

STUDENT FINANCIAL ASSISTANCE (SFA) CONFIGURATION MANAGEMENT (CM) GAP ANALYSIS



Introduction and Purpose

The goal of the Software Configuration Management (SCM) Key Process Area (KPA) is to train individuals, provide templates, develop SFA processes, and make the Enterprise Level Configuration Management Group and the Enterprise Change Control Group deployment ready. The Key Process Area goal of providing documentation and training relevant to SCM at the enterprise level has largely been accomplished. However, since the placement of the organizations and the staffing of the positions have not yet been determined, training will likely need to be reinitiated and documentation will need to be re-engineered. In summary, many of the functions of an enterprise level change management organization are performed but not in a specific organization nor in a complete manner.

As part of the initiation of an Enterprise SCM set of organizations, two pilot projects were chosen to establish Configuration Management Plans and to perform project SCM. The two organizations (Enterprise Architecture Integration [EAI] and eCampus Based Services [CBS]) both created Configuration Management Plans and began operating their SCM functions. In addition to audits from the SCM KPA group, the Accenture CMM quality control group (QPI), as part of Accenture policy 1162, conducted their own audit of CBS. The two projects are responding to the reported observations and plan to have further refined their status of compliance by the end of the month.

This document evaluates the success to date of SFA in meeting this KPA goal. The Gap Analysis compares the Carnegie Mellon Software Engineering Institute's Capability Maturity Model (CMM) SCM KPA with the progress to date of the SFA counterpart.

The SCM KPA consists of 4 goals, 1 commitment to perform, 5 abilities, 10 activities, 1 measurement, and 4 verifications. The gap analysis describes the Enterprise effort first followed by a second gap analysis that summarizes the two pilot projects. The gap analysis describes each SCM KPA item, its presence, its evidence, and recommended corrections in turn.

**STUDENT FINANCIAL ASSISTANCE (SFA)
CONFIGURATION MANAGEMENT (CM) GAP ANALYSIS**



Software Configuration Management Key Process Area Traceability Matrix for the Enterprise Level

KPA	ITEM	DESCRIPTION	Y/N or %	Define the practice and where it is documented	If correction needed, identify what is to be done
Software Configuration Management (SCM)	Goal	1. Software configuration management activities are planned.	N	While this role is not specifically implemented at the SFA level, there are software activities and decisions that occur throughout SFA.	The Enterprise Configuration Management Plan provides a deployment ready solution for SFA.
	Goal	2. Selected software work products are identified, controlled, and available.	N	While this role is not specifically implemented at the SFA level, there are software work product activities and decisions that occur throughout SFA.	An Enterprise Configuration Management element needs to be created and deployed.
	Goal	3. Changes to identified software work products are controlled.	N	While this role is not specifically implemented at the SFA level, there are software change and control activities that occur throughout SFA.	An Enterprise Configuration Management element needs to be created and deployed.
	Goal	4. Affected groups and individuals are informed of the status and content of software baselines.	N	While this role is not specifically implemented at the SFA level, there are baseline activities and decisions that occur throughout SFA.	An Enterprise Configuration Management element needs to be created and deployed.
	Commitment	1. The enterprise level organization follows a written organizational policy for implementing software configuration management.	N	While there is an enterprise level written policy there is no sub-organization to organize and follow it.	An Enterprise Configuration Management element needs to be created and deployed.

**STUDENT FINANCIAL ASSISTANCE (SFA)
CONFIGURATION MANAGEMENT (CM) GAP ANALYSIS**



Ability	1. A board having the authority for managing the enterprise level baselines (i.e. a configuration control group – CCG) exists or is established.	N	At this time an enterprise level change control group does not exist.	The Enterprise CM Plan provides a deployment ready solution for SFA.
Ability	2. A group that is responsible for coordinating and implementing SCM for the enterprise level (i.e. the SCM group) exists.	Y	There is an enterprise level charter and SAPG SubGroup to implement SCM at the enterprise level.	The Enterprise CM Plan provides a deployment ready solution for SFA.
Ability	3. Adequate resources and funding are provided for performing the SCM activities	N	Other than an acting lead, no SFA person has been designated to perform in an SCM role	The current discussion is to hire contractor personnel beginning in the next fiscal year (Oct 2001)
Ability	4. Members of the SCM group are trained in the objectives, procedures, and methods for performing their SCM activities.	N	Other than an acting lead, no individual has been designated to perform in an SCM role.	There should be formal training of individuals once they have been designated.
Ability	5. Members of the software engineering group and other software related groups are trained to perform their SCM activities.	N	Other than an acting lead, no individual has been designated to perform in an SCM role.	There should be formal training of individuals once they have been designated.
Activity	1. An SCM plan is prepared at enterprise level according to a documented procedure.	50 %	An SCM deployment ready plan has been drafted using the SDLC configuration management plan template. The plan is not in final form because, other than an acting lead, no SFA person has been designated to perform in an SCM roll.	The current discussion is to hire contractor personnel beginning in the next fiscal year (Oct). At that point, with SFA or contractor personnel, the plan can be finalized.

**STUDENT FINANCIAL ASSISTANCE (SFA)
CONFIGURATION MANAGEMENT (CM) GAP ANALYSIS**



	Activity	2. A documented and approved SCM plan is used as the basis for performing the SCM activities.	N	An SCM deployment ready plan has been drafted but no individuals have been identified to perform enterprise level SCM activities.	Personnel need to be assigned to the enterprise level SCM role and the plan needs to be finalized.
	Activity	3. A configuration management library system is established as a repository for the software baselines.	N	A deployment ready plan has been drafted but there are an insufficient number of personnel resources identified to perform enterprise level SCM activities.	Personnel need to be assigned to the enterprise level SCM role and the plan needs to be finalized.
	Activity	4. The software work products to be placed under configuration management are identified.	N	A configuration item index exists, but has not been completed at enterprise level.	Personnel need to be assigned to the enterprise level SCM role and the plan needs to be finalized.
	Activity	5. Change requests and problem reports for all configuration items/units are initiated, recorded, reviewed, approved, and tracked according to a documented procedure.	N	A deployment ready plan includes change request and problem report procedures but it is a draft. There are an insufficient number of personnel resources identified to perform enterprise level SCM activities.	Personnel need to be assigned to the enterprise level SCM role and the plan needs to be finalized.
	Activity	6. Changes to baselines are controlled according to a documented procedure.	N	A deployment ready plan includes baseline changes procedures but it is a draft. There are an insufficient number of personnel resources identified to perform enterprise level SCM activities.	Personnel need to be assigned to the enterprise level SCM role and the plan needs to be finalized.

**STUDENT FINANCIAL ASSISTANCE (SFA)
CONFIGURATION MANAGEMENT (CM) GAP ANALYSIS**



	Activity	7. Products from the software baseline library are created and their release is controlled according to a documented procedure.	N	A deployment ready plan includes library controls but it is a draft. There are an insufficient number of personnel resources identified to perform enterprise level SCM activities.	Personnel need to be assigned to the enterprise level SCM role and the plan needs to be finalized.
	Activity	8. The status of configuration items/units is recorded according to a documented procedure.	N	Other than an acting enterprise SCM lead, no individual has been identified to perform CM functions.	Personnel need to be assigned to the enterprise level SCM role and the plan needs to be finalized.
	Activity	9. Standard reports documenting the SCM activities and the contents of the software baseline are developed and made available to affected groups and individuals.	N	Other than an acting enterprise SCM lead, no individual has been identified to perform CM functions.	Personnel need to be assigned to the enterprise level SCM role and the plan needs to be finalized.
	Activity	10. Software baseline audits are conducted according to a documented procedure.	N	Other than an acting enterprise SCM lead, no individual has been identified to perform CM functions.	Personnel need to be assigned to the enterprise level SCM role and the plan needs to be finalized.
	Measurement	1. Measurements are made and used to determine the status of the SCM activities.	N	Other than an acting enterprise SCM lead, no individual has been identified to perform CM functions.	Personnel need to be assigned to the enterprise level SCM role and the plan needs to be finalized.

**STUDENT FINANCIAL ASSISTANCE (SFA)
CONFIGURATION MANAGEMENT (CM) GAP ANALYSIS**



Software Configuration Management Key Process Area Traceability Matrix for the Pilot Projects (CBS and EAI)

<i>KPA</i>	<i>ITEM</i>	<i>DESCRIPTION</i>	<i>Y/N or %</i>	<i>Define the practice and where it is documented</i>	<i>If correction needed, identify what is to be done</i>
Software Configuration Management	Goal	1. Software configuration management activities are planned.	Y	Both projects have plans.	
	Goal	2. Selected software work products are identified, controlled, and available.	Y	Both projects control their software.	One project does not address future phases of development.
	Goal	3. Changes to identified software products are controlled.	Y	Both projects control their changes.	One project does not address future phases of development.
	Goal	4. Affected groups and individuals are informed of the status and content of software baselines.	Y	Both projects inform affected groups and individuals.	One project does not address non-code phases of work.
	Commitment	1. The project follows a written organizational policy for implementing software configuration management (SCM).	Y		
	Ability	1. A board having the authority for managing the project's software baselines (i.e. a software configuration control board – SCCB) exists or is established.	Y		
	Ability	2. A group that is responsible for coordinating and implementing SCM for the project (i.e., the SCM group) exists.	Y		
	Ability	3. Adequate resources and funding are provided for performing the SCM activities.	50%	One project is staffed; one project recently appointed an individual who is not part of the project.	The SCM activities should be staffed from within the project except for technical support.

**STUDENT FINANCIAL ASSISTANCE (SFA)
CONFIGURATION MANAGEMENT (CM) GAP ANALYSIS**



Ability	4. Members of the SCM group are trained in the objectives, procedures, and methods for performing their SCM activities.	50%	In one project no one within the project has been designated; in the other project individuals are formally trained.	Members should be identified and trained.
Ability	5. Members of the software engineering group and other related groups are trained to perform their SCM activities	Y	The evidence is that they use the version control software.	
Activity	1. An SCM plan is prepared for each software project according to a documented procedure.	Y		
Activity	2. A documented and approved SCM plan is used as the basis for performing the SCM activities.	Y		
Activity	3. A configuration management library system is established as a repository for the software baselines.	Y		
Activity	4. The software products to be placed under configuration management are identified.	Y		
Activity	5. Change requests and problem reports for all configuration items/units are initiated, recorded, reviewed, approved, and tracked according to a documented procedure.	50%	One project does change requests informally.	Both projects should formalize and follow the change request procedure.
Activity	6. Changes to baselines are controlled according to a documented procedure.	50%	One project does changes informally.	Both projects should formalize baseline changes and follow the baseline change procedure.
Activity	7. Products from the software baseline library are created and their release is controlled according to a documented procedure.	50%	One project does product creation informally.	Both projects should formalize product creation procedures and follow the product creation procedure.

**STUDENT FINANCIAL ASSISTANCE (SFA)
CONFIGURATION MANAGEMENT (CM) GAP ANALYSIS**



	Activity	8. The status of configuration items/units is recorded according to a documented procedure.	50%	One project does status accounting informally.	Both projects should formalize configuration status accounting and follow the configuration status accounting procedure.
	Activity	9. Standard reports documenting the SCM activities and the contents of the software baseline are developed and made available to affected groups and individuals.	50%	One project does SCM functions informally.	Both projects should formalize appropriate reports, distribution choices, review what is available from the vendor software and develop/follow the report decisions.
	Activity	10. Software baseline audits are conducted according to a documented procedure.	50%	One project does SCM functions informally.	Both projects should formalize their auditing actions.
	Measurement	1. Measurements are made and used to determine the status of the SCM activities.	50%	One project does SCM functions informally.	Both projects should choose meaningful measures and formalize the measurement/status reporting activities.
	Verification	1. The SCM activities are reviewed with senior management on a periodic basis.	Y		