

Configuration Management

Instructor << >>

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Agenda

- **Purpose:** *The purpose of this course is to explain various terms and concepts related to Configuration Management*
- **Attendees:** *Developers*

Objectives

After the course, student will achieve (be able to):

- Identify CSCI, CI
- Baseline
- Understand and implement the CM processes



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- Concept: CM, CSCI, CI
- Promotion Model of CSCI
- Baseline process
- Access control
- Configuration Control Process
- Change control
- Configuration Audit
- CM with VSS

Need for CM



- Enables the team to work together in a stable and flexible environment
- Maintains the integrity and control of software products throughout the life cycle
- Enforces the discipline on the control in the change of the software product and documents
- Enhances the productivity in long run
- Easy identification of artifacts in case of future maintenance and
- Mainly the success of any project depends on the strong CM plan

Sample: [TDSys_CM plan_v1.0.doc](#)

We have 2 main objects of recruitment: those for management posts e.g. project managers or team leaders, and those for developer posts. For the 1st kind of objects we have exciting offers and talent seeking policy. E.g. we have and are continuously developing a database of s/w professionals in Hanoi. In case of need, we can recruit some of them for coming projects.

For developer posts, we have recruitment program for top IT Universities.

Moreover, in long run we have Centers for young outstanding students of IT and Science in Hanoi and HoChiMinh City.

Steps involved in CM



- Configuration Identification :
Identification of Items to be put under configuration management
- Configuration Control
Provides mechanism to process change requests, to track changes, to distribute changes and to maintain past versions
- Status Accounting
Provides formalized recording and reporting of established configuration items
- Reviews/Audits
- Access Control

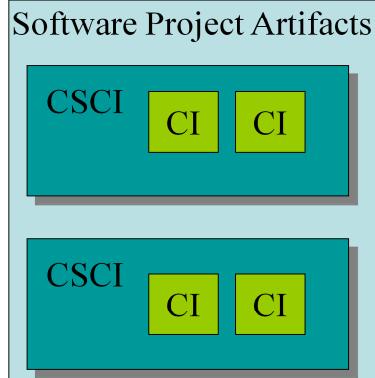
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Each candidate has go through a selection of 3 steps. Only less than 10% of them are successful.

After selection, they need to fulfil 2-month probation period with Initial Training and Pilot project execution.

CI Concept



- **Computer Software Configuration Item (CSCI)**
 - A software item which is identified for configuration management or, an aggregation of software that satisfies an end user function and designated for separate configuration management
- **Configuration Item (CI)**
 - A configuration item is a uniquely identifiable subset of the CSCI that represents the smallest portion of the system to be subject to independent configuration management change control procedures. Configuration items need to be individually controlled because any change to a configuration item may have some effect upon the properties of the system

Categories of CSCI

- **Project management configuration items**
 - Proposal, Estimation, WO
 - Project plan, Schedule, CM Plan
- **Requirements & design configuration items**
 - URD
 - Requirements specifications
 - Design documents: High level design/ADD, Detailed design
 - Use case model files
 - Prototype
 - Coding Convention
- **Build configuration items**
 - Source code
 - Test documents: TP, TC, Test Report
 - Other technical docs: Installation guide, Release Note, User manual, System description, ...

Initial training program is to socialize newcomers. They will get familiar with FPT and FSOFT, s/w process, technology used here.

Then they will do a project in team of 4-5 newcomers with team leader from FSOFT team leaders. The project obeys the development process in FSOFT.

Level of CI

- **Baseline level**

- CIs are defined as products and should identify date for review and approval: Proposal, estimation, project plan document, requirement document, design document, test document, deployment document, source code ...

- **Management level**

- CIs are created and monitored for management purpose and are kept in project folder or by FSoft tools, but not baselined. For example: Project database in Fsoft Insight, Change Request database, Weekly/Milestone reports, ...

- **Control level**

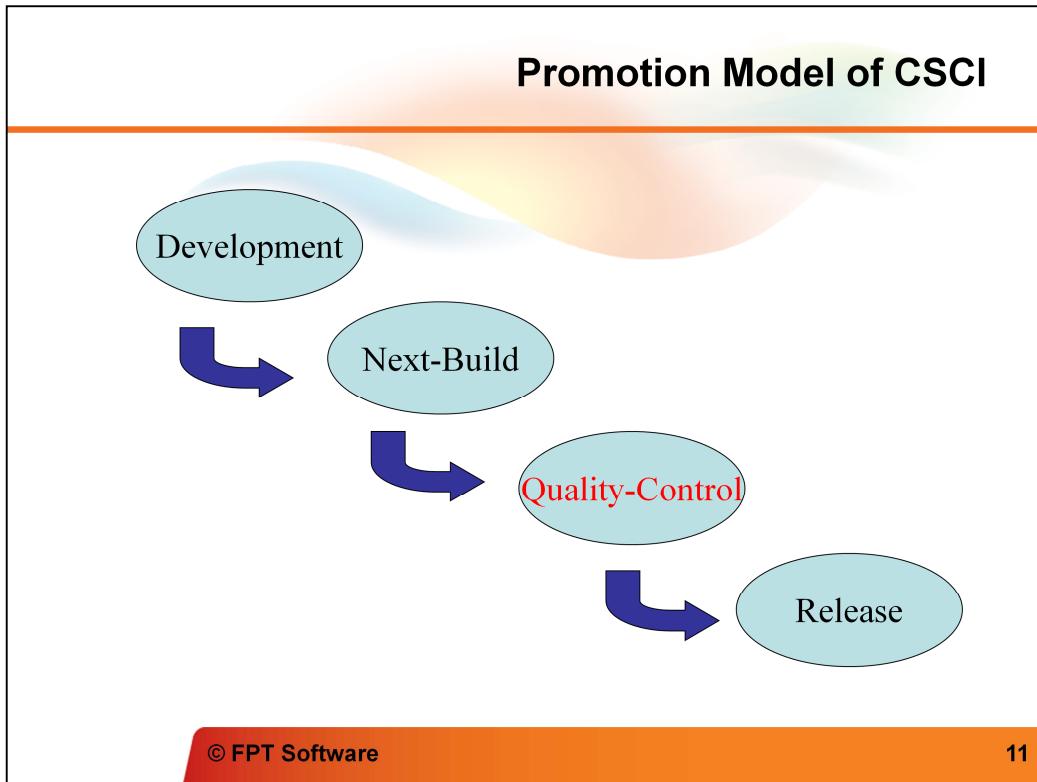
- CIs of this level are project records such as review/ audit/ inspection checklists, meeting minutes, etc. and are kept in project folder only.

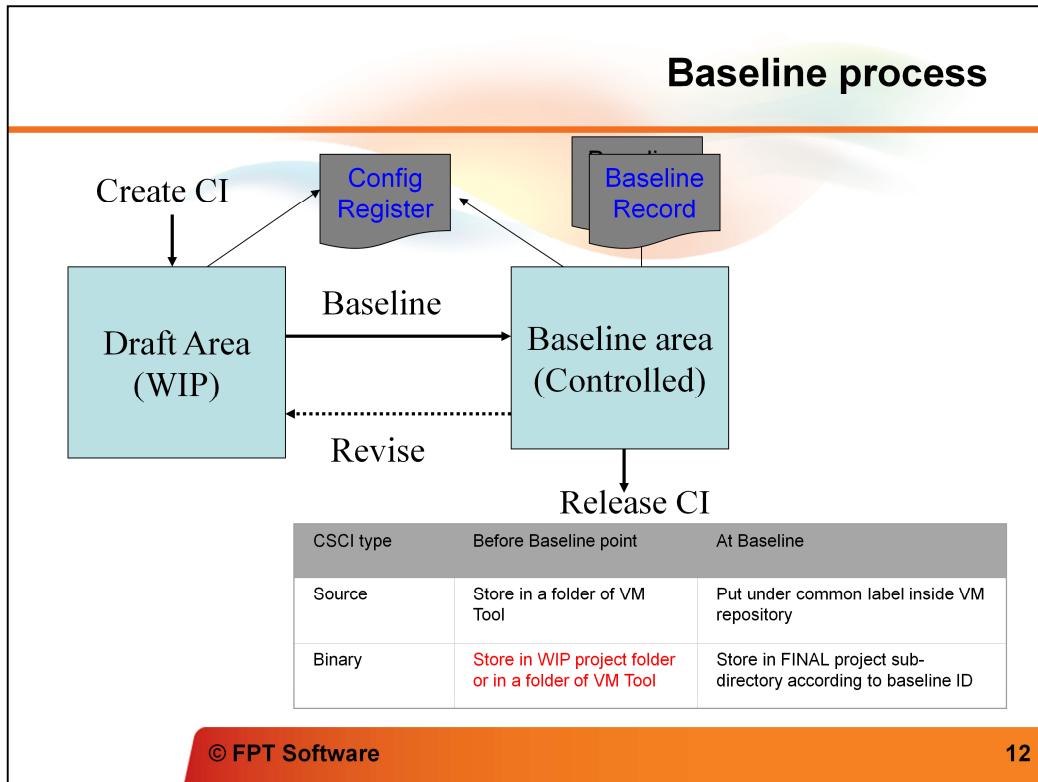
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CM Plan

- CM Plan is a must-read document of all members of project team at the beginning of the project.
- CM Plan defines the rules for naming documents.
- CM Plan defines the location for storing documents.
- CM Plan defines how to control different versions of source code and their purpose
- There is a Configuration Manager for every project who usually a Project Technical Leader.





Baseline for All Types of CI

Configuration Item	CSCI Type	Baseline Point	VM Label
Documents & Sources before starting the modifications	Requirement	START-UP	Startup_DDMMYY
Requirements specification	Requirement	After Requirements specification approval	ForReview_DDMM BaselineAt_DDMM
Design documents	Design	After Design approval	ForReview_DDMM BaselineAt_DDMM
Project Plan	Project Management	After review and approval.	ForReview_DDMM BaselineAt_DDMM
Source Code & related files	Source	Ready for Review	ForReview_DDMMYY
		Ready for System test	ForTest_DDMMYY
		Ready for Release	Release_DDMMYY

Version control for documents

1/ Use version number suffix to control different version

2/ Three schemes:

- vx.y : v1.15
- YYYYMMDD : 20071017
- Combined: v1.15_20071017

3/ Selected scheme may depend on customer requirement

4/ Examples:

- DMS_TestPlan_v1.20,
- DMS_Project_Schedule_20071113

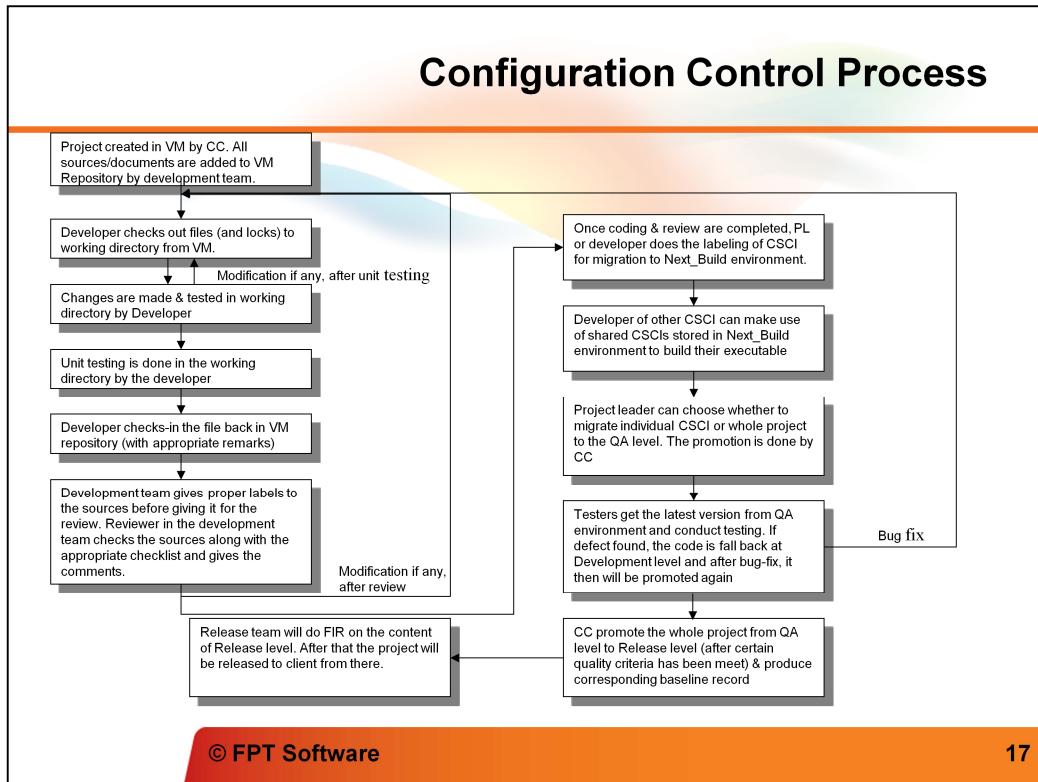
Project directory

- **Project repository directory**
 - <>Domain Name>/<Project Name>
 - **ARCHIVE** <*Store CIs at project baseline point*>
 - <BaseLine Names>
 - <CSCI name>
 - Baseline report
 - **AUDIT** <*Store review records by QA*>
 - **FINAL** <*Store the last version of doc CIs*>
 - <CSCI name>
 - **BACKUP** <*Store the previous version of doc CIs*> (Optional)
 - **REFERENCE**
 - CustomerSupplied
 - ProcessTemplate
 - **WIP**
 - Deliverables <*Store all CIs delivered to customer*>
 - Documents
 - Letter
 - Minutes
 - Plan
 - Report
 - Source
 - Users
- **Workstation control**
 - Dual boots

For developers, we keep training with varied methods, in order to keep pace with technology change. E.g. last year we had a project with new Sun technology called EJB. To prepare for this, we had a 1-week formal training course with specialist from Sun. Along with this, we have team members conduct self-training, online tests and seminars. Then they can successfully do their job and continue on-the-job training.

Access control

Environment	Directory	VM Folder	Role	Access Rights
Development/ Next_Build	WIP	DEV_xxx	Development Team	Read, Write
			Configuration Controller	Rights to migrate from Development to Next_Build environment
Test		TST_xxx	Test Team	Read
			Configuration Controller	Rights to migrate from Next_Build to Test environment
Release	FINAL	REL_xxx	Release Team	Rights to migrate from Test to Release environment



Conclusion

- *In this course, we've learned*
 - *Most important concepts about CM*
 - *The relationship between CM and Development processes*
 - *CM Processes*

For management purpose, we have courses on s/w management, business and communications, including English. For s/w project management, we learn from best practices of MS, Infosys, etc. by seminars and workshops among project managers.

Besides, after each project, we have post-mortem. On it we can talk and get lessons and experience from projects done.



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