



# A Quick Way to Document Configuration Items

Presented by: **Linda Westfall**



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- Type your comments & questions into the Question area – Linda will answer questions during & at the end of the webinar

# Logistics

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# Documenting SCM Plans

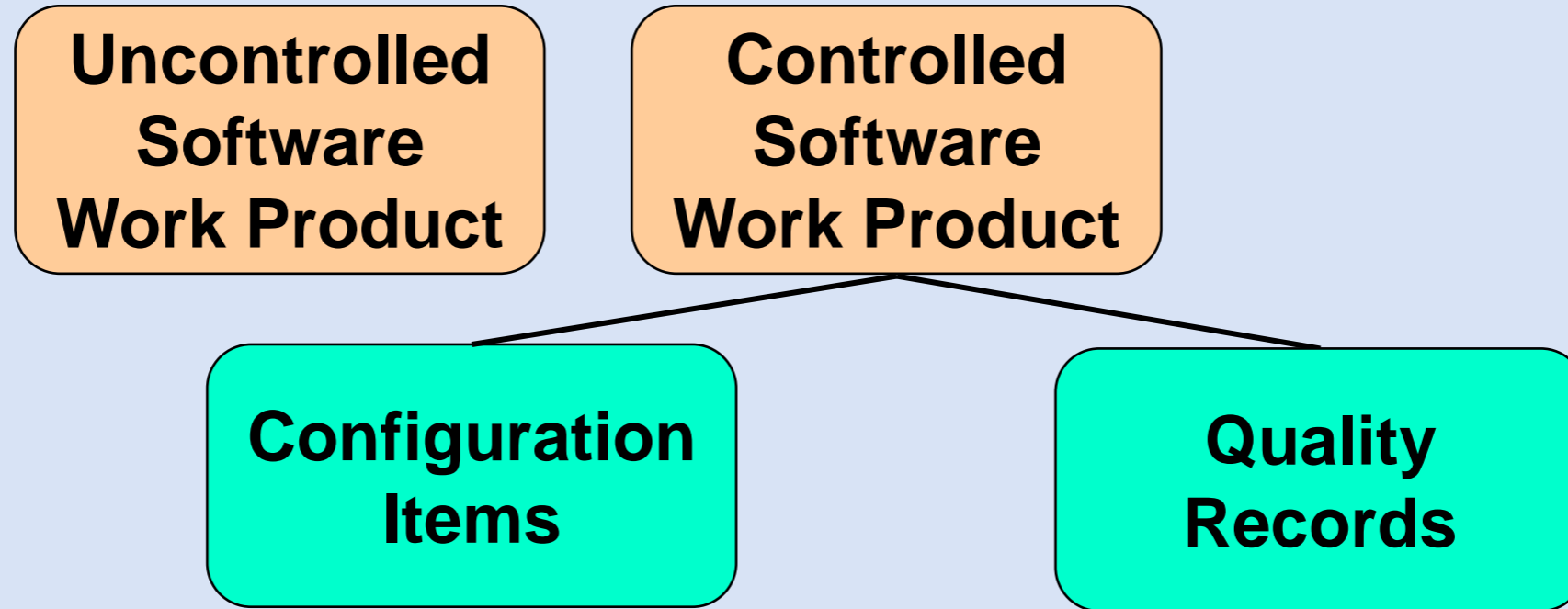
## SCM plans includes:

- Definition of SCM roles & responsibilities
- How SCM will be managed for the project
- Identification of configuration items & baselines
- Mechanisms of control for each configuration item & baseline
- Data collection & reporting requirements & status accounting mechanisms

# Documenting SCM Plans

- Configuration audit requirements & plans
- Mechanisms for controlling supplier produced configuration items
- Mechanisms for controlling external interfaces

# Controlling Software Configuration Items



# What Are Configuration Items? –

**Configuration item:** A work product placed under configuration management & treated as a single entity.

**The following items should be placed under configuration management:**

- Externally delivered software products & data
- Designated internal software work products & data
- Designated support tools used to create or support the software product
- Supplier/vendor supplied software
- Customer supplied software/equipment

# Document Configuration Items – Examples

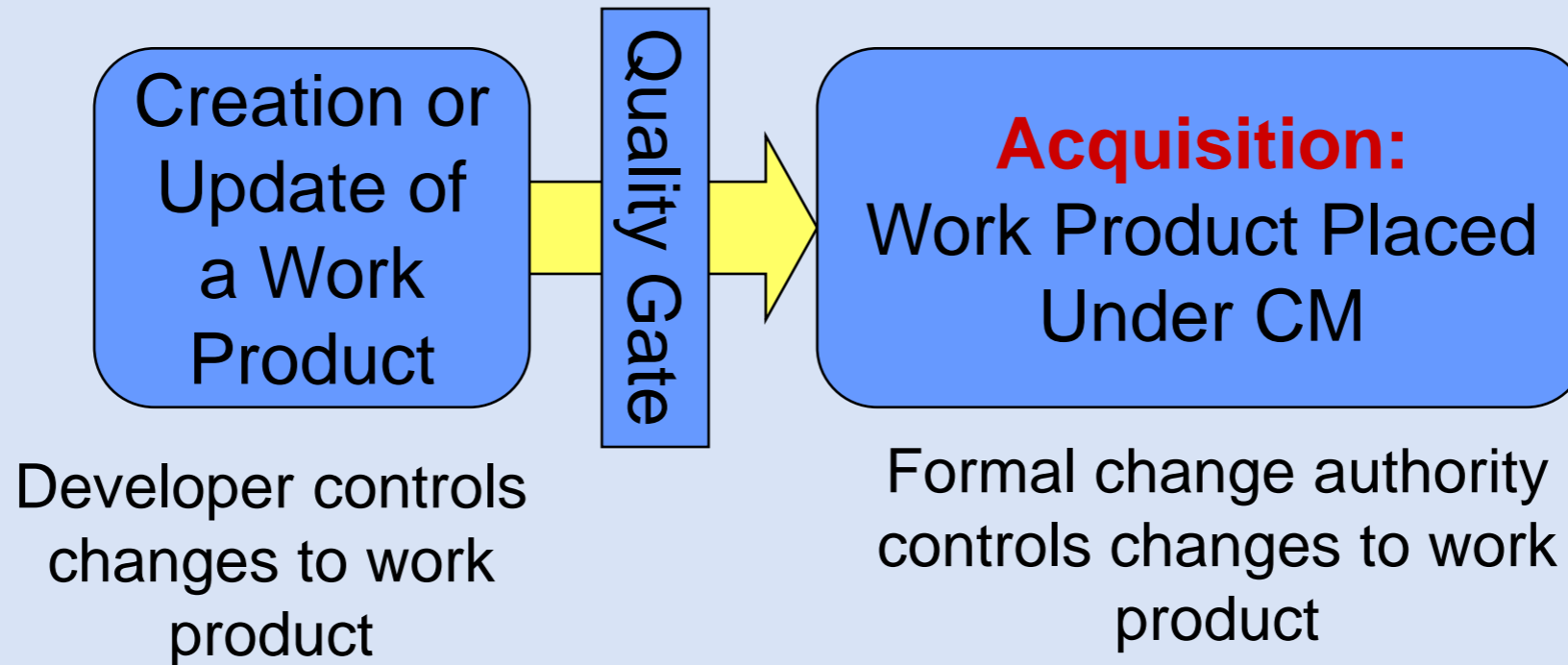
CI category
Software Requirements Specification (SRS)
New source code file
Legacy source code file
Reused source code file
Executable
System test cases
User manual
...

Create a table that lists the selected configuration items



# Configuration Item Acquisition

“One critical aspect for control of work products is the proper timing for when they enter into configuration management.” [SPMN-98]



# Document Acquisition – Examples

CI category	Acquisition point	Acquisition criteria
Software Requirements Specification (SRS)	Creation of allocated baseline	No outstanding gating issues from Software Requirements gate review
New source code file	Unit test successful completion	All unit test cases have passed (or outstanding problems recorded in CR tool)
Legacy source code file	Start of project	Selected for inclusion or update in next release
Reused source code file	When selected for inclusion	Under configuration control in reuse library
Executable	Build successfully completed	No build errors & passes automated regression tests
System test cases	System test case peer review completion	Successful completion of peer review (no outstanding defects)
User manual	User manual peer review completion	Successful completion of peer review (no outstanding defects)

For each configuration item:

- Document its acquisition point
- Document its acquisition criteria

# Document Location – Examples

CI category	Acquisition point	Acquisition criteria	Location
Software Requirements Specification (SRS)	Creation of allocated baseline	No outstanding gating issues from Software Requirements gate review	<project> codeline in <repository tool>
New source code file	Unit test successful completion	All unit test cases have passed (or outstanding problems recorded in CR tool)	<project> codeline in <repository tool>
Legacy source code file	Start of project	Selected for inclusion or update in next release	<project> codeline in <repository tool>
Reused source code file	When selected for inclusion	Under configuration control in reuse library	<reuse> codeline in <repository tool>
Executable	Build successfully completed	No build errors & passes automated regression tests	<project> file directory
System test cases	System test case peer review completion	Successful completion of peer review (no outstanding defects)	<project> codeline in <repository tool>
User manual	User manual peer review completion	Successful completion of peer review (no outstanding defects)	<project> codeline in <repository tool>

For each configuration item:

- Document the location where it will be stored after acquisition

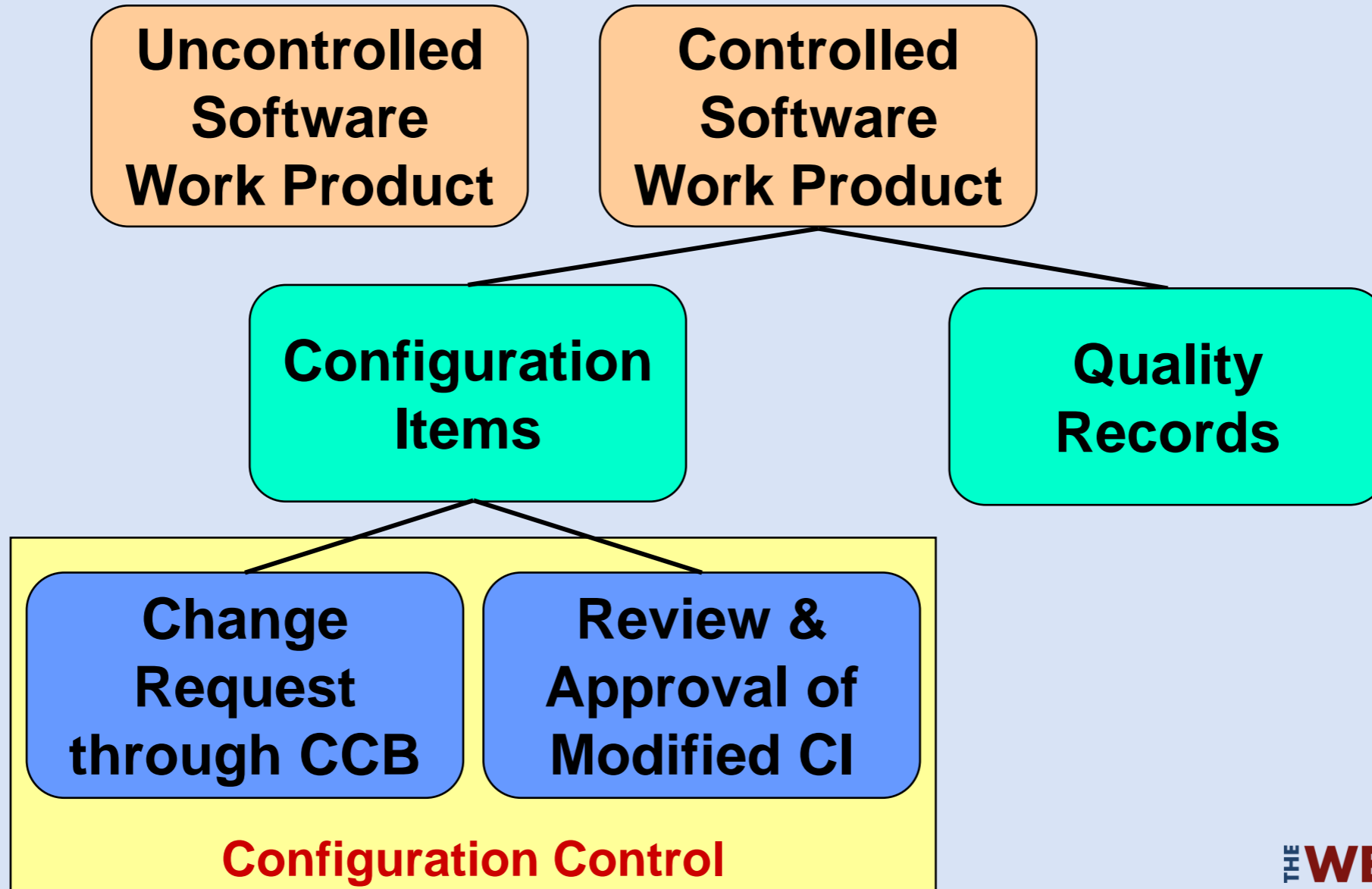
# Document Ownership & Access Control – Examples

CI category	Owner	Access Control
Software Requirements Specification (SRS)	Requirements Engineering – assigned author(s)	Create, update & delete: Author(s) Read: Project team members
New source code file	Development – assigned author(s)	Create, update & delete: Author(s) Read: Project team members
Legacy source code file	Development – assigned author(s)	Create, update & delete: Author(s) Read: Project team members
Reused source code file	Reuse CCB – assigned author(s)	Create, update & delete: Reuse SCM Librarian Read: All
Executable	Builder(s)	Create, update & delete: Builder(s) Read: Project team members
System test cases	System Test – assigned author(s)	Create, update & delete: Author(s) Read: Project team members
User manual	Technical Publications – assigned author(s)	Create, update & delete: Author(s) Read: Project team members

For each configuration item:

- Document its owner
- Document who can access it & the associated access privileges

# Controlling Software Configuration Items



# Document Configuration Control Type – Examples

CI category	Change Control Type
Software Requirements Specification (SRS)	Change requests through CCB
New source code file	Change requests through CCB
Legacy source code file	Change requests through CCB
Reused source code file	Change requests through CCB
Executable	Change requests through CCB
System test cases	Review and approval
User manual	Review and approval
	Change requests through CCB

## For each configuration item:

- Document the type of configuration control
- Note: The type of control can change as the configuration item moves through the life cycle

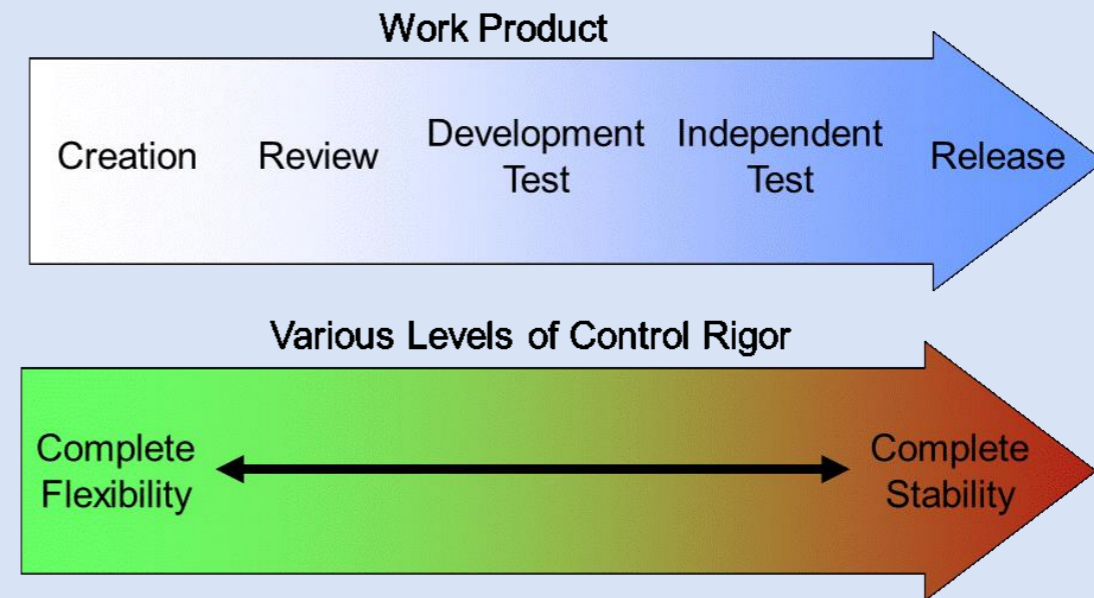
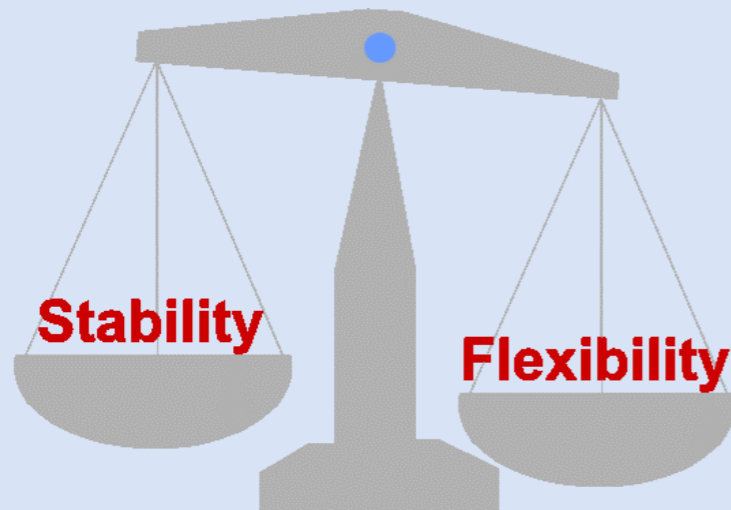
# Change Authority

**A change authority is beneficial because it:**

- Provides authority to make decisions about proposed changes
- Confirms change authorization before implementation
- Provides visibility in the change control process
- Provides a vehicle for impact analysis
- Facilitates resource allocation
- Plays an integral role in keeping the software development process under control

# Multiple Levels of Change Authority

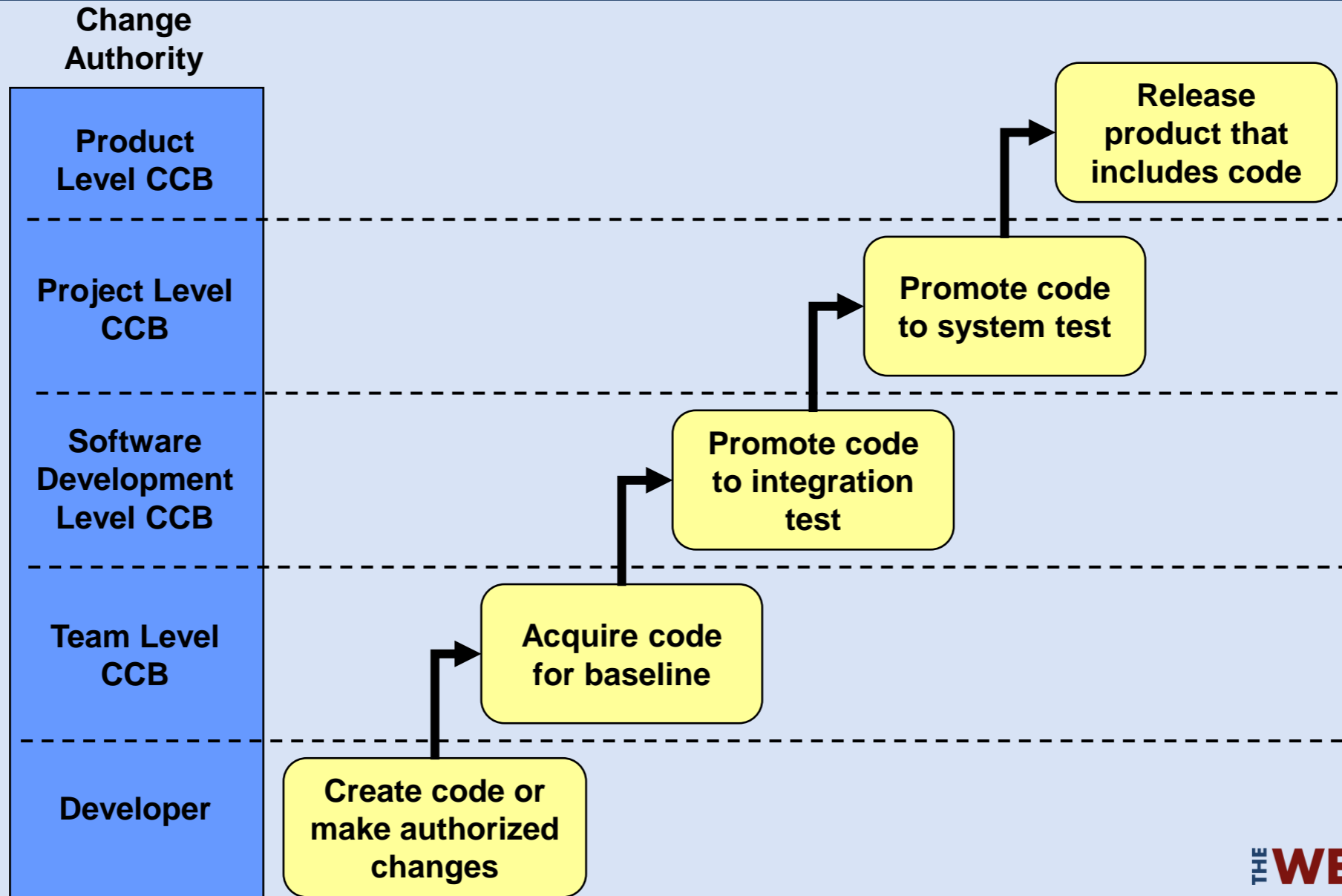
Different levels of change authority can be used to balance between the need for control & the need to streamline the change process.



**Promotion:** A transition in the level of authority needed to approve change requests against controlled configuration items or baselines.

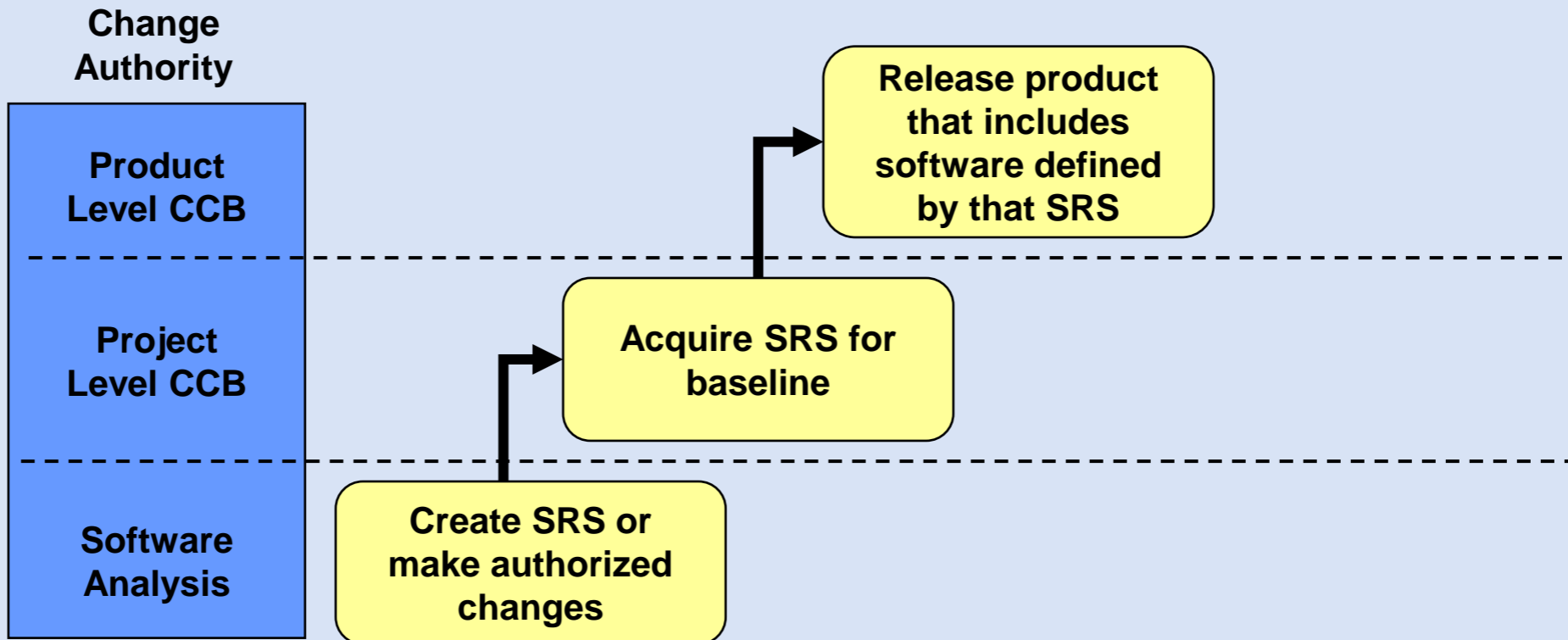


# Multiple Levels of Change Authority – Code Example



# Multiple Levels of Change Authority – SRS Example

Software Requirements Specification (SRS) example:



# Document Configuration Control

For each configuration item:

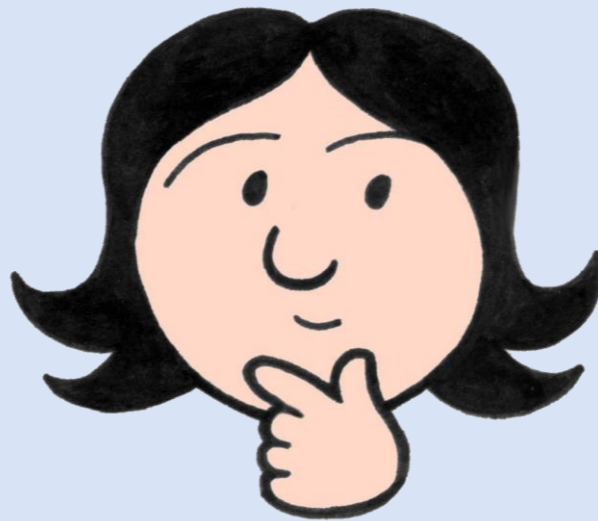
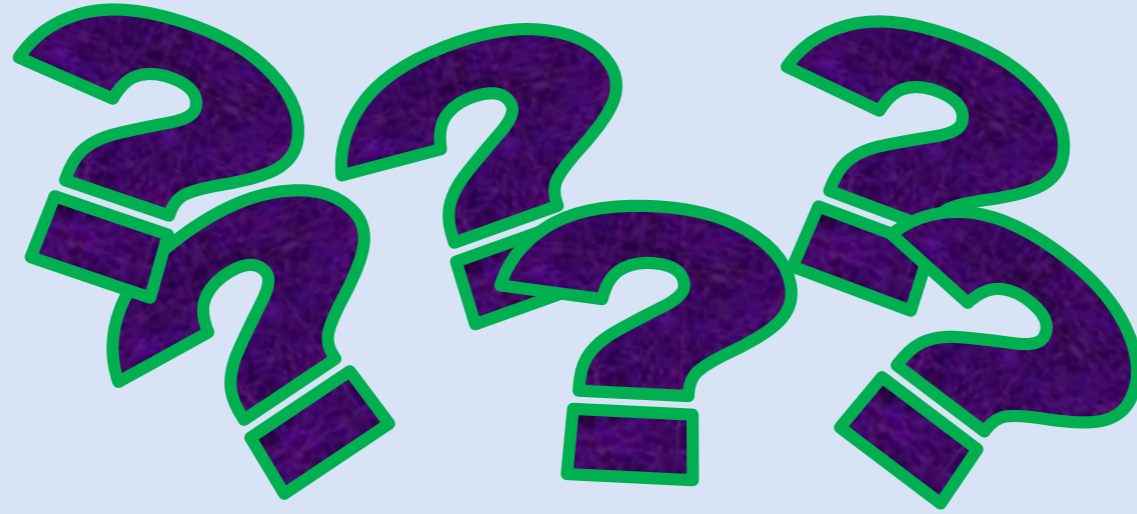
- Document the promotion points
- Document the change authority

CI category	Change Control Type	Promotion Points	Change Authority
Software Requirements Specification (SRS)	Change requests through CCB	Acquisition	Project level CCB
		Release	Product level CCB
New source code file	Change requests through CCB	Acquisition	Team level CCB
		Promotion to System Test	Project level CCB
		Release	Product level CCB
Legacy source code file	Change requests through CCB	Acquisition	Project level CCB
		Release	Product level CCB
Reused source code file	Change requests through CCB	Acquisition	Release level CCB
Executable	Change requests through CCB	Acquisition	Project level CCB
		Release	Product level CCB
System test cases	Review and approval	Acquisition	Peer review team
User manual	Review and approval	Acquisition	Peer Review team
	Change requests through CCB	Release	Product level CCB

# A Quick Way to Document Configuration Items

CI category	Acquisition point	Acquisition criteria	Location	Owner	Access Control	Change Control Type	Promotion Points	Change Authority
Software Requirements Specification (SRS)	Creation of allocated baseline	No outstanding gating issues from Software Requirements gate review	<project> codeline in <repository tool>	Requirements Engineering – assigned author(s)	Create, update & delete: Author(s) Read: Project team members	Change requests through CCB	Acquisition	Project level CCB
							Release	Product level CCB
New source code file	Unit test successful completion	All unit test cases have passed (or outstanding problems recorded in CR tool)	<project> codeline in <repository tool>	Development – assigned author(s)	Create, update & delete: Author(s) Read: Project team members	Change requests through CCB	Acquisition	Team level CCB
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						Change requests through CCB	Release	Product level CCB

# Questions?



# Upcoming Webinars

## April 2024: Topic of the Month – Configuration Management

- April 10 – Change Authority Considerations presented by Linda Westfall
- April 17 – How Relevant Is Configuration Management to Agile and Its Conversations? presented by Robin Goldsmith

<https://www.softwareexcellenceacademy.com/webinars>

# Live Courses From Linda Westfall

## **Software Risk Management**

**April 29-30, 2024**

**9:00 am – 6:00 pm Central Time**

## **Peer Reviews & Inspections**

**May 13-14, 2024 (\*\*New Date\*\*)**

**9:00 am – 6:00 pm Central Time**

**<https://www.softwareexcellenceacademy.com/Live-Courses>**

# Live Courses From Linda Westfall

**Certified Software Quality Engineer (CSQE) Preparation**

**May 29-30, 2024**

**9:00 am – 6:00 pm Central Time**

**<https://www.softwareexcellenceacademy.com/Live-Courses>**



# Live Courses From Robin Goldsmith

**True Shift-Left Secrets to Truly Quicker, Cheaper,  
but Better Software**

**April 11-12, 2024**

**10:00 am – 6:00 pm Eastern**

**Avoid User Story Conversation Traps**

**April 25, 2024**

**10:00 am – 6:00 pm Eastern**

**<https://www.softwareexcellenceacademy.com/Live-Courses>**

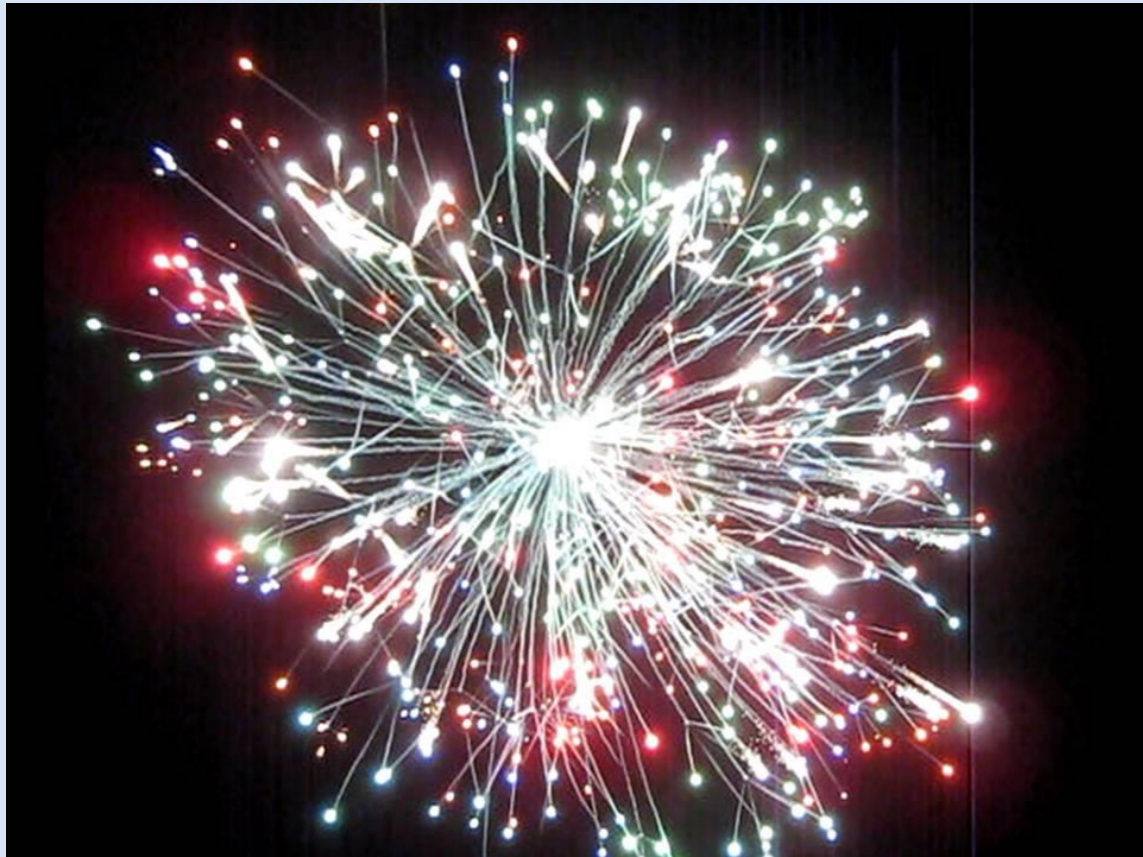
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