UAF® PROFILE

Cameo Government/Defense Quick Reference Guide

AT A GLANCE

The Truth is in the Models ®

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ALL VIEWS VIEWPOINT

The *AV-1 All Views* Report is an executive-level summary including assumptions, constraints, and limitations that may affect high-level decisions relating to an architecture. In an enterprise repository environment, individual architectures are mapped against enterprise phases to provide context between the architectures. An *AV-1 All Views* Report typically provides documentation of all the architecture artifacts.

Enterprise Goal: A specific, required objective of the enterprise that the architecture represents.
Actual Enterprise Phase: A portion of the enterprise that addresses a subset of capabilities toward the fulfillment of the mission.
Architectural Description: Provides the information that scopes the architecture in terms of purpose, artifacts, tools used, the architectural framework, approving authority and more.
High-Level Operational Concept: See OV-1

AV-2 Integrated Dictionary

The *AV-2* Integrated Dictionary is a table containing the metadata for all selected model elements.

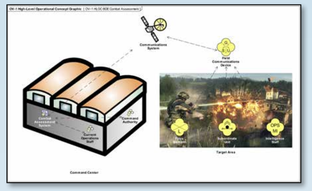
#	Name	Definition	UPDM Type	Used in Diagrams
1	Command Center		ConceptRole [Property]	OV-1 HLOC BDE Combat Assessment
2	Communications System		ConceptRole [Property]	OV-1 HLOC BDE Combat Assessment
3	Command Center		Location [DataType]	AV-1 Diagram1

OPERATIONAL VIEWPOINT

OV-1 High-Level Conceptual Overview

The OV-1 High-Level Conceptual Overview diagram illustrates the primary scenario for which the architecture is intended.

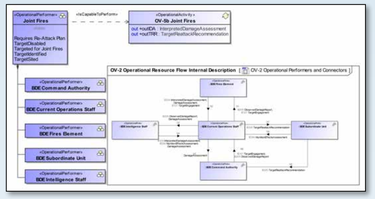
Operational Performers: Conceptual participants in the primary scenario of the architecture.
Arbitrary Relationship: The simplest indication that there is some kind of relationship that must be detailed in the architecture.



OV-2 Resource Flow Description

The OV-2 Resource Flow Description shows the main Operational Performers of the architectural scenario and the flows of information and materiel between these Operational Performers specified in the DIV-1 Conceptual Data Model

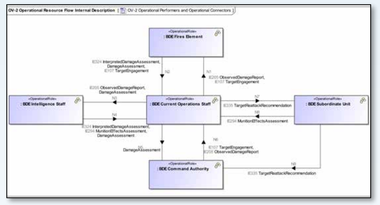
Operational Association: An operational association describes a structural relationship between operational performers. An operational role can provide the means to pass operational exchanges between operational performers.
Operational Exchange: Describes the characteristics of the item(s) passed between Operational Performers such as an Information Exchange, OrganizationalExchange, EnergyExchange, MaterielExchange, ConfigurationExchange, or GeoPoliticalExtent.



OV-2 Operational Resource Flow Internal Description

The OV-2 Operational Resource Flow internal Description diagram shows the interaction of Operational Performers within the aggregate Development Operational Performer. The diagram also illustrates the Operational Exchanges in to and out of the Development Operational Performer. Furthermore, the diagram depicts which internal part consumes each input and which part produces each output. An Operational Performer that is Part of another Whole Operational Performer appears as an Operational Role within that enclosing Operational Performer.

Operational Connector: A operational connector documents the requirement to exchange information between nodes. The operational connector does not indicate how the information transfer is implemented.
Operational Port: A port is a property of an Operational Performer that specifies a distinct interaction point between the operational performer and its environment or between the (behavior of the) operational performer and its internal parts. It is the "entry/exit" point where resources (e.g., energy, information/data and people, etc) flow in and out of a node.
Operational Role: Represents the internal elements (other nodes) of an operational performer.



OV-3 Operational Resource Matrix

The OV-3 Operational Resource Matrix lists each Operational Exchange specified in the Operational Viewpoint. Additionally, the matrix presents for each Operational Exchange it's conveyed Operational Exchange Items, its Sending and Receiving Operational Performers, its producing and consuming Operational Activities and any additional aspects the user chooses to define.

#	Exchange ID	Operational Exchange Item	Sending Operational Performer	Receiving Operational Performer	Producing Operational Activity	
1	OE11	IE101 TargetEngagement	BDE Command Authority	BDE Current Operations Staff	Identify Target::Contextual Engage[Target]	Ba
2	OE2	IE201 ObservedDamageReport	BDE Command Authority	BDE Current Operations Staff	Develop Observed Damage Report::Contextual As	Co
3	OE3	IE209 ObservedDamageReport	BDE Current Operations Staff	BDE Fires Element	Analyze Observed Damage Report::Contextual As	Re
4	OE4	IE209 ObservedDamageReport	BDE Current Operations Staff	BDE Intelligence Staff	Analyze Observed Damage Report::Contextual As	Co
5	OE5	IE309 InterpretedDamageAssessment	BDE Fires Element	BDE Current Operations Staff	Develop PE Interpreted Damage Assessment::Co	Re
6	OE6	IE310 InterpretedDamageAssessment	BDE Intelligence Staff	BDE Current Operations Staff	Develop Intel Interpreted Damage Assessme::Co	Re
7	OE7	IE409 DamageAssessment	BDE Fires Element	BDE Current Operations Staff	Provide Damage Assessment::Contextual Assess	Co
8	OE8	IE409 DamageAssessment	BDE Current Operations Staff	BDE Command Authority	Analyze Damage Assessment::Contextual Assess	Co
9	OE9	IE204 MunitionEffectsAssessment	BDE Subordinate Unit	BDE Current Operations Staff	Develop On-Site Munitions Effects Assessment::Co	Re
10	OE10	IE204 MunitionEffectsAssessment	BDE Intelligence Staff	BDE Current Operations Staff	Collaborate on Intel Damage Assessment	Co
11	OE11	IE101 TargetEngagement	BDE Current Operations Staff	BDE Fires Element	Develop Intel Munitions Effects Assessment::Co	Re
12	OE12	IE101 TargetEngagement	BDE Fires Element	BDE Current Operations Staff	Initiate Target Engagement::Contextual Engage[Ta	Ba
13	OE13	IE409 DamageAssessment	BDE Current Operations Staff	BDE Intelligence Staff	Engage[Target]::Contextual Engage[Target]	Co
14	OE14	IE409 DamageAssessment	BDE Intelligence Staff	BDE Current Operations Staff	Collaborate on Operations Damage Assessme::Co	Co
15	OE15	IE409 DamageAssessment	BDE Intelligence Staff	BDE Current Operations Staff	Collaborate on Intel Damage Assessment	Co
16	OE16	IE409 DamageAssessment	BDE Current Operations Staff	BDE Intelligence Staff		
17	OE17	IE101 TargetRestrictedReccommendation	BDE Current Operations Staff	BDE Subordinate Unit	Collaborate on Target Re-attack Recommend::Co	
18	OE18	IE101 TargetRestrictedReccommendation	BDE Subordinate Unit	BDE Command Authority	Analyze Target Re-attack Recommendation	

OV-4 Typical Organizational Relationships Chart

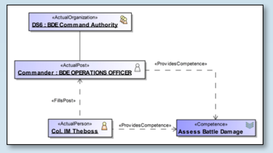
The OV-4 Typical Organization Chart illustrates the command structure or relationships among human roles, organizations, or actual organizations that are the key players in architecture.

Organization: A group of persons, associated for a particular purpose.
Post: A role or job description that «Requires Competence» for a specific Competence.
Responsibility: Task/s assigned to a resource.
Competence: The ability, coming from one's knowledge, practice, aptitude, etc., to do something well.
«Requires Competence» Dependency: Identifies the competence required for the fulfillment of a responsibility.
«Command» Dependency: Identifies that one resource directs another resource.

OV-4 Actual Organizational Relationships Chart

The OV-4 Actual Organization Chart illustrates the command structure or relationships (as opposed to relationships with respect to a business process flow) among human roles, organizations, or actual organizations that are the key players in architecture.

Actual Organization: A specific real-world assemblage of people and other resources organized for an on-going purpose.
Actual Post : An actual, specific post, an instance of a Post. Gen, e.g. "President of the United States of America."
Actual Person : Named individual that fulfills an Actual Post. An individual human being (vs Person which is a type), that is recognized by law as the subject of rights and duties.
Fills Post : A relationship showing that an Actual Person has the skills to function in the role defined by an Actual Post.



OV-5a Operational Activity Decomposition Tree

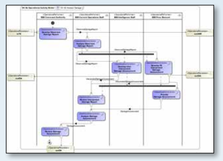
The OV-5a Operational Activity Decomposition Tree presents structure of an individual Operational Activity in terms of sub-activities. It may span several layers of sub-activities. The diagram may include the information elements produced and consumed by OperationalActivities.

Operational Activity: An activity is an action performed in conducting the business of an enterprise. It is a general term that does not imply a placement in a hierarchy (e.g., it could be a process or a task as defined in other documents and it could be at any level of the hierarchy of the OV-5). It does not describe hardware/software system Functions (see SV-4).

OV-5b Operational Activity Model

The OV-5b Operational Activity Model depicts a workflow, showing processes and information passing between processes. The diagram utilizes UML Activity Diagram notation to model Control Flow and Object Flow between Operational Activities, including decision and merge, as well as fork and join logical operators. For the modeling elements used to construct an OV-5b diagram refer to the UML Activity Diagram.

Operational Activity Action: The Operational Activity Action is defined as a call behavior action that invokes the activity that needs to be performed.
Operational Parameter: Represents inputs and outputs of an Operational Activity. It is typed by Operational Exchange Item.



OV-6a Operational Rules

The OV-6a Operational Rules matrix catalogs parameters for the operation of the solution model.

Operational Constraint: A principle or condition that governs behavior; a prescribed guide for conduct or action.
Rule Kind: Enumeration of possible kinds for restrictions on the system architecture.

#	Applies To	Name	Rule Specification	Rule Kind
1	Engage[Target]::Contextual Engage[Target]	Target Engagement Timeliness	Must be accomplished within 2 minutes after sourceConstraint
2	Develop Intel Munitions Effects Assessment::Contextual	Timing of Exchange	Process the first GMI, then add observation from the second GMI.	Guidance

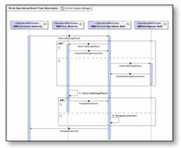
OV-6b Operational State Transition Description

The OV-6b Operational State Transition Description models how and why an element changes in response to the environment. OV-6b is based on the UML State Machine concepts and notations. Note however, that UPDM uses states independent of any specific entity. Thus states are often simply defined in a library and applied where needed.

State: A description of the condition of an object in terms of the values of its various properties and relationships.
Transition: A change from one state to another, including an option Trigger, Signal, Operation Call, and guard conditions.
Guard: A Boolean expression that must be satisfied before a transition may occur.
Initial State: A pseudo-state (Ball's eye) describing the condition of the object at its inception.
Final State: A pseudo-state (Bull's eye) describing a state from which the object cannot transition.
Trigger: An event that causes the transition to occur.
Signal: An asynchronous message that corresponds to a signal receptor on an object. The receipt of the signal may be a trigger for a transition.

OV-6C Event Trace

The UPDM OV-6c Event Trace utilizes the standard UML Sequence Diagram concepts and notations.
Lifeline:

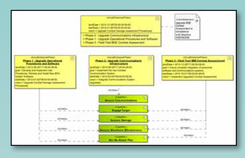


CAPABILITY VIEWPOINT

CV-1 Vision

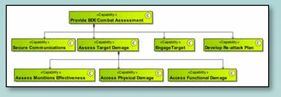
The **CV-1 Vision** diagram depicts a schedule for delivering the Capabilities of the Enterprise.

Capability: The ability to achieve a desired effect under specified [performance] standards and conditions through combinations of ways and means [activities and resources] to perform a set of activities.
Vision: The definition of strategic context for a group of capabilities, measured by a timeline and specific goals.
Vision Statement: Narrative form of the Vision
Exhibits: Used to link architecture elements to the capabilities they provide.



CV-2 Capability Taxonomy

The CV-2 Capability Taxonomy describes the relationships between individual capabilities including composition, association, and generalization.

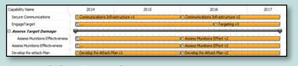


CV-3 Capability Provisioning

In the CV-3 *Capability Provisioning* diagram the Production Capability and its constituent Capabilities are arranged along the Time Line according to their Increment Dates. This illustrates the provisioning of the Production Capability over calendar time.

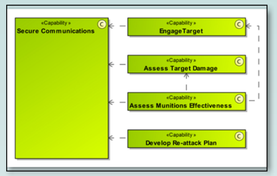
Necessary data for the chart is obtained from:

1. The Capability Configurations, as modeled in an SV-1.
2. The tracing between Capabilities to Capability Configurations, as modeled in a Capability to Capability Configuration matrix.
3. Capability Increment Dates, as modeled from the Project Portfolio Chart (PV-2).



CV-4 Capability Dependencies

The CV-4 Capability Dependencies diagram depicts relationships between capabilities in which one capability cannot succeed without some form of assistance from another capability.

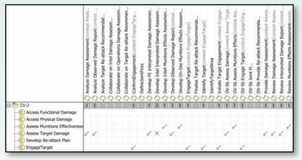


CV-5 Capability to Organizational Development Mapping

CV-5 Capability to Organizational Development Mapping report shows the planned capability deployment for a resource and the responsible organization.

CV-6 Capabilities to Operational Activities

CV-6 Capabilities to Operational Activities matrix summarizes how Operational Activities support Capabilities.



CV-7 Capabilities to Services

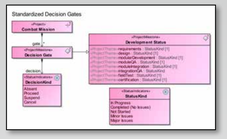
CV-7 Capabilities to Services matrix summarizes how Service Specifications support Capabilities.

PROJECT VIEWPOINT

PV-1 Typical Project Structure

TThe PV-1 Typical Project Structure diagram illustrates the typical portfolio of Projects that the Enterprise uses to specify Actual Projects, Actual Project Milestones, and the Status of those Actual Projects. A PV-1 diagram also provides information necessary for the construction of PV-2 Project Timeline and PV-3 Capability Phasing diagrams.

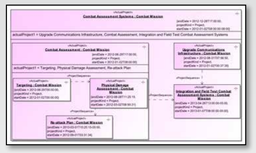
Project: A temporary endeavor undertaken to create Resources or Desired Effects.
Status Indicator: An enumeration of the possible statuses for one of more Project Themes.
Project Milestone: An element representing a collection of themes (e.g. IIS,GO or DOTMLPF) which defines a Project. This is used as a template for Actual Project Milestones.
Project Theme: An aspect by which the progress of various Actual Projects may be measured.



PV-1 Actual Project Structure

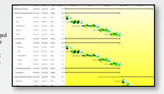
The PV-1 Actual Project Structure diagram illustrates the typical portfolio of Projects that the Enterprise uses to specify Actual Projects, Actual Project Milestones, and the Status of those Actual Projects.

Actual Project: A temporary endeavor undertaken to create Resources or Desired Effects.
Project Sequence Dependency: Identifies the order of execution within a set of projects.
Actual Project Milestone: An event in an ActualProject by which progress is measured.
Milestone Sequence: A relationship defining the ordering of milestone within a project.



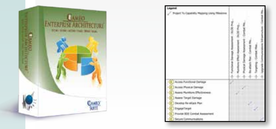
PV-2 Project Portfolio

The PV-2 Project Portfolio chart plots Actual Projects arranged along the Time Line according to their Dates. This illustrates the duration of the Actual Projects over calendar time. Necessary data for the chart is obtained from 1) The Project schema in PV-1 and 2) the Capability Configurations in SV-1.



PV-3 Project to Capability Mapping

The PV-3 Project to Capability Mapping is a matrix correlating Actual Projects to the Capabilities they deliver.



DATA & INFORMATION VIEWPOINT

DIV-1 Conceptual Model

The DIV-1 Conceptual Model defines the high-level information elements used in the operational scenarios.

Information Element: A conceptual definition of the data exchanged between elements of the architecture.
Data Element: The definition of a unit of information describing a resource of the system.

DIV-2 Logical Model

The DIV-2 Logical Data Model diagram illustrates resources from the Conceptual Data View in the DIV-1 and as used in OV-2 and OV-3 by providing additional detail such as attributes multiplicities, data types, and relationships.

DIV-3 Physical Model

The DIV-3 Physical Data Model defines the structure of the various kinds of system or service data that are utilized by the systems or services in the Architecture.
«table» : Stereotype used for modeling databases and generating SQL.

STANDARDS VIEWPOINT

StdV-1 Standards Profile

The StdV-1 defines the technical, operational, and business standards, guidance, and policy applicable to the architecture being described. As well as identifying applicable technical standards, the DoDAF V2.0 StdV-1 also documents the policies and standards that apply to the operational or business context. Each Standards profile is assigned a specific timescale (e.g., "As-Is", "To-Be", or transitional). Linking the profile to a defined timescale enables the profile to consider both emerging technologies and any current technical standards that are expected to be updated or become obsolete. If more than one emerging standard time-period is applicable to an architecture, then a StdV-2 Standards Forecast should be completed.
Standard: External and internal rules that govern choices in the architecture such as those contained in the DISR.

StdV-2 Standards Forecast

The StdV-2 contains expected changes in technology related standards, operational standards, or business standards and conventions, which are documented in the StdV-1 model. The forecast for emerging standards and technologies need to be correlated against the time periods mentioned in the SV-8 Systems Evolution Description, SvcV-8 Services Evolution Description, SV-9 Systems Technology & Skills Forecast, and SvcV-9 Services Technology & Skills Forecast models.
Timescale: A start and end time bounding a period. In the Standards Viewpoint this means a period of time when the included standards/policies are in effect. This supports the identification of when standards or versions of standards will be in effect or become obsolete.

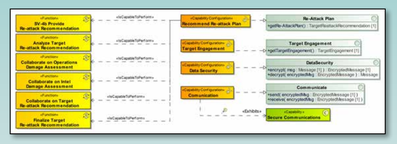
#	Technology area	From: 2012-01-02 To: 2013-01-02	From: 2013-01-02 To: 2014-01-02
1	ISO 9001:2008	ISO 9001:2008	ISO 9001:2008 ISO 9004:2009
2	ISO 28000	ISO 28000	ISO 28000 ISO 28001:2007

SERVICES VIEWPOINT

SvcV-1 Services Context Description

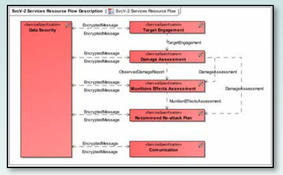
The SvcV-1 links together the operational and services architecture models by depicting how resources are structured and interact to realize the logical architecture specified in an OV-2 Operational Resource Flow Description. A SvcV-1 may represent the realization of a requirement specified in an OV-2 Operational Resource Flow Description (i.e., in a "To-Be" Architectural Description), and so there may be many alternative SvcV-1 models that could realize the operational requirement.

Exhibits: A Service Specification can provide all or part of a Capability
Is Capable To Perform: Used here to identify the traceability between service specifications and the operational behavior they are designed to provide.
Service Interface: An element that represents behaviors but does not provide their implementations (methods).
Service Method (on a Service Specification): An implemented behavior provided by a service specification.



SvcV-2 Services Resource Flow Description

The SvcV-2 shows the composition of services and how services are combined into a higher level service required to exhibit a capability or support an operational activity.



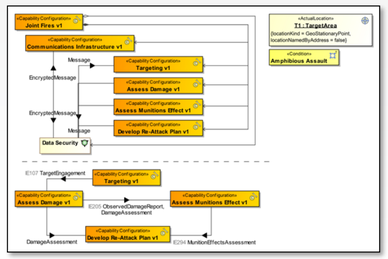
SvcV-3b Service to Service Matrix

The SvcV-3b identifies communication between Service Specifications. A single arrow represents connectors between Service Specification Roles (or Service Ports) where Service Specifications are used as types.

SV-1 System Interface Description

The **SV-1 System Interface Description** addresses the composition and interaction of Resources and Organizations.

System / ResourceArtifact: A combination of physical element, energy, and data that are combined used to accomplish a task or function.
Capability Configuration: A composite structure, guided by doctrine, representing the physical and human resources (and their interactions) in an enterprise designed to provide a Capability.
Implements: A relationship between an abstraction and the artifact that represents a tangible type of the abstraction.
Is Capable To Perform: A relationship that assigns responsibility to a System Resource for a specific Operational Act

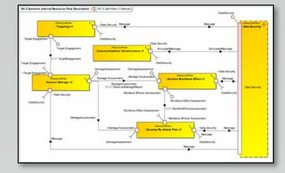


SYSTEMS VIEWPOINT

SV-2 Systems Internal Communication Description

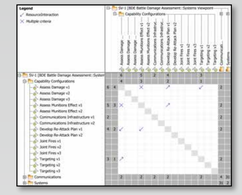
The SV-2 Systems Internal Communication Description represents communications networks and pathways that link systems and organizations.

Resource Port: Port is an interaction point for a resource through which it can interact with the outside environment.
Resource Connector: A physical connection between two resources that implements protocols through which the source resource can transmit items to the destination resource. It is specified by a Resource Interface.
Resource Interface: A contractual agreement between two resources that implement protocols through which the source resource to the destination resource. It is implemented by 1 or more Resource Connectors.
Resource Exchange: Represents data that is exchanged between the resources



SV-3 System to System Matrix

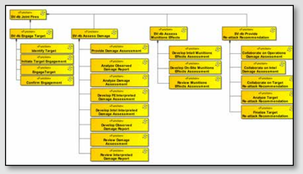
The SV-3 System to System Matrix identifies Resource Exchanges between systems.



SV-4a Systems Functionality Description (Decomposition)

The SV-4 Systems Functionality Description identifies all functions used by the system to implement the behaviors specified by the Operational Activities. The diagram may include depiction of the resources used by the functions, e.g. exchange elements and products of the architecture.

Function: Work, not specific to a single organization, weapon system or individual that transforms inputs (Resources) into outputs (Resources) or changes their state.
Environment / Condition: An object that encompasses meteorological, geographic, and control features mission significance.



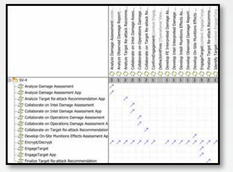
SV-4b Systems Functionality Flow Description

The **SV-4b Systems Functionality Flow Description** depicts assignment of functions to systems, organization, or (using swimlanes) conditional logic that governs the execution (decision, merge, fork, and join), and the flow of resources between functions (Object Flows and Resource Exchanges). The notation follows the UML Activity Diagram notation.

Function Action: A call behavior action that invokes the function that needs to be performed.
Resource Exchange Item: Represents the item(s) exchanged between the resources through a Resource Exchange [See SV-1].
Resource Performer: The participation of a system-level performer.
Resource Parameter: Represents inputs and outputs of Function, typed by Resource Exchange Item.
Resource Role: The use of a resource within a context such as a Capability Configuration or within another System.

SV-5a Operational Activity to Systems Function Traceability Matrix

The Operational Activity to Systems Function Traceability Matrix depicts the mapping of system functions (and, optionally, the capabilities and operational performers that provide them) to operational activities and thus identifies the transformation of an operational need into a purposeful action performed by a system or solution.



SV-6 Role-Based System Resource Interaction Matrix

The SV-6 System Resource Flow Matrix Lists all Resource Exchanges used in the architecture, including the producing and consuming system-level performers and their producing and consuming functions.

SV-7 Systems Typical Measures Matrix

The SV-7 Systems Typical Measures Matrix lists metrics that have been applied to the architecture's system-level elements. These measures may include security, performance, costs, and more.

Measurement: A property of something in the physical world, expressed in amounts of a unit of measure. The property may have a required value - either specified by the [defaultValue] from UML::property attribute, or the [minValue] and [maxValue] to specify a required range.
Measurement Set: A set or collection of Measurement(s).

#	Property Set	Measurements
1	Damage Assessment System	measurement - All Views Viewpoint::Measurement Types::Reaction Measurements
2	Data Security	measurement - All Views Viewpoint::Measurement Types::Reaction Measurements
3	Battle Communications System	measurement - All Views Viewpoint::Measurement Types::Reaction Measurements
4	Satellite	measurement - All Views Viewpoint::Measurement Types::Reaction Measurements
5	BDE CIG Mobile	measurement - All Views Viewpoint::Measurement Types::Reaction Measurements
6	Engage Target	measurement - All Views Viewpoint::Measurement Types::Reaction Measurements

SV-7 Systems Actual Measures Matrix

The SV-7 Systems Actual Measures Matrix lists values for the metrics that have been applied to the architecture's system-level elements.

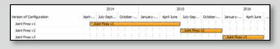
Actual Measurement Set: The set of values for the Measurements associated with a Measurement Set.

#	Property Set	Performance Requirement	Measure	Metric
1	Damage Assessment System	processingSpeed	AO	Frequency
2	Damage Assessment System	speedOfService	NRT	SpeedOfService
3	Damage Assessment System	availability	Medium	Availability
4	Data Security	frequency	AO	Frequency
5	Data Security	speedOfService	H	SpeedOfService
6	Data Security	availability	Medium	Availability
7	BDE CIG Mobile	frequency	AO	Frequency
8	Engage Target	availability	Basic	Availability
9	Satellite	speedOfService	NRT	SpeedOfService

SV-8 System Capability Configuration Management / Systems Evolution Matrix

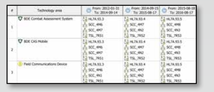
The SV-8 System Evolution presents a whole lifecycle view of resources (systems), describing how it changes over time. It shows the structure of several resources mapped against a timeline.

Whole Life Configuration: A set of versions of a Capability Configuration over time.
Version of Configuration: A part of a Whole Life Configuration that describes specific time period of the particular version.



SV-9 Systems Technologies and Skills Forecast

SV-9 Systems Technologies and Skills Forecast defines the underlying current and expected supporting technologies and skills. Expected supporting technologies and skills are those that can be reasonably forecast given the current state of technology and skills, and expected improvements/ trends. New technologies and skills will be tied to specific time periods, which can correlate against the time periods used in SV-8 milestones and linked to Actual Enterprise Phases.



SV-10a System Rules Model

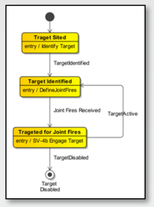
The SV-10a System Rules Model

Resource Constraint: A principle or condition that governs behavior; a prescribed guide for conduct or action.
Rule Kind: Enumeration of possible kinds for restrictions on the system architecture.

#	Applies To	Rule Specification	Rule Kind
1	Assess Damage v1 Assess Munitions Effect v1 Communications Infrastructure v1 Develop Re-Attack Plan v1 Joint Fires v1 Targeting v1 Battle Communications System	Phase 1 will need to incorporate integration of the capabilities The Communications System w include labor from several of our licensed vendors	Guidance

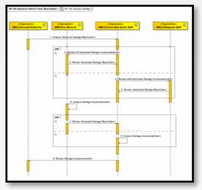
SV-10b System State Machine

The SV-10b System State Machine describes the life-cycle of system or resource in terms of its unique condition at any particular time, why the condition changes, and how it responds to external events under each condition. The diagram follows the modeling concepts and notation of the UML State Machine (also seen in the OV-5b diagram).



SV-10c System Event Trace

The SV-10c System Event Trace Description provides a time-ordered examination of the interactions between functional resources. Each event trace diagram will have an accompanying description that defines the particular system scenario or situation. The SV-10c is valuable for moving to the next level of detail from the initial solution design, to help define a sequence of functions and system data interfaces, and to ensure that each participating Resource or Resource role has the necessary information it needs, at the right time, in order to perform its assigned functionality.



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