Requirements Management

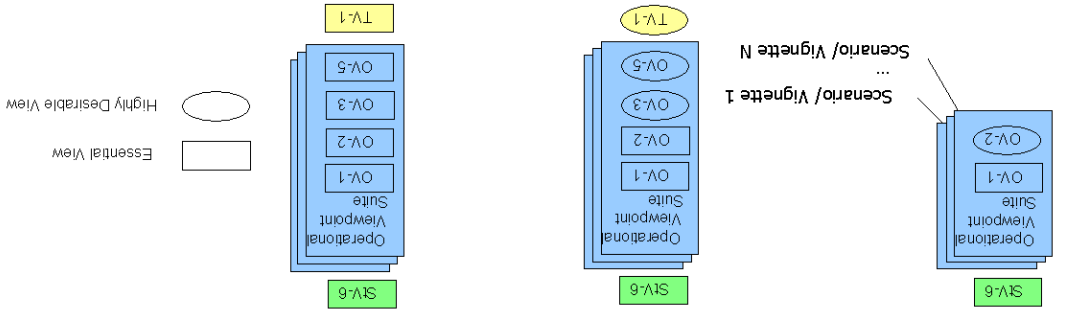
Prerequisites	1. Establish Intended Use	2. Define Architecture Scope	3. Develop Data Requirements	4. Capture Architecture	5. Conduct Analyses	6. Document Results
MODAF Governance		Inform Central Reg.	Query of Avail. Data Sources	Provide Extant Arch. Data; Publish Baseline to MODAR		Publish Final Arch. to MODAR
MODAF Users	User training - MODAF principles; Workshop - Determine Architecture Usage; Architectural Use Doc.	Workshop - Bound Architecture Scope; Workshop - Determine Use Cases; Plan of Time & Resources; Architectural Scope Doc.	Workshop - Establish Data Needs; Data Gathering Plan; Tool Selection	Tool-specific Training; Baseline Arch. Review; Baseline Architecture	Analysis Review; Initial Analysis; Final Analysis	Finalised Arch. Review; Finalised Architecture
MODAF Resources	MODAF Baseline; MODAF Training Material; MODAF Tiger Teams; MODAF Help Desk	MODAF Tiger Teams; MODAF Help Desk; Hybrid View Development	MODAF Tiger Teams; MODAF Help Desk; Certified Tool List; Tool Advice	MODAF Tiger Teams; MODAF Help Desk; MODAF Taxonomy; ERM / M3	MODAF Tiger Teams; MODAF Help Desk	MODAF Tiger Teams; MODAF Help Desk

The approach to developing a MODAF-compliant architecture is shown in the diagram above. This shows how a MODAF user within any community in the MOD goes about establishing the intended use, scope and data requirements, developing the architecture, using this to conduct the required analyses and documenting the results. A more detailed description of this six-stage architecture development process is provided in the Overview of MODAF (MODAF-M09-002).

1

User Requirements Document (URD)

Concept → IG → Assessment → MG → Demonstration

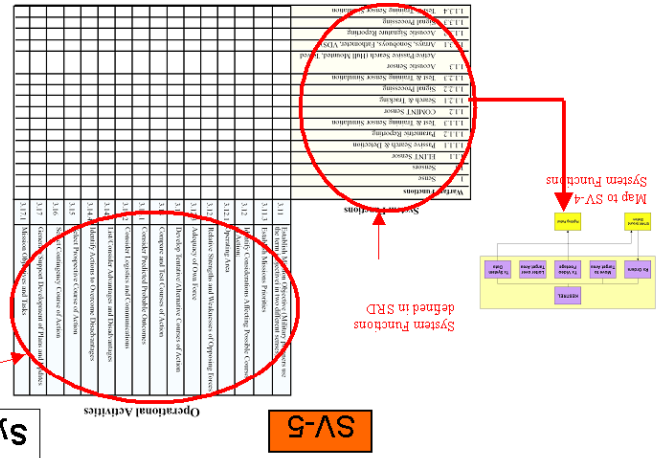


The URD is owned and developed by the Customer 1 community. The fianlised Equipment Programme (EP) is used as a basis for the selection and grouping of acquisition programmes. For these programmes, user requirement sets are developed and maintained throughout the acquisition process.

The diagram above shows how the URD MODAF Views mature through the CADMID Lifecycle. Please refer to the URD Reference Guide (MODAF-M10-003) and the Customer 1 Deskbook (MODAF-M10-004) for further information regarding URD development.

2

Maintain Linkage between User and System Requirements



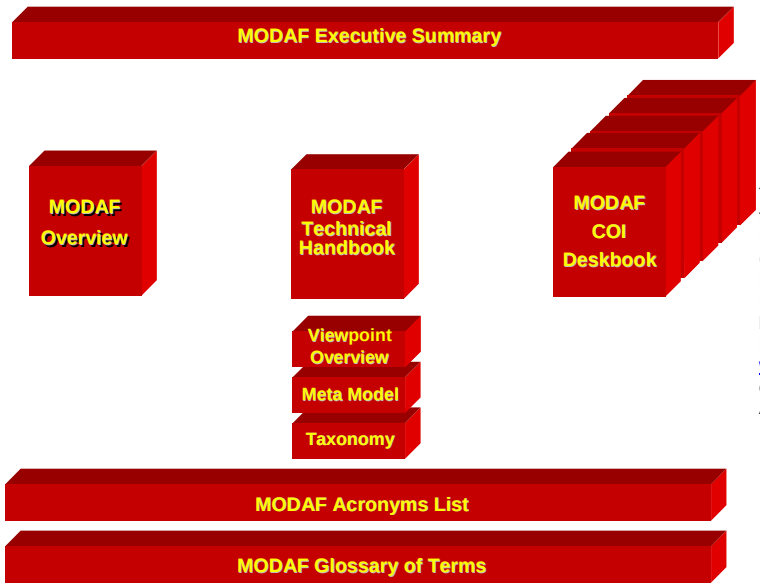
The SV-5 shall be kept updated during SRD development to ensure the linkage with the URD is maintained. SV-5 Operational Activity to Systems Function Traceability Matrix acts as the 'glue' between the URD and SRD. It is essential to show the operational activities laid down in the URD, and how these are met by the system functions required in the SRD. The SV-5 shall be kept up-to-date in parallel with development of the SRD, to ensure that the SRD is kept in-line with the URD.

It is also possible to link the functional decomposition in SV-4, Systems Functionality Description, (part of the SRD) with an allocation of functions to systems within the SV-5. Please refer to the SRD Reference Guide and the Acquisition Deskbook for further information regarding the use of SV-4.

3

8

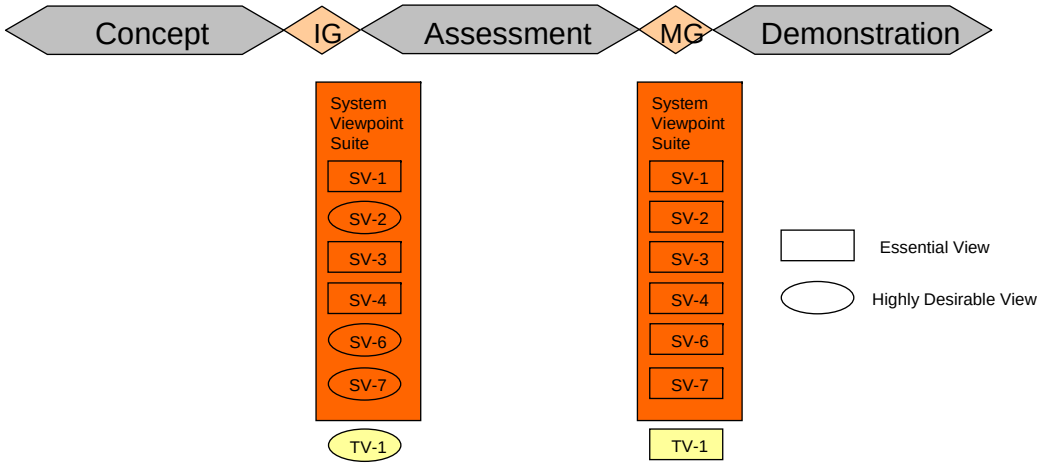
MODAF Document Hierarchy



This guide intends to provide the key information about the MOD Architectural Framework (MODAF) Views required for Requirements Management. More detailed information can be found in the Acquisition Deskbook, by referencing www.modaf.com, or by contacting the DPA Integration Authority

4

System Requirements Document (SRD)



The Operational Views developed along with the URD during the Concept Stage help inform the development of the System Views and the associated System Requirements Document (SRD). A draft SRD is developed for Initial Gate, and the document is refined during the Assessment Stage, producing an agreed version at Main Gate. The diagram above shows how the MODAF Views that support the SRD mature during the acquisition lifecycle. Please refer to the SRD Reference Guide and the Acquisition Deskbook for further information regarding SRD development.

5

MODAF architectures are particularly suited to the development of Validation and Verification (V&V) Requirements for the ITEAP. Although the ITEAP is intended to support test and evaluation conducted during Demonstration and Manufacture stages it is important that its production and refinement is commenced as early as possible in the CADMID cycle. In addition to the Views illustrated, any of the SRD Views may be used as the basis for the V&V Requirements in developing the ITEAP.

Integrated Evaluation, Testing and Acceptance – URD Views

StV-3

	Information Management	Effects
1. Strategic Range: 120km - 1000km Duration: 24hrs	**1. Analysis**	**1. Targeting** Accuracy: 10m
2. Operational Range: 20km - 120km Duration: 20hrs	**2. Fusion**	**2. Plan Engagement**
3. Tactical Range: 0km - 20km Duration: 16hrs	**3. Quality Assurance**	**3. Conduct Engagement**
	4. Dissemination	**4. Battle Damage Assessment**

OV-1c

	Measure	Value			
		As-Is	Epoch 1	Epoch 2	Target
Availability	Number of hours planned downtime	30 hrs/year	20 hrs/year	10 hrs/year	5 hrs/year
Maintainability	Support personnel required to sustain the system	50	40	30	25
Reliability	Number of hours unplanned downtime	10 hrs/year	5 hrs/year	3 hrs/year	1 hr/year

StV-2 Capability Taxonomy (with performance attributes added) and OV-1c Operational Performance Attributes will both provide sources of acceptance criteria for inclusion within the ITEAP. Both these Views are essential for creation by Customer 1, and so shall be included in the ITEAP as long as they are available.

6

SV-7

Integrated Evaluation, Testing and Acceptance – SRD Performance

Parameter ID	System / Element	Performance Requirement	Metric	Measure
Hardware				
H 1.1	SPECS 2 Transmitter	Transmission Rate	2	GB
H 2.1	SPECS 2 Receiver	Gain	60	dB
H 2.2		Signal To Noise Ratio	20	dB
H 3.1	SPECS 2 Signal Processor	Comms Channel Bandwidth Support	2	GB
H 4.1	SPECS 2 Video Recorder	Top-end Resolution	1024x2048	Pixels
H 4.2		Storage Capacity	20	Hours @ top-end resolution
Software				
S 1.1	Video analysis	Minimum target location co-ordinate accuracy	10	metres
		Minimum target speed accuracy	5	metres/sec
S 1.2	Target Status Alerting	Minimum status change alert accuracy	500	metres
		Minimum alert response time	30	seconds

SV-7 System Performance Parameters Matrix (which forms part of the SRD document suite) is also essential for inclusion in the ITEAP, to identify the performance characteristics against which the system will be accepted.

7

SV-3

Integrated Evaluation, Testing and Acceptance – Interoperability

	SAT COMM	BOWMAN	BDE HQ COMMS	PJHQ COMMS	AIRCRAFT CARRIER	ISTAR GROUND STATION	NEMESIS	SPECS 2	KESTREL
KESTREL		X	X						
SPECS 2				X	X	X			
NEMESIS		X	X	X	X				
ISTAR GROUND STATION		X	X						
AIRCRAFT CARRIER	X			X					
PJHQ COMMS	X		X						
BDE HQ COMMS	X	X							
BOWMAN									
SAT COMM									

SV-3 Systems-Systems Matrix may be useful as an 'at-a-glance' view of all the systems to which the new system should interface, which can be checked during testing.