

SV-9, the Systems Technology Forecast, shows how technology is expected to evolve in the short-, mid- and long-term. This informs the TLMF, showing whether there are any step-changes in available technology expected within the life of the system that will contribute to the system evolution strategy (see SV-8 on next page). If this is the case, upgrade costs need to be evaluated to keep the system up-to-date with the latest technology

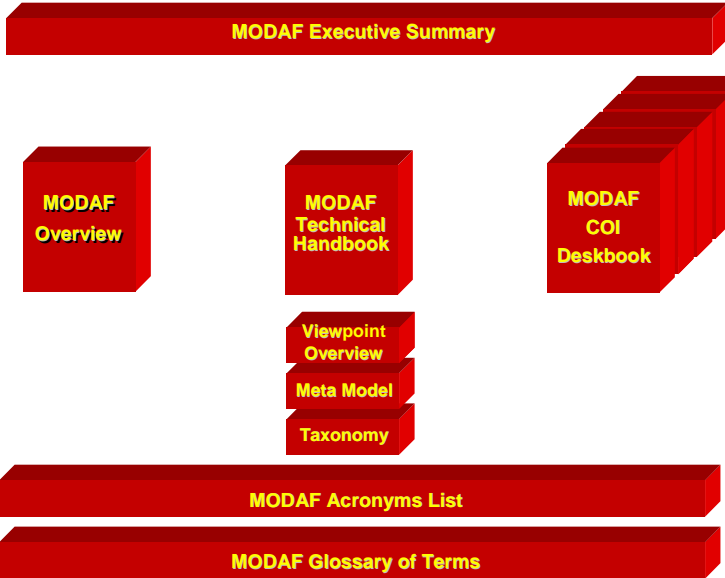
JTA Service		TECHNOLOGY FORECASTS	
	LONG TERM	MID TERM (6-12 Months)	SHORT TERM (0-5 Months)
Application Software			
Support Applications	Microsoft Office 2000 available for Windows 2000	Microsoft Office 2000 stable enough for full-scale implementation	Microsoft Office available for Linux
Data Management	Oracle 9i available	MySQL (open source)	
Operating System	Next MS Windows desktop upgrade expected	Next Red Hat Linux major release expected	
Physical Environment			Intel IA-64 becomes standard process for desktops
External Environment			
User Interface	Thin screen CRT monitors for PC desktops become price competitive	Thin screen LED monitors become price competitive for desktops	Conventional CRT technology obsolete
Persistent Storage	SG-FCMCA type 2 card available		Disk storage capacity doubles again
Communications Networks		Cable modem service available for most telecommuting staff	Fiber optic connections available for most telecommuting staff

Desktops may need upgrade in the long term to take advantage of new processors

Review Systems Technology Forecast

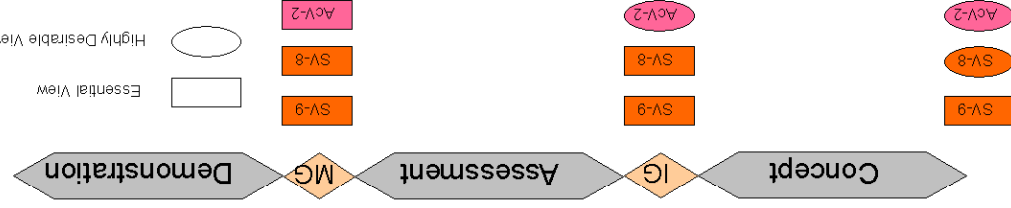
SV-9

MODAF Document Hierarchy



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

TLMF Development Sequence



MODAF Reference Guide Through-Life Management MODAF-M10-011

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	Workshop - Bound Architecture Scope Workshop - Determine Use Cases Plan of Time & Resources	Workshop - Establish Data Needs Data Gathering Plan Tool Selection	Tool-specific Training Baseline Arch. Review	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

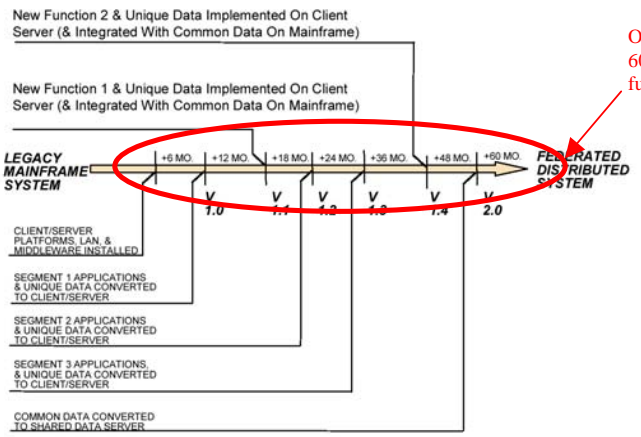
The approach to developing a MODAF-compliant architecture is shown in the diagram above. This shows how a MODAF user within any community in the MOD goes about establishing the intended use, scope and data requirements, developing the architecture, using this to conduct the required analyses and documenting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

The Through-Life Management Plan (TLMF) is initiated during the Concept Stage, and revised and refined throughout the CADMID cycle, as shown in the diagram above. Also, the TLMF for each CADMID stage should include detailed planning and assumptions necessary for the next stage

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SV-8

Develop System Evolution



Ongoing investment required over 60 months to implement full functionality

SV-8 Systems Evolution Description feeds into the Whole Life Costing by describing the transition of the new system into service (eg will this be an incremental release, building on functionality between Initial Operating Capability and Full Operating Capability, or is the entire required functionality included in the first system release). This will have an affect on the development and maintenance costs for inclusion in the TLMP

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TV-1

Service Area	Service	System Elements	Standard / Policy
Data Transfer	TCP/IP	BOWMAN	IP v6
Messaging	Email	BISA / Comms	MS Outlook Compliant JSP 324
Operating Systems	Workstations	BISA / Control Stations	
Data Interchange	Interoperability		OMG XMI 2.1

Build in Standards and Constraints

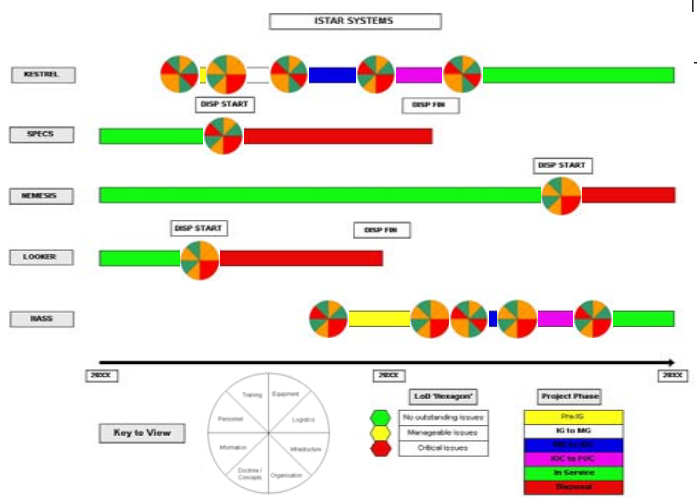
TV-2

TRM CATEGORY	STANDARDS FORECASTS		
	SHORT TERM (1 year)	MID TERM (3 years)	LONG TERM (5 years)
Application Platform			
Data Interchange Document interchange	Security Marking DTD - in CAPCO coordination (proposed ISO standard)		
Mapping	Geography DTD 2.0 - accepted by GIS Consortium	Commercial products that use the standard become available	
Communications Electronic Mail	Geospatial XSD - in coordination Open GIS		Geospatial XSD - accepted by Open GIS
World Wide Web Services	IE TF - Common Gateway Interface (CGI) 1.2 - becomes proposed standard	IE TF RFC2060 Internet Mail Access Protocol (IMAP) - accepted, replaces IMAP standard	IE TF - Common Gateway Interface (CGI) 1.2 - accepted, replaces CGI 1.1, the de facto standard
Communications Transport Services		IE TF - Wireless Extensions to TLS - becomes proposed standard	IE TF - RFC 2818 HTTP Over TLS - accepted, replaces RFC 2818
Security		IE TF - RFC 2246 The Transport Layer Security (TLS) Protocol Version 1.0 - accepted, replaces SSL	

The TLMP may also need to make reference to appropriate elements of the TV-1 and TV-2 that specify or forecast the regulations that are likely to apply to an equipment's ultimate decommissioning and disposal. This is becoming increasingly important as more environmental legislation is being introduced and the hazards associated with more materials and processes are being highlighted

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Detailed Planning for each CADMID Stage



AcV-2

The TLMP also contains the detailed plans for the current phase. The AcV-2 SoS Acquisition Programmes View shall therefore be refined as part of this planning activity. The TLMP is revised throughout the CADM stages as the solution, and therefore cost for development, support and upgrades, is defined in increasing granularity. As the industry supplier becomes more involved during the Demonstration and Manufacture Stages, the TLMP should be updated in consultation with the Industry supplier

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OV-1c

Integrated Logistic Support

Attribute	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

The focus on ILS begins during the Demonstration Stage, though this is considered for the solution options from the pre-Concept Stage, and ILS work continues throughout CADMID. OV-1c Operational Performance Attributes is essential for use to articulate the availability, sustainability, reliability and maintainability of the system