 Data Security: The protection of data from accidental or intentional  
4318 modification or destruction and from accidental or intentional disclosure to unauthorized  
4319 personnel. (reference (www)).  
4320

4321 P2.4.23 Data Source: An organization or subject matter expert who, because of  
4322 either mission or expertise, serves as a data producer.  
4323

4324 P2.4.24 Data Standardization: The process of documenting, reviewing, and  
4325 approving unique names, definitions, characteristics and representations of data  
4326 according to established procedures and conventions. (references (rr) and (ss)).  
4327

4328 P2.4.25 Data Steward: The person or group that manages the development,  
4329 approval, and use of data within a specified functional area, ensuring that it can be used  
4330 to satisfy data requirements throughout the organization. (references (rr) and (ss)).  
4331

4332 P2.4.26 Data Structure: The logical relationships that exist among units of data and  
4333 the descriptive features defined for those relationships and data units. A data structure is  
4334 a definitive and organized way of describing and storing data in a computer so that it can  
4335 be used efficiently. (reference (iii)).  
4336

4337 P2.4.27 Data Synchronization: The timing requirements of a data element, or  
4338 between and/or among data elements. (reference (h)).  
4339

4340 P2.4.28 Data Validation: The documented assessment of data by subject area  
4341 experts and its comparison to known values. Data user validation is an assessment as  
4342 appropriate for use in an intended model. Data producer validation is an assessment  
4343 within stated criteria and assumptions. (reference (qq)).  
4344

4345 P2.4.29 Data Value: A value associated with a data element. One of the allowable  
4346 values of a data element. (references (h) and (zz)).

4347

4348 P2.4.30 Data Verification: Data producer verification is the use of techniques and  
4349 procedures to ensure that data meets constraints defined by data standards and business  
4350 rules derived from process and data modeling. Data user verification is the use of  
4351 techniques and procedures to ensure that data meets user specified constraints defined by  
4352 data standards and business rules derived from process and data modeling, and that data  
4353 are transformed and formatted properly. (reference (qq)).

4354

4355 P2.4.31 Data Verification: Validation and Certification (VV&C). The process of  
4356 verifying the internal consistency and correctness of data, validating that it represents real  
4357 world entities appropriate for its intended purpose or an expected range of purposes, and  
4358 certifying it as having a specified level of quality or as being appropriate for a specified  
4359 use, type of use, or range of uses. The process has two perspectives: producer and user  
4360 process. (reference (qq)).

4361

4362 P2.4.32 Database Administration (DBAdM): The activity responsible for the  
4363 enforcement of the policies and standards established by the data administrator, to  
4364 include providing technical support for physical database definition, design,  
4365 implementation, maintenance, integrity, and security; and coordinating with computer  
4366 operations technicians, system developers, vendors, and users. Database administration is  
4367 oriented toward technical support for databases and the effective and efficient use of  
4368 information technology resources. (reference (h)).

4369

4370 P2.4.33 Database Administrator (DBAd): A person or group that enforces policy of  
4371 "how," "where," and "in what manner" data is stored and maintained in each database.  
4372 Provides information to the Data Administrator (DA) on organizational use of data within  
4373 the subject database. (reference (zz)).

4374

4375 P2.4.34 Database Directory: A database of entries, each of which represents  
4376 information about a database or a directory of databases. Information often includes the  
4377 name of a database or directory, ownership, point of contact, access path to the database  
4378 or directory, and a description of the purpose of database.

4379

4380 P2.4.35 Database Management System (DBMS): A system that provides the  
4381 functionality to support the creation, access, maintenance, and control of databases, and  
4382 that facilitates the execution of application programs using data from these databases.

4383

4384 P2.4.36 Database Systems: A system or software designed to manage a database  
4385 and run operations on the data requested (reference (iii)).

4386

4387 P2.4.37 Datagram: A unit of data that is transferred as a single, non-sequenced,  
4388 unacknowledged unit. (reference (u)).

4389  
4390 P2.4.38 Dead Reckoning: A method for the estimation of the position/orientation  
4391 of an entity based on a previously known position/orientation and estimates of time and  
4392 motion. Dead reckoning algorithms are used to reduce communications processing within  
4393 distributed simulations. (references (v), (hh), (b), (ttt), (vvv), and (ddd)).

4394  
4395 P2.4.39 Decentralized Architecture: Architecture with multiple, specific locations  
4396 at which the same or familiar transformational or control functions are performed.  
4397 (reference (c)).

4398  
4399 P2.4.40 Declaration Management: Allows each federate to designate filters on  
4400 High Level Architecture (HLA) Run Time Infrastructure (RTI) notifications about the  
4401 existence of particular types of remote objects, changes to particular object attributes and  
4402 particular interaction events. (reference (hh)).

4403  
4404 P2.4.41 Declared Attributes: The set of class attributes of a particular object class  
4405 that are listed in the Federation Object Model (FOM) as being associated with that object  
4406 class in the object class hierarchy tree. (reference (w)).

4407  
4408 P2.4.42 Declared Parameters: The set of parameters of a particular interaction class  
4409 that are listed in the Federation Object Model (FOM) as being associated with that  
4410 interaction class in the interaction class hierarchy tree. (reference (w)).

4411  
4412 P2.4.43 Defense Information Systems Network: Integrated network, centrally  
4413 managed and configured to provide long-haul information transfer services for all  
4414 Department of Defense activities. It is an information transfer utility designed to provide  
4415 dedicated point-to-point, switched voice and data, imagery, and video teleconferencing  
4416 services. (reference (fff)).

4417  
4418 P2.4.44 Defense Simulation Internet (DSI): A wide-band telecommunications  
4419 network operated over commercial lines with connectivity to both military and civilian  
4420 satellites, allowing users to be linked on a worldwide wide-area network. Note:  
4421 superseded with Enhanced Internet Protocol Services in the Defense information System  
4422 Network (DISN). (reference (qq)).

4423  
4424 P2.4.45 Defense Switched Network: Component of the Defense Communications  
4425 System that handles Department of Defense voice, data, and video communications. Also  
4426 called DSN. (reference (fff)).

4427

4428 P2.4.46 Degree-of-Freedom: Capability of motion in translation or rotation. There  
4429 are potentially six degrees of freedom for a rigid body: translation along X, translation  
4430 along Y, translation along Z; rotation around X, rotation around Y, rotation along Z.  
4431 (reference (b)).  
4432

4433 P2.4.47 Department of Defense World Geodetic System (DoD WGS): A unified  
4434 world datum based on a combination of all available astrogeodetic, gravimetric and  
4435 satellite tracking observations. Previous World Geodetic Systems were WGS 59, WGS  
4436 60, WGS 66 and WGS 72. The current system is WGS 84. The system is revised as new  
4437 geodetic, gravimetric and satellite data materials change the currently accepted values.  
4438 (reference (ggg)).  
4439

4440 P2.4.48 Dependent Variable. A variable whose value is dependent on the values of  
4441 one or more independent variables. Contrast with: independent variable (references (b)  
4442 and (y)).  
4443

4444 P2.4.49 Deployable Virtual Training Environment (DVTE): DVTE is a first person  
4445 immersive simulation based training system capable of emulating and simulating a wide  
4446 variety of weapon systems and generating high fidelity, geo-specific 3D terrain  
4447 databases. DVTE provides small unit echelons opportunity to continuously review, and  
4448 rehearse Command and Control procedures (fire plans, control measures, key terrain  
4449 association, etc.) and concepts in a virtual environment. (reference (sss)).  
4450

4451 P2.4.50 Descriptive Model: A representation or form used to depict the behavior or  
4452 properties of an existing system or type of system; for example, a scale model or written  
4453 specification used to convey to potential buyers the physical and performance  
4454 characteristics of a computer. Contrast with: prescriptive model. (references (b), (c), and  
4455 (ss)).  
4456

4457 P2.4.51 Design of Experiments: Formulation of information gathering attempts  
4458 where variation is present and which may or may not be under the full control of the  
4459 experimenter. Process consists of 4 steps; 1. Hypothesis generation, 2. Data Collection,  
4460 3. Fitting data through some mathematical or statistical process, and 4. Assessing whether  
4461 model fits hypothesis. (references (iii) and (j)).  
4462

4463 P2.4.52 Design Validity: Congruence between the Originating Requirements  
4464 Document (ORD) and the derived requirements. (reference (c)).  
4465

4466 P2.4.53 Deterministic: Pertaining to a process, model, simulation or variable whose  
4467 outcome, result, or value does not depend upon chance. Contrast with: stochastic.  
4468 (references (b) and (vvv)).  
4469

4470 P2.4.54 Deterministic Algorithm: A process that yields a unique and predictable  
4471 outcome for a given set of inputs. (reference (dd)).  
4472

4473 P2.4.55 Deterministic Model: A model in which the results are determined through  
4474 known relationships among the states and events and in which a given input will always  
4475 produce the same output; for example, a model depicting a known chemical reaction.  
4476 Contrast with: stochastic model. (references (b) and (y)).  
4477

4478 P2.4.56 Deterministic Simulation Model: A simulation model that does not contain  
4479 any probabilistic (i.e. random) components. (reference (aa)).  
4480

4481 P2.4.57 Deterministic System: A system in which the new state of the system is  
4482 completely determined by the previous state and by activity. (reference (ee)).  
4483

4484 P2.4.58 Developmental Agent (DA): DAs develop and provide life-cycle  
4485 management for software components of an M&S solution. DAs develop and provide  
4486 life-cycle management for M&S systems, hardware and software components in their  
4487 respective domains, including assistance with security accreditation and VV&A  
4488 documentation. (reference (nn)).  
4489

4490 P2.4.59 Difference Equations: The use of algebra and a spreadsheet to construct a  
4491 simulation of a continuous system. (reference (kk)).  
4492

4493 P2.4.60 Digital Elevation Model (DEM): A numerical model of the elevations of  
4494 points on the earth's surface. Digital records of terrain elevations for ground positions at  
4495 regularly spaced horizontal intervals. Data are available for some USGS 7.5 minute  
4496 topographic quadrangles and 1: 250,000 scale maps. (reference (ggg)).  
4497

4498 P2.4.61 Digital Feature Analysis Data (DFAD): A database consisting of selected  
4499 natural and cultural planimetric features type classified as point, line or area features as a  
4500 function of their composition and size. Each feature is assigned a code and further  
4501 described with limited attribution. The data are stored in polygon format and segregated  
4502 into 1 degree tiles. Primary applications are radar return, simulation, navigation,  
4503 targeting and terrain obstruction studies. When combined with DTED, an off-line  
4504 database is created for use by simulators. (reference (ggg)).  
4505

4506 P2.4.62 Digital Feature Data: (cultural data) Manmade, natural and landscape  
4507 features in digital form, including all man-made features on the earth's surface, e.g., lines  
4508 of communication, built-up areas (cities), transmission lines and landmark structures.  
4509 (reference (ggg)).  
4510

- 4511 a. (hydrographic data) Data derived from the measurement and description of  
4512 physical features of the oceans, lakes, rivers and other waters and their  
4513 adjoining coastal areas (with particular reference to navigational usage) In  
4514 digital form. (reference (ggg)).  
4515
- 4516 b. (landscape feature data) Data of all natural feature and man's alteration to  
4517 those features, e.g., lake with dam, agricultural features, etc., in digital  
4518 form. (reference (ggg)).  
4519
- 4520 c. (natural feature data) Natural features on the Earth's surface which are not  
4521 man-made, e.g. vegetation, water bodies, desert, etc. In digital form.  
4522 (reference (ggg)).  
4523

4524 P2.4.63 Digital Simulation: A simulation that is designed to be executed on a  
4525 digital computer system.  
4526

- 4527 a. A simulation that is designed to be executed on an analog system but that  
4528 represents a digital system.  
4529
- 4530 b. A simulation of a digital circuit. Contrast with: analog simulation.  
4531 (references (b) and (y)).  
4532

4533 P2.4.64 Digital Terrain Elevation Data (DTED): A uniform matrix of terrain  
4534 elevation values produced by DMA. Level 2 post spacing is 1 arc second latitudinally.  
4535 Level 1 post spacing is 3 arc second latitudinally; for both, longitudinal spacing varies  
4536 with latitude. (reference (ggg)).  
4537

4538 P2.4.65 Diopter: A unit of measurement of the power of a lens, especially a  
4539 spectacle type lens. The power in diopters equals the reciprocal of the focal length in  
4540 meters; thus, a lens whose local length is 20 cm has a power of 5 diopters. (reference  
4541 (ggg)).  
4542

4543 P2.4.66 Diplomatic, Intelligence, Military and Economic (DIME): Factors to study  
4544 various threats and their affect or real-time decision making or inter-agency rapid  
4545 response generally using analysis of non-kinetic/low attribution solutions. (references  
4546 (kk) and (jjj)).  
4547

4548 P2.4.67 Direct Means: Meeting security objectives through the U.S.-led application  
4549 of military power. (reference (uu)).  
4550

4551 P2.4.68 Direction cosine: Cosine of angle between any two unit vectors. (reference  
4552 (l)).

4553  $l_1 = \cos\theta\cos\psi$   
4554  $l_2 = \cos\theta\sin\psi$   
4555  $l_3 = -\sin\theta$

4556 where  $\theta$  and  $\psi$  are the angles between each vector and a reference axis.  
4557

4558 P2.4.69 DIS Compliant: A simulation that can send or receive PDUs in accordance  
4559 with IEEE Std 1278.1-1995 and IEEE Std 1278.2-1995. A specific statement must be  
4560 made regarding the qualifications of each PDU. (reference (ttt)).  
4561

4562 P2.4.70 DIS Exercise: Consists of one or more interacting simulation applications  
4563 using DIS compliant Protocol Data Units (PDU). The DIS PDUs issued by all simulation  
4564 applications participating in the same exercise shall share one identifying number called  
4565 the exercise identifier. (reference (v)).  
4566

4567 P2.4.71 Disaggregate: Activity that decomposes an aggregated entity into multiple  
4568 entities representing its components. (reference (b)).  
4569

4570 P2.4.72 Disaggregation: The ability to represent the behavior of an aggregated unit  
4571 in terms of its component entities. If the aggregate representation did not maintain state  
4572 representations of the individual entities, then the decomposition into the entities can only  
4573 be notional. (references (t) and (qq)).  
4574

4575 P2.4.73 Discrete Model: A mathematical or computational model whose output  
4576 variables take on only discrete values; that is, in changing from one value to another, they  
4577 do not take on the intermediate values; for example, a model that predicts an  
4578 organization's inventory levels based on varying shipments and receipts. Contrast with:  
4579 continuous model. (references (b) and (y)).  
4580

4581 P2.4.74 Discrete Simulation: A simulation that uses a discrete model where the  
4582 dependent variables (i.e., state indicators) change discretely at points in time referred to  
4583 as events. (references (ee), (b) and (y)).  
4584

4585 P2.4.75 Discrete System: A system for which the state variables change  
4586 instantaneously at separated points in time referred to as events. Systems changes can  
4587 occur in other finite quanta, or jumps. (DSMC 1993- 94 Military Research Fellows  
4588 Report and Joint Pub 1-02.) (references (ee), (dd) and (ddd)).  
4589

4590 P2.4.76 Distributable: The ability of M&S components that are primarily  
4591 geographically separated to operate in concert. (reference (nn)).  
4592

4593 P2.4.77 Distributed Architecture: Architecture in which there are two or more  
4594 autonomous processors connected by a communications interface and running a  
4595 distributed operating system. (reference (c)).

4596 P2.4.78 Distributed Interactive Simulation (DIS): A time and space coherent  
4597 synthetic representation of world environments designed for linking the interactive, free-  
4598 play activities of people in operational exercises. The synthetic environment is created  
4599 through real-time exchange of data units between distributed, computationally  
4600 autonomous simulation applications in the form of simulations, simulators, and  
4601 instrumented equipment interconnected through standard computer communicative  
4602 services. The computational simulation entities may be present in one location or may be  
4603 distributed geographically. (reference (s)).

4604  
4605 P2.4.79 Distributed Interactive Simulation (DIS) Compatible: Two or more  
4606 simulations and/or simulators are DIS compatible if they are DIS compliant and their  
4607 models and data that send and interpret Protocol Data Units support the realization of a  
4608 common operational environment among the systems (coherent in time and space).  
4609 (reference (b)).

4610  
4611 P2.4.80 Distributed Interactive Simulation (DIS) Network Manager: A specified  
4612 agency with the responsibility to manage the physical network used for distributed  
4613 simulation. Responsibilities include: ensuring security of network; scheduling of  
4614 utilization; establishing network priorities; monitoring execution of scheduled usage;  
4615 coordinating functional, technical, and user communities' network requirements.  
4616 (reference (b)).

4617  
4618 P2.4.81 Distributed Interactive Simulation (DIS) Protocol Data Unit (PDU): A set  
4619 of data specified in a protocol of a given layer and consisting of protocol control  
4620 information of that layer, and possibly user data of that layer. (reference (v)).

4621  
4622 P2.4.82 Distributed Mission Operations Network: A network connecting AF wing  
4623 simulators, contractor facilities, and DMOC. (reference (sss)).

4624  
4625 P2.4.83 Distributed Simulation: A networking of geographically dispersed  
4626 simulators of model components that execute as a single overall model. (reference (jjjj)).

4627  
4628 P2.4.84 Distributed Virtual Environment: A virtual environment is said to be  
4629 distributed if it resides on two (or more) networked computers, which share the  
4630 simulation computational load. (reference (d)).

4631  
4632 P2.4.85 DoD M&S Executive Agent: A DoD Component designated by USD (AT  
4633 &L) to coordinate all aspects of DoD M&S for a designated M&S area. These MSEAs  
4634 are transitioning to M&S Coordination Agents. There are five such MSEA's. Air Force

4635 for Air and Space Environment. Navy for Ocean Environment; National Geospatial-  
4636 Intelligence Agency for Terrain Environment (now under the authority, direction and  
4637 control of Under Secretary of Defense for intelligence (USD(I)); Defense Intelligence  
4638 Agency for Threat Forces and Intelligence Processes (now under the authority, direction  
4639 and control of USD(I)); and assistant to the secretary of Defense for Nuclear and  
4640 Chemical and Biological Defense Programs (ATSD(NCB)) for Chemical, Biological,  
4641 Radiation, and Nuclear Defense M&S. (references (ww), (qq), and (dd)).  
4642

4643 P2.4.86 Domain: The physical or abstract space in which the entities and processes  
4644 operate. The domain can be land, sea, air, space, undersea, a combination of any of the  
4645 above, or an abstract domain, such as an n-dimensional mathematics space, or economic  
4646 or psychological domains. (reference (xxx)).  
4647

4648 P2.4.87 Dual-Use Technologies: Technologies with both a military and a civilian  
4649 application.  
4650

4651 P2.4.88 Dynamic Model: A model of a system in which there is change, such as the  
4652 occurrence of events over time or the movement of objects through space; for example, a  
4653 model of a bridge that is subjected to a moving load to determine characteristics of the  
4654 bridge under changing stress. (references (b) and (y)).  
4655

4656 P2.4.89 Dynamic Natural Environment: The natural environment is constantly  
4657 changing as a result of man-made efforts (battlefield smoke) and natural phenomenon  
4658 (weather). Incorporating dynamic natural environment into real-time simulations  
4659 provides a more realistic test bed for weapons, equipment, and personnel. (reference  
4660 (nn)).  
4661

4662 P2.4.90 Dynamic Simulation Model: Systems whose response to an input is not  
4663 instantaneously proportional to that input or disturbance and whose behavior can be  
4664 characterized by either an n-th order differential equation, a transfer function, or a set of n  
4665 simultaneous first order differential equations. (reference (hhhh)).

4666

4667 P2.5. GLOSSARY E

4668

4669 P2.5.1 Earth Coordinate System: The Earth's frame triad  $e_1, e_2, e_3$ .  $e_1, e_2, e_3$   
4670 represent base vectors with  $e_1$  representing the prime meridian base vector,  $e_2$   
4671 representing the Earth's spin axis, and  $e_3$  completes the triad using the cross product of  
4672  $e_1$  and  $e_2$  (right hand rule). (reference (kkkk)).

4673

4674 P2.5.2 Earth Fixed Coordinate System: Any coordinate system in which the axes  
4675 are stationary with respect to the Earth. (reference (ggg)).

4676

4677 P2.5.3 Economics of M&S: Return on investment of M&S based on quantifiable  
4678 and non-quantifiable benefits. To achieve warfighter ROI, the M&S must be credible,  
4679 and the users must accept the validity of the representation of tactical performance.  
4680 (reference (iii)).

4681

4682 P2.5.4 Effects-Based Warfare: The application of armed conflict to achieve  
4683 desired strategic outcomes through the effects of military force. (reference (kk)).

4684

4685 P2.5.5 Electromagnetic Spectrum Management: Planning, coordinating, and  
4686 managing joint use of the electromagnetic spectrum through operational, engineering, and  
4687 administrative procedures. The objective of spectrum management is to enable electronic  
4688 systems to perform their functions in the intended environment without causing or  
4689 suffering unacceptable interference. (This term and its definition modify the existing term  
4690 "spectrum management" and its definition and are approved for inclusion in the next  
4691 edition of JP 1-02.) (reference (fff)).

4692

4693 P2.5.6 Emergence: Interactions among objects at one level give rise to different  
4694 types of objects at another level. (reference (o)).

4695

4696 P2.5.7 Emergent Behavior: An emergent behavior or emergent property can  
4697 appear when a number of simple entities (agents) operate in an environment, forming  
4698 more complex behaviors as a collective. If emergence happens over disparate size scales,  
4699 then the reason is usually a causal relation across different scales. In other words, there is  
4700 often a form of top-down feedback in systems with emergent properties. These are two of  
4701 the major reasons why emergent behavior occurs: intricate causal relations across  
4702 different scales and feedback. (reference (iii)).

4703

4704 P2.5.8 Emission Security: The component of communications security that results  
4705 from all measures taken to deny unauthorized persons information of value that might be  
4706 derived from intercept and analysis of compromising emanations from crypto-equipment  
4707 and telecommunications systems. (Approved for inclusion in the next edition of JP 1-02.)  
4708 (reference (fff)).

4709 P2.5.9 Emitter: A device that is able to discharge detectable electromagnetic or  
4710 acoustic energy. (references (b) and (vvv)).

4711

4712 P2.5.10 Empirical: Pertaining to information that is derived from observation,  
4713 experiment, or experience. (references (b) and (y)).

4714

4715 P2.5.11 Emulate: To represent a system by a model that accepts the same inputs  
4716 and produces the same outputs as the system represented. For example, to emulate an 8-  
4717 bit computer with a 32-bit computer. (references (b) and (y)).

4718

4719 P2.5.12 Emulation: A model that accepts the same inputs and produces the same  
4720 outputs as a given system. (references (b) and (y)).

4721

4722 P2.5.13 Emulator: A device, computer program, or system that performs emulation.  
4723 (references (b) and (y)).

4724

4725 P2.5.14 Encapsulation: The process of hiding the details of an object that do not  
4726 contribute to its essential characteristics. (reference (cccc)).

4727

4728 P2.5.15 Endogenous variable: A variable whose value is determined by conditions  
4729 and events within a given model. Syn: internal variable. Contrast with: exogenous  
4730 variable. (references (b) and (y)).

4731

4732 P2.5.16 Enhanced Tactical Simulation Interface Unit (ETSIU): A two-way link  
4733 between simulations and automated command and control workstations. (reference (sss)).

4734

4735 P2.5.17 Enterprise: An arbitrarily defined functional and administrative entity that  
4736 exists to perform a specific, integrated set of missions and achieve associated goals and  
4737 objectives, encompassing all of the primary functions necessary to perform those  
4738 missions.

4739

4740 P2.5.18 Enterprise Model: An information model(s) that presents an integrated top-  
4741 level representation of processes, information flows, and data. (references (rr) and (yy)).

4742

4743 P2.5.19 Entity: A distinguishable person, place, unit, thing, event, or concept about  
4744 which information is kept. (reference (f)).

4745

4746 a. Any component in a system that requires explicit representation in a model.  
4747 Entities possess attributes denoting specific properties. (reference (p)).

4748

4749 P2.5.20 Entity Header: Externally visible part of model such as the model name  
4750 and parameters as well as terminals and signal ports. (reference (ff)).

4751  
4752 P2.5.21 Entity Coordinates: Location with respect to a simulation entity. (reference  
4753 (b)).

4754  
4755 P2.5.22 Entity Coordinate System: A system whereby location with respect to a  
4756 simulation entity is described by a coordinate system (e.g., 3 right-hand Cartesian  
4757 coordinates). (reference (v) and (s)).

4758  
4759 P2.5.23 Entity Perspective: The perception of the synthetic environment held by a  
4760 simulation entity based on its knowledge of itself and its interactions with the other  
4761 simulation entities. This includes not only its own view of the simulated physical  
4762 environment (terrain, air, and sea), but also its own view of itself, the other entities in the  
4763 synthetic environment, and of the effects of the other entities on itself and the synthetic  
4764 environment. Syn: worldview. (reference (b)).

4765  
4766 P2.5.24 Entity Relationship Diagram (ERD): A model of the data structures for data  
4767 entities and the relationships between data entities. (reference (c)).

4768  
4769 P2.5.25 Environment: The texture or detail of the natural domain, that is terrain  
4770 relief, weather, day, night, terrain cultural features (cities or farmland), sea states, etc.;  
4771 and the external objects, conditions, and processes that influence the behavior of a  
4772 system. (reference (b)).

4773  
4774 P2.5.26 Environmental Effect Model: A numerical model, parametric model, or  
4775 database for simulating a natural environmental effect on an entity of a simulation  
4776 exercise, such as a sensor or platform.

4777  
4778 P2.5.27 Environmental Entity: A simulation entity that corresponds to dynamic  
4779 elements of the natural state of the geographic, atmospheric, and bathyspheric  
4780 environment, of the synthetic environment, that can be seen or sensed on a real  
4781 battlefield; for example, craters, smoke, building collapse, weather conditions, and sea  
4782 state. (reference (b)).

4783  
4784 P2.5.28 Environmental Features: An individual element of the natural environment  
4785 (e.g., a rain system, fog, cloud).

4786  
4787 P2.5.29 Environmental Model: A numerical model, parametric model, or database  
4788 designed to produce an accurate and consistent data set for one or more parameters that  
4789 characterize the state of the natural environment.

4790  
4791 P2.5.30 Environmental Representation: An authoritative representation of all or a  
4792 part of the natural or man-made environment, including permanent or semi-permanent  
4793 man-made features. (reference (qq)).

4794  
4795 P2.5.31 Environmental Simulation: A simulation that depicts all or part of the  
4796 natural or manmade environment of a system; for example, a simulation of the radar  
4797 equipment and other tracking devices that provide input to an aircraft tracking system.  
4798 (reference (y)).

4799  
4800 P2.5.32 Equilibrium: See: Steady State. (reference (b)).

4801  
4802 P2.5.33 Error Model: A model used to estimate or predict the extent of deviation of  
4803 the behavior of an actual system from the desired behavior of the system; for example, a  
4804 model of a communications channel, used to estimate the number of transmission errors  
4805 that can be expected in the channel.

4806  
4807 a. In software evaluation, a model used to estimate or predict the number of  
4808 remaining faults, required test time, and similar characteristics of a system.  
4809 (references (b) and (y)).

4810  
4811 P2.5.34 Euler Angles: A set of three angles used to describe the orientation of an  
4812 entity as a set of three successive rotations about three different orthogonal axes (x, y,  
4813 and z). The order of rotation is typically first about z by angle (psi), then about the new y  
4814 by angle (theta), then about the newest x by angle (phi). Angles psi and phi range  
4815 between +/- pi, while angle theta ranges only between +/- pi/2 radians. These angles  
4816 specify the successive rotations needed to transform from the world coordinate system to  
4817 the entity coordinate system. The positive direction of rotation about an axis is defined by  
4818 the right-hand rule. (reference (b)).

4819  
4820 P2.5.35 Event List: An ordered list that contains the time all events will occur.  
4821 (references (aa) and (kk)).

4822  
4823 P2.5.36 Event-Oriented Simulation: A simulation in which attention is focused on  
4824 the occurrence of events and the times at which those events occur; for example, a  
4825 simulation of a digital circuit that focuses on the time of state transition. (references (b)  
4826 and (y)).

4827  
4828 P2.5.37 Event Routine: A subprogram that updates the system state when a  
4829 particular type of event occurs (there is one event routine for each event type). (reference  
4830 (aa)).

4831  
4832 P2.5.38 Executable Model: A model intended to simulate the simuland as detailed  
4833 in the conceptual model, so the conceptual model is thereby a design specification for the  
4834 executable model. (reference (kk)).

4835

4836 P2.5.39 Exercise: A military maneuver or simulated wartime operation involving  
4837 planning, preparation, and execution. (reference (nn)).

4838

4839 P2.5.40 Exercise Manager: Test director or training officer who manages the setup,  
4840 control, and feedback of a simulation exercise after the computer network is activated.  
4841 Syn: Simulation Manager. (reference (b)).

4842

4843 P2.5.41 Exogenous Variable: A variable whose value is determined by conditions  
4844 and events external to a given model. Syn: external variable. Contrast with: endogenous  
4845 variable. (references (b) and (y)).

4846

4847 P2.5.42 Experiment: A mechanism used to develop and assess concept-based  
4848 hypotheses to identify and recommend the best value-added solutions for changes to  
4849 doctrine, organizational structure, training, materiel, leadership and education, people,  
4850 and facilities required to achieve significant advances in future joint operational  
4851 capabilities. (reference (nn)).

4852

4853 P2.5.43 Experimental Frame Entity: Specifies the conditions under which a system  
4854 is observed or experimented with. (reference (jjjj)).

4855

4856 P2.5.44 Expert System: An expert system is a knowledge collection combined with  
4857 an inference engine capable of interpreting queries and chaining together separate items  
4858 of knowledge to develop new inferences. The knowledge is typically causally represented  
4859 as a system of rules. In some cases, expert systems can retrace their paths of inference on  
4860 demand, thus explaining their conclusions and reasoning. (reference (oo)).

4861

4862 P2.5.45 Exportable: Ease with which objects, data or components can be moved  
4863 from one domain or event and used in another. (reference (nn)).

4864

4865 P2.5.46 Extended Air Defense Test Bed (EADTB): A stochastic, event-stepped  
4866 simulation capable of interactive and batch operation. The object-based simulation  
4867 supports modeling from the battery/fire-unit level up to theater-level scope with a high  
4868 degree of flexibility in detail level and aggregation. (reference (sss)).

4869

4870 P2.5.47 Extensibility: The ability of a data structure to accommodate additional  
4871 values or iterations of data over time without impacting the initial design. (references (tt)  
4872 and (rr)).

4873

4874 P2.5.48 External Schema: A logical description of an enterprise that may differ  
4875 from the conceptual schema upon which it is based in that some entities, attributes, or  
4876 relationships may be omitted, renamed, or otherwise transformed. (reference (rr)).

4877

4878 P2.5.49 Extrapolation: Estimation of a value of data based on an established set of  
4879 collected data outside of the data range (reference (iii)).

4880

4881 P2.6. GLOSSARY F

4882  
4883 P2.6.1 Face Validation: The process of determining whether a model or simulation  
4884 seems reasonable to people who are knowledgeable about the system under study, based  
4885 on the model's performance. This process does not review the software code or logic, but  
4886 rather reviews the inputs and outputs to ensure they appear realistic or representative.  
4887 (references (b) and (vvv)).

4888  
4889 P2.6.2 Face Validity: Is measured by comparing actual output results by  
4890 individuals familiar with the real system. (reference (ee)).

4891  
4892 P2.6.3 Factors: Input parameters and structural assumptions composing a model.  
4893 (reference (aa)).

4894  
4895 P2.6.4 Fair Fight. Two or more simulations may be considered to be in a fair fight  
4896 when differences in the simulations' performance characteristics have significantly less  
4897 effect on the outcome of the conflict than actions taken by the simulation participants.  
4898 (reference (tt)).

4899  
4900 a. Obtained when the systems are interoperable and the system performance  
4901 capabilities of the simulators are complimentary for a given task throughout  
4902 the simulation environment. Fair Fight is also task dependent and includes  
4903 items such as similarity in the equality made in use of the synthetic  
4904 environment features, automated force behaviors, etc. Equality of use is  
4905 determined within pre-determined tolerances. (reference (mmm)).

4906  
4907 P2.6.5 Fast Time: Simulated time with the property that a given period of actual  
4908 time represents more than that period of time in the system being modeled; for example,  
4909 in a simulation of plant growth, running the simulation for one second may result in the  
4910 model advancing time by one full day; that is, simulated time advances faster than actual  
4911 time; The duration of activities within a simulation in which simulated time advances  
4912 faster than actual time. Contrast with: real time; slow time. (references (b) and (y)).

4913  
4914 P2.6.6 Fault Tolerance: Fault-tolerant design refers to a method for designing a  
4915 system so it will continue to operate, possibly at a reduced level (also known as graceful  
4916 degradation), rather than failing completely, when some part of the system fails. The  
4917 term is most commonly used to describe computer-based systems designed to continue  
4918 more or less fully operational with, perhaps, a reduction in throughput or an increase in  
4919 response time in the event of some partial failure. (reference (ttt)).

4920  
4921 P2.6.7 Feature: A static element of the synthetic environment that exists but does  
4922 not actively participate in synthetic environment interactions. Features are represented in

4923 the simulated environment by cartographic databases that are used by simulation assets.  
4924 Entities can interact with features (building them, destroying them, colliding with them,  
4925 etc.), but features are passive in that they do not initiate action. When features are  
4926 dynamic (e.g., dynamic terrain) they are called environmental entities. (reference (b)).  
4927

4928 P2.6.8 Feature Analysis Code (FAC) Number: A unique number (usually  
4929 sequential) assigned to an area or feature portrayed on a feature manuscript and used to  
4930 relate feature analysis data table information to the digital information which portrays the  
4931 shape of the feature. See: Feature Analysis Data Table. (reference (ggg)).  
4932

4933 P2.6.9 Federate: An application that may be or is currently coupled with other  
4934 software applications under a Federation Object Model Document Data (FDD) and a  
4935 runtime infrastructure (RTI). This may include federation managers, data collectors, real  
4936 world (“live”) systems (e.g., C4I systems, instrumented ranges, sensors), simulations,  
4937 passive viewers, and other utilities. See also: federate application and joined federate.  
4938 (references (w) and (q)).  
4939

4940 a. Applications participating in and represented as a node in a Federation or  
4941 LVC Environment. This may include federation managers, data collectors,  
4942 real world (“live”) systems (e.g., C4I systems, instrumented ranges,  
4943 sensors, etc.), simulations, passive viewers and other utilities. (reference  
4944 (ttt)).  
4945

4946 P2.6.10 Federation: A named set of federate applications and a common Federation  
4947 Object Model that are used as a whole to achieve some specific objective. (reference  
4948 (w)).  
4949

4950 P2.6.11 Federation Execution: The actual operation, over time, of a set of joined  
4951 federates that are interconnected by a runtime infrastructure (RTI). (reference (w)).  
4952

4953 P2.6.12 Federation management: Administers the set of participating RTI instances  
4954 within the federation. (reference (hh)).  
4955

4956 P2.6.13 Federation Object Model (FOM): A specification defining the information  
4957 exchanged at runtime to achieve a given set of federation objectives. This includes object  
4958 classes, object class attributes, interaction classes, interaction parameters, and other  
4959 relevant information. (references (w), and (x)).  
4960

4961 P2.6.14 Fidelity: The identification of key parameters for a system and the degree  
4962 to which the aggregate of those parameters match a baseline system. The components of  
4963 fidelity include functional, physical, psychological, tactile, visual, and wallpaper.  
4964 (references (mmm), (v), (ww), (s), and (vv)).  
4965

4966 a. The accuracy of the representation when compared to the real world.  
4967 (reference (qq)).

4968  
4969 P2.6.15 Fidelity Characterization: A tool for comparing disparate M&S by  
4970 standardizing the metrics for enumerating capabilities and organizing the data for entry  
4971 into the M&S repository. (reference (z)).

4972  
4973 P2.6.16 Field: A series of contiguous bits treated as an instance of a particular data  
4974 type that may be part of a higher-level data structure. (references (b) and (vvv)).

4975  
4976 P2.6.17 Field Instrumentation: An internal or external recording, monitoring, or  
4977 relaying device employed by live instrumented entities, usually platform, facility, or  
4978 exercise-unique, and not typically part of the operational system or equipment. These  
4979 devices provide an independent source of data to assess the performance of operational  
4980 systems involved in an exercise. (reference (b)).

4981  
4982 P2.6.18 Field-of-View (FOV): The angular extent of the observable world that is  
4983 seen at any given moment. (reference (iii)).

4984  
4985 P2.6.19 File management: A computer program that provides a user interface to  
4986 work with file systems. (reference (iii)).

4987  
4988 P2.6.20 Final Condition: The values assumed by the variables in a system, model,  
4989 or simulation at the completion of some specified duration of time. Syn: equilibrium  
4990 condition. Contrast with: boundary condition; initial condition. (references (b) and (y)).

4991  
4992 P2.6.21 Final State: The values assumed by the state variables of a system,  
4993 component, or simulation at the completion of some specified duration of time.  
4994 (references (b) and (y)).

4995  
4996 P2.6.22 Flexible: Adaptable or variable; able to change M&S components created  
4997 for a specific event to be useful in another event. (reference (nn)).

4998  
4999 P2.6.23 Force Feedback: Force Feedback provides real-time feedback to a virtual  
5000 object, with respect to object weight, inertia and other pertinent dynamic characteristics.  
5001 (reference (d)).

5002  
5003 P2.6.24 Formalisms: (when applied to modeling) Method for capturing the essence  
5004 of thing or process; as an example, two data modeling formalisms are entity-attribute-  
5005 relationship (EAR) models and object relationship (OR) models. (reference (iii)).

5006

5007 P2.6.25 Frame Rate: The rate at which a complete image is displayed on a display  
5008 device. (reference (gg)).

5009  
5010 P2.6.26 Framework for Modeling and Simulation: Defines entities and their  
5011 relationships that are central to the M&S enterprise. (reference (jjjj)).

5012  
5013 P2.6.27 Frequency Management: The requesting, recording, de-confliction and  
5014 issuance of authorization to use frequencies (operate electromagnetic spectrum dependent  
5015 systems) coupled with monitoring and interference resolution processes. (reference (fff)).

5016  
5017 P2.6.28 Functional Architecture: (a) Logical architecture that defines what the  
5018 system must do, a decomposition of the system's top-level function. This very limited  
5019 definition of the functional architecture is the most common and is represented as a  
5020 directed tree. (b) Logical model that captures the transformation of inputs into outputs  
5021 using control information. This definition adds the flow of inputs and outputs throughout  
5022 the functional decomposition. (c) Logical model of a functional decomposition plus the  
5023 flow of inputs and outputs, to which input/out requirements have been traced to specific  
5024 functions and items (inputs, outputs, and controls). (reference (c)).

5025  
5026 P2.6.29 Functional Area: A functional area encompasses the scope (the boundaries)  
5027 of a set of related action and data for which an OSD Principal Staff Assistant or the  
5028 Chairman of the Joint Chiefs of Staff has DoD-wide responsibility, authority, and  
5029 accountability. A functional area (e.g., personnel) is composed of one or more working  
5030 activities (e.g., recruiting), each of which consists of one or more functional processes  
5031 (e.g., interviews). (reference (qq)).

5032  
5033 P2.6.30 Functionality: Set of functions required to produce a particular output.  
5034 Simple functionality is an ordered sequence of functional processes that operate on a  
5035 single input to produce a specific output. There may be many inputs required to produce  
5036 the output in question, but this simple functionality is only related to one of the inputs.  
5037 Complete functionality is a complete set of coordinated processes that operate on all the  
5038 necessary inputs for producing a specific output. (reference (c)).

5039

5040 P2.7. GLOSSARY G

5041  
5042 P2.7.1 Game: A physical or mental competition in which the participants, called  
5043 players, seek to achieve some objective within a given set of rules. See: Game Theory.  
5044 (references (b) and (y)).

5045  
5046 P2.7.2 Game Theory: The study of situations involving competing interests,  
5047 modeled in terms of the strategies, probabilities, actions, gains, and losses of opposing  
5048 players in a game. See: Management Game; war game. (references (b) and (y)).

5049  
5050 P2.7.3 Gateway: A device that connects two systems, especially if the systems use  
5051 different protocols. For example, a gateway is needed to connect two independent local  
5052 networks, or to connect a local network to a long-haul network. (reference (vvv)).

5053  
5054 P2.7.4 General-Use M&S Applications: General-Use M&S Applications:  
5055 Specific representations of the physical environment or environmental effects used by, or  
5056 common to, many models and simulations; e.g., terrain, atmospheric, or hydrographic  
5057 effects. (references (ww), (qq), and (aaa)).

5058  
5059 P2.7.5 Generic Domain: A domain type where the attribute is constrained only by  
5060 the data type assigned by the database management system (DBMS), or implied by the  
5061 record type in a flat file, whichever is applicable. (reference (f)).

5062  
5063 P2.7.6 Generic Element: A generic element is the part of a data element that  
5064 establishes a structure and limits the allowable set of values of a data element. A generic  
5065 element has no functional or application context other than to define a general class of  
5066 data and ensure consistency in structure and domain. (reference (ss)).

5067  
5068 P2.7.7 Genetic Algorithms: Computational methods inspired by Darwinian  
5069 evolution in which a population of candidate solutions are iteratively refined according to  
5070 computational notions of inheritance and survival of the fittest. (reference (gggg)).

5071  
5072 P2.7.8 Geocentric Coordinates: (terrestrial) Coordinates that define the position of  
5073 a point with respect to the center of the Earth. Geocentric coordinates can be either  
5074 Cartesian (x,y,z) or spherical (geocentric latitude and longitude, and radial distance).  
5075 (reference (ggg)).

5076  
5077 P2.7.9 Geoid: The equipotential surface in the gravity field of the Earth which  
5078 approximates the undisturbed mean sea level extended continuously through the  
5079 continents. The geoid is the surface reference for astronomic observation and for geodetic  
5080 leveling. (reference (ggg)).

5081

5082 P2.7.10 Geometric Modeling: Describes the shape of virtual objects (polygons,  
5083 triangles, vertices, splines) as well as their appearance (surface texture, surface  
5084 illumination, and color). (reference (d)).  
5085

5086 P2.7.11 Geometric Transformation: Includes translation, scaling, and rotation  
5087 transformations of points, vectors, and more complex shapes. (reference (m)).  
5088

5089 P2.7.12 Gesture Interfaces: Devices that measure the real-time position of the  
5090 user's fingers (and sometimes wrist) or other appendages in order to allow natural,  
5091 interaction with the virtual environment. (reference (d)).  
5092

5093 P2.7.13 Glass Box Model: A model whose internal implementation is known and  
5094 fully visible; for example, a model of a computerized change-return mechanism in a  
5095 vending machine, in the form of a diagram of the circuits and gears that make the change.  
5096 Contrast with: black box model. Syn: white box model. (references (b) and (y)).  
5097

5098 P2.7.14 Global Combat Support System (GCSS): Demand-driven, joint initiative  
5099 designed to accelerate delivery of combat support applications and databases (e.g.,  
5100 logistics, engineering, finance, medical, etc.) to the warfighter. Focus is on providing  
5101 user access to these applications from a single workstation.  
5102

5103 a. A strategy that provides information interoperability across combat support  
5104 functions and between combat support and command and control functions  
5105 through the Global Command and Control System. Also called GCSS.  
5106 (reference (fff)).  
5107

5108 b. A deployable command and control system supporting forces for joint and  
5109 multinational operations across the range of military operations with  
5110 compatible, interoperable, and integrated communications systems. Also  
5111 called GCCS. (reference (fff)).  
5112

5113 P2.7.15 Global Event Ordering: The time-ordering of events (or information) based  
5114 on a global time, common to all event-generating applications, that is associated with  
5115 each event.(reference (ttt)).  
5116

5117 P2.7.16 Global Information Grid: The globally interconnected, end-to-end set of  
5118 information capabilities, associated processes and personnel for collecting, processing,  
5119 storing, disseminating, and managing information on demand to warfighters, policy  
5120 makers, and support personnel. The Global Information Grid includes owned and leased  
5121 communications and computing systems and services, software (including applications),  
5122 data, security services, other associated services and National Security Systems. Also

5123 called GIG. (This term and its definition modify the existing term and its definition and  
5124 are approved for inclusion in the next edition of JP 1-02.) (reference (fff)).

5125

5126 P2.7.17 Global Time: Time valid for a whole system. (reference (jjjj)).

5127

5128 P2.7.18 Graphical Model: A symbolic model whose properties are expressed in  
5129 diagrams; for example, a decision tree used to express a complex procedure. Contrast  
5130 with: mathematical model; narrative model; software model; tabular model. (references  
5131 (b) and (y)).

5132

5133 P2.7.19 Graphical User Interface (GUI): A computer environment or program that  
5134 displays, or facilitates the display of, on-screen options, usually in the form of icons  
5135 (pictorial symbols) or menus (lists of alphanumeric characters) by means of which users  
5136 may enter commands. (reference (sss)).

5137

5138 P2.7.20 Graphics Display: A computer interface that presents synthetic world  
5139 images to one or several users interacting with the virtual world. (reference (d)).

5140

5141 P2.7.21 Graphics Pipeline: The rasterizing stage, which is done in hardware, in  
5142 order to gain speed. (reference (d)).

5143

5144 P2.7.22 Greenwich Mean Time (GMT): See: Universal Time.

5145

5146 P2.7.23 Ground Truth: The actual facts of a situation, without errors introduced by  
5147 sensors or human perception and judgment. (reference (b)).

5148

5149 a. A term coined for data/information obtained from actual ground  
5150 measurement of surface/subsurface features to aid in the interpretation of  
5151 remotely sensed data. Also called ground data; ground information.  
5152 (reference (ggg)).

5153

5154 P2.7.24 Grid and Cluster Computing: A group of tightly coupled computers that  
5155 work together closely so that in many respects they can be viewed as though they are a  
5156 single computer. (reference (iii)).

5157

5158 P2.7.25 Guise: A function that provides the capability for an entity to be viewed  
5159 with one appearance by one group of participants, and with another appearance by  
5160 another group. (references (b) and (vvv)).

5161

5162 P2.8. GLOSSARY H

5163  
5164 P2.8.1 Haptic: Refers to all the physical sensors that provide a sense of touch at  
5165 the skin level and force feedback information from muscles and joints. (references (gg)  
5166 and (n)).

5167  
5168 a. The design of clothing or exoskeletons that not only sense motions of body  
5169 parts (e.g., fingers) but also provide tactile and force feedback for haptic  
5170 perception of a virtual world.

5171  
5172 P2.8.2 Hardware in-the-loop Simulation: Simulation and simulators that employ  
5173 one or more pieces of operational equipment (to include computer hardware) within the  
5174 simulation/simulator system. (reference (iii)).

5175  
5176 P2.8.3 Heterogeneous Simulation Network: A collection of simulations with  
5177 partially consistent behaviors and/or partially correlated databases. Examples include  
5178 simulators of different fidelity, mixed virtual and live simulations, and mixes of virtual  
5179 and constructive simulations. (reference (b)).

5180  
5181 P2.8.4 Hierarchical Model: A model of information in which data are represented  
5182 as trees of records connected by pointers. (reference (f)).

5183  
5184 P2.8.5 Hierarchy: Hierarchy is a ranking or ordering of abstractions. (reference  
5185 (f)).

5186  
5187 P2.8.6 High Level Architecture (HLA): A family of related standards that together  
5188 describe a unified approach and common architecture to constructing interoperable  
5189 simulation systems. The HLA provides a general framework within which simulation  
5190 developers can structure and describe their simulation applications. The use of runtime  
5191 infrastructure (RTI) software is required to support operations of a federation execution.  
5192 The RTI software provides a set of services, as defined by the Federate Interface  
5193 Specification, used by federates to coordinate operations and data exchange during a  
5194 runtime execution. (reference (ttt), (x), (vvv)).

5195  
5196 P2.8.7 High Level Architecture (HLA) Time Axis: A totally ordered sequence of  
5197 values in which each value typically represents an HLA instant of time in the physical  
5198 system being modeled. For any two points T1 and T2 on the time axis, if  $T1 < T2$ , T1  
5199 represents an instant of time that occurs before the instant represented by T2. (reference  
5200 (w)).

5201  
5202 P2.8.8 Higher Order Model (HOM): A computer model representing combat  
5203 elements, their functions and/or the terrain they operate on in an aggregated manner. A

5204 HOM may represent a battalion as a specific entity that is a conglomeration or averaging  
5205 of the characteristics of its real-world components. "Higher Order" generally refers to  
5206 echelons battalion and above with greater than 100m terrain resolution (e.g. 3km, and  
5207 with faster than real-time performance, days compressed into minutes, hours into  
5208 seconds). See: War Game. (references (b) and (vvv)).  
5209

5210 P2.8.9 Homogeneous Simulator Network: A network of DIS objects with fully  
5211 consistent behaviors and fully correlated databases. (references (b) and (vvv)).  
5212

5213 P2.8.10 Host or Host Computer: A computer that supports one or more simulation  
5214 applications. All host computers participating in a distributed simulation exercise are  
5215 connected by network(s) including wide area networks, local area networks, and RF  
5216 links. (references (b), (v), (s) and (y)).  
5217

5218 P2.8.11 Human Behavior Representation: The use of a computer based model  
5219 within a simulation that mimics either the action of a single human or the collective  
5220 action of a team of humans. Human behavior representation models aspects of the  
5221 complicated facets of human behavior including ability to reason, ability to change the  
5222 environment, reaction to comfort or discomfort, susceptibility to injury and illness,  
5223 emotional response, communication with others, ability to sense the environment and  
5224 physical capabilities and limitations. (reference (iii)).  
5225

5226 P2.8.12 Human Factors: The discipline or science of studying man-machine  
5227 relationships and interactions. The term covers all biomedical and psychological  
5228 considerations; it includes, but is not limited to, principles and applications in the areas of  
5229 human engineering, personnel selection, training, life support, job performance aids, and  
5230 human performance evaluation.  
5231

5232 P2.8.13 Human-in-the-Loop (HITL): A model that requires human interaction  
5233 during runtime. See: Interactive Model. (reference (b)).  
5234

5235 a. Simulation and simulators that employ one or more human operators in  
5236 direct control of the simulation/simulator or in some key support function.  
5237 (reference (iii)).  
5238

5239 P2.8.14 Human-machine Simulation: A simulation carried out by both human  
5240 participants and computers, typically with the human participants asked to make  
5241 decisions and a computer performing processing based on those decisions. (reference  
5242 (b)).  
5243

5244 P2.8.15 Hypothesis testing: An algorithm or statistical approach that states the  
5245 alternative to minimize certain risks. (reference (iii)).

5246

5247 P2.9. GLOSSARY I

5248

5249 P2.9.1 Iconic Model: A physical model or graphical display that looks like the  
5250 system being modeled; for example, a non-functional replica of a computer tape drive  
5251 used for display purposes. See: Scale Model. (references (b) and (y)).

5252

5253 P2.9.2 Identity Simulation: A simulation in which the roles of the participants are  
5254 investigated or defined; for example, a simulation that identifies aircraft based on their  
5255 physical profiles, speed, altitude, and acoustic characteristics. (reference (b)).

5256

5257 P2.9.3 Immersion: Sensation of being in an environment; can be a purely mental  
5258 state or can be accomplished through physical means. (reference (gg)).

5259

5260 P2.9.4 Implementation: The means by which a synthetic environment, or portions  
5261 of a synthetic environment, is realized. (reference (b)).

5262

5263 a. To give practical effect to and ensure of actual fulfillment by concrete  
5264 measures. (reference (i)).

5265

5266 P2.9.5 In-Basket Simulation: A simulation in which a set of issues is presented to  
5267 a participant in the form of documents on which action must be taken; for example, a  
5268 simulation of an unfolding international crisis as a sequence of memos describing  
5269 relevant events and outcomes of the participant's actions on previous memos. (references  
5270 (b) and (y)).

5271

5272 P2.9.6 Independent Verification and Validation (IV&V): The conduct of  
5273 verification and validation of a model or simulation by individuals or agencies that did  
5274 not develop the model or simulation. (reference (b)).

5275

5276 P2.9.7 Inductive Modeling: Finding the rule with the cause and the effect.  
5277 Inductive modeling combines ideas from many other technologies-including simulations,  
5278 data modeling, expert systems and object-oriented modeling. Inductive techniques  
5279 include system identification and parameter estimation. (reference (iii)).

5280

5281 P2.9.8 Inertial Tracker: Self contained sensors that measure the rate of change in  
5282 an object's orientation. They may also measure the rate of change of an object's  
5283 translation velocity. (reference (iii)).

5284

5285 P2.9.9 Information: Any communication or reception of knowledge such as facts,  
5286 data, or opinions, including numerical, graphic, or narrative forms, whether oral or  
5287 maintained in any medium, including computerized databases, paper, microform, or  
5288 magnetic tape. (references (rr), (ss), and (yy)).

5289 P2.9.10 Information Assurance (IA): Measures that protect and defend information  
5290 and information systems by ensuring their availability, integrity, authentication,  
5291 confidentiality, and nonrepudiation. This includes providing for restoration of  
5292 information systems by incorporating protection, detection, and reaction capabilities.  
5293 (reference (fff)).  
5294

5295 P2.9.11 Information Enterprise: The DoD information resources, assets, and  
5296 processes required to achieve an information advantage and share information across the  
5297 Department of Defense and with mission partners. It includes: (a) the information itself  
5298 and the Department's management over the information life cycle; (b) the processes,  
5299 including risk management, associated with managing information to accomplish the  
5300 DoD mission and functions; (c) activities related to designing, building, populating,  
5301 acquiring, managing, operating, protecting, and defending the information enterprise; and  
5302 (d) related information resources such as personnel, funds, equipment, and IT, including  
5303 national security systems. (reference (yy)).  
5304

5305 P2.9.12 Information Environment: The aggregate of individuals, organizations, or  
5306 systems that collect, process, or disseminate information; also included is the information  
5307 itself. (reference (fff)).  
5308

5309 P2.9.13 Information Model: A model that represents the processes, entities,  
5310 information flows, and elements of an organization and all relationships between these  
5311 factors. (reference (ss)).  
5312

5313 P2.9.14 Information Operations (IO): The integrated employment of the core  
5314 capabilities of electronic warfare, computer network operations, psychological  
5315 operations, military deception, and operations security, in concert with specified  
5316 supporting and related capabilities, to influence, disrupt, corrupt or usurp adversarial  
5317 human and automated decision making while protecting our own. (reference (fff)).  
5318

5319 P2.9.15 Information Resource Dictionary System (IRDS): A set of standard  
5320 specifications for a data dictionary system resulting from U.S. Federal and national  
5321 standards efforts; a computer system conforming to those standards that provides  
5322 facilities for recording, storing, and processing descriptions of an organization's  
5323 significant information and information processing resources. (references (zz) and  
5324 (bbbb)).  
5325

5326 P2.9.16 Information System (IS): The organized collection, processing,  
5327 maintenance, transmission, and dissemination of information in accordance with defined  
5328 procedures, whether automated or manual. (references (rr) and (ss)).  
5329

5330 P2.9.17 Information Technology (IT): The hardware and software used in  
5331 connection with Government information, regardless of technology involved, whether  
5332 computers, communications, micrographics, or others. (references (rr) and (yy)).  
5333

5334 a. The branch of technology devoted to 1. the study and application of data  
5335 and the processing thereof; i.e., the automatic acquisition, storage,  
5336 manipulation (including transformation), management, movement, control,  
5337 display, switching, interchange, transmission or reception of data, and 2.  
5338 the development and use of the hardware, software, firmware, and  
5339 procedures associated with this processing. (reference (sss)).  
5340

5341 P2.9.18 Information Warfare (IW): Actions taken to achieve information superiority  
5342 by affecting adversary information, information-based processes, information systems,  
5343 and computer-based networks, while defending one's own information, information-  
5344 based processes, information systems, and computer-based networks. (reference (aaaa)).  
5345

5346 P2.9.19 Infrastructure: An underlying base or foundation; the basic facilities,  
5347 equipment, and installations needed for the functioning of a system. See: M&S  
5348 infrastructure.  
5349

5350 P2.9.20 Initial Condition: The values assumed by the variables in a system, model,  
5351 or simulation at the beginning of some specified duration of time. Contrast with:  
5352 boundary condition; final condition. (reference (b)).  
5353

5354 P2.9.21 Initial State: The values assumed by the state variables of a system,  
5355 component, or simulation at the beginning of some specified duration of time. Contrast  
5356 with: final state. (reference (b)).  
5357

5358 P2.9.22 Input/Output Trace: Typically a time line associated with each major actor  
5359 in a scenario. The systems involved are listed across the top of the diagram with the time  
5360 lines running vertically down the page under each of the systems. The progression of  
5361 time moves from top to bottom in an input/output trace. (reference (c)).  
5362

5363 P2.9.23 Instantiation: To represent an abstraction by a concrete instance. (reference  
5364 (i)).  
5365

5366 P2.9.24 Instructional Simulation: A simulation intended to provide a simulation  
5367 equivalent of a real or hypothesized stimulus that could occur in the synthetic  
5368 environment for the purpose of training. (reference (b)).  
5369

5370

5371 P2.9.25 Integrated Definition (IDEF)0 & Integrated Definition (IDEF)1x (ER  
5372 diagrams): Functional modeling language(s) sponsored by the Air Force capable of  
5373 capturing various organizational enterprise operations/functions (IDEF0), and related  
5374 information requirements (IDEF1x), such as key elements of an invoice. (reference (iii)).  
5375

5376 P2.9.26 Integrated Product and Process Development (IPPD): An approach to  
5377 systems acquisition that brings together all of the functional disciplines required to  
5378 develop, design, test, produce and field a system. This is essentially the same as  
5379 Concurrent Engineering. (reference (dd)).  
5380

5381 P2.9.27 Integrated Product Team (IPT): Integrated Product Teams are a means to  
5382 achieve concurrent engineering or Integrated Product and Process Development. They are  
5383 multi-disciplinary teams consisting of representatives from all disciplines involved in the  
5384 system acquisition process, from requirements development through disposal. Having the  
5385 participation of all the appropriate disciplines, Integrated Product Teams are often  
5386 empowered to make decisions to achieve successful development of their particular  
5387 product. (reference (dd)).  
5388

5389 P2.9.28 Integrating Architecture: A set of protocols, specifications, standards,  
5390 and/or middleware services that define and enable interoperability between LVC systems  
5391 (e.g., TENA, HLA, DIS, CTIA) (reference (ttt)).  
5392

5393 P2.9.29 Intelligence Community Coordinating Group (ICCOG): Serves as the  
5394 intelligence community's forum for M&S exchange, fostering improved communication  
5395 among community and other Government Agencies and industry. The Intelligence  
5396 Community Coordinating Group promotes sharing programs, methodologies, tools,  
5397 techniques, data, and other information. (reference (qq)).  
5398

5399 P2.9.30 Intelligent Agent: A software entity that carries out a set of operations on  
5400 behalf of a user with some degree of independence or autonomy, and in so doing,  
5401 employs knowledge or representation of the user's goals or desires.  
5402

5403 P2.9.31 Interaction: An explicit action taken by a federate that may have some  
5404 effect or impact on another federate within a federation execution. (references (x) and  
5405 (w)).  
5406

5407 P2.9.32 Interactive Graphics: System that can make and manipulate computer  
5408 generated images not only of concrete, "real world" objects but also of abstract, synthetic  
5409 objects, such as mathematical surfaces in 4D, and of data that have no inherent geometry,  
5410 such as survey results. (reference (m)).  
5411

5412 P2.9.33 Interaction Parameters: The information associated with an interaction that  
5413 a federate potentially affected by the interaction may receive to calculate the effects of  
5414 that interaction on its current state. (reference (w)).

5415  
5416 P2.9.34 Interactive Model: A model that requires human participation during  
5417 runtime. (reference (b)).

5418  
5419 P2.9.35 Interactive Speed: Attribute of a virtual reality system that reacts “in time”  
5420 according to actions taken by a user. Such a system must be fast enough to allow a user to  
5421 perform a task at hand satisfactorily with no perceived delay. (reference (b)).

5422  
5423 P2.9.36 Interagency Coordination: The coordination that occurs between agencies  
5424 of the US Government, including the Department of Defense, for the purpose of  
5425 accomplishing an objective. (reference (fff)).

5426  
5427 P2.9.37 Internal Schema: An internal schema describes data as it is physically  
5428 stored and includes all aspects of the environment in which the data is to reside.  
5429 (references (rr) and (yyy)).

5430  
5431 P2.9.38 Internet Protocol (IP): A DOD standard protocol designed for use in  
5432 interconnected systems of packet-switched computer communication networks. The  
5433 Internet protocol provides for transmitting blocks of data called datagrams from sources  
5434 to destinations, where sources and destinations are hosts identified by fixed-length  
5435 addresses. The Internet protocol also provides for fragmentation and reassembly of long  
5436 datagrams, if necessary, for transmission through small-packet networks. (reference  
5437 (sss)).

5438  
5439 P2.9.39 Internet Protocol version 6 (IPv6): IP version 6 (IPv6) is a new version of  
5440 the Internet Protocol, designed as the successor to IP version 4 (IPv4). IPv6 increases the  
5441 IP address size from 32 bits to 128 bits, to support more levels of addressing hierarchy, a  
5442 much greater number of addressable nodes, and simpler auto-configuration of addresses.  
5443 The scalability of multicast routing is improved by adding a "scope" field to multicast  
5444 addresses. And a new type of address called an "anycast address" is defined, used to send  
5445 a packet to any one of a group of nodes. (reference (sss)).

5446  
5447 P2.9.40 Interoperability: Interactions between two or more systems affected by  
5448 allowing information to be exchanged and used by the receiving system. There is an  
5449 implied level common understanding that is shared between sender and receiver. See:  
5450 M&S Interoperability. (references (jj), (sss), (gg), (r), (rrr), and (u)).

5451  
5452 P2.9.41 Interpolation: Estimation of a value based on an established set of collected  
5453 data within a given data range. (reference (iii)).

5454 P2.9.42 Interval-Oriented Simulation: A continuous simulation in which simulated  
5455 time is advanced in increments of a size suitable to make implementation possible on a  
5456 digital system. (references (b) and (rr)).  
5457

5458 P2.9.43 Irregular Warfare: A violent struggle among state and non-state actors for  
5459 legitimacy and influence over the relevant population(s). Irregular warfare favors indirect  
5460 and asymmetric approaches, though it may employ the full range of military and other  
5461 capacities, in order to erode an adversary's power, influence, and will. (reference (uu)).

5462

5463 P2.10. GLOSSARY J

5464  
5465 P2.10.1 JCATS: The Joint Conflict And Tactical Simulation (JCATS) program,  
5466 managed from USJFCOM's Joint Warfighting Center, represents a self-contained, high-  
5467 resolution joint simulation in use for entity-level training in open, urban and subterranean  
5468 environments. JCATS provides an interactive, high-resolution, entity-level, conflict  
5469 simulation that models joint, multi-sided air, ground and sea combat on a high/low  
5470 resolution digitized polygonal terrain. The simulation also models the use of non-lethal  
5471 weapons and urban environments. The program is used by a variety of operators ranging  
5472 from the joint task force level down to tactical and operations other than war in open,  
5473 urban and subterranean environments using both aggregates and individual systems.  
5474 (reference (sss)).

5475  
5476 P2.10.2 Joint Capability Technology Demonstration (JCTD): A demonstration of  
5477 the military utility of a significant new technology and an assessment to clearly establish  
5478 its operational utility and system integrity. (reference (qqq)).

5479  
5480 P2.10.3 Joint Chiefs of Staff (JCS): The JCS, consisting of the Chairman; the Chief  
5481 of Staff, U.S. Army; the Chief of Naval Operations; the Chief of Staff, U.S. Air Force;  
5482 and the Commandant of the Marine Corps, and supported by the Joint Staff, constitute the  
5483 immediate military staff of the Secretary of Defense. The Chairman, JCS is the principal  
5484 military advisor to the President, the National Security Council (NSC), and the Secretary  
5485 of Defense. (reference (xx)).

5486  
5487 P2.10.4 Joint Conflict And Tactical Simulation Local Area Network: Joint Conflict  
5488 And Tactical Simulation (JCATS) Local Area Network Communications Connector. The  
5489 JCATS LAN connects to the Ground LAN via the JCATS2Gnd Filter. (JCATS DIS  
5490 LAN). (reference (sss)).

5491  
5492 P2.10.5 Joint Conflict And Tactical Simulation-Joint Operations on Urban  
5493 Synthetic Terrain Private Local Area Network: Joint Operations on Urban Synthetic  
5494 Terrain (JOUST) - Joint Conflict And Tactical Simulation (JCATS) Private Local Area  
5495 Network. The JOUST-JCATS Private LAN connects to the JCATS DIS LAN. (JCATS-  
5496 JOUST Private LAN). (reference (sss)).

5497  
5498 P2.10.6 Joint Network Operations Control Center: An element of the J-6  
5499 established to support a joint force commander. The joint network operations control  
5500 center serves as the single control agency for the management and direction of the joint  
5501 force communications systems. The joint network operations control center may include  
5502 plans and operations, administration, system control, and frequency management  
5503 sections. Also called JNCC. (This term and its definition modify the existing term “joint

5504 communications control center” and its definition and are approved for inclusion in the  
5505 next edition of JP 1-02.) (reference (fff)).

5506

5507 P2.10.7 Joint Restricted Frequency List (JRFL): A time and geographically-  
5508 oriented listing of TABOO, PROTECTED, and GUARDED functions, nets, and  
5509 frequencies. It should be limited to the minimum number of frequencies necessary for  
5510 friendly forces to accomplish objectives. (reference (fff)).

5511

5512 P2.10.8 Joint Technical Architecture (JTA): The Joint Technical Architecture is a  
5513 common set of mandatory Information Technology (IT) standards and guidelines selected  
5514 for DoD use. JTA standards help establish details of a system’s technical architecture,  
5515 and are applicable to all Command, Control, Communications, Computers, and  
5516 Intelligence (C4I) and Automated Information Systems (AISs) and the interfaces of other  
5517 key assets (e.g., weapons systems, sensors) with C4I systems. The JTA has been  
5518 subsumed into the Defense Information Technology Standards Registry (DISR), which is  
5519 available online. (reference (sss)).

5520

5521 P2.11. GLOSSARY K

5522

5523 P2.11.1 Kinesthesia: Is the perception of movement or strain from within the  
5524 muscle, tendons and joints of the body. (reference (gg)).

5525

5526 P2.11.2 Knowledge: The rules, environment, etc. that form the structure humans  
5527 use to process and relate to information, or the information a computer system must have  
5528 to behave in an apparently intelligent manner.

5529

5530 P2.11.1 Knowledge-Based System: A system in which the domain knowledge is  
5531 explicit and separate from the system's operational instructions/information.

5532

5533

5534 P2.12. GLOSSARY L

5535

5536 P2.12.1 Lag: Delay between the measurement of a position and orientation by a  
5537 tracking apparatus and the report or output of this information to an output device (e.g.  
5538 scene generator, force feedback apparatus) requiring the orientation or position values.  
5539 (reference (b)).

5540

5541 P2.12.2 Lag Variable: In a discrete simulation, a variable that is an output of one  
5542 period and an input for some future period; in an analog simulation, a variable that is a  
5543 function of an output variable and that is used as input to the simulation to provide a time  
5544 delay response or feedback. (reference (b)).

5545

5546 P2.12.3 Large Volume Display: Graphics displays that allow several users located  
5547 in close proximity to simultaneously view a stereo or monoscopic image of the virtual  
5548 world. (reference (d)).

5549

5550 P2.12.4 Latency: The time delay between action and result. (reference (d)).

5551

5552 a. The time required for a device to begin physical output of a desired piece of  
5553 data once processing is complete. (reference (gg)).

5554

5555 P2.12.5 Latency (Network): Network Latency is the clock skew that results from  
5556 PDU transmission delays through network equipment, which is compensated for through  
5557 Dead Reckoning. (reference (ttt)).

5558

5559 P2.12.6 Lead Variable: In a discrete simulation, a variable that is an output of one  
5560 period and that predicts what the output of some future period will be; in an analog  
5561 simulation, a variable that is a function of an output variable and that is used as input to  
5562 the simulation to provide advanced time response or feedback. (reference (b)).

5563

5564 P2.12.7 Learning Management System (LMS): Software that automates learning  
5565 event administration through a set of services that launches learning content, keeps track  
5566 of learner progress, determines the order (sequence) that learning objects are to be  
5567 delivered, and reports student progress through a learning experience. (reference (a)).

5568

5569 P2.12.8 Learning Theories: Explanations regarding human learning processes; how  
5570 to-be-learned material is perceived, cognitively encoded in short-and long-term memory  
5571 and retrieved independently or as part of other activities (e.g., decision making, problem  
5572 solving, etc.) (reference (iii)).

5573

5574 P2.12.9 Light Emitting Diode (LED): Photoelectric emitting device used as a light  
5575 signal. (reference (d)).

5576 P2.12.10 Linear Object: A synthetic environment object that is geometrically  
5577 anchored to the terrain with one point and has a segment size and orientation. (reference  
5578 (t)).  
5579

5580 P2.12.11 Linear Programming: Optimization problems in which the object function  
5581 and the constraints are all linear. (reference (iii)).  
5582

5583 P2.12.12 Live Entity: A perceptible object that can appear in the virtual battlespace  
5584 but is unaware and non-responsive (either by intent, lack of capability or circumstance) to  
5585 the actions of virtual entities. See: Field Instrumentation. (reference (b)).  
5586

5587 P2.12.13 Live Simulation: Live simulation involves real people operating real  
5588 systems. Military training events using real equipment are live simulations. They are  
5589 considered simulations because they are not conducted against a live enemy. (references  
5590 (iii), (sss), and (nn)).  
5591

5592 P2.12.14 Live, Virtual, and Constructive Simulation (LVC): A broadly used  
5593 taxonomy describing a mixture of live simulation, virtual simulation, and constructive  
5594 simulation. Note that LVC always includes a real or synthetic person in the simulation as  
5595 contrasted with a science based simulation which models a phenomenon or process only.  
5596 (references (qq), (nnn), (ttt), and (sss)).  
5597

5598 P2.12.15 Local Area Network (LAN): A communication network that provides  
5599 interconnection of a variety of data communicating devices within a small geographical  
5600 area.  
5601

5602 P2.12.16 Local Scene Illumination: Treats the interaction between objects and light  
5603 sources in isolation, neglecting the interdependences between objects. (reference (d)).  
5604

5605 P2.12.17 Local Time: Time valid for only a component of a system. (reference  
5606 (jjjj)).  
5607

5608 P2.12.18 Logical Data Model: A model of the data stores and flows of the  
5609 organization derived from a conceptual business model. (reference (ss)).  
5610

5611 P2.12.19 Logical Time: A federate's current point on the High Level Architecture  
5612 (HLA) time axis. Federates making use of the management services follow restrictions  
5613 on what time stamps can be sent in time stamp order (TSO) messages (relative to their  
5614 logical time) to ensure that federates receiving those messages receive them in TSO.  
5615 (reference (w)).  
5616

5617 a. Measured by ticks of a clock embedded in a model. (reference (jjjj)).

5618  
5619 P2.12.20 Logical Verification: The identification of a set of assumptions and  
5620 interactions for which the M&S correctly produces the intended results. Logical  
5621 Verification determines the appropriateness of the M&S for a particular application and  
5622 ensures that all assumptions and algorithms are consistent with the conceptual M&S.  
5623 (reference (h)).

5624  
5625 P2.12.21 Long-Haul Network (LHN): A communications network of devices that  
5626 are separated by substantial geographical distance. A LHN could be any of numerous  
5627 networks available commercially or through the Government that can accommodate the  
5628 requirements of the DIS or other virtual battlefield for long-distance network services.  
5629 Also called Wide Area Network. (references (b) and (vvv)).

5630  
5631 P2.12.22 Lookahead: Lookahead is a nonnegative value that establishes a lower  
5632 value on the time stamps that can be sent in time stamp order (TSO) messages by time-  
5633 regulating joined federates. Each time regulating joined federate must provide a  
5634 lookahead value when becoming time-regulating. (reference (w)).

5635  
5636 P2.12.23 Loosely Coupled: A condition that exists when simulation entities are not  
5637 involved in very close interaction such that every action of an entity does not need to be  
5638 immediately accounted for by the other entities. Two tanks moving over terrain five  
5639 miles apart from each other is an example of a loosely coupled situation. (reference (u)).

5640

5641

5642 P2.13. GLOSSARY M

5643  
5644 P2.13.1 Machine Simulation: A simulation that is executed on a machine. See:  
5645 Computer Simulation. (references (b) and (y)).

5646  
5647 P2.13.2 Magnetic Tracker: A noncontact position measurement device that uses a  
5648 magnetic field produced by a stationary transmitter to determine the real time position of  
5649 a moving receiver element. (reference (d)).

5650  
5651 P2.13.3 Magnetron: A semi-conducting device in which the flow of electrons is  
5652 controlled by an externally applied magnetic field. (reference (b)).

5653  
5654 P2.13.4 Main Program: A program that invokes the timing routine to determine the  
5655 next event and then transfers control to corresponding event routine to update the system  
5656 state appropriately. The main program may also check for termination and invoke the  
5657 report generator when the simulation is over. (reference (aa)).

5658  
5659 P2.13.5 Management Game: A simulation game in which participants seek to  
5660 achieve a specified management objective given pre-established resources and  
5661 constraints; for example, a simulation in which participants make decisions designed to  
5662 maximize profit in a given business situation and a computer determines the results of  
5663 those decisions. See: War Game. (references (b) and (y)).

5664  
5665 P2.13.6 Management Object Model (MOM): A group of predefined High Level  
5666 Architecture (HLA) constructs (object and interaction classes) that provide the following:

- 5667
- 5668 a. Access to federation execution operating information
  - 5669
  - 5670 b. Insight into the operations of joined federates and the runtime
  - 5671 infrastructure (RTI), and
  - 5672
  - 5673 c. Control of the functioning of the RTI, the federation execution, and the
  - 5674 individual joined federates. (reference (w)).
  - 5675

5676 P2.13.7 Markov Chain: A discrete Markov process. (reference (y)).

5677  
5678 P2.13.8 Markov Chain Model.: A discrete, stochastic model in which the  
5679 probability that the model is in a given state at a certain time depends only on the value of  
5680 the immediately preceding state. Syn: Markov model. See: Semi-Markov Model.  
5681 (references (b) and (y)).

5682

5683 P2.13.9 Markov Process: A stochastic process that assumes that in a series of  
5684 random events, the probability for occurrence of each event depends only on the  
5685 immediately preceding outcome. See: Semi-Markov Process. (references (b) and (y)).  
5686

5687 P2.13.10 Mass Storage: Refers to any device that can store large amounts of data  
5688 and retrieve it at some later time, even after system power-down. Mass storage devices  
5689 are usually categorized in terms of being either on-line storage or off-line storage.  
5690

5691 P2.13.11 Master Scenario Event List (MSEL): The MSEL is a chronological list that  
5692 supplements the exercise scenario with event synopses; expected participant responses;  
5693 capabilities, tasks, and objectives to be addressed; and responsible personnel. It includes  
5694 specific scenario events (or injects) that prompt players to implement the plans, policies,  
5695 and procedures that require testing during the exercise, as identified in the capabilities-  
5696 based planning process. It also records the methods that will be used to provide the  
5697 injects (e.g., phone call, facsimile, radio call, e-mail). (reference (qqq)).  
5698

5699 P2.13.12 Master Simulation Datalink Local Area Network (MSIM LAN): Master  
5700 Simulation Data Link Local Area Network. The MSIM LAN connects to an Air LAN.  
5701 (MSIM LAN). (reference (sss)).  
5702

5703 P2.13.13 Mathematical Model: A mathematical model is a symbolic model whose  
5704 properties are expressed in mathematical symbols and relationships. Mathematical  
5705 models are commonly used to quantify results, solve problems and predict behavior.  
5706 (references (aa), (iii) and (b)).  
5707

5708 P2.13.14 Measure of Effectiveness (MOE): A qualitative or quantitative measure of  
5709 the performance of a model or simulation or a characteristic that indicates the degree to  
5710 which it performs the task or meets an operational objective or requirement under  
5711 specified conditions.  
5712

5713 a. Measure of how the system/individual performs its functions in a given  
5714 environment. Used to evaluate whether alternative approaches meet  
5715 functional objectives and mission needs. Examples of such measures  
5716 include loss exchange results, face effectiveness contributions, and tons  
5717 delivered per day. (reference (p)).  
5718

5719 b. Variable that describes how well a system carries out a task or set of tasks  
5720 within a specific context. A MOE is measured outside the system for a  
5721 defined environment and state of the context variables. (reference (c)).  
5722

5723 P2.13.15 Measure of Outcome (MOO): Metric that defines how operational  
5724 requirements contribute to end results at higher levels, such as campaign or national  
5725 strategic outcomes. (reference (dd)).

5726  
5727 P2.13.16 Measure of Performance (MOP): Measure of how the system/individual  
5728 performs its functions in a given environment (e.g., number of targets detected, reaction  
5729 time, number of targets nominated, susceptibility of deception, task completion time). It  
5730 is closely related to inherent parameters (physical and structural) but measures attributes  
5731 of system behavior. See: Measure of Effectiveness. (references (b), (c), (kk), and (y)).

5732  
5733 P2.13.17 Mechanical Tracker: Consists of a serial or parallel kinematic structure  
5734 composed of links interconnected using sensorized joints for determining the spatial  
5735 position and orientation of a target object. (reference (d)).

5736  
5737 P2.13.18 Mediated Reality: Includes adding virtual objects to visual reality but also  
5738 includes the ability to take away, alter, deliberately diminish, and significantly alter the  
5739 perception of visual reality. (reference (b)).

5740  
5741 P2.13.19 Mental Model: Abstraction of thought. (reference (c)).

5742  
5743 P2.13.20 Mercator Map Projection: A conformal map projection of the cylindrical  
5744 type. The Equator is represented by a straight line true to scale; the geographic meridian  
5745 are represented by parallel straight lines perpendicular to the line representing the  
5746 Equator; they are spaced according to their distance apart at the Equator. The geographic  
5747 parallels are represented by a second system of straight lines perpendicular to the family  
5748 of lines representing the meridians and therefore parallel with the Equator. Conformality is  
5749 achieved by mathematical analysis, the spacing of the parallels being increased with  
5750 increasing distance from the Equator to conform with the expanding scale along the  
5751 parallels resulting from the meridians being represented by parallel lines. Also called  
5752 equatorial cylindrical orthomorphic map projection. (reference (ggg)).

5753  
5754 P2.13.21 Message: A change of object instance attribute value, an interaction, or a  
5755 deletion of an existing object instance, often associated with a particular point on the  
5756 High Level Architecture (HLA) time axis, as denoted by the associated time stamp.  
5757 (reference (w)).

5758  
5759 P2.13.22 Metadata: Information describing the characteristics of data; data or  
5760 information about data; descriptive information about an organization's data, data  
5761 activities, systems, and holdings. (references (rr), (ss), (zz), and (bbbb)).

5762

5763 P2.13.23 Meta-Knowledge: Knowledge about knowledge. Knowledge about the use  
5764 and control of domain knowledge in an expert or knowledge-based system. Knowledge  
5765 about how the system operates or reasons. Syn: wisdom. (reference (vvv)).

5766 P2.13.24 Metamodel: A model of a model. Metamodels are abstractions of the M&S  
5767 being developed that use functional decomposition to show relationships, paths of data  
5768 and algorithms, ordering, and interactions between model components and  
5769 subcomponents. Metamodels allow the software engineers who are developing the model  
5770 to abstract details to a level that subject matter experts can validate. (reference (vvv)).

5771  
5772 P2.13.25 Methodology: The system of principles, practices, and procedures, applied  
5773 to a specific branch of knowledge.

5774  
5775 P2.13.26 Metric: A measure of the extent or degree to which a product possesses  
5776 and exhibits a certain quality, property, or attribute. (reference (y)).

5777  
5778 P2.13.27 Metric(s): A process or algorithm that may involve statistical sampling,  
5779 mathematical computations, and rule-based inferencing. Metrics provide the capability to  
5780 detect and report defects within a sample. (reference (tt)).

5781  
5782 P2.13.28 Minimize: A condition wherein normal message and telephone traffic is  
5783 drastically reduced in order that messages connected with an actual or simulated  
5784 emergency shall not be delayed. (reference (fff)).

5785  
5786 P2.13.29 Mission Space: The environment of entities, actions, and interactions  
5787 comprising the set of interrelated processes used by individuals and/organizations to  
5788 accomplish assigned tasks. (reference (qq)).

5789  
5790 P2.13.30 Mock-Up: A full-sized model, but not necessarily functional, built  
5791 accurately to scale, used chiefly for study, testing, or display. See: Physical Model.  
5792 (references (b) and (y)).

5793  
5794 P2.13.31 Model: A physical, mathematical, or otherwise logical representation of a  
5795 system, entity, phenomenon, or process. Analytical models consist of a set of solvable  
5796 equations; for example, solvable equations that represent the laws of supply and demand  
5797 in the world market. Structural models are representations of the physical or logical  
5798 structure of a system such as a representation of a computer network as a set of boxes  
5799 connected by communication lines. A symbolic model's properties are expressed in  
5800 symbols. Examples include graphical models, mathematical models, narrative models,  
5801 software models, and tabular models. (references (b), (e), (kk), (ww), (qq), (iii), (nn), and  
5802 (vvv)).

5803

5804 P2.13.32 Model Concept: Information (and amount) required to develop a model.  
5805 (reference (iii)).

5806  
5807 P2.13.33 Model Entity: A model entity represents a real world object in a  
5808 simulation. (reference (jjjj))

5809  
5810 P2.13.34 Modeling: Application of a standard, rigorous, structured methodology to  
5811 create and validate a physical, mathematical, or otherwise logical representation of a  
5812 system, entity, phenomenon, or process. (reference (rr)).

5813  
5814 a. Representation of an event and/or things that is real (a case study) or  
5815 contrived (a use-case). It can be a representation of an actual system. It  
5816 can be something used in lieu of the real system to better understand a  
5817 certain aspect about that system. To produce a model you must abstract  
5818 from reality a description of a vibrant system. The model can depict the  
5819 system at some point of abstraction or at multiple levels of abstraction with  
5820 the goal of representing the system in a reliable fashion (e.g.,  
5821 mathematical). (reference (kk)).

5822  
5823 b. The process concerns itself with the extraction of knowledge from the  
5824 physical plant to be simulated, organizing that knowledge appropriately,  
5825 and representing it in some unambiguous fashion. (reference (e)).

5826  
5827 P2.13.35 Modeling and Simulation (M&S): The discipline that comprises the  
5828 development and/or use of models and simulations. M&S is highly dependent upon  
5829 Information Technology as defined in DoD Directive 4630.05, Interoperability and  
5830 Supportability of Information Technology (IT) and National Security Systems (NSS),  
5831 May 5, 2004. (reference (ww)).

5832  
5833 a. The use of models, including emulators, prototypes, simulators, and  
5834 stimulators, either statically or over time, to develop data as a basis for  
5835 making managerial or technical decisions. The terms "modeling" and  
5836 "simulation" are often used interchangeably, but simulation generally  
5837 execute models overtime, space, events, or other processes. (reference  
5838 (vvv)).

5839  
5840 P2.13.36 Modeling and Simulation (M&S) Accreditation: The official certification  
5841 that a model or simulation is acceptable for use for a specific purpose. (references (b) and  
5842 (ww)).

5843  
5844 P2.13.37 Modeling and Simulation Coordination Office (M&S CO): The M&S CO,  
5845 formerly Defense Modeling and Simulation Office (DMSO) until re-designated in

5846 October 2006, is the Executive Secretariat for DoD M&S Management in fostering the  
5847 interoperability, reuse, and affordability of crosscutting M&S to provide improved  
5848 capabilities for DoD operations. (reference (bb)).  
5849

5850 P2.13.38 Modeling and Simulation (M&S) Data: Data used to develop models or  
5851 simulations, data used as input to models and simulations, and data produced by models  
5852 and simulations. (reference (ww)).  
5853

5854 P2.13.39 Modeling and Simulation (M&S) Developer: The agency that actually  
5855 develops an M&S or the agency that is overseeing the M&S development by a contractor  
5856 or FFRDC. (reference (nn)).  
5857

5858 P2.13.40 Modeling and Simulation (M&S) Executive Agent: See: DoD M&S  
5859 Executive Agent. (references (ww), (qq), and (dd)).  
5860

5861 P2.13.41 Modeling and Simulation Integrated Process Team (M&S IPT): Supports  
5862 the one/two star level M&S Steering Committee which replaced the three/four star level  
5863 Executive Council for Modeling and Simulation (EXCIMS). (reference (bb)).  
5864

5865 P2.13.42 Modeling and Simulation (M&S) Interoperability: The ability of a model  
5866 or simulation to provide services to and accept services from other models and  
5867 simulations, and to use the services so exchanged to enable them to operate effectively  
5868 together. (references (ww) and (qq)).  
5869

5870 a. Interoperability exists when different systems exhibit the “same” behavior  
5871 (performance) when stimulated by a set of standard procedures. The term  
5872 “same”, above, should be framed for a given task or class, be within a  
5873 specified tolerance or number of anomalies, and with a predefined number  
5874 of statistically measurable trials. Standard procedures should be layered  
5875 and decomposed to include but not limited to areas such as update rate,  
5876 terrain database, models, etc. (references (mmm) and (u)).  
5877

5878 b. The ability of a federate to provide services to and/or accept services from  
5879 other federates and to use the services so exchanged to enable the federates  
5880 to operate effectively together. (reference (r)).  
5881

5882 P2.13.43 Modeling and Simulation (M&S) Investment Plan: An investment plan  
5883 published under the authority of a DOD Component that establishes time-phased funding  
5884 for activities to achieve the objectives specified in a corresponding DOD Component  
5885 M&S master plan. (reference (nn)).  
5886

5887 P2.13.44 Modeling and Simulation Master Plan (MSMP): A DoD plan, published  
5888 under the authority of the USD(A&T) and with the coordination of the DoD Components,  
5889 that establishes short-term (present to 6 years) and long-term (beyond 6 years) DoD goals  
5890 and objectives for the application of M&S for joint and common use within the  
5891 Department of Defense. It shall also include an assessment of current M&S capabilities,  
5892 and a road map that delineates the management, investment, and technical strategies  
5893 required to achieve DoD M&S objectives. (references (ww) and (nn)).  
5894

5895 P2.13.45 Modeling and Simulation Steering Committee (M&S SC): The one/two-  
5896 star level M&S Steering Committee (M&S SC), supported by the M&S Integrated  
5897 Process Team (M&S IPT), replaced the three/four star level Executive Council for  
5898 Modeling and Simulation (EXCIMS). (reference (bb)).  
5899

5900 P2.13.46 Modeling and Simulation (M&S) User: M&S User is the term used to  
5901 represent the organization, group, or person responsible for the overall application. The  
5902 M&S User needs to solve a problem or make a decision and wants to use modeling or  
5903 simulation to do so. The M&S User defines the requirements, establishes the criteria by  
5904 which model or simulation fitness will be assessed, determines what method or methods  
5905 to use, makes the accreditation decision, and ultimately accepts the results. (reference  
5906 (hhh)).  
5907

5908 P2.13.47 Modeling and Simulation (M&S) Tools: Software that implements a model  
5909 or simulation or an adjunct tool, i.e. software and/or hardware that is either used to  
5910 provide part of a simulation environment (e.g., to manage the execution of the  
5911 environment) or to transform and manage data used by or produced by a model or  
5912 simulation. Adjunct tools are differentiated from simulation software in that they do not  
5913 provide a virtual or constructive representation as part of a simulation environment.  
5914 (reference (ww)).  
5915

5916 P2.13.48 Model-Test-Model: An integrated approach to using models and  
5917 simulations in support of pretest analysis and planning; conducting the actual test and  
5918 collecting data; and post-test analysis of test results along with further validation of the  
5919 models using the test data. (reference (dd)).  
5920

5921 P2.13.49 Modifier: A word that helps define and render a name unique within the  
5922 database, which is not the prime or class word. (references (ss) and (aaaa)).  
5923

5924 P2.13.50 Modular Semi-Automated Forces (ModSAF): A class of Computer  
5925 Generated Forces utilizing a modular software structure in which model components  
5926 have well-defined and documented interfaces allowing run-time reconfiguration of model  
5927 behavior to develop generalized, and more sophisticated, representations of reactive  
5928 behaviors and missions. (reference (qq)).

5929  
5930 P2.13.51 Monoscopic Image Depth Cues: Are those that can be seen in a single static  
5931 view of a scene, as in photographs and paintings. (reference (gg)).

5932  
5933 P2.13.52 Monte Carlo Algorithm: A statistical procedure that determines the  
5934 occurrence of probabilistic events or values of probabilistic variables for deterministic  
5935 models; e.g., making a random draw. (reference (dd)).

5936  
5937 P2.13.53 Monte Carlo Method: In modeling and simulation, any method that  
5938 employs Monte Carlo simulation to determine estimates for unknown values in a  
5939 deterministic problem. (references (b) and (y)).

5940  
5941 P2.13.54 Monte Carlo: A simulation in which random statistical sampling  
5942 techniques are employed such that the result determines estimates for unknown values.  
5943 (reference (b)).

5944  
5945 P2.13.55 Motion Depth Cues: Come from the parallax created by changing relative  
5946 position between the head and the object being observed (one or both may be in motion).  
5947 (reference (gg)).

5948  
5949 P2.13.56 Multicast: A transmission mode in which a single message is sent to  
5950 selected multiple (but not necessarily all) network destinations; i.e., one-to-many.  
5951 Contrast with: broadcast, unicast. (references (b) and (y)).

5952  
5953 P2.13.57 Multisensory I/O: The use of more than one sensory mechanism (visual,  
5954 aural, tactile, etc.) to interact with a computer-generated environment. (DSMC 1992-93  
5955 Military Research Fellows Report (reference (n)).

5956  
5957 P2.13.58 Multi-State objects: Mission space entities that express a changing state (in  
5958 attribution and visual display) as the simulation progresses (e.g., damage to structures,  
5959 changes in vegetation, damage system representations such as vehicles, tanks, etc.).  
5960 (reference (qq)).

5961  
5962 P2.13.59 Multi-step Methods: Multi-step methods use information from the previous  
5963 steps to compute a high-order approximation of the next step. This idea is based on the  
5964 assumption that the differential equation is smooth, since the approximation uses a  
5965 polynomial function. Unfortunately, many real-time, many real-time simulations receive  
5966 input signals from the real world that are not very smooth. Therefore, multi-step methods  
5967 may give inaccurate results in such cases. (reference (e)).

5968

5969

5970 P2.14. GLOSSARY N

5971  
5972 P2.14.1 Nadir: That point on the celestial sphere directly beneath the observer and  
5973 directly opposite the zenith. See: Ground Nadir; Map Nadir; Photograph Nadir.  
5974 (reference (ggg)).

5975  
5976 P2.14.2 Narrative Model: A symbolic model the properties of which are expressed  
5977 in words; for example, a written specification for a computer system. Syn: verbal  
5978 descriptive model. Contrast with: graphical model; mathematical model; software model  
5979 and tabular model. (references (b) and (y)).

5980  
5981 P2.14.3 National Communications System (NCS): The telecommunications system  
5982 that results from the technical and operational integration of the separate  
5983 telecommunications systems of the several executive branch departments and agencies  
5984 having a significant telecommunications capability. (reference (fff)).

5985  
5986 P2.14.4 National Military Command System (NMCS): The priority component of  
5987 the Global Command and Control System designed to support the President, Secretary of  
5988 Defense, and Joint Chiefs of Staff in the exercise of their responsibilities. (This term and  
5989 its definition modify the existing term and its definition and are approved for inclusion in  
5990 the next edition of JP 1-02.) network operations. Activities conducted to operate and  
5991 defend the Global Information Grid. Also called NETOPS. (Approved for inclusion in the  
5992 next edition of JP 1-02.). (reference (fff)).

5993  
5994 P2.14.5 Natural Model: A model that represents a system by another system that  
5995 already exists in the real world; for example, a model that uses one body of water to  
5996 represent another. (references (b) and (y)).

5997  
5998 P2.14.6 Network Byte Order: The Internet-standard ordering of the bytes  
5999 corresponding to numeric values. (reference (b)).

6000  
6001 P2.14.7 Network Communication Services: The capability provided to  
6002 electronically transmit modeling and simulation data between networked computational  
6003 nodes in a manner that meets requirements for transmission latency, multi-cast addressing  
6004 and security needed to support the creation and operation of distributed time and space  
6005 coherent synthetic environments. (reference (nn)).

6006  
6007 P2.14.8 Network Filter: A system to selectively accept or reject data received from  
6008 the network. (reference (b)).

6009  
6010 P2.14.9 Network Latency: Also known as network delay, is the amount of time  
6011 required to transfer a bit of data from one point to another. (reference (hh)).

6012  
6013 P2.14.10 Network Management: The collection of administrative structures, policies,  
6014 and procedures that collectively provide for the management of the organization and  
6015 operation of the network as a whole. See: Network Manager. (references (b) and (y)).  
6016

6017 P2.14.11 Network Manager: The person or organization responsible for maintaining,  
6018 monitoring and scheduling the operation of the portion of a network used for a distributed  
6019 simulation and whose responsibilities for the network terminates at the gateways and who  
6020 is not responsible for the simulation hosts or a local area network. (reference (b)).  
6021

6022 P2.14.12 Network Node: A specific network address. See: Node. Contrast with:  
6023 processing node. (reference (b)).  
6024

6025 P2.14.13 Network Theory: The study of networks used to model processes such as  
6026 communications, computer performance, routing problems, and project management.  
6027 (references (b) and (y)).  
6028

6029 P2.14.14 Networked Virtual Environment: A software system in which multiple  
6030 users interact with each other in real-time, even though those users may be located  
6031 around the world. Typically each user accesses his or her own computer workstation or  
6032 console, using it to provide a user interface to the content of a virtual environment.  
6033 (reference (hh)).  
6034

6035 P2.14.15 Neural Networks: Also known as a parallel distributed processing network,  
6036 is a computing paradigm that is loosely modeled after cortical structures of the brain and  
6037 consists of interconnected processing elements called nodes or neurons that work  
6038 together to produce an output function. (reference (iii)).  
6039

6040 P2.14.16 Node: A general term denoting either a switching element in a network or  
6041 a host computer attached to a network. See: Processing Node; Network Node. (references  
6042 (b) and (y)).  
6043

6044 a. 1. A location in a mobility system where a movement requirement is  
6045 originated, processed for onward movement, or terminated. 2. In  
6046 communications and computer systems, the physical location that provides  
6047 terminating, switching, and gateway access services to support information  
6048 exchange. (reference (fff)).  
6049

6050 P2.14.17 Non-Absorbing State: In a Markov chain model, a state that can be left  
6051 once it is entered. (references (b) and (y)).  
6052

6053 P2.14.18 Nongovernmental Organization (NGO): A private, self-governing, not-for-  
6054 profit organization dedicated to alleviating human suffering; and/or promoting education,

6055 health care, economic development, environmental protection, human rights, and conflict  
6056 resolution; and/or encouraging establishment of democratic institutions and civil society.  
6057 (This term and its definition are provided for information and are proposed for inclusion  
6058 in the next edition of JP 1-02 by JP 3-08.) (reference (fff)).

6059  
6060 P2.14.19 Non-Standard Cell: A cell that is not compliant with the Distributed  
6061 Interactive Simulation message and database standards. Non-standard cells require a Cell  
6062 Adapter Unit in order to join a Distributed Interactive Simulation exercise. (references (b)  
6063 and (vvv)).

6064  
6065 P2.14.20 Non-Standard Data Element: Any data element that exists in a system or  
6066 application program and does not conform to the conventions, procedures, or guidelines  
6067 established by the organization. (reference (ss)).

6068  
6069 P2.14.21 Normative Model: A model that makes use of a familiar situation to  
6070 represent a less familiar one; for example, a model that depicts the human cardiovascular  
6071 system by using a mechanical pump, rubber hoses, and water. (references (b), (c), and  
6072 (y)).

6073  
6074 P2.14.22 Notional Data: Speculative or theoretical data rather than actual data.

6075  
6076 P2.14.23 Numerical Model: 1. A mathematical model in which a set of  
6077 mathematical operations is reduced to a form suitable for solution by simpler methods  
6078 such as numerical analysis or automation; for example, a model in which a single  
6079 equation representing a nation's economy is replaced by a large set of simple averages  
6080 based on empirical observations of inflation rate, unemployment rate, gross national  
6081 product, and other indicators; 2. A model whose properties are expressed by numbers.  
6082 (references (b) and (y)).

6083

6084 P2.15. GLOSSARY O

6085  
6086 P2.15.1 Object-Based: A software design methodology adhering to only some of  
6087 the properties of object-oriented software; for example, Ada does not support inheritance,  
6088 a key property of object-oriented systems, therefore Ada is often referred to as an object-  
6089 based language. See: Object-Oriented.

6090  
6091 P2.15.2 Object Management: Registers and unregisters local participant objects  
6092 within each federate; discovers remote participant objects; exchanges object state and  
6093 interaction events. (reference (hh)).

6094  
6095 P2.15.3 Object Model: The properties of objects in general, in a specific computer  
6096 programming language, technology, notation or methodology that uses them. For  
6097 example, the Java object model, the COM object model, or the object model of OMT.  
6098 Such object models are usually defined using concepts such as class, message,  
6099 inheritance, polymorphism, and encapsulation. Note that specific object properties  
6100 described in an object model are architecture (e.g., HLA, TENA, DIS) dependent.  
6101 (reference (tt)).

6102  
6103 a. A system specification defined primarily by class characteristics and  
6104 relationships. The High Level Architecture (HLA) idea of an object model  
6105 is similar in many ways, but not identical, to the common idea of an object  
6106 model in object-oriented literature. (reference (w)).

6107  
6108 P2.15.4 Object Model Framework: The rules and terminology used to describe  
6109 High Level Architecture (HLA) object models. (reference (w)).

6110  
6111 P2.15.5 Object-Oriented: 1. Pertaining to, or characteristic of, a computer program  
6112 consisting of (a) many relatively small, simple programs (subroutines), and (b) one  
6113 monitor program, the function of which is to coordinate the exchange of data among the  
6114 subroutines. Note: Subroutines designed under this concept may be stored in object  
6115 libraries, and used by other computer programmers with similar functional requirements.  
6116 2. Pertaining to, or characteristic of, data to be processed by object-oriented programs.  
6117 (reference (sss)).

6118  
6119 P2.15.6 Object-Oriented Language: A language that best suits an object-oriented  
6120 decomposition of software and that provides the capability to implement classes and  
6121 objects. Directly supports data abstraction and classes, and provides additional support  
6122 for inheritance as a means of expressing hierarchies of classes. (references (dd) and (nn)).

6123  
6124 P2.15.7 Object-Oriented Programming: Use of a programming system that results  
6125 in programs organized as cooperative collections of objects, each of which represents an

6126 instance of some class, and whose classes are members of class hierarchies as defined by  
6127 the inheritance mechanism. (reference (cccc)).

6128

6129 P2.15.8 Observation Frame: Specifies how to simulate the system with inputs:  
6130 what variables to measure and how to observe the variables over a time base. (reference  
6131 (jjjj)).

6132

6133 P2.15.9 Occlusion: The vision effect of closer objects overlapping or obstructing  
6134 more distant ones, providing visual clues to judge how close objects are from the viewer.  
6135 (reference (n)).

6136

6137 P2.15.10 Octet: A sequence of eight bits, usually operated upon as a unit. (reference  
6138 (vvv)).

6139

6140 P2.15.11 Octet Ordering: The order of transmission of data is resolved at the octet  
6141 level. (reference (s)).

6142

6143 P2.15.12 Off-Line Storage Devices: Off-line storage devices generally are used for  
6144 data backup and archival applications, using media-like magnetic tapes or removable  
6145 hard or floppy disks.

6146

6147 P2.15.13 On-Line Storage Devices: On-line storage devices provide more immediate  
6148 retrieval of data than off-line storage devices and usually refer to non-removable  
6149 magnetic or optical hard disk drives.

6150

6151 P2.15.14 On-the-wire Specification: An on-the-wire specification provides details of  
6152 the format and other requirements of data to be passed between applications. This is a  
6153 lower-level specification that provided by an API. The difference between an on-the-  
6154 wire specification and an API-level specification is similar to the difference between an  
6155 API and an ABI (Application Binary Interface) where the former enable source-code  
6156 compatibility and the latter enable binary compatibility. (reference (ttt)).

6157

6158 P2.15.15 Open Architecture: Architecture in which the hardware and software  
6159 interfaces are sufficiently well defined that additional resources can be added to the  
6160 system with little or no adjustment. (reference (c)).

6161

6162 P2.15.16 Open System: A system in which the components and their composition  
6163 are specified in a non-proprietary environment, enabling competing organizations to use  
6164 these standard components to build competitive systems. There are three perspectives on  
6165 open systems: 1. portability - the degree to which a system component can be used in  
6166 various environments, 2. interoperability - the ability of individual components to  
6167 exchange information, and 3. integration - the consistency of the various human-machine

6168 interfaces between an individual and all hardware and software in the system. (references  
6169 (dd) and (nn)).

6170

6171 P2.15.17 Operational Environment: A composite of the conditions, circumstances,  
6172 and influences that affect the employment of military forces and the decisions of the unit  
6173 commander. Frequently characterized as permissive, semi-permissive, or non-permissive.  
6174 (reference (b)).

6175

6176 P2.15.18 Optical See through: Work by placing optical combiners in front of the  
6177 user's eyes. These combiners are partially transmissive, so that the user can look directly  
6178 through them to see the real world. The combiners are also partially reflective, so that the  
6179 user sees virtual images projected on the combiners from head mounted monitors.  
6180 (reference (b)).

6181

6182 P2.15.19 Optimistic Event Simulation: Implies that a process clock may run ahead  
6183 of incoming activities, resulting in errors in chronology (time warp). (reference (ee)).

6184

6185 P2.15.20 Optimistic Synchronization: A mechanism that uses a recovery mechanism  
6186 to erase the effects of out-of-order event processing. This is in contrast to conservative  
6187 synchronization. The Time Warp protocol is an example of an optimistic synchronization  
6188 mechanism. Messages sent by an optimistic federate that could later be canceled.  
6189 (reference (b)).

6190

6191 P2.15.21 Orthogonal: Pertaining to or composed of right angles. Variables which are  
6192 orthogonal are mutually independent mathematically. This includes the notion of  
6193 "independence" or "ease of transformation," as used in regard to matrices in multivariate  
6194 analysis.

6195

6196 P2.15.22 Orthographic Map Projection: A perspective azimuthal projection in which  
6197 the projecting lines, emanating from a point at infinity, are perpendicular to a tangent  
6198 plane. This projection is used chiefly in navigational astronomy for interconverting  
6199 coordinates of the celestial equator and horizon systems. Also called orthogonal map  
6200 projection. (reference (ggg)).

6201

6202 P2.15.23 Outcome-Oriented Simulation: A simulation in which the end result is  
6203 considered more important than the process by which it is obtained; for example, a  
6204 simulation of a radar system that uses methods far different from those used by the actual  
6205 radar, but whose output is the same. Contrast with: process-oriented simulation.  
6206 (references (b) and (y)).

6207

6208 P2.15.24 Output Validation: The process of determining the extent to which the  
6209 output (outcome distributions for the M&S and/or sub-models) represent the significant

6210 and salient features of distributions or real-world systems, events, and scenarios.  
6211 (reference (h)).

6212  
6213 P2.15.25 Ownership management: Allows a particular federate to obtain and release  
6214 control over the attributes of a local or remote object. (reference (hh)).

6215

6216 P2.16. GLOSSARY P

6217  
6218 P2.16.1 Parallax: The vision effect of having two eyes viewing the same scene  
6219 from slightly different positions that creates a sense of depth. Computer-generated  
6220 environments, one for each eye, artificially can create the parallax effect. (reference (n)).

6221  
6222 P2.16.2 Parallel Computing: The simultaneous execution of the same task (split up  
6223 and specially adapted) on multiple processors in order to obtain results faster. (reference  
6224 (iii)).

6225  
6226 P2.16.3 Parallel Simulation: A solution for large-scale queuing network models.  
6227 Synchronization is required to run a parallel simulation because the produced results are  
6228 expected to be the same as those produced by sequential simulation. (reference (kk)).

6229  
6230 P2.16.4 Parallel Processing: Multiple processes running on multiple processors  
6231 simultaneously. (reference (dd)).

6232  
6233 P2.16.5 Parametric Model: A model using parametric equations that may be based  
6234 on numerical model outputs or fits to semi-empirical data to succinctly describe a  
6235 particular process, feature, or effect. (reference (vvv)).

6236  
6237 P2.16.6 Period: The time interval between successive events in a discrete  
6238 simulation. (references (b) and (y)).

6239  
6240 P2.16.7 Persistent: Enduring availability for re-use of M&S components after the  
6241 completion of a specific event. (reference (nn)).

6242  
6243 P2.16.8 Personal Graphics Display: A graphics display that outputs a virtual scene  
6244 to be viewed by a single user. (reference (d)).

6245  
6246 P2.16.9 Petri Net: An abstract, formal model of information flow, showing static  
6247 and dynamic properties of a system defined by places, transitions, input function, and  
6248 output function. It graphically depicts the structure of a distributed system as a directed  
6249 bipartite graph with annotations. (references (b), (iii), and (y)).

6250  
6251 P2.16.10 Physical Data Model: A representation of the technologically independent  
6252 information requirements in a physical environment of hardware, software, and network  
6253 configurations representing them in the constraints of an existing physical environment.  
6254 (references (rr) and (yyy)).

6255

6256 P2.16.11 Physical Immersion: Is accomplished by presenting a virtual world to users  
6257 based on their location and orientation and providing synthetic stimuli to one or more of  
6258 their senses in response to their position and actions. (reference (d)).  
6259

6260 P2.16.12 Physical Model: A model whose physical characteristics resemble the  
6261 physical characteristics of the system being modeled; for example, a plastic or wooden  
6262 replica of an airplane. A mock-up. See: Iconic Model; Scale Model. Contrast with:  
6263 Symbolic Model. (references (b) and (y)).  
6264

6265 a. Representation of an entity in three-dimensional space and can be divided  
6266 into full-scale mock-up, subscale mock-up, breadboard, and electronic  
6267 mock-up. (reference (c)).  
6268

6269 P2.16.13 Physical Security: In communications security, the component that results  
6270 from all physical measures necessary to safeguard classified equipment, material, and  
6271 documents from access thereto or observation thereof by unauthorized persons. (This  
6272 term and its definition modify the existing term and its definition and are approved for  
6273 inclusion in the next edition of JP1-02.) (reference (fff)).  
6274

6275 P2.16.14 Physical Time: Measured by ticks of a physical clocks. (reference (jjjj))  
6276

6277 P2.16.15 Physics-Based Modeling: Mathematical models in which the equations that  
6278 constitute the model are those used in physics to describe or define physical phenomenon  
6279 being modeled. (reference (g)).  
6280

6281 P2.16.16 Pitch: Rotation around the Y axis, in a right hand system where Y is  
6282 perpendicular to the plane of symmetry (for most entities). (reference (b)).  
6283

6284 P2.16.17 Pixel: A "picture element," refers to the smallest visual unit a computer  
6285 display. (reference (n)).  
6286

6287 P2.16.18 Platform: A generic term used to describe a level of representation  
6288 equating to vehicles, aircraft, missiles, ships, fixed sites, etc., in the hierarchy of  
6289 representation possibilities. Other representation levels include units (made up of  
6290 platforms) and components or modules (which make up platforms). (references (b) and  
6291 (vvv)).  
6292

6293 a. The part of the VR system where the participant is situated; a platform can  
6294 be designed to mimic a real world device found in the virtual world or  
6295 simply provide a generic place to sit or stand. (reference (gg)).  
6296

6297 P2.16.19 Polygon: A flat planar figure with multiple sides, the basic building block  
6298 of virtual worlds. Humans perceive the equivalent of 80 million polygons at more than  
6299 30 frames per second in normal vision. (reference (n)).  
6300

6301 P2.16.20 Politics, Military, Economics, Social, Information and Infrastructure  
6302 (PMESII): The process of categorizing and understanding the interactions among various  
6303 aspects of a region's infrastructure and dynamics as a part of developing operational and  
6304 tactical plans. (reference (ccc) and (kk)).  
6305

6306 P2.16.21 Point Object: A synthetic environment object that is geometrically  
6307 anchored to the terrain with a single point. (reference (t)).  
6308

6309 P2.16.22 Position Tracking: Informs the VR system where the users are located  
6310 within a VR space. In position sensing systems, three factors interact with each other  
6311 (besides cost): 1. Accuracy/precision and speed of the reported sensor position, 2.  
6312 Interfering media (e.g., metals opaque objects), and 3. Encumbrance (wires, mechanical  
6313 linkages). (reference (gg)).  
6314

6315 P2.16.23 Predictive Model: A model in which the values of future states can be  
6316 predicted or are hypothesized; for example, a model that predicts weather patterns based  
6317 on the current value of temperature, humidity, wind speed, and so on at various locations.  
6318 (references (b) and (y)).  
6319

6320 P2.16.24 Prescriptive Model. A model used to convey the required behavior or  
6321 properties of a proposed system; for example, a scale model or written specification used  
6322 to convey to a computer supplier the physical and performance characteristics of a  
6323 computer system. Contrast with: descriptive model. (references (b) and (y)).  
6324

6325 P2.16.25 Presence: Short for sense of presence, as in being mentally immersed.  
6326 (reference (gg)).  
6327

6328 P2.16.26 Prime Word: A word included in the name of a data entity that represents  
6329 the logical data grouping (in the logical data model) to which it belongs. (references (ss)  
6330 and (bbbb)).  
6331

6332 P2.16.27 Probabilistic Model: See: Stochastic Model. (reference (b)).  
6333

6334 P2.16.28 Processes: Processes affect entities. Attrition, communications, and  
6335 movement are examples of processes. Processes have a level of detail by which they are  
6336 described. (reference (xxx)).  
6337

6338 P2.16.29 Process Improvement Modeling: Defines and documents the current ("as  
6339 is") and desired future ("to be") processes and information requirements of a functional  
6340 activity. Two types of process improvement models are:

6341  
6342 a. Activity Model: A model of the processes that make up the functional  
6343 activity showing inputs, outputs, controls, and mechanisms through which  
6344 the processes of the functional activity are (or will be) conducted.  
6345 (reference (rr)).

6346  
6347 b. Data Model: In a database, the user's logical view of the data in contrast to  
6348 the physically stored data, or storage structure. A description of the  
6349 organization of data in a manner that reflects the information structure of an  
6350 enterprise. (references (ss) and (aaaa)).

6351  
6352 P2.16.30 Process Model: A model of the processes performed by a system; for  
6353 example, a model that represents the software development process as a sequence of  
6354 phases. Contrast with: structural model. (reference (b)).

6355  
6356 a. Model that defines the functional decomposition of the system function and  
6357 the flow of inputs and outputs for those functions. (reference (c)).

6358  
6359 b. Process models are designed to replicate steps in a process or system. All  
6360 processes models allow users to define their processes, workflows or  
6361 system dynamics. Other common processes that are modeled are  
6362 information flow through a system and the manufacturing of parts using an  
6363 assembly line. (reference (iii)).

6364  
6365 P2.16.31 Process-Oriented Simulation: A simulation in which the process is  
6366 considered more important than the outcome; for example, a model of a radar system in  
6367 which the objective is to replicate exactly the radar's operation, and duplication of its  
6368 results is a lesser concern. Contrast with: outcome-oriented simulation. (references (b)  
6369 and (y)).

6370  
6371 P2.16.32 Processing Node: The hardware and software processing resources devoted  
6372 to one or more simulation entities. See: Node. Contrast with: Network Node. (reference  
6373 (b)).

6374  
6375 P2.16.33 Prop: A physical object used as an interface to a virtual world; prop may  
6376 be embodied by a virtual object and might have physical controllers mounted on it.  
6377 (reference (gg)).

6378  
6379 P2.16.34 Proprioception: Means stimulation from within the body. (reference (gg)).

6380  
6381 P2.16.35 Proprioceptive Sensor: Subcutaneous sensors that respond to stimuli  
6382 produced inside the body. (reference (l)).

6383  
6384 P2.16.36 Protocol: A set of rules and formats (semantic and syntactic) that define  
6385 the communication behavior of simulation applications. (references (b), (y), and (ww)).

6386  
6387 P2.16.37 Protocol Data Unit (PDU): Distributed Interactive Simulation terminology  
6388 for a piece of information that is passed on a network between simulation applications.  
6389 (references (qq), (v), and (nn)).

6390  
6391 P2.16.38 Protocol Entity: An object that exchanges information with other entities in  
6392 a network via Protocol Data Units in accordance with an established protocol. A key  
6393 attribute of a protocol entity is its state. State transitions occur in a given protocol entity  
6394 in accordance with the established protocol as the result of: Protocol Data Units received  
6395 from other protocol entities; and occurrence of an external event (e.g., expiration of a  
6396 time-out counter.) See: Protocol Data Unit. (reference (b)).

6397  
6398 P2.16.39 Protocol Suite: A defined set of complementary protocols within the  
6399 communication architecture profile. (reference (vvv)).

6400  
6401 P2.16.40 Prototype: A preliminary type, form, or instance of a system, that serves as  
6402 a model for later stages or for the final, complete version of the system. (references (b)  
6403 and (y)).

6404  
6405 a. Physical model of the system that ignores certain aspects of the system,  
6406 glosses over the aspects and is fairly representative of a third segment of  
6407 aspects of the system. The prototype can range from a subscale model of  
6408 the system to a paper display (storyboard) of the user interface of the  
6409 system. (reference (c)).

6410  
6411 P2.16.41 Pseudocode: A description of control and/or data structures in a natural  
6412 language with no rigid rules of syntax. (reference (h)).

6413  
6414 P2.16.42 Publish and Subscribe: An asynchronous messaging paradigm where  
6415 senders (publishers) of messages are not programmed to send their messages to specific  
6416 receivers (subscribers). Rather, published messages are characterized into classes,  
6417 without knowledge of what (if any) subscribers there may be. Subscribers express interest  
6418 in one or more classes, and only receive messages that are of interest, without knowledge  
6419 of what (if any) publishers there are. This decoupling of publishers and subscribers can  
6420 allow for greater scalability and a more dynamic network topology.

6421

6422 P2.17. GLOSSARY Q

6423  
6424 P2.17.1 Qualitative: Factors that typically represent structural assumptions that are  
6425 not naturally quantified. (reference (aa)).

6426  
6427 P2.17.2 Qualitative Data: A data value that is a non-numeric description of a  
6428 person, place, thing, event, activity, or concept. (references (ss)).

6429  
6430 P2.17.3 Qualitative Model: A model that provides symbolic, textual, or graphic  
6431 answers. Symbolic models are based on logic or set theory. Textual models are based in  
6432 verbal descriptions. Graphical qualitative models use either elements of mathematical  
6433 graph theory or simply artistic graphics to represent a hierarchical structure, the flow of  
6434 items or data through a system's functions, or the dynamic interaction of the systems  
6435 components. (reference (c)).

6436  
6437 P2.17.4 Quality Assurance (QA): The policies, procedures and systematic actions  
6438 established in an enterprise for the purpose of providing and maintaining some degree of  
6439 confidence in data integrity and accuracy throughout the life cycle of the data. The  
6440 planned systematic activities necessary to ensure that a component, module, or system  
6441 conforms to established technical requirements. (reference (yyy)).

6442  
6443 P2.17.5 Quality of Service: In the fields of packet-switched networks and computer  
6444 networking, the term Quality of Service refers to resource reservation control  
6445 mechanisms. Quality of Service can provide different priority to different users or data  
6446 flows, or guarantee a certain level of performance to a data flow in accordance with  
6447 requests from the application program or the internet service provider policy. Quality of  
6448 Service guarantees are important if the network capacity is limited, for example in  
6449 cellular data communication, especially for real-time streaming multimedia applications,  
6450 for example voice over IP and IP-TV, since these often require fixed bit rate and are  
6451 delay sensitive. A best-effort network or service does not support Quality of Service.  
6452 (reference (ttt)).

6453  
6454 P2.17.6 Quantitative: Factors naturally assume numerical values. (reference (aa)).

6455  
6456 P2.17.7 Quantitative Data: Numerical expressions that use numbers, upon which  
6457 mathematical operations can be performed. (references (ss)).

6458  
6459 P2.17.8 Quantitative Model: Model that provides answers that are numerical; these  
6460 models can be either analytic, simulation or judgmental models. (reference (c)).

6461  
6462 P2.17.9 Quaternion method: A four parameter method used for defining orientation  
6463 of an aircraft or other object. This method is an alternative to the Euler Angle method, as

6464 it avoids singularities that occur when the pitch attitude reaches 90 degrees. (reference  
6465 ((l)).

6466  
6467 P2.17.10 Queue: A set of zero or more entities waiting to be serviced by a service  
6468 facility. (references (b) and (y)).

6469  
6470 P2.17.11 Queuing Model: A model consisting of service facilities and entities  
6471 waiting in queues to be served; for example, a model depicting teller windows and  
6472 customers at a bank. (references (b), (kk), and (y)).

6473  
6474 P2.17.12 Queuing Network Model: A model in which a process is described as a  
6475 network in which each node represents a service facility rendering a given type of service  
6476 and a queue for holding entities waiting to be served; for example, a model depicting a  
6477 network of shipping routes and docking facilities at which ships must form queues in  
6478 order to unload their cargo. (references (b) and (y)).

6479  
6480 P2.17.13 Queuing Theory: The study of queues and the performance of systems that  
6481 service entities that are organized into queues. See: Queuing Model; Queuing Network  
6482 Model. (references (b) and (y)).

6483 P2.18. GLOSSARY R

6484  
6485 P2.18.1 Random: Pertaining to a process or variable whose outcome or value  
6486 depends on chance or on a process that simulates chance, often with the implication that  
6487 all possible outcomes or values have an equal probability of occurrence; for example, the  
6488 outcome of flipping a coin or executing a computer-programmed random number  
6489 generator. (references (b) and (y)).

6490  
6491 P2.18.2 Random Event: An event occurring without a recognizable pattern.  
6492 (reference (kk)).

6493  
6494 P2.18.3 Range or Field of View: The amount of area covered by the sensor or solid  
6495 angle represented by a display or graphics system. (reference (b)).

6496  
6497 P2.18.4 Raster: The raster structure has a simple format of rows and columns of  
6498 pixels. Raster condenses all information about that pixel to a finite set of values. This  
6499 pixel value generalizes a portion of reality, simplifying the data and storage formats and  
6500 the processing time. (reference (ooo)).

6501  
6502 P2.18.5 Raster form: A vector to raster ratio of about 1:50. While raster files are  
6503 bigger than vector files for a specified area of earth, the vector files typically takes longer  
6504 for data access and display. Another significant difference is accuracy. Vector product  
6505 accuracy obviously doesn't consider pixel size. (reference (ooo)).

6506  
6507 P2.18.6 Real Battlefield: See: Real World. (DIS Glossary of M&S Terms  
6508 (reference (b)).

6509  
6510 P2.18.7 Real-Time: Simulated time advances at the same rate as actual time.  
6511 Contrast with: fast time; slow time. (reference (b), (u)).

6512  
6513 a. Attribute of a virtual reality system in which the virtual world reacts  
6514 synchronously to the actions of a user. This capability is practically not  
6515 reachable since the processing time is not zero, so the preferred term of  
6516 interactive speed is used. (reference (b)).

6517  
6518 P2.18.8 Real-Time Clock: Is responsible for the synchronization of real time and  
6519 simulated time. The real-time clock is programmed to send a trigger impulse once every  
6520  $h$  time units of real time. Where  $h$  is the current step size of the integration algorithm, and  
6521 the simulation program is equipped with a busy waiting mechanism that is launched as  
6522 soon as all the computations associated with the current step have been completed and  
6523 that checks for arrival of the next trigger signal. The new step will not begin until the  
6524 trigger signal has been received. (reference (e)).

6525 P2.18.9 Real-Time Service: A service that satisfies-timing constraints imposed by  
6526 the service user. The timing constraints are user specific and should be such that the user  
6527 will not be adversely affected by delays within the constraints. (reference (vvv)).  
6528

6529 P2.18.10 Real-Time System: A system that computes its results as quickly as they  
6530 are needed by a real-world system. Such a system responds quickly enough that there is  
6531 no perceptible delay to the human observer or system interfacing with the simulation.  
6532

6533 P2.18.11 Real-World: The set of real or hypothetical causes and effects that  
6534 simulation technology attempts to replicate. When used in a military context, the term is  
6535 synonymous with real battlefield to include air, land, and sea combat. Syn: real  
6536 battlefield. (reference (b)).  
6537

6538 P2.18.12 Real-World Time: The actual time in Greenwich, England. Syn: sidereal  
6539 time. (references (b) and (y)).  
6540

6541 P2.18.13 Reality Engine: Any computer system specifically designed to generate  
6542 virtual images on a display device. (reference (n)).  
6543

6544 P2.18.14 Reference: Part of a tracking system considered fixed with respect to the  
6545 motion of a target. (reference (b)).  
6546

6547 P2.18.15 Reference Framework: A system of locating points in space based on the  
6548 binding of a coordinate system to an object reference model. As an example, the  
6549 geodetic (latitude, longitude, elevation) coordinate system bound to the WGS84 ellipsoid  
6550 object reference model is a calid reference framework. (reference (ttt)).  
6551

6552 P2.18.16 Reference Version: The most recent version of a model or simulation that  
6553 has been released by, and under configuration management of an approving authority.  
6554 (reference (b)).  
6555

6556 P2.18.17 Referent: A codified body of knowledge about a thing being simulated.  
6557 (reference (ppp)).  
6558

6559 P2.18.18 Reflected Object. An object that is represented but not explicitly modeled  
6560 in a simulation. The reflecting simulation accepts changes in state of the reflected object  
6561 as they are produced by some other federation member and provided to it by the Runtime  
6562 Infrastructure.  
6563

6564 P2.18.19 Regime: The interaction domain of entities. Platform level.  
6565

6566 P2.18.20 Registration: Alignment of coordinate systems or phenomenological  
6567 agreement between environment models. (reference (p)).  
6568

6569 P2.18.21 Regression Testing: Retesting a portion of the system after a change has  
6570 been made to ensure that new problems were not introduced. (reference (c)).  
6571

6572 P2.18.22 Relative Timestamp: A relative timestamp is used when simulation  
6573 application clocks are not synchronized. Each simulation application keeps time  
6574 beginning with an arbitrary starting point. The time indicated by the timestamp is then  
6575 relative to the simulation application issuing the PDU. (reference (v)).  
6576

6577 P2.18.23 Reliability Model: A model used to estimate, measure, or predict the  
6578 reliability of a system; for example, a model of a computer system, used to estimate the  
6579 total down time that will be experienced. (references (b) and (y)).  
6580

6581 P2.18.24 Reliable Service: A communication service in which the received data is  
6582 guaranteed to be exactly as transmitted. (references (b), (y), and (vvv)).  
6583

6584 a. A communication service in which the number and type of errors that the  
6585 user finds in the data are acceptable for the application. Reliable  
6586 communication may require specific mechanisms in order to achieve the  
6587 user's requirements regarding detection and notification, or error detection  
6588 and correction from PDU errors, such as bit errors, duplicated PDUs,  
6589 missing PDUs, or out-of-sequence PDUs. (reference (v)).  
6590

6591 P2.18.25 Reliable Transport: As relates to message delivery, the property that sent  
6592 messages (or other data) are guaranteed to be delivered to the recipient. As an example,  
6593 The Transmission Control Protocol (TCP) is one of the core protocols of the Internet  
6594 protocol suite. TCP provides reliable, in-order delivery of a stream of bytes, making it  
6595 suitable for applications like file transfer and e-mail. In contrast, the internet protocol  
6596 (and other network protocols) also allows use of unreliable transport (or best effort  
6597 transport) such as the User Datagram Protocol (UDP) which does not guarantee reliability  
6598 or ordering in the way that TCP does. (reference (tt)).  
6599

6600 P2.18.26 Remote Entity Approximation (REA): The process of extrapolating or  
6601 interpolating any state of an entity based on its last known state. This includes dead  
6602 reckoning and smoothing. Syn: dead reckoning. (reference (b)).  
6603

6604 P2.18.27 Repeatability: Ability to accurately recreate responses under identical  
6605 stimuli. (reference (b)).  
6606

6607 P2.18.28 Report Generator: A subprogram that computes estimates (from the  
6608 statistical counters) of the desired measures of performance and produces a report when  
6609 the simulation ends. (reference (aa)).  
6610

6611 P2.18.29 Representation: Models of the entity or phenomenon associated and its  
6612 effects. Representations using algorithms and data that have been developed or approved  
6613 by a source having accurate technical knowledge are often considered authoritative.  
6614 (reference (nn)).  
6615

6616 P2.18.30 Requirement: An established need justifying the timely allocation of  
6617 resources to achieve a capability to accomplish approved military objectives, missions, or  
6618 tasks. (reference (nn)).  
6619

6620 P2.18.31 Research, Development, and Acquisition (RDA): One of the three domains  
6621 for Army M&S applications. RDA includes all M&S used for design, development, and  
6622 acquisition of weapons systems and equipment. M&S in the RDA domain are used for  
6623 scientific inquiry to discover or revise facts and theories of phenomena, followed by  
6624 transformation of these discoveries into physical representations. RDA also includes test  
6625 and evaluation (T&E) where M&S are used to augment and possibly reduce the scope of  
6626 real-world T&E. (reference (nn)).  
6627

6628 P2.18.32 Resolution: The degree of detail and precision used in the representation of  
6629 an item or the real world aspects in a model or simulation. See: Granularity. (references  
6630 (qq), (h), and (dd)).  
6631

6632 a. 1. For raster applications, resolution is the number or pixels per unit  
6633 distance. 2. (JCS) A measurement of the smallest – detail which can be  
6634 distinguished by a sensor system under specific condition. 3. The minimum  
6635 distance between two adjacent features, or the minimum size of a feature  
6636 which can be detected by a remote sensory system. (reference (ggg)).  
6637

6638 b. Smallest resolvable change in position and orientation. A measure of  
6639 resolution is the standard deviation of the underlying distribution of  
6640 measurements around the mean of a measured position or orientation.  
6641 (reference (b)).  
6642

6643 P2.18.33 Responsive to Warfighter Needs: The degree of satisfaction of warfighter  
6644 requirements in terms of capability and timeliness. (reference (nn)).  
6645

6646 P2.18.34 Retraction: An action performed by a federate to unschedule a previously  
6647 scheduled message. Message retraction may be visible to the federate to whom the  
6648 scheduled message was to be delivered. Retraction is widely used in classic event-

6649 oriented discrete event simulations to model behaviors such as preemption and interrupts.  
6650 (reference (w)).

6651

6652 P2.18.35 Reuse: The practice of using again, in whole or part, existing M&S tools,  
6653 data, or services. (reference (ww)).

6654

6655 P2.18.36 Re-usability: The degree to which a software module or other work  
6656 product can be used in more than one computing program or software system. (reference  
6657 (nn)).

6658

6659 P2.18.37 Right-Hand Rule: Positive rotation is clockwise when viewed toward the  
6660 positive direction along the axis of rotation. (references (v) and (b)).

6661

6662 P2.18.38 Roll: Rotation around the X axis. (reference (b)).

6663

6664 P2.18.39 Runtime Infrastructure (RTI): The general purpose distributed operating  
6665 system software.

6666

6667 a. The software that provides common interface services during a High Level  
6668 Architecture (HLA) federation execution for synchronization and data  
6669 exchange. (reference (w)).

6670

6671 P2.19. GLOSSARY S

6672  
6673 P2.19.1 Sample Rate: The frequency at which the sensor samples the stimulus.  
6674 (reference (b)).

6675  
6676 P2.19.2 Saturation: The maximum amount of stimulus the sensor can respond to.  
6677 (reference (b)).

6678  
6679 P2.19.3 Scalability: The ability of a distributed simulation to maintain time and  
6680 spatial consistency as the number of entities and accompanying interactions increase.  
6681 (reference (qq)).

6682  
6683 P2.19.4 Scale Model: A physical model that resembles a given system, with only a  
6684 change in scale; for example, a replica of an airplane one tenth the size of the actual  
6685 airplane. (references (b) and (y)).

6686  
6687 P2.19.5 Scan Conversion Algorithm: Computes the coordinates of the pixels that  
6688 lie on or near an ideal, infinitely thin straight line imposed on a 2D raster grid. (reference  
6689 (m)).

6690  
6691 P2.19.6 Scenario: Description of an exercise (initial conditions). It is part of the  
6692 session database that configures the units and platforms and places them in specific  
6693 locations with specific missions. (reference (p)).

6694  
6695 a. An initial set of conditions and timeline of significant events imposed on  
6696 trainees or systems to achieve exercise objectives. (reference (p)).

6697  
6698 P2.19.7 Scenario Toolkit And Generation Environment Local Area Network  
6699 (STAGE): Scenario Toolkit And Generation Environment is a workstation software  
6700 system for designing synthetic environments without programming. It is designed to  
6701 allow users to rapidly prototype a functional simulator with STAGE objects then  
6702 integrate additional high fidelity simulation models. Its applications include: Air traffic  
6703 control, air weapons control, navigation and weapons trainers for aircrew, armored  
6704 vehicle gunnery, command & control, naval combat systems, and naval part-task  
6705 simulators. (reference (sss)).

6706  
6707 P2.19.8 Scene Graph: A hierarchical organization of objects (visible or not) in the  
6708 virtual world (or universe), together with the view to that world. (reference (d)).

6709  
6710 P2.19.9 Sharable Content Object Reference Model (SCORM): The SCORM is a  
6711 collection of specifications that defines a web-based learning Content Aggregation  
6712 Model, Run-time Environment, and Sequencing and Navigation protocol for reusable

6713 content objects. At its simplest, it is a model that references a set of interrelated technical  
6714 specifications and guidelines designed to meet the Department of Defense's high-level  
6715 requirements for distributed learning content. (reference (a)).

6716  
6717 P2.19.10 Schema: Descriptive representation of data and/or data requirements that  
6718 describe conceptual, internal, or external views of information/data needs.

6719  
6720 P2.19.11 Scope: Used in reference to SAFOR, scope refers to the aspects of combat  
6721 portrayed by the system. For example, ground combat, combat support, combat service  
6722 support, air-to-air combat, air-to-ground combat, air-to ship combat, naval surface  
6723 combat, naval undersea warfare, deployment. (cccc)).

6724  
6725 P2.19.12 Seamless: Normally referring to integrating or merging two simulations or  
6726 their component parts. Perfectly consistent. Transparent.

6727  
6728 P2.19.13 SECRET Internet Protocol Router Network: The worldwide SECRET-  
6729 level packet switch network that uses high-speed internet protocol routers and high-  
6730 capacity Defense Information Systems Network circuitry. Also called SIPRNET. (This  
6731 term and its definition modify the existing term and its definition and are approved for  
6732 inclusion in the next edition of JP 1-02.) (reference (fff)).

6733  
6734 P2.19.14 Security Forces: Duly constituted military, paramilitary, police, and  
6735 constabulary forces of a state. (reference (uu)).

6736  
6737 P2.19.15 Segment: A portion of a session that is contiguous in simulation time and  
6738 in wallclock time (sidereal time). (references (b) and (y)).

6739  
6740 P2.19.16 Selector: A portion of an address identifying a particular entity at an  
6741 address (e.g., a session selector identifies a user of the session service residing at a  
6742 particular session address). (reference (vvv)).

6743  
6744 P2.19.17 Semi-Automated Forces (SAFOR): Simulation of friendly, enemy and  
6745 neutral platforms on the virtual battlefield in which the individual platform simulation are  
6746 operated by computer simulation of the platform crew and command hierarchy. The term  
6747 "semi-automated" implies that the automation is controlled and monitored by a human  
6748 who injects command-level decision making into the automated command process. See:  
6749 Computer-Generated Forces. (references (dd) and(ooo)).

6750  
6751 P2.19.18 Semi-Markov Model: A Markov chain model in which the length of time  
6752 spent in each state is randomly distributed. (references (b) and (y)).

6753

6754 P2.19.19 Semi-Markov Process: A Markov process in which the duration of each  
6755 event is randomly distributed. (references (b) and (y)).  
6756

6757 P2.19.20 Service Component Command: A command consisting of the Service  
6758 component commander and all those Service forces, such as individuals, units,  
6759 detachments, organizations, and installations under that command, including the support  
6760 forces that have been assigned to a combatant command, or further assigned to a  
6761 subordinate unified command or joint task force. (reference (fff)).  
6762

6763 P2.19.21 Session: A portion of an exercise that is contiguous in wall-clock (sidereal)  
6764 time and that is initialized per an exercise database. (references (b) and (y)).  
6765

6766 P2.19.22 Sidereal Time: Time based upon the rotation of the Earth relative to the  
6767 vernal equinox. Time that is independent of simulation clocks, time zones, or  
6768 measurement errors. The "Ground Truth" of time measurement. See: Real-World Time.  
6769 (reference (ggg)).  
6770

6771 P2.19.23 Sliver: A polygonal area so thin that its interior does not contain a distinct  
6772 span for each scan line. (reference (m)).  
6773

6774 P2.19.24 Simuland: The system being simulated by a simulation. (reference (b)).  
6775

6776 P2.19.25 Simulated Time: Time as represented within a simulation. Syn: virtual  
6777 time. See: Fast Time; Real Time; Slow Time. (reference (y)).  
6778

6779 P2.19.26 Simulation: A method for implementing a model over time. (references  
6780 (ww), (e), (ee), (kk), (eeee), and (qq)).  
6781

6782 P2.19.27 Simulation Application: The executing software on a host computer that  
6783 models all or part of the representation of one or more simulation entities. The simulation  
6784 application represents or "simulates" real-world phenomena for the purpose of training,  
6785 analysis, experimentation, etc. Examples include manned vehicle (virtual) simulators,  
6786 computer-generated forces (constructive), environment simulators, and computer  
6787 interfaces between a Distributed Interactive Simulation network and real (live)  
6788 equipment. ((references (b) and (y)).  
6789

6790 P2.19.28 Simulation Clock: A counter used to accumulate simulated time.  
6791 (references (aa), (b), and (y)).  
6792

6793 P2.19.29 Simulation Entity: An element of the synthetic environment that is created  
6794 and controlled by a simulation application through the exchange of Distributed  
6795 Interactive Simulation Protocol Data Units (e.g., tanks, submarines, carriers, fighter

6796 aircraft, missiles, bridges). It is possible that a simulation application may be controlling  
6797 more than one simulation entity. (references (b) and (y)).

6798

6799 P2.19.30 Simulation Environment: Consists of the operational environment  
6800 surrounding the simulation entities including terrain, atmospheric, bathyspheric and  
6801 cultural information. (references (b) and (v)).

6802

6803 P2.19.31 Simulation Exercise: An exercise that consists of one or more interacting  
6804 simulation applications. Simulations participating in the same simulation exercise share a  
6805 common identifying number called the exercise identifier. These simulations should also  
6806 utilize correlated representations of the synthetic environment in which they operate.  
6807 (reference (s)).

6808

6809 P2.19.32 Simulation Fidelity: (1) The similarity, both physical and functional,  
6810 between the simulation and that which it simulates. (2) A measure of the realism of a  
6811 simulation. (3) The degree to which the representation within a simulation is similar to a  
6812 real world object, feature, or condition in a measurable or perceivable manner. (reference  
6813 (p)).

6814

6815 P2.19.33 Simulation Game: A simulation in which the participants seek to achieve  
6816 some agreed upon objective within an established set of rules. For example, a  
6817 management game, a war game. Syn: gaming simulation. (references (b) and (y)).

6818

6819 P2.19.34 Simulation Management: A mechanism that provides centralized control of  
6820 the simulation exercise. Functions of simulation management include but are not limited  
6821 to: start, restart, maintenance, shutdown of the exercise, and collection and distribution of  
6822 certain types of data. (references (b), (s), and (y)).

6823

6824 P2.19.35 Simulation Manager: See: Exercise Manager. (reference (b)).

6825

6826 P2.19.36 Simulation Object Model (SOM): A specification of the types of  
6827 information that an individual federate could provide to High Level Architecture (HLA)  
6828 federations as well as the information that an individual federate can receive from other  
6829 federates in HLA federations. The standard format in which SOMs are expressed  
6830 facilitates determination of the suitability of federates for participation in a federation.  
6831 (reference (w)).

6832

6833 a. Describes salient characteristics of a federate to aid in its reuse and other  
6834 activities focused on the details of its internal operation. (reference (x)).

6835

6836 P2.19.37 Simulation Process: The imitative representation of the actions of  
6837 platform(s), munitions(s), and life form(s) by computer program(s) in accordance with a  
6838 mathematical model and the generation of associated battlefield entities. May be fully

6839 automated or partially automated. In the latter case, the human-in-the-loop injects  
6840 command-level decisions into the process and is not intended to be a "trainee." (reference  
6841 (b)).

6842  
6843 P2.19.38 Simulation Support Entity: Processing modules used to support, control, or  
6844 monitor the simulation environment, but which do not actually exist on the battlefield.  
6845 This includes battlefield viewing devices for controllers or exercise observers such as the  
6846 stealth vehicle, the plan view display, after action review systems, and simulation control  
6847 systems. (references (b) and (vvv)).

6848  
6849 P2.19.39 Simulation Time: A simulation's internal representation of time. Simulation  
6850 time may accumulate faster, slower, or at the same pace as sidereal time. (references (b)  
6851 and (y)).

6852  
6853 a. Reference time (e.g., Universal Coordinated Time) within a simulation  
6854 exercise. This time is established by the simulation management function  
6855 before the start of the simulation and is common to all participants in a  
6856 particular exercise. (references (b) and (y)).

6857  
6858 b. Simulation Time is defined as the common reference time within a  
6859 simulation exercise. It is also referred to as Exercise Time. This is the time  
6860 that participants use to coordinate their activities and conduct the exercise,  
6861 test, experiment or other distributed simulation event (hereafter referred to  
6862 as the exercise). The meaning of Simulation Time and its initial value are  
6863 established prior to an exercise by simulation management and based on the  
6864 exercise agreement. Simulation Time may be real-world UTC Time, a  
6865 fictitious time in the past or future, or some other number such as counting  
6866 from zero when the exercise starts. (reference (ttt)).

6867  
6868 P2.19.40 Simulator: A device, computer program, or system that performs  
6869 simulation; for training, a device which duplicates the essential features of a task situation  
6870 and provides for direct human operation. (reference (b)).

6871  
6872 P2.19.41 Simulator Entity: Computational device for generating behavior of the  
6873 model. (reference (jjjj)).

6874  
6875 P2.19.42 Single Point-of-Entry: The individual organization(s) responsible for  
6876 entering data values for a data element. (reference (rr)).

6877  
6878 P2.19.43 Slow Time: The duration of activities within a simulation in which  
6879 simulated time advances slower than actual time. (reference (b)).

6880

6881 P2.19.44 Smoothing: Interpolation of the previous state of an entity (location,  
6882 velocity, etc.) to the current state, creating a continuous transition between two  
6883 successive entity state updates. (reference (b)).  
6884

6885 P2.19.45 Social Network Modeling: Used to understand the connections among  
6886 people whether they are political leaders, specific groups, and/or cliques in organizations.  
6887 It also allows for an explanation of a flow of information, or the spread of contagion, or  
6888 the identification of outliers, or individuals who are isolated from the group. (reference  
6889 (kk)).  
6890

6891 P2.19.46 Socket: A software representation of the endpoint to a communication  
6892 channel. (reference (hh)).  
6893

6894 P2.19.47 Software in-the-loop Simulation: Simulation and simulators that employ  
6895 one or more elements of operational software within the simulation/simulator system.  
6896 (reference (gg)).  
6897

6898 P2.19.48 Software Reuse: The process of implementing or updating software  
6899 systems using existing software assets. (reference (bbb)).  
6900

6901 P2.19.49 Soldier Visualization Station (SVS): The Soldier Visualization Station  
6902 (SVS) features real-time 3-D graphics and directional audio. SVS supports representation  
6903 of urban environments including multilevel buildings, adjustable fields of view and  
6904 viewing distances, multiple movement modes, adjustable lighting and visibility modes,  
6905 tethering options, wireframe mode, etc. The software is DIS compliant, HLA compliant,  
6906 Semi-Automated Forces (SAF) compliant and supports WAV audio files. (reference  
6907 (sss)).  
6908

6909 P2.19.50 Sound Display: Computer interfaces that provide synthetic sound feedback  
6910 to users interacting with the virtual world. (reference (d)).  
6911

6912 P2.19.51 Source System Entity: The real or artificial source of data. (reference  
6913 (jjjj)).  
6914

6915 P2.19.52 Span: The scale of the domain that is global, theater, regional, local, or  
6916 individual. Description of the span is often subjective.  
6917

6918 P2.19.53 Stability: Constancy of purpose; steadfastness; reliable; dependable.  
6919 (reference (tt)).  
6920

6921 P2.19.54 Stability Operations: An overarching term encompassing various military  
6922 missions, tasks, and activities conducted outside the United States in coordination with

6923 other instruments of national power to maintain or reestablish a safe and secure  
6924 environment, provide essential governmental services, emergency infrastructure  
6925 reconstruction, and humanitarian relief. (reference (uu)).  
6926

6927 P2.19.55 Stabilized-Variable Model: A model in which some of the variables are  
6928 held constant and the others are allowed to vary; for example, a model of a controlled  
6929 climate in which humidity is held constant and temperature is allowed to vary.  
6930 (references (b) and (y)).  
6931

6932 P2.19.56 Standard: A rule, principle, or measurement established by authority,  
6933 custom, or general consent as a representation or example. (reference (qq)).  
6934

6935 P2.19.57 Standardization: The process by which the Department of Defense  
6936 achieves the closest practicable cooperation among the Services and Defense agencies for  
6937 the most efficient use of research, development, and production resources, and agrees to  
6938 adopt on the broadest possible basis the use of: a. common or compatible operational,  
6939 administrative, and logistic procedures; b. common or compatible technical procedures  
6940 and criteria; c. common, compatible, or interchangeable supplies, components, weapons,  
6941 or equipment; and, d. common or compatible tactical doctrine with corresponding  
6942 organizational compatibility. (reference (fff)).  
6943

6944 P2.19.58 State: The internal status of a simulation entity; e.g. fuel level, number of  
6945 rounds remaining, location of craters, etc. (reference (b)).  
6946

6947 a. A condition or mode of existence that a system, component, or simulation  
6948 may be in; for example, the preflight state of an aircraft navigation program  
6949 or the input state of given channel. (reference (b)).  
6950

6951 b. The values assumed at a given instant by the variables that define the  
6952 characteristics of a system, component, or simulation. Syn: system state.  
6953 See: Final State; Initial State; Steady State. (reference (b)).  
6954

6955 P2.19.59 State Transition: A change from one state to another in a system,  
6956 component, or simulation. (reference (b)).  
6957

6958 P2.19.60 State Variable: A variable that defines one of the characteristics of a  
6959 system, component, or simulation. The values of all such variables define the state of the  
6960 system, component, or simulation. (reference (b)).  
6961

6962 P2.19.61 Static Model: A model of a system in which there is no change; for  
6963 example, a scale model of a bridge, studied for its appearance rather than for its  
6964 performance under varying loads. (references (b) and (y)).

6965  
6966 P2.19.62 Static Simulation Model: Representation of a system at a particular time,  
6967 or one that maybe be used to represent a system in which time simply plays no role.  
6968 (reference (aa)).

6969 P2.19.63 Static Variables: Variables that do not change over the course of an  
6970 experiment. (reference (kk)).

6971  
6972 P2.19.64 Statistical Counters: Variables used for storing statistical information about  
6973 system performance. (reference (aa)).

6974  
6975 P2.19.65 Statistics: Any function of the observations of a random variable which  
6976 does not depend on unknown parameters. (reference (ee)).

6977  
6978 P2.19.66 Steady State: A situation in which a model, process, or device exhibits  
6979 stable behavior independent of time. (references (b) and (y)).

6980  
6981 P2.19.67 Stealth Viewer: A component that provides the capabilities for visually  
6982 observing a Distributed Interactive Simulation exercise without participating in the  
6983 Distributed Interactive Simulation exercise interaction. (reference (b)).

6984  
6985 P2.19.68 Steradian: The unit of measure of a solid angle. (reference (ggg)).

6986  
6987 P2.19.69 Stereoscopic Image Depth Cue (Stereopsis): Is derived from the parallax  
6988 between the different images received by the retina in each eye (binocular disparity). The  
6989 Stereoscopic Image Depth Cue depends on parallax, which is the apparent displacement  
6990 of objects viewed from different locations. (reference (gg)).

6991  
6992 P2.19.70 Stimulate: To provide input to a real system in order to observe or evaluate  
6993 the system's response. (references (b) and (y)).

6994  
6995 P2.19.71 Stimulation: Stimulation is the use of simulations to provide an external  
6996 stimulus to a real system or subsystem. An example is the use of a simulation  
6997 representing the radar return from a target to drive (stimulate) the radar of a missile  
6998 system within a hardware/software-in-the-loop simulation. (reference (dd)).

6999  
7000 P2.19.72 Stimulator: A hardware device that injects or radiates signals into the  
7001 sensor system(s) of operational equipment to imitate the effects of platforms, munitions,  
7002 and environment that are not physically present. (reference (b)).

7003  
7004 P2.19.73 Stochastic: Pertaining to a process, model, or variable whose outcome,  
7005 result, or value depends on chance. Contrast with: deterministic. (references (b) and (y)).

7006

7007 P2.19.74 Stochastic Model: A model in which the results are determined by using  
7008 one or more random variables to represent uncertainty about a process or in which a  
7009 given input will produce an output according to some statistical distribution; for example,  
7010 a model that estimates the total dollars spent at each of the checkout stations in a  
7011 supermarket, based on probable number of customers and probable purchase amount of  
7012 each customer. Syn: probabilistic model. See: Markov-Chain Model. Contrast with:  
7013 Deterministic Model. (reference (b)).

7014

7015 P2.19.75 Stochastic Process: Any process dealing with events that develop over time  
7016 or cannot be described precisely, except in terms of probability theory. (reference (dd)).

7017

7018 P2.19.76 Stochastic Simulation Model: A model that has at least some random input  
7019 components. (reference (aa)).

7020

7021 P2.19.77 Stochastic System: A system that contains a certain amount of randomness  
7022 in its transitions from one state to another. (reference (ee)).

7023

7024 P2.19.78 Structural Model: A representation of the physical or logical structure of a  
7025 system; for example, a representation of a computer network as a set of boxes connected  
7026 by communication lines. Contrast with: process model. (references (b) and (y)).

7027

7028 P2.19.79 Structural Validation: The process of determining that the M&S  
7029 assumptions, algorithms, and architecture provide an accurate representation of the  
7030 composition of the real world as it pertains to the intended use of the M&S. (reference  
7031 (h)).

7032

7033 P2.19.80 Subject Area: A major, high-level classification of data. A group of entity  
7034 types that pertain directly to a function or major topic of interest to the enterprise.  
7035 (reference (rr)).

7036

7037 P2.19.81 Symbolic Model: A model whose properties are expressed in symbols.  
7038 Examples include graphical models, mathematical models, narrative models, software  
7039 models, and tabular models. Contrast with: physical model. (references (b) and (y)).

7040

7041 P2.19.82 Symbology: A graphic representation of concepts or physical objects.  
7042 (reference (zz)).

7043

7044 P2.19.83 Synchronization: In computer science, especially parallel computing,  
7045 synchronization means the coordination of simultaneous threads or processes to complete  
7046 a task in order to get correct runtime order and avoid unexpected race conditions.  
7047 (reference (tt)).

7048

7049 P2.19.84 Synthetic Battlefield: One type of synthetic environment. (reference (qq)).

7050  
7051 P2.19.85 Synthetic Environment: The integrated set of data elements that define the  
7052 environment within which a given simulation application operates. The data elements  
7053 include information about the initial and subsequent states of the terrain including  
7054 cultural features, and atmospheric and oceanographic environments throughout a DIS  
7055 exercise. The data elements include databases of externally observable information about  
7056 instantiable DIS entities, and are adequately correlated for the type of exercise to be  
7057 performed. (references (u), (qq), (nn), and (rrr)).

7058  
7059 P2.19.86 System: A collection of components organized to accomplish a specific  
7060 function or set of functions. (references (kk) and (y)).

7061  
7062 P2.19.87 System Dynamics: An approach to understanding the behavior of complex  
7063 systems over time. It deals with internal feedback loops and time delays that affect the  
7064 behavior of the entire system. What makes using system dynamics different from other  
7065 approaches to studying complex systems is the use of feedback loops and stocks and  
7066 flows. These elements help describe how even seemingly simple systems can display  
7067 nonlinearity. The basis of the method is the recognition that the structure of any system  
7068 is often just as important in determining its behavior as the individual components  
7069 themselves. (references (kk) and (iiii)).

7070  
7071 P2.19.88 System Model: A representation of a real system; the body of information  
7072 about a system gathered for the purpose of studying the system. (reference (ee)).

7073  
7074 P2.19.89 Systems Modeling Language: Systems Modeling Language (SysML) is a  
7075 general purpose modeling language for systems engineering applications. It is a dialect  
7076 of UML and supports the specification, analysis, design, verification, and validation of a  
7077 broad range of systems and systems of systems. (reference (ll)).

7078  
7079 P2.19.90 System State: The collection of state variables necessary to describe the  
7080 system at a particular time. (reference (aa)).

7081  
7082 P2.19.91 Systems of Systems (SoS): a set or arrangement of systems that results  
7083 when independent and useful systems are integrated into a larger system that delivers  
7084 unique capabilities. (reference (kkk)).

7085 P2.19.92

7086 P2.20. GLOSSARY T

7087  
7088 P2.20.1 T-1: Data communications service that supports 1.544 megabits per second  
7089 operation. (Marine Corps Modeling and Simulation Master Plan (reference (www))).

7090  
7091 P2.20.2 T-2: Data communications service that supports 6.3 megabits per second  
7092 operation. (Marine Corps Modeling and Simulation Master Plan (reference (www))).

7093  
7094 P2.20.3 T-3: 45 Mbit/sec

7095  
7096 P2.20.4 T-4: 274 Mbit/sec

7097  
7098 P2.20.5 T-5: 400 Mbit/sec

7099  
7100 P2.20.6 Tabular Model: A symbolic model whose properties are expressed in  
7101 tabular form; for example, a truth table that represents a Boolean logic "OR" function.  
7102 Contrast with: graphical model; mathematical model; narrative model; software model.  
7103 (references (b) and (y)).

7104  
7105 P2.20.7 Tactical Simulation (TACSIM): The Tactical Simulation (TACSIM)  
7106 system is designed to provide training to intelligence staffs, collection managers, and  
7107 analysts in a simulated war situation. TACSIM accomplishes this mission by simulating  
7108 the entire spectrum of intelligence operations, with the exception of HUMINT that is  
7109 currently being added for the next release. TACSIM can support training from large  
7110 scale joint exercises to training on specific intelligence section tasks. TACSIM can be  
7111 linked to other service's models; the Air Force's Air Warfare Simulation (AWSIM), the  
7112 Navy's Research Evaluation and Systems Analysis (RESA), the Marine's Air-Ground  
7113 Task Force Tactical Simulation (MTWS) and the Joint Electronic Combat Electronic  
7114 Warfare Simulation (JECEWSI). This is accomplished through the Aggregate Level  
7115 Simulation Protocol (ALSP) system. (TACSIM) (reference (sss)).

7116  
7117 P2.20.8 Taction: Is the sense of touch that comes from sensitive nerve sensors at  
7118 the surface of the skin. (reference (gg)).

7119  
7120 P2.20.9 Target: Feature (e.g. object, landmark, human feature) to be localized by  
7121 the tracking process. (reference (b)).

7122  
7123 P2.20.10 Taxonomy: A classification system. Provides the basis for organizing  
7124 objects for identification, retrieval and research purposes. (reference (xxx)).

7125  
7126 P2.20.11 Technical Data: Scientific or technical information recorded in any form or  
7127 medium (such as manuals and drawings). Computer programs and related software are

7128 not technical data; documentation of computer programs and related software are. Also  
7129 excluded are financial data or other information related to contract administration.

7130  
7131 P2.20.12 Technical Infrastructure: The internal framework that must be built to  
7132 implement an operational service. (reference (rr)).

7133  
7134 P2.20.13 Telecommunication: Any transmission, emission, or reception of signs,  
7135 signals, writings, images, sounds, or information of any nature by wire, radio, visual, or  
7136 other electromagnetic systems. (reference (fff)).

7137  
7138 P2.20.14 Telepresence: The ability to directly interact (often via computer mediation)  
7139 with a physically real, remote environment from the first person point of view; there are  
7140 no restrictions on the location of the remote environment, and there are no restrictions on  
7141 the size of the device used to carry out the user's commands at the remote location.  
7142 (reference (gg)).

7143  
7144 P2.20.15 Test and Evaluation (T&E): The act of generating empirical data during  
7145 the research, development or sustainment of systems, and the creation of information  
7146 through analysis that is useful to technical personnel and decision makers for reducing  
7147 design and acquisition risks. The process by which systems are measured against  
7148 requirements and specifications, and the results analyzed so as to gauge progress and  
7149 provide feedback. (reference (nn)).

7150  
7151 P2.20.16 Test and Training Enabling Architecture (TENA): The Test and Training  
7152 Enabling Architecture (TENA) is designed to bring affordable interoperability to US live  
7153 simulation test and training ranges and their customers. The TENA program was  
7154 established in 2002 for developing the foundation that will allow DoD ranges, labs and  
7155 facilities to be interoperable by 2010. TENA integrates testing, training, simulation, and a  
7156 high-performance computing technology, distributed across many facilities, and ties them  
7157 together with a common architecture. (references (iii) and (sss)).

7158  
7159 a. TENA is a software architecture designed to enhance and enable  
7160 interoperability, reuse, and composability of software resources among the  
7161 test and training range and simulation communities. TENA software  
7162 includes the TENA Middleware and a set of tools and utilities to enable  
7163 users to create and maintain live-virtual-constructive environments known  
7164 as logical ranges. (reference (ttt)).

7165  
7166 P2.20.17 Texturing: A technique performed in the rasterizing stage of the graphics  
7167 pipeline in order to modify the object model's surface properties such as color, specular  
7168 reflection, or pixel normals. (reference (d)).

7169

7170 P2.20.18 Tightly Coupled: A condition that exists when simulation entities are  
7171 involved in very close interaction such that every action of an entity must be immediately  
7172 accounted for by the other entities in realtime. (reference (vvv)).  
7173

7174 P2.20.19 Time: The measurable aspect of duration. Time makes use of scales based  
7175 upon the occurrence of periodic events. These are: the day, depending on the rotation of  
7176 the Earth; the month, depending on the revolution of the Moon around the Earth; and the  
7177 year, depending upon the revolution of the Earth around the Sun. Time is expressed as a  
7178 length on a duration scale measured from an index on that scale. For example: 4 p.m.  
7179 local mean solar time means that 4 mean solar hours have elapsed since the mean Sun  
7180 was on the meridian of the observer (reference (kk)).  
7181

7182 P2.20.20 Time-Dependent Event: An event that occurs at a predetermined point in  
7183 time or after a predetermined period of time has elapsed. See: Conditional Event.  
7184 (references (b) and (y)).  
7185

7186 P2.20.21 Time Management: A collection of High Level Architecture (HLA)  
7187 services that support controlled message ordering and delivery to the cooperating joined  
7188 federates within a federation execution in a way that is consistent with federation  
7189 requirements. (reference (w)).  
7190

7191 a. Time Management: Maintains a common sense of time among all  
7192 federates, either based on real time clock or based on an event based clock.  
7193 (reference (hh)).  
7194

7195 P2.20.22 Time Redundancy: Use of extra processing when time is available to  
7196 perform the same computation multiple times with a single hardware and software  
7197 combination and then compare the results. (reference (c)).  
7198

7199 P2.20.23 Time-Slice Simulation: A discrete simulation that is terminated after a  
7200 specific amount of time has elapsed; for example, a model depicting the year-by-year  
7201 forces affecting a volcanic eruption over a period of 100,000 years. Syn: time- interval  
7202 simulation. See: Critical Event Simulation. (reference (b)).  
7203

7204 P2.20.24 Time Stamp (of an event): A time stamp is used to indicate the time at  
7205 which the data contained in the PDU were generated. For simulations using absolute  
7206 timestamps, this time is the exact UTC. For simulations using relative timestamps, this  
7207 time is the time that the simulation application assumes the event or state occurred in the  
7208 synthetic environment relative to its own host clock. By example this timestamp can be  
7209 specified using a 32-bit unsigned integer representing units of time passed since the  
7210 beginning of the current hour. The least significant bit indicates whether the timestamp is  
7211 absolute or relative. (reference (s)).

7212 P2.20.25 Time Stamp Order (TSO): An ordering of messages provided by a runtime  
7213 infrastructure (RTI) for joined federates making use of time management services and  
7214 messages containing time stamps. Messages having different time stamps are said to be  
7215 delivered in TSO if for any two messages M1 and M2 (time stamped with T1 and T2,  
7216 respectively) that are delivered to a single joined federate where  $T1 < T2$ , then M1 is  
7217 acted upon before T2. (reference (w)).  
7218

7219 P2.20.26 Time Step Models: Dynamic models in which time is advanced by a fixed  
7220 or independently determined amount to a new point in time, and the states or status of  
7221 some or all resources are updated as of that new point in time. Typically these time steps  
7222 are of constant size, but they need not be. (reference (xxx)).  
7223

7224 P2.20.27 Time Variable: A variable whose value represents simulated time or the  
7225 state of the simulation clock. (references (b) and (rr)).  
7226

7227 P2.20.28 Topographic Map of the United States: The recommended designation for  
7228 the topographic map of the United States prepared of the quadrangle areas in atlas sheet  
7229 form, chiefly by the U.S. Geological Survey. This map portrays all basic information  
7230 about location, elevation, and extent of physical and cultural features that are required for  
7231 preliminary economic and engineering studies and for incorporation in maps prepared for  
7232 special purposes. (reference (ggg)).  
7233

7234 P2.20.29 Touch Feedback: Conveys real-time information on contact surface  
7235 geometry, virtual object surface roughness, slippage, and temperature. It does not actively  
7236 resist the user's contact motion and does not stop the user from moving through virtual  
7237 surfaces. (reference (d)).  
7238

7239 P2.20.30 Tracked Munitions: A munition for which position data is required over  
7240 time. By necessity, a tracked munition becomes a simulation entity during its flight; its  
7241 flight path is represented, therefore, by Entity State Protocol Data Units. (references (b),  
7242 (v), and (rr)).  
7243

7244 P2.20.31 Tracker: The special-purpose hardware used in VR to measure the real-  
7245 time change in a 3D object position and orientation. (reference (d)).  
7246

7247 P2.20.32 Tracker Accuracy: Represents the difference between the object's actual  
7248 3D position and that reported by tracker measurements. (reference (d)).  
7249

7250 P2.20.33 Tracker Drift: The steady increase in tracker error with time. (reference  
7251 (d)).  
7252

7253 P2.20.34 Tracker Jitter: Represents the change in tracker output over time when the  
7254 tracked object is stationary. (reference (d)).  
7255

7256 P2.20.35 Traditional Warfare: A form of warfare between the regulated militaries of  
7257 states, or alliances of states, in which the objective is to defeat an adversary's armed  
7258 forces, destroy an adversary's war-making capacity, or seize or retain territory in order to  
7259 force a change in an adversary's government or policies. (reference (uu)).  
7260

7261 P2.20.36 Translator: The translator is the portion of an actor that interacts with  
7262 ALSP. Normally, this is new software that adds the ability to transmit information about  
7263 objects modeled by the actor and to receive information about objects modeled by other  
7264 actors and to ghost these objects. (reference (k)).  
7265

7266 P2.20.37 Transmission Security: The component of communications security that  
7267 results from all measures designed to protect transmissions from interception and  
7268 exploitation by means other than cryptanalysis. (Approved for inclusion in the next  
7269 edition of JP 1-02.). (reference (fff)).  
7270

7271 P2.20.38 Transmit Management: The control of the transmission rate to match the  
7272 transmission media. The transmission rate is selected to reduce total network traffic.  
7273 (reference (b)).  
7274

7275 P2.20.39 Transverse Mercator Map Projection: A conformal cylindrical map  
7276 projection, being in principle equivalent to the regular Mercator map projection turned  
7277 (transverse) 90° in azimuth. In this projection, the central meridian is represented by a  
7278 straight line, corresponding to the line which represents the Equator on the regular  
7279 Mercator map projection. Neither the geographic meridians (except the central meridian)  
7280 nor the geodetic parallels (except the Equator) are represented by straight lines. Also  
7281 called Inverse cylindrical orthomorphic map projection; Inverse Mercator map  
7282 projection; transverse cylindrical orthomorphic map projection. (reference (ggg)).  
7283

7284 P2.20.40 Trial: Represents a single instance of an experiment to be performed as  
7285 part of a human factor study. (reference (d)).  
7286

7287 P2.20.41 Turing Test: An informal validation method well suited for validating  
7288 models of human behavior first proposed as a means to evaluate the intelligence of a  
7289 computer system. (reference (kk)).  
7290

7291 P2.20.42 Typing: Typing is the enforcement of the software class of an object, such  
7292 that objects of different types may not be interchanged, or may be interchanged only in  
7293 restricted ways. (reference (cccc)).

7294

7295 P2.21. GLOSSARY U

7296  
7297 P2.21.1 Ultrasound Tracker: A noncontact position measurement device that uses  
7298 an ultrasonic signal produced by a stationary transmitter to determine the real-time  
7299 position of a movable receiver element. (reference (d)).

7300  
7301 P2.21.2 Unbundling: The process of unpacking a set of Protocol Data Units into  
7302 multiple separate Protocol Data Units. Contrast with: bundling. (reference (b)).

7303  
7304 P2.21.3 Unconventional Warfare: A broad spectrum of military and paramilitary  
7305 operations, normally of long duration, predominantly conducted through, with, or by  
7306 indigenous or surrogate forces who are organized, trained, equipped, supported, and  
7307 directed in varying degrees by an external source. It includes, but is not limited to,  
7308 guerrilla warfare, subversion, sabotage, intelligence activities, and unconventional  
7309 assisted recovery. (reference (uu)).

7310  
7311 P2.21.4 Unicast: A transmission mode in which a single message is sent to a single  
7312 network destination; i.e., one-to-one. (references (b), (v), and (vvv)).

7313  
7314 P2.21.5 Unified Modeling Language (UML): A general purpose, standardized  
7315 specification (modeling) language for object modeling that includes a graphical notation  
7316 used to create an abstract model of a system. (reference (iii)).

7317  
7318 P2.21.6 Unit: A basis of measurement. (references (b) and (y)).

7319  
7320 P2.21.1 Unit Conversion: A system of converting measurement from one basis to  
7321 another; for example, English/metric, knots/feet per second, etc. (reference (b)).

7322  
7323 P2.21.2 Universal Time [Coordinated] (UTC): A measure of time that conforms,  
7324 within a close approximation, to the mean diurnal rotation of the Earth and serves as the  
7325 basis of civil time-keeping. Universal time (UT1) is determined from observations of the  
7326 stars, radio sources, and also from ranging observations of the Moon and artificial Earth  
7327 satellites. The scale determined directly from such observations is designated Universal  
7328 Time Observed (UTO); it is slightly dependent on the place of observation. When UTO  
7329 is corrected for the shift in longitude of the observing station caused by polar motion, the  
7330 time scale UT1 is obtained. When an accuracy better than one second is not required,  
7331 Universal Time can be used to mean Coordinated Universal Time (UTC). Also called  
7332 "Universal Time [Coordinated]" or "Zulu Time." (reference (ddd)).

7333  
7334 P2.21.3 Universal Transverse Mercator (UTM): A Military grid system based on  
7335 the transverse Mercator projection, applied to maps of the Earth's surface extending to  
7336 84°N and 80°S latitudes. (reference (ggg)).

7337

7338 P2.21.4 Universal Space Rectangular (USR) Coordinate System: A right-handed  
7339 orthogonal coordinate system with its origin at the center of the Earth, positive x-axis in  
7340 the equatorial plane and passing through the zero degree meridian, positive y-axis in the  
7341 equatorial plane and passing through the ninety degree east meridian, and positive z-axis  
7342 passing through the North Pole. (reference (ggg)).  
7343

7344 P2.21.5 Update rate: Maximum frequency of report of position, orientation, or  
7345 other regularly occurring event. (reference (b)).  
7346

7347 P2.21.6 User: Military, industrial, or academic organizations requiring access to the  
7348 DIS network. Prior to use, they will appoint one point of responsibility for their use of the  
7349 network. This person is the Exercise Manager. See: Simulation Manager. (reference (b)).  
7350

7351 a. Person interacting in the virtual world. (reference (b)).  
7352

7353 b. The individual or organization that accredits and uses the results or  
7354 products from a specific application of a model or simulation. (reference  
7355 (nn)).

7356

7357 P2.22. GLOSSARY V

7358

7359 P2.22.1 Validation: The process of determining the degree to which a model and its  
7360 associated data are an accurate representation of the real world from the perspective of  
7361 the intended uses of the model.((references (ee), (r), (kk), and (aaa)).

7362

7363 a. (1) Data validation is the documented assessment of data by subject area  
7364 experts and its comparison to known or best-estimate values. Data producer  
7365 validation is that documented assessment within stated criteria and  
7366 assumptions. Data user validation is that documented assessment of data as  
7367 appropriate for use in an intended M&S. (2) Distributed simulation  
7368 validation is the process of determining the degree to which a distributed  
7369 simulation is an accurate representation of the real world from the  
7370 perspective of its intended use(s) as defined by the requirements. (3) Face  
7371 validation is the process of determining whether a model or simulation  
7372 based on performance seems reasonable to people knowledgeable about the  
7373 system under study. The process does not review software code or logic,  
7374 but rather reviews the inputs and outputs to assure that they appear realistic  
7375 or representative. (4) Model/simulation validation is the process of  
7376 determining the degree to which a model is an accurate representation of  
7377 the real world from the perspective of the intended use(s) of the model.  
7378 (reference (p)).

7379

7380 P2.22.2 Validity: The quality of maintained data that is found on an adequate  
7381 system of classification (e.g., data model) that is rigorous enough to compel acceptance.  
7382 (references (tt) and (rr)).

7383

7384 P2.22.3 Variable: A quantity or data item whose value can change. See: Dependent  
7385 Variable; independent variable; state variable. Contrast with: constant. (references (b) and  
7386 (y)).

7387

7388 P2.22.4 Variance reduction: Procedure used to increase the precision of the  
7389 estimates that can be obtained for a given number of iterations. (reference (iii)).

7390

7391 P2.22.5 Vector: The vector structure, in contrast to the single pixel value of raster  
7392 features, describes features objectively and subjectively in great detail. Vector features  
7393 are points, lines, or areas defined by polygons. The vector structure is more flexible  
7394 because at any magnification it preserves feature content and retains maximum digitized  
7395 positional accuracy. Vector is not a simple data structure like raster; it requires  
7396 sophisticated data manipulation software at an additional significant storage cost.  
7397 (reference (ooo)).

7398

7399 P2.22.6 Verification: The process of determining that a model or simulation  
7400 implementation accurately represents the developer's conceptual description and  
7401 specification. Verification also evaluates the extent to which the model or simulation has  
7402 been developed using sound and established software engineering techniques. (references  
7403 (ww) and (qq)).  
7404

7405 a. 1. Data verification is the use of techniques and procedures to ensure that  
7406 data meets specified constraints defined by data standards and business  
7407 rules. Data producer verification is the use of techniques and procedures to  
7408 ensure that data meets constraints defined by data standards and business  
7409 rules derived from process and data modeling. Data user verification is the  
7410 use of techniques and procedures to ensure that data meets user specified  
7411 constraints defined by data standards and business rules derived from  
7412 process and data modeling and to ensure that data are transformed and  
7413 formatted properly. 2. Distributed simulation verification is the process of  
7414 determining that an implementation of a distributed simulation accurately  
7415 represents the developer's conceptual description and specifications. 3  
7416 Model/simulation verification is the process of determining that a model  
7417 implementation accurately represents the developer's conceptual  
7418 description and specifications. (references (r), (kk), (ee), (hhh), (p)).  
7419

7420 P2.22.7 Verification Agent: The person or organization designated to perform  
7421 verification of a model, simulation, or federation of models and/or simulations and the  
7422 associated data. (reference (ww)).  
7423

7424 P2.22.8 Verification and Validation (V&V) Proponent: The agency responsible for  
7425 ensuring verification and validation is performed on a specific model or simulation.  
7426 (reference (b)).  
7427

7428 P2.22.9 Video Game: A virtual experience carefully designed to be entertaining  
7429 (among other things). (reference (ffff)).  
7430

7431 P2.22.10 Video see through: Work by combining a closed-view HMD with one or  
7432 two head-mounted video cameras. The video cameras provide the user's view of the real  
7433 world. Video from these cameras is combined with the graphic images created by the  
7434 scene generator, blending the real and virtual. (reference (b)).  
7435

7436 P2.22.11 Vignette: A self-contained portion of a scenario. (reference (b)).  
7437

7438 P2.22.12 Virtual: Refers to the essence or effect of something, not the actual item.  
7439 (reference (n)).

7440  
7441 P2.22.13 Virtual Battlespace: The illusion resulting from simulating the actual  
7442 battlespace. (reference (b)).

7443  
7444 P2.22.14 Virtual Battle Space 2 (VBS2): VBS2 is a first person simulation based  
7445 training system capable of emulating and simulating a wide variety of weapon systems  
7446 and generating high fidelity via geo-specific 3D terrain databases engineered for use on  
7447 VBS2 gaming engine. VBS2 provides small unit echelons opportunity to continuously  
7448 review, and rehearse Command and Control. (reference (sss)).

7449  
7450 P2.22.15 Virtual Images: Visual, auditory, haptic, and tactile stimuli that are  
7451 transmitted to the sensory organs so they appear to originate from within the three-  
7452 dimensional space surrounding the user. (reference (n)).

7453  
7454 P2.22.16 Virtual Network: The interconnection of Distributed Interactive Simulation  
7455 cells by any communications means that provide the necessary network services to  
7456 conduct an exercise. (references (b) and (vvv)).

7457  
7458 P2.22.17 Virtual Prototype: A model or simulation of a system placed in a synthetic  
7459 environment and used to investigate and evaluate requirements, concepts, system design,  
7460 testing, production, and sustainment of the system throughout its life cycle. (reference  
7461 (qq)).

7462  
7463 P2.22.18 Virtual Reality: The effect created by generating an environment that does  
7464 not exist in the real world. Usually, a stereoscopic display and computer-generated three-  
7465 dimensional environment gives the immersion effect. The environment is interactive,  
7466 allowing the participant to look and navigate about the environment, enhancing the  
7467 immersion effect. Virtual environment and virtual world are synonyms for virtual reality.  
7468 (references (d), (gg), and (n)).

7469  
7470 a. Virtual Reality (Wearable): With virtual reality, a participant uses an HMD  
7471 to experience an immersive representation of a computer-generated  
7472 simulation of a virtual world. In this case, the user does not view the real  
7473 world and is connected to the computer rendering the scene with a cable,  
7474 typically allowing about 3-4 meters of movement. (reference (b)).

7475  
7476 P2.22.19 Virtual Simulation: Virtual simulations involve real people operating  
7477 simulated systems. A video game or a cockpit mockup used to train pilots are examples  
7478 of virtual simulation. A simulation involving real people operating simulated systems.  
7479 Virtual simulations inject human-in-the-loop in a central role by exercising motor control

7480 skills (e.g., flying an airplane), decision skills (e.g., committing fire control resources to  
7481 action), or communication skills (e.g., as members of a C4I team). (reference (nn) and  
7482 (iii)).

7483

7484 P2.22.20 Virtual Time: See: Simulated Time. (reference (b)).

7485

7486 P2.22.21 Virtual Training Domain: A simulator-based training environment that  
7487 trains real people using virtual simulators that physically replicate the working  
7488 environments of real mission systems operating within realistically simulated operational  
7489 battlespace environments and scenarios. (reference (nn)).

7490

7491 P2.22.22 Virtual World: 1. An imaginary space often manifested through a medium.  
7492 2. A description of a collection of objects in a space and the rules and relationships  
7493 governing those objects. (reference (gg)).

7494

7495 P2.22.23 Visualization: The formation of an artificial image that cannot be seen  
7496 without a display device. The image can be animated to display time varying data.  
7497 (reference (n)).

7498

7499 P2.22.24 Visualization Pipeline: Process of creating visual representation from  
7500 simulation data. The pipeline describes a step-wise process involving four phases,  
7501 namely:

7502

7503 a. Data analysis – preparation of raw simulation data for visualization (e.g., by  
7504 applying a smoothing filter or interpolating missing values). This step is  
7505 computer centered, with little or no user interaction.

7506

7507 b. Filtering – Selection of data portions to be visualized, this step is usually  
7508 user-centered.

7509

7510 c. Mapping or transformation – Focus data are mapped to geometric  
7511 primitives (e.g., points, lines) and their attributes (color, position, size).  
7512 This is the most critical step for achieving effective visual representation.

7513

7514 d. Rendering- Geometric data are transformed into visuals (e.g., pixel-based  
7515 image in 2D, or a 3D model. (reference (kk)).

7516

7517 P2.22.25 Visual Stealth: A component that provides the capabilities for visually  
7518 observing a Distributed Interactive Simulation exercise without participating in the  
7519 Distributed Interactive Simulation exercise interaction. (reference (b)).

7520

7521 P2.23. GLOSSARY W, X, Y, & Z

7522  
7523 P2.23.1 Warfare Simulation: A model of warfare or any part of warfare for any  
7524 purpose (such as analysis or training). (references (b) and (xxx)).

7525  
7526 P2.23.2 War Game: A simulation game in which participants seek to achieve a  
7527 specified military objective given preestablished resources and constraints; for example, a  
7528 simulation in which participants make battlefield decisions and a computer determines  
7529 the results of those decisions. Syn: Constructive Simulation; Higher Order Model.  
7530 (references (b) and (y)).

7531  
7532 P2.23.3 Wargaming: Simulating, by whatever means, a military operation  
7533 involving two or more opposing forces, using rules, data and procedures designed to  
7534 depict an actual or assumed live situation. (reference (ddd)).

7535  
7536 P2.23.4 White Box Model: A model whose internal implementation is known and  
7537 fully visible; for example, a model of a computerized change-return mechanism in a  
7538 vending machine, in the form of a diagram of the circuits and gears that make the change.  
7539 (references (b) and (iii)).

7540  
7541 P2.23.5 White Box Testing: Inner workings of the module are examined as part of  
7542 the testing to ensure proper functioning. (reference (c)).

7543  
7544 P2.23.6 Wide Area Network (WAN): A communications network designed to  
7545 support interactions across large geographic areas. (references (b) and (y)).

7546  
7547 P2.23.7 World Coordinate System: The right-handed geocentric Cartesian system.  
7548 The shape of the world is described by the World Geodetic System 1984 standard. The  
7549 origin of the world coordinate system is the centroid of the earth. The axes of this system  
7550 are labeled X, Y, and Z, with: the positive X-axis passing through the Prime Meridian at  
7551 the Equator; the positive Y-axis passing through 90 degrees East longitude at the  
7552 Equator; and the positive Z-axis passing through the North Pole. (references (b), (v), and  
7553 (y)).

7554  
7555 P2.23.8 World Geodetic System 1984 (WGS 84): A geocentric coordinate system  
7556 which describes a basic frame of reference and geometric figure for the Earth, and which  
7557 models the Earth from a geometric, geodetic, and gravitational standpoint. The WGS 84  
7558 coordinate system origin and axes also serve as the x, y, and z axes of the WGS 84  
7559 ellipsoid, the z axis being the rotational axis. (reference (ii)).

7560

7561 P2.23.9 World View: The view each simulation entity maintains of the simulated  
7562 world from its own vantage point, based on the results of its own simulation and its  
7563 processing of event messages received from all external entities. For computer generated  
7564 forces and for manned simulators or real vehicles, the world view is the perceptions of  
7565 the participating humans. (references (b), (iii), and (vvv)).

7566  
7567 P2.23.10 Yaw: Rotation around the Z axis. (reference (b)).  
7568

7569 P2.23.11 Yoked Variable: One of two or more variables that are dependent on each  
7570 other in such a manner that a change in one automatically causes a change in the others.  
7571 (references (b) and (y)).  
7572

7573 P2.23.12 Z-buffer: The management of image depth coordinates in three-  
7574 dimensional (3-D) graphics, usually done in hardware, sometimes in software. Also  
7575 known as depth buffering. (reference (iii)).