

CS 301

Software Engineering

Module - 39

Eswaran Narasimhan

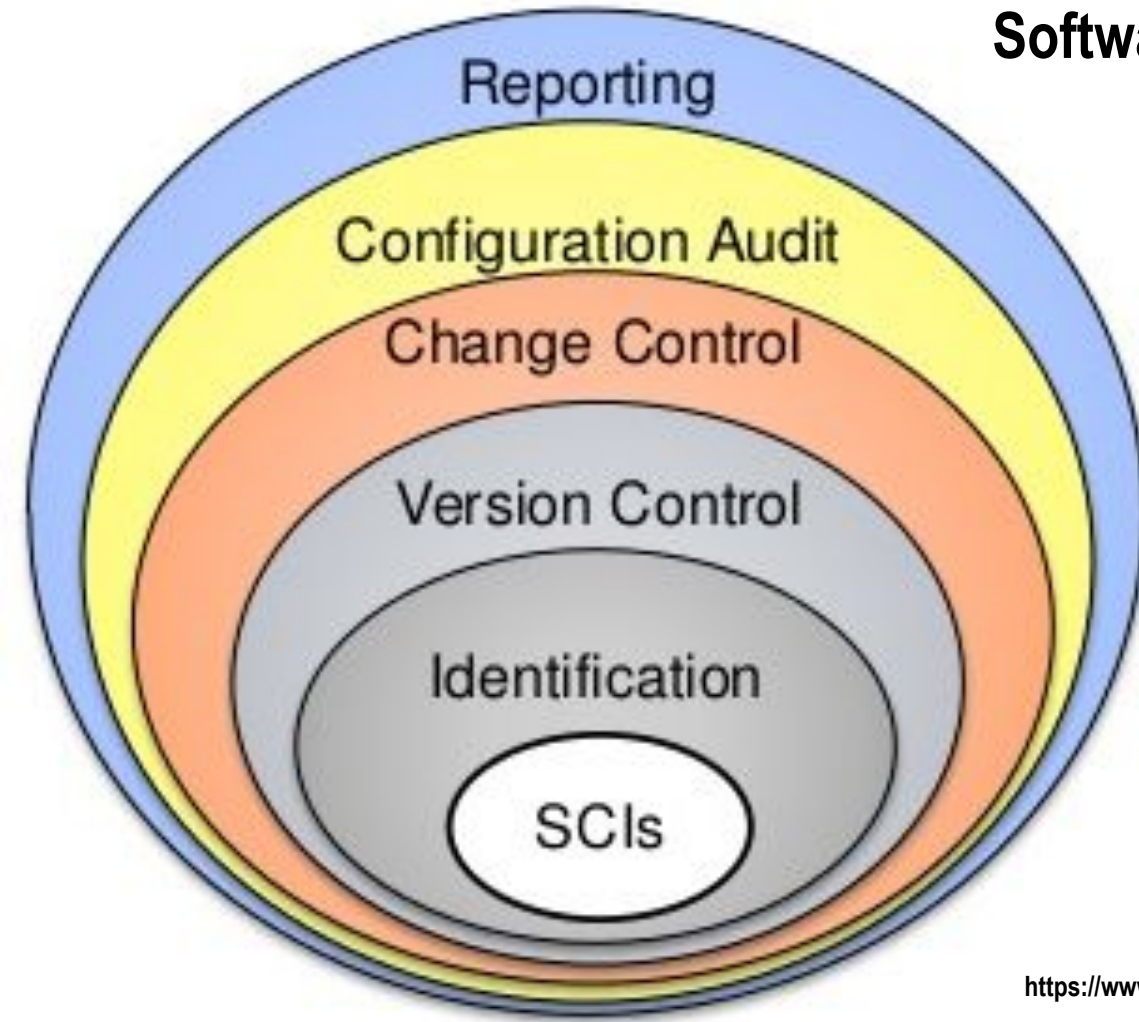
At the end of this session you will be able to:



- ☐ Understand the rationale of software configuration management
- ☐ Understand the elements of project monitoring and control

Software Configuration Management

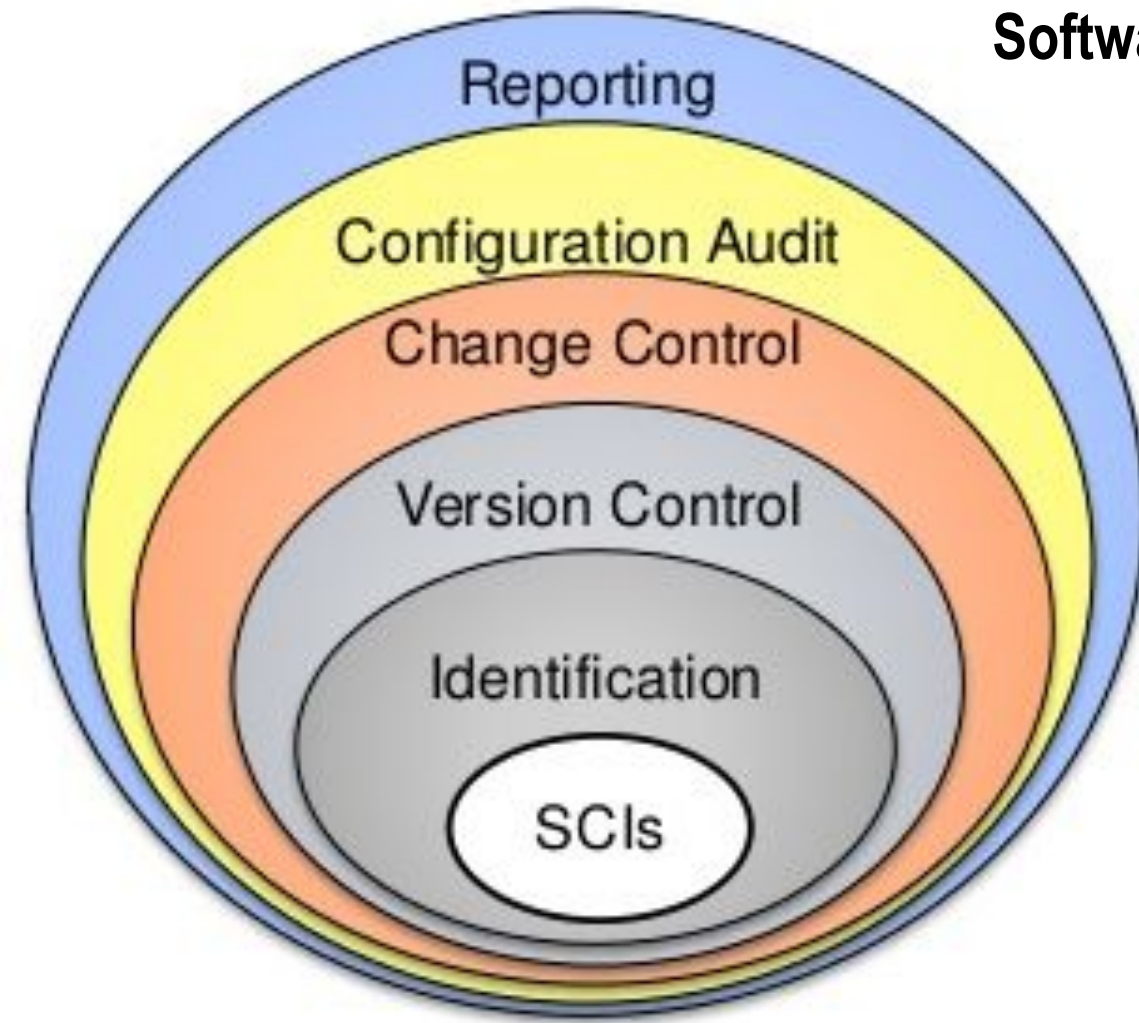
Software is a collection of Software Configuration Items (SCI)



- ☐ Identification
- ☐ Version Control
- ☐ Change Control
- ☐ Configuration Audit
- ☐ Reporting

Software Configuration Management

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- ☐ Identification
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- ◆ Identify each item
- ◆ Categorize

Example:

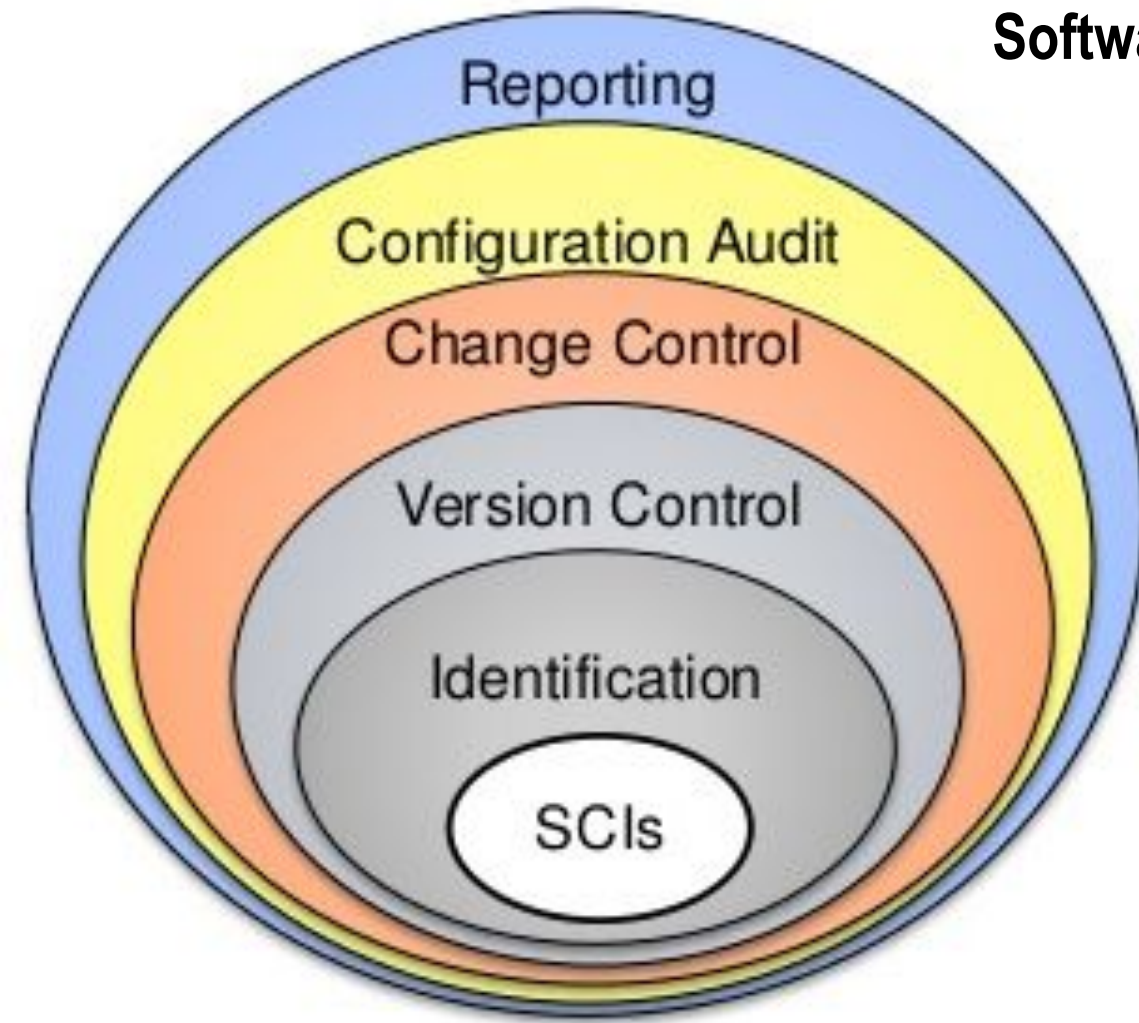
- ◆ Hardware
- ◆ Software
- ◆ Service
- ◆ Documentation
- ◆ Support staff

Software Configuration Management

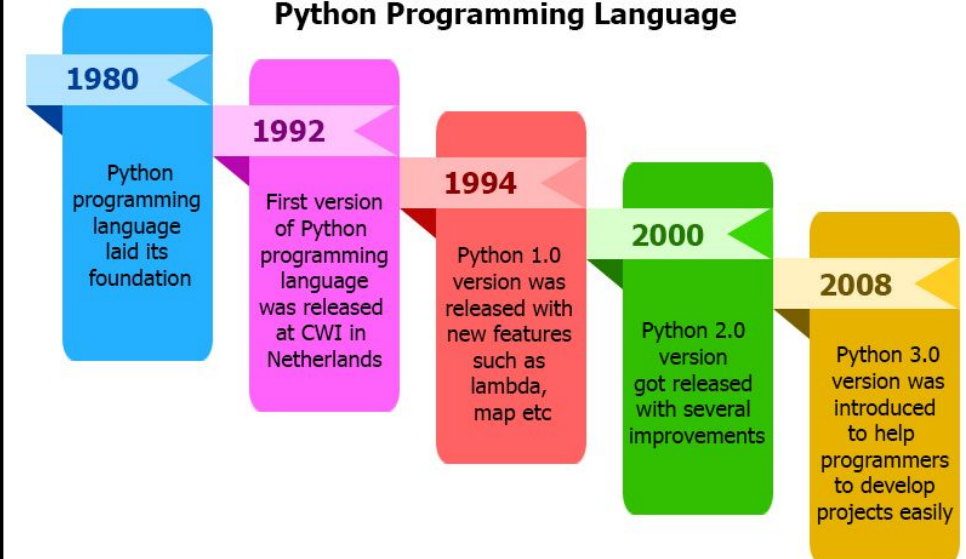
Software is a collection of Software Configuration Items (SCI)

- ☐ Identification
- ☒ **Version Control**
- ☐ Change Control
- ☐ Configuration Audit
- ☐ Reporting

◆ Managing different versions
◆ Baselining

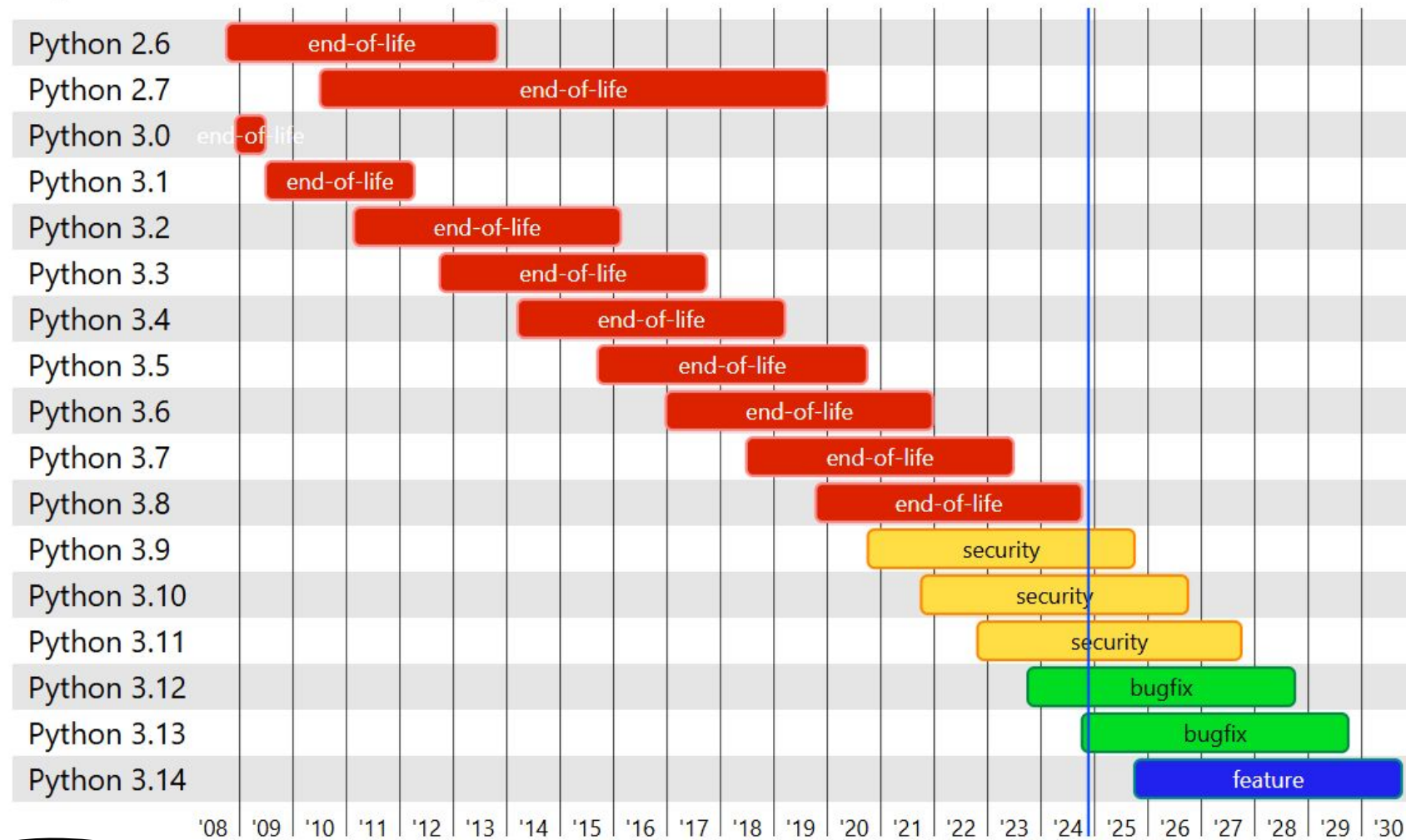


A Brief History Of Development of Python Programming Language



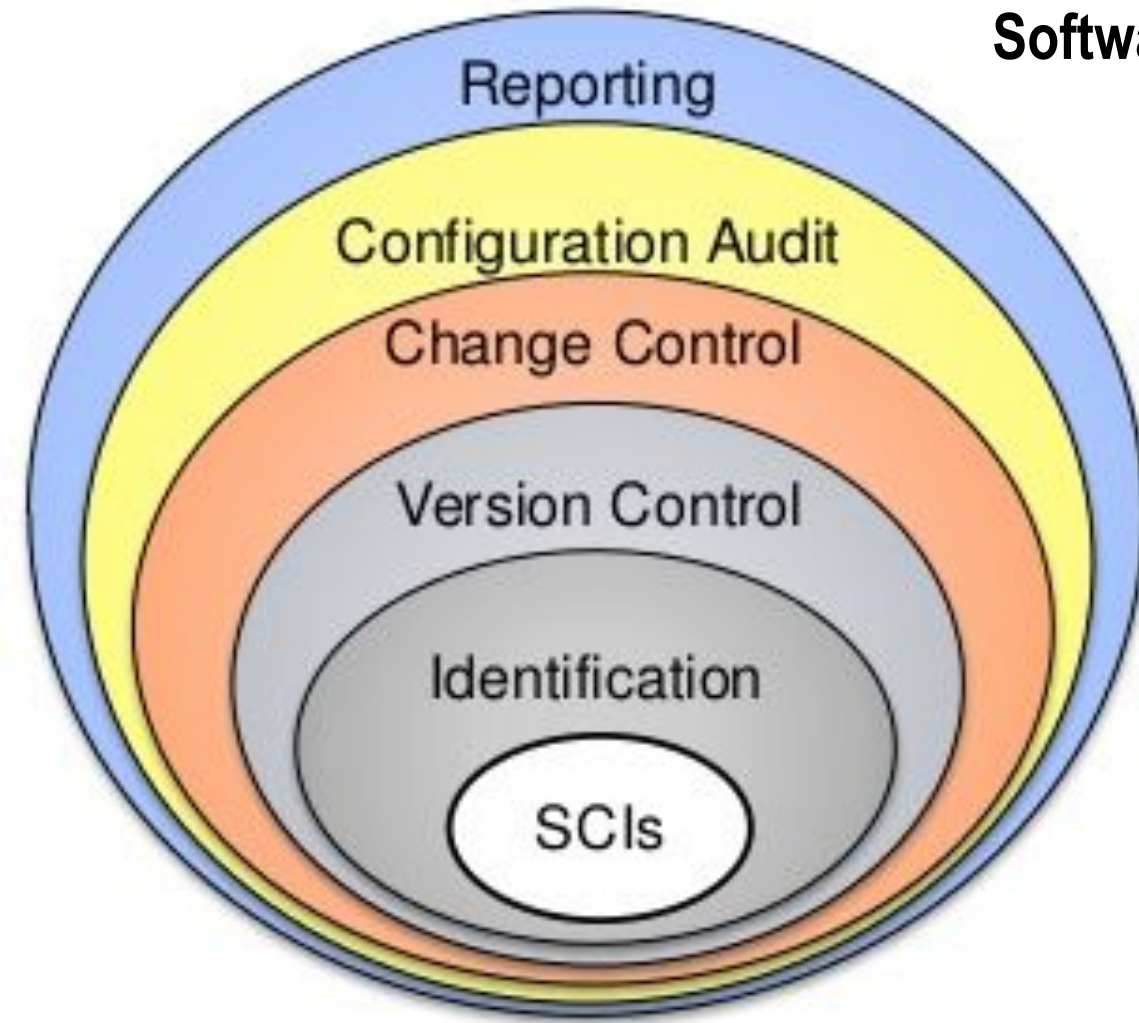
Software Configuration Management

Python release cycle



Software Configuration Management

Software is a collection of Software Configuration Items (SCI)

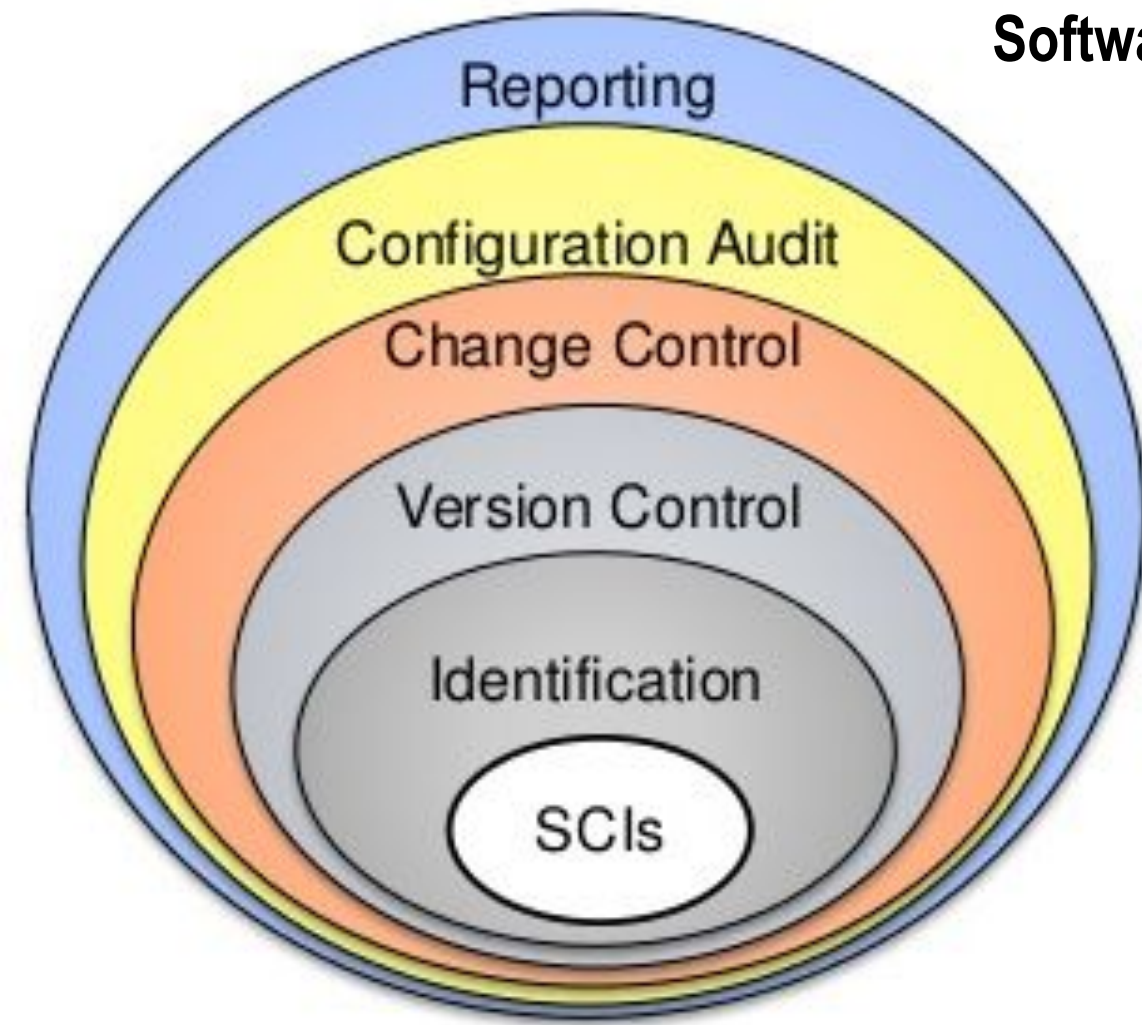


- ☐ Identification
- ☐ Version Control
- ☒ Change Control
- ☐ Configuration Audit
- ☐ Reporting

- ◆ Change Request
- ◆ Validate and Approve
- ◆ Check out
- ◆ Make changes
- ◆ Check in
- ◆ Inform all

Software Configuration Management

Software is a collection of Software Configuration Items (SCI)

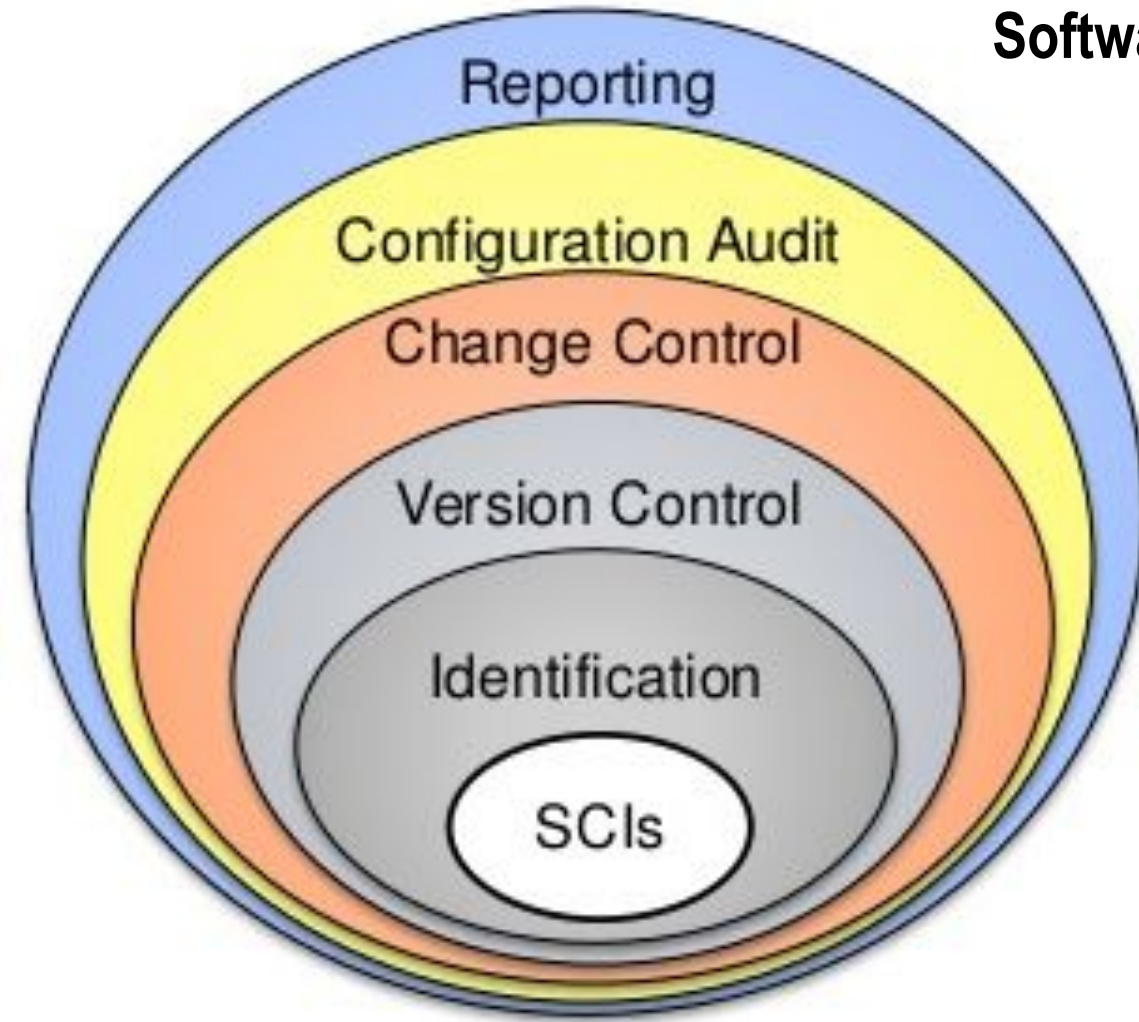


- ☐ Identification
- ☐ Version Control
- ☐ Change Control
- ☒ Configuration Audit
- ☐ Reporting

- ◆ Audit usage
- ◆ Verify compliance as per baselines
- ◆ Corrective measures
- ◆ Inform all

Software Configuration Management

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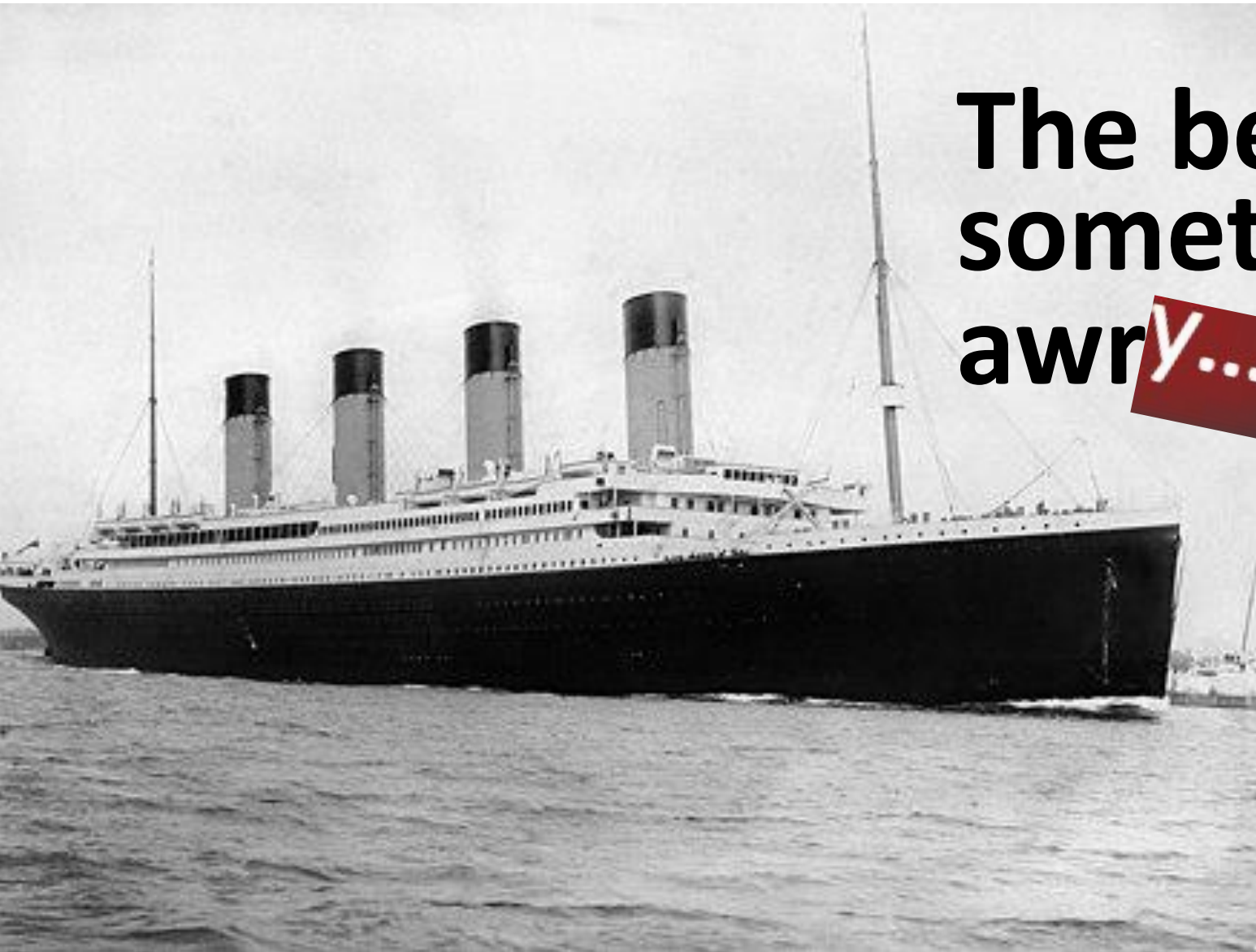


- ☐ Identification
- ☐ Version Control
- ☐ Change Control
- ☐ Configuration Audit
- ☐ Reporting

- ◆ Audit results
- ◆ Action plan
- ◆ Inform all

Project Monitoring and Control

- ☐ Integrated Change Control
- ☐ Validate Scope
- ☐ Control Scope
- ☐ Control Schedule
- ☐ Control Costs
- ☐ Control Quality
- ☐ Control Communications
- ☐ Control Risks
- ☐ Control Procurements
- ☐ Control Stakeholder Engagement



**The best of the plans
sometimes do go
awry...**

Monitoring and Control



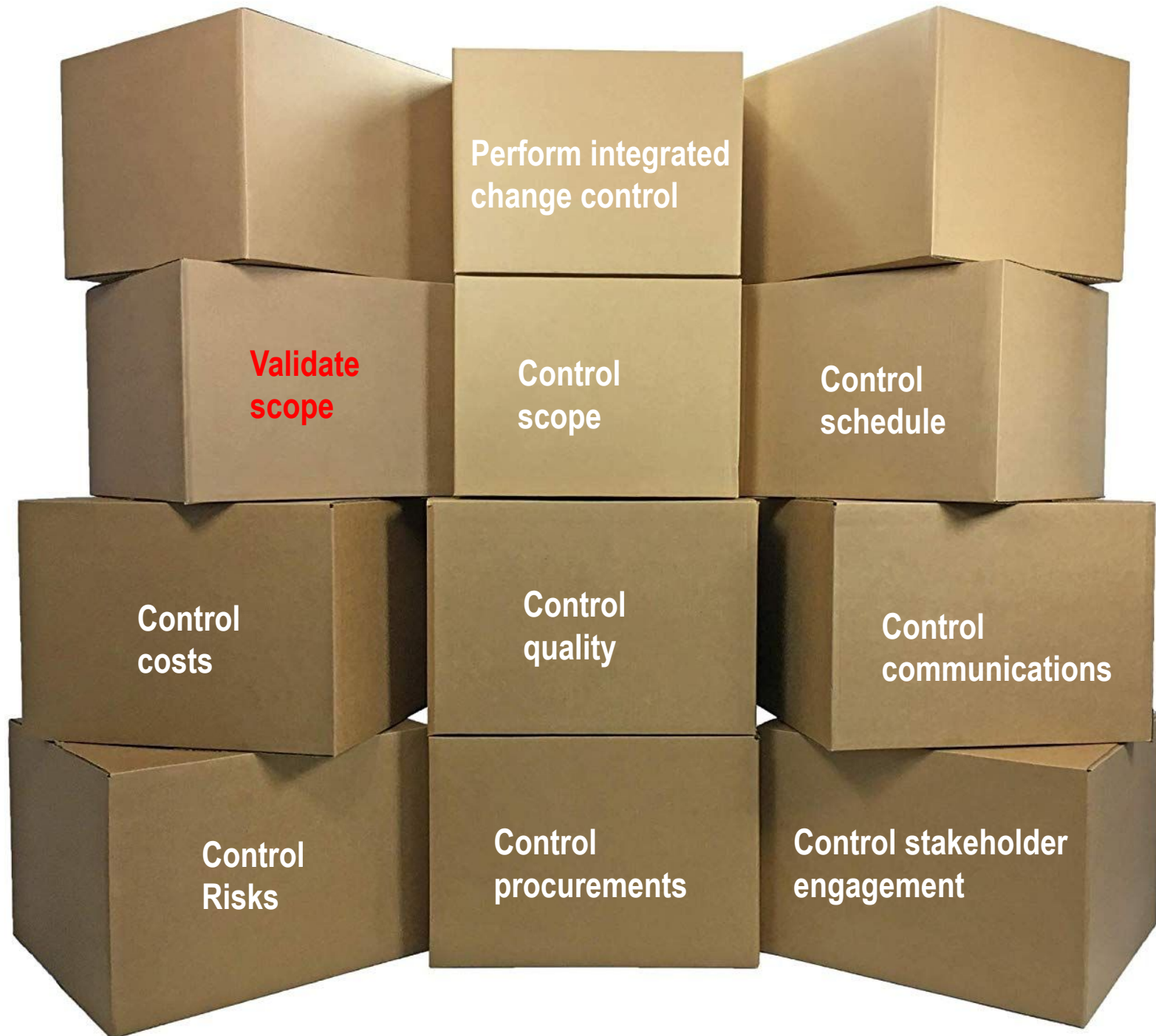
Monitoring and Control

- ☐ Change of any kind
- ☐ Cost, resources, time, scope
- ☐ Change Management Process
- ☐ Reviewed Regularly
- ☐ Audited



Monitoring and Control

- ☐ Are within the definition of scope
- ☐ Nothing additional is being done
- ☐ Is it prioritized?
- ☐ Is it consuming expected resources?



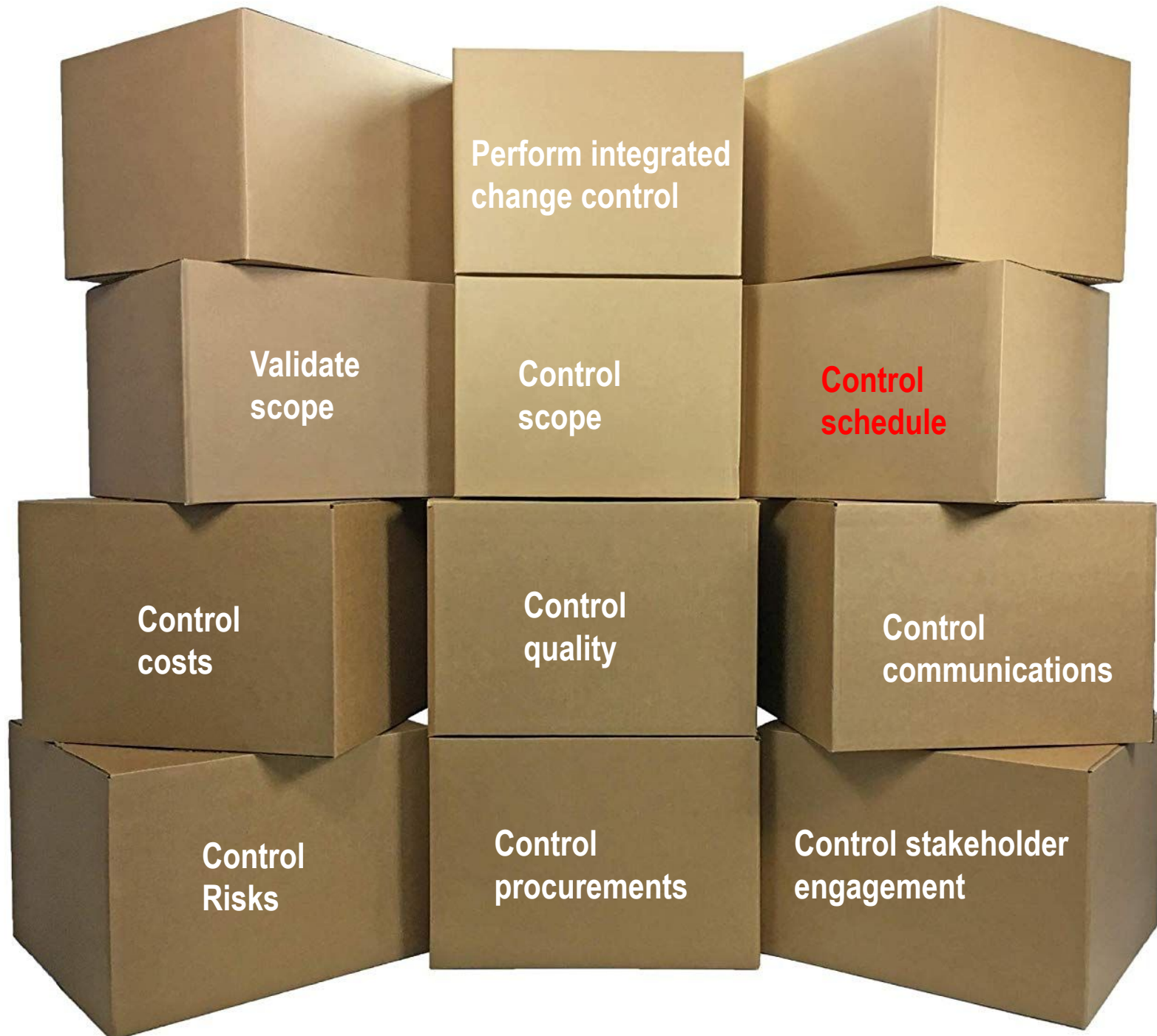
Monitoring and Control

- ☐ Is the scope agreed upon?
- ☐ Is the creep under control?
- ☐ Is it a must have?
- ☐ All are stakeholders agreed?
- ☐ Will it stretch schedule?



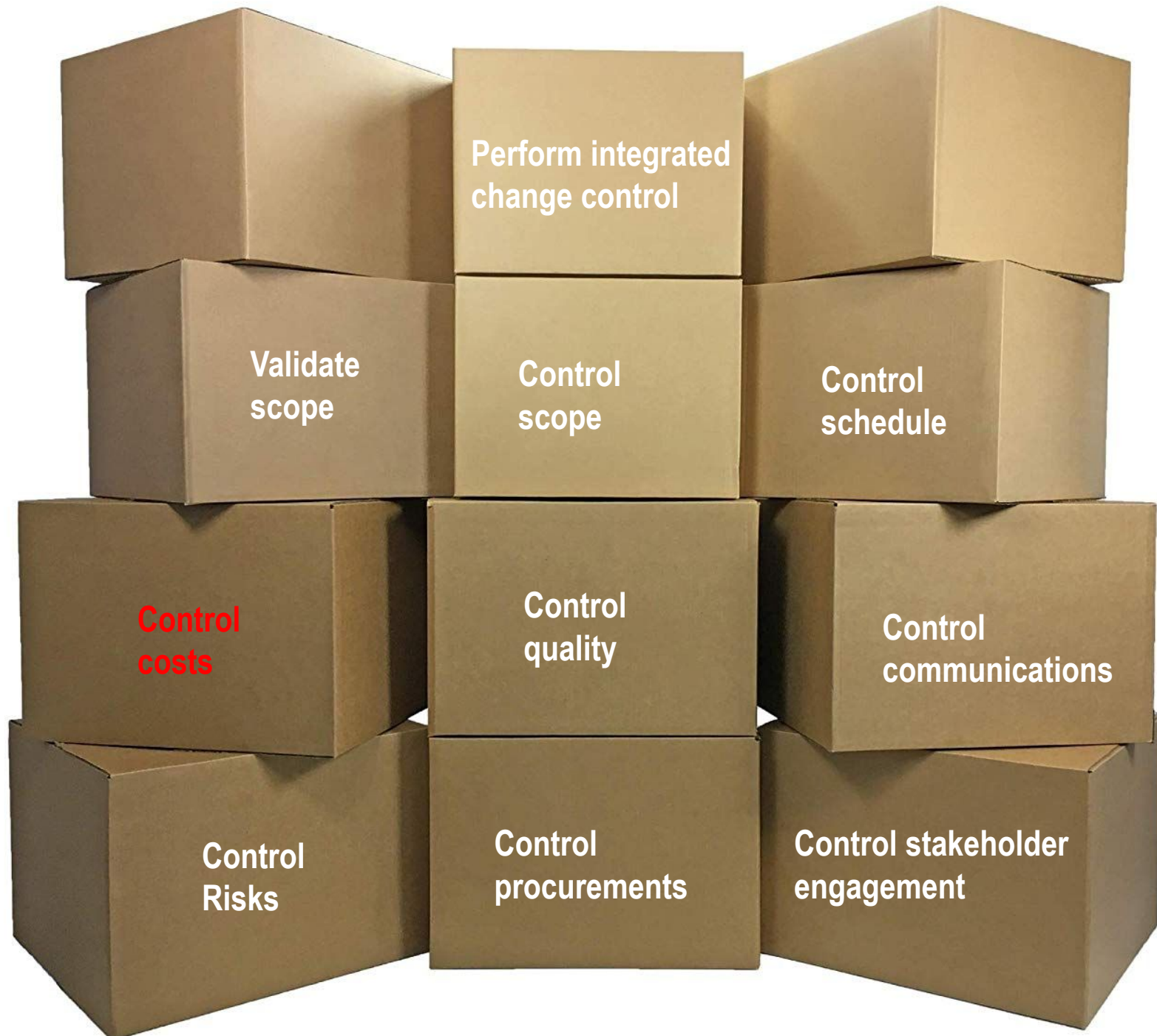
Monitoring and Control

- ☐ Are we on schedule?
- ☐ Can we make up time by bringing in more resources?
- ☐ Should we outsource?
- ☐ Can we reduce scope?
- ☐ Can we take in more scope?
- ☐ Can we reduce team size?



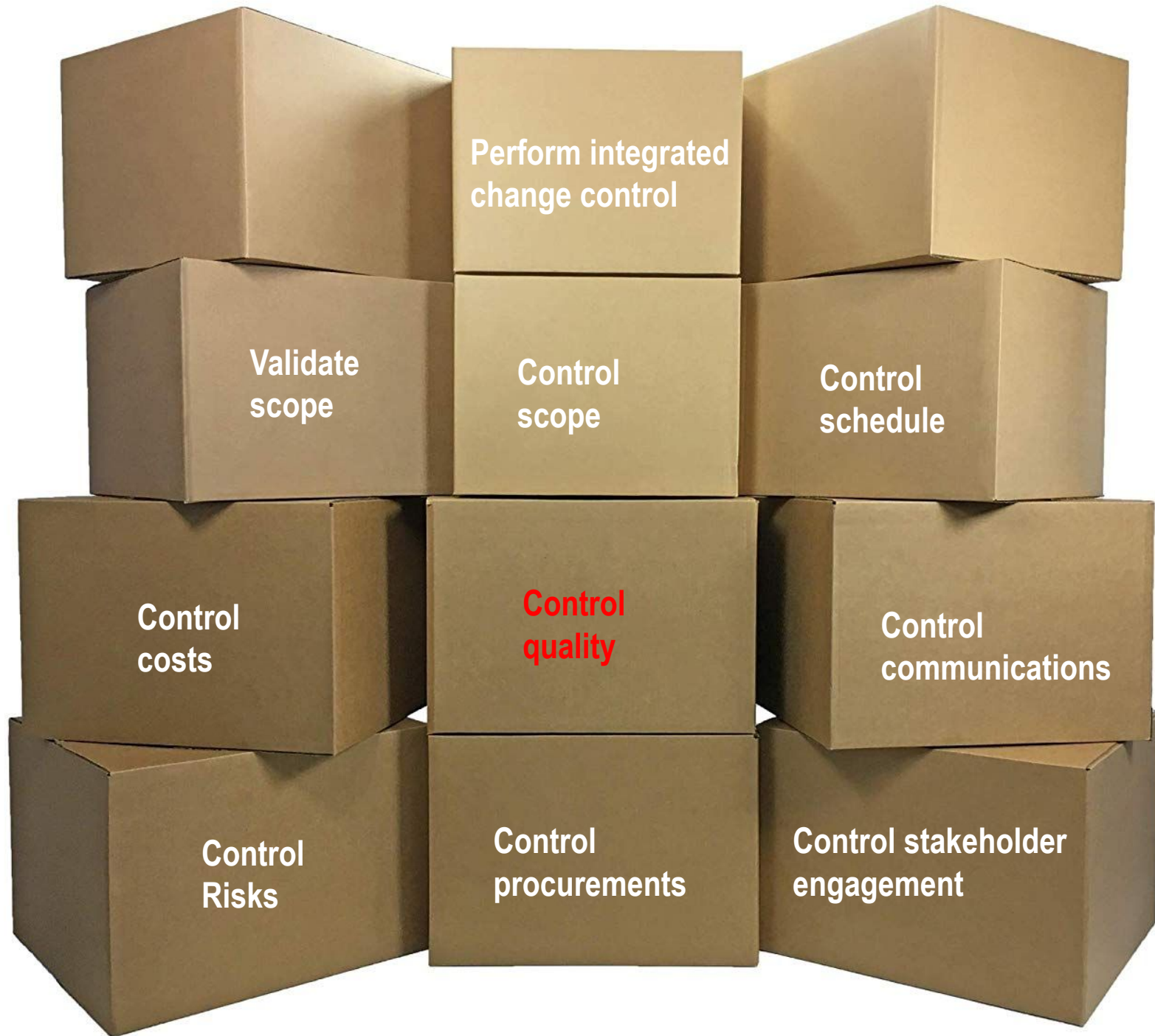
Monitoring and Control

- ☐ Can we reduce burn rate?
- ☐ Can we outsource?
- ☐ Can we reduce scope?
- ☐ Can we reduce FTE?
- ☐ What are the idle resources?



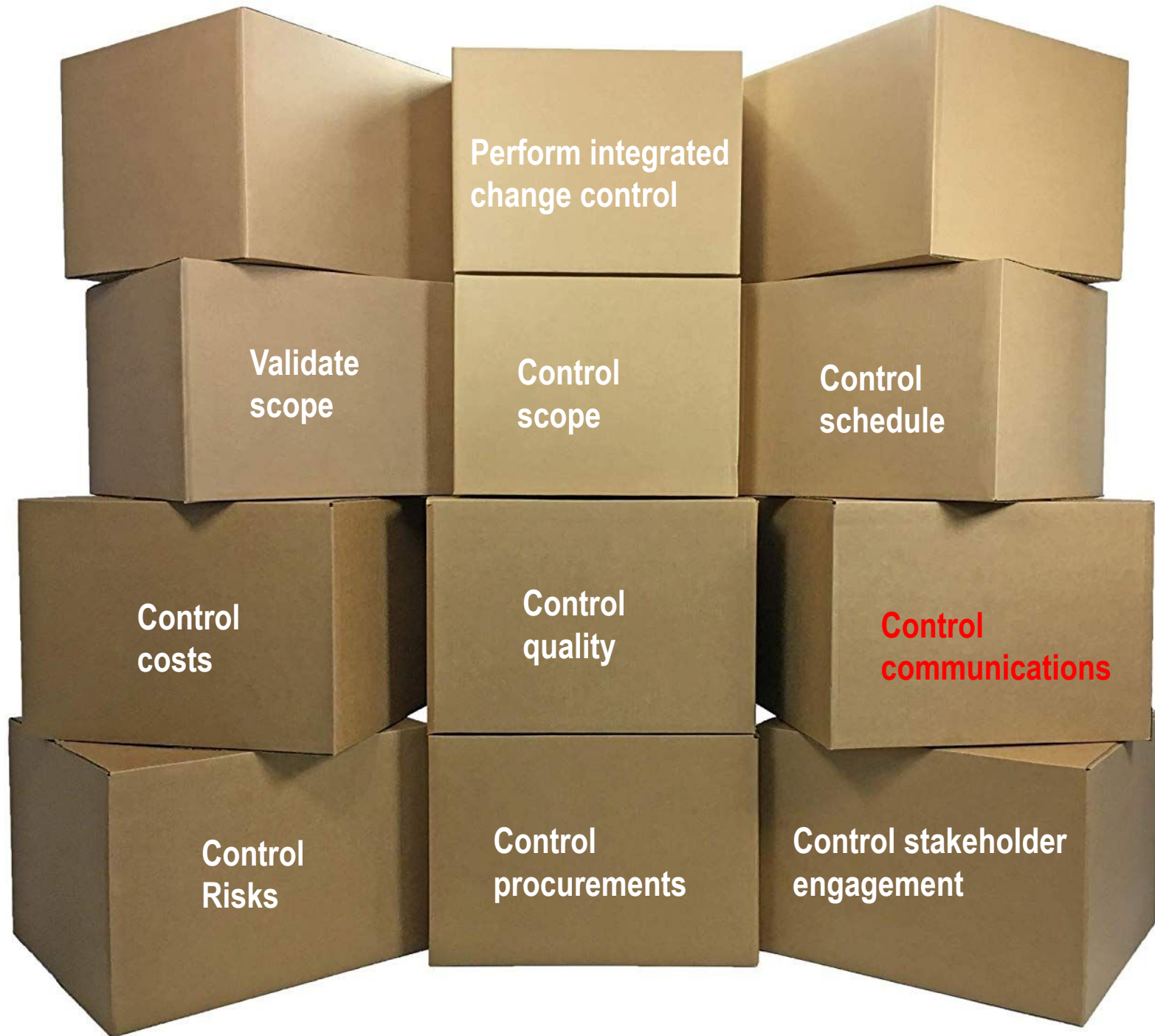
Monitoring and Control

- ☐ Is the development as per standards
- ☐ What is the code coverage of testing
- ☐ What is the defect rate?
- ☐ What is the user acceptance defects?
- ☐ How are the metrics in code quality tests?
- ☐ Are Dev-ops procedure followed?



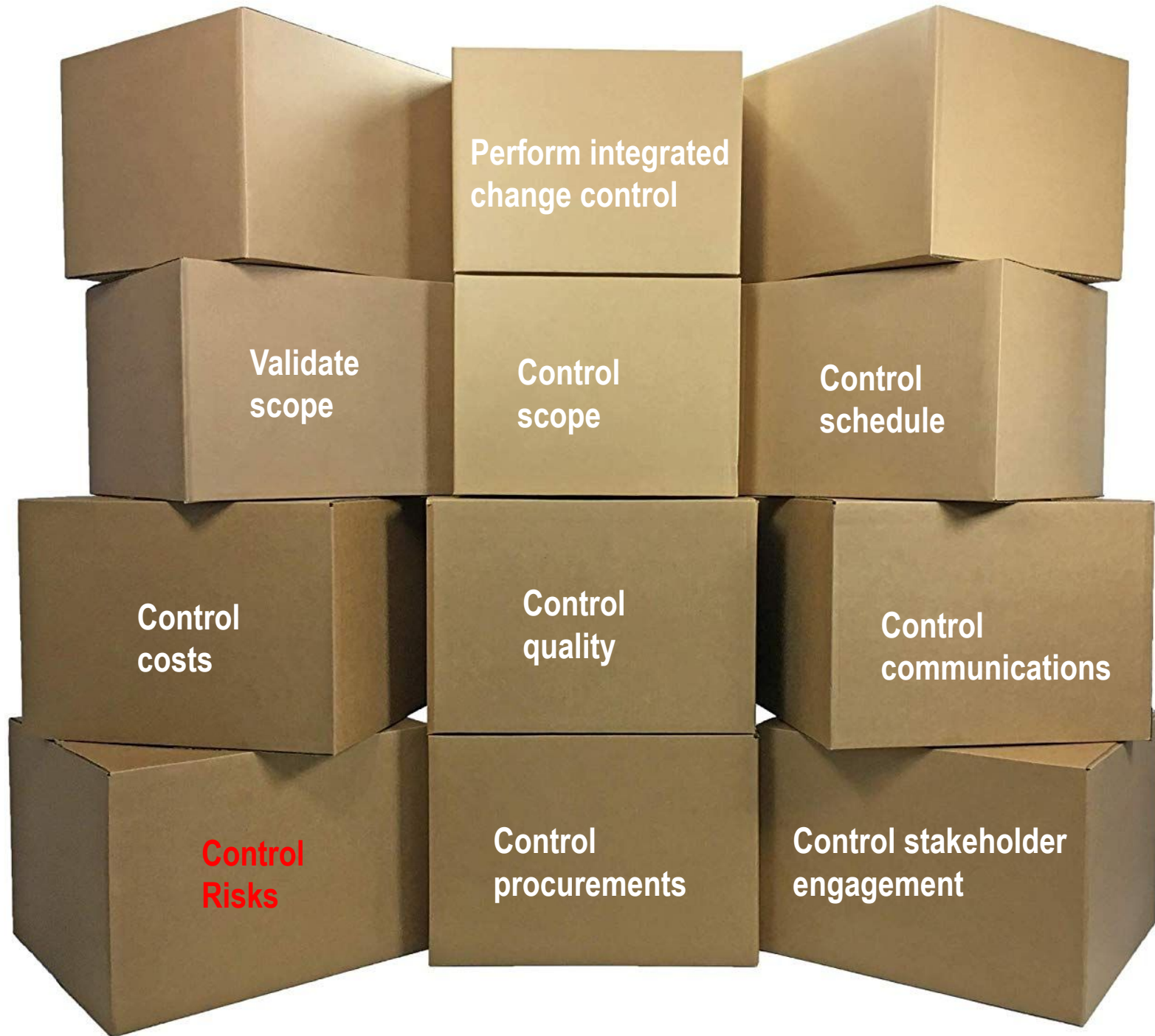
Monitoring and Control

- ☐ Are everyone on same page?
- ☐ Is the latest status available to all?
- ☐ Have all been included in updates?
- ☐ Are all developers have access to latest check-ins?



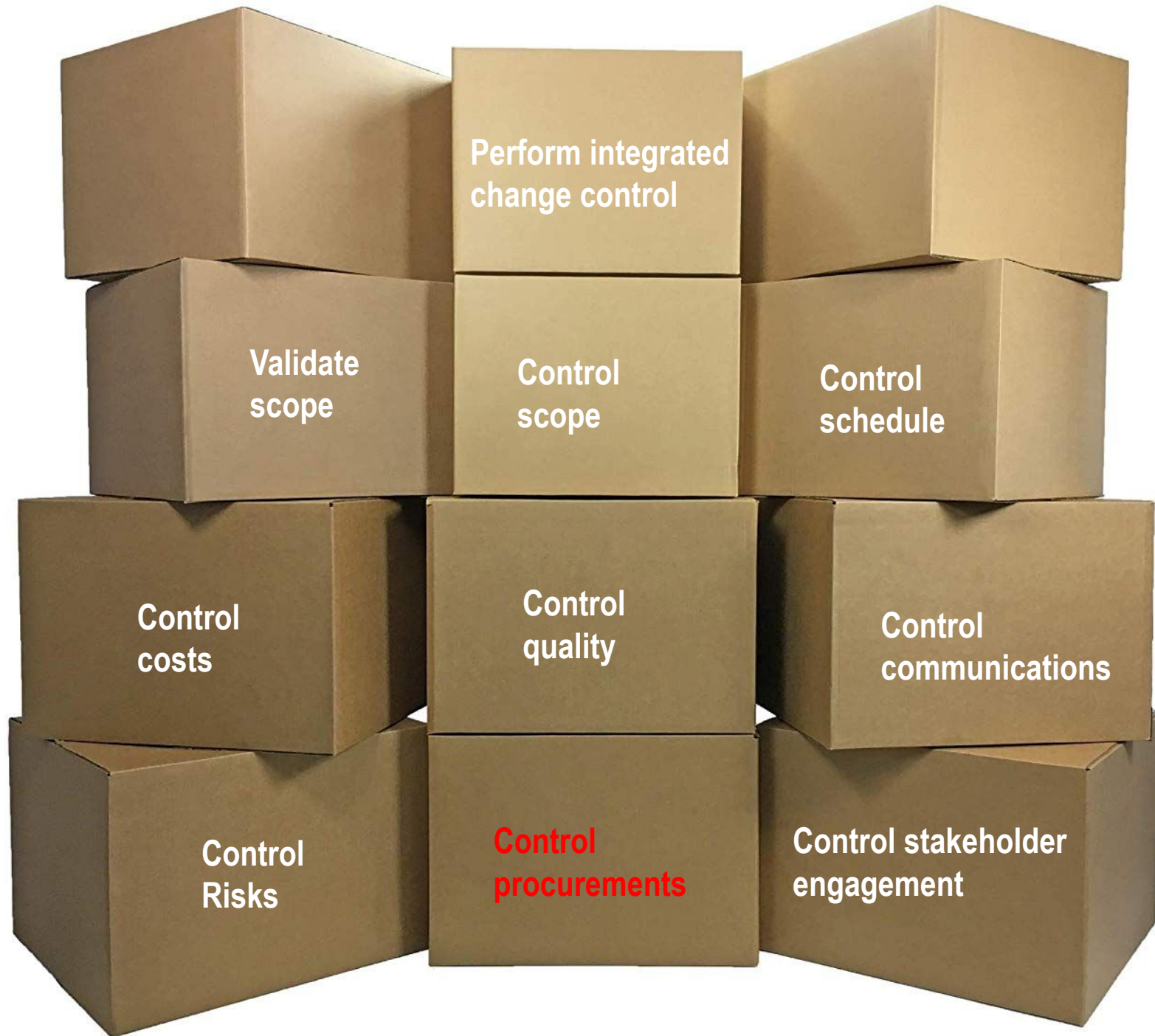
Monitoring and Control

- ☐ Are all risks been identified?
- ☐ When was the last risk review done?
- ☐ Are risk mitigation procedure in place?
- ☐ Are alternate vendors in place?
- ☐ What is the level of resource availability
- ☐ Are interface handshakes in place?



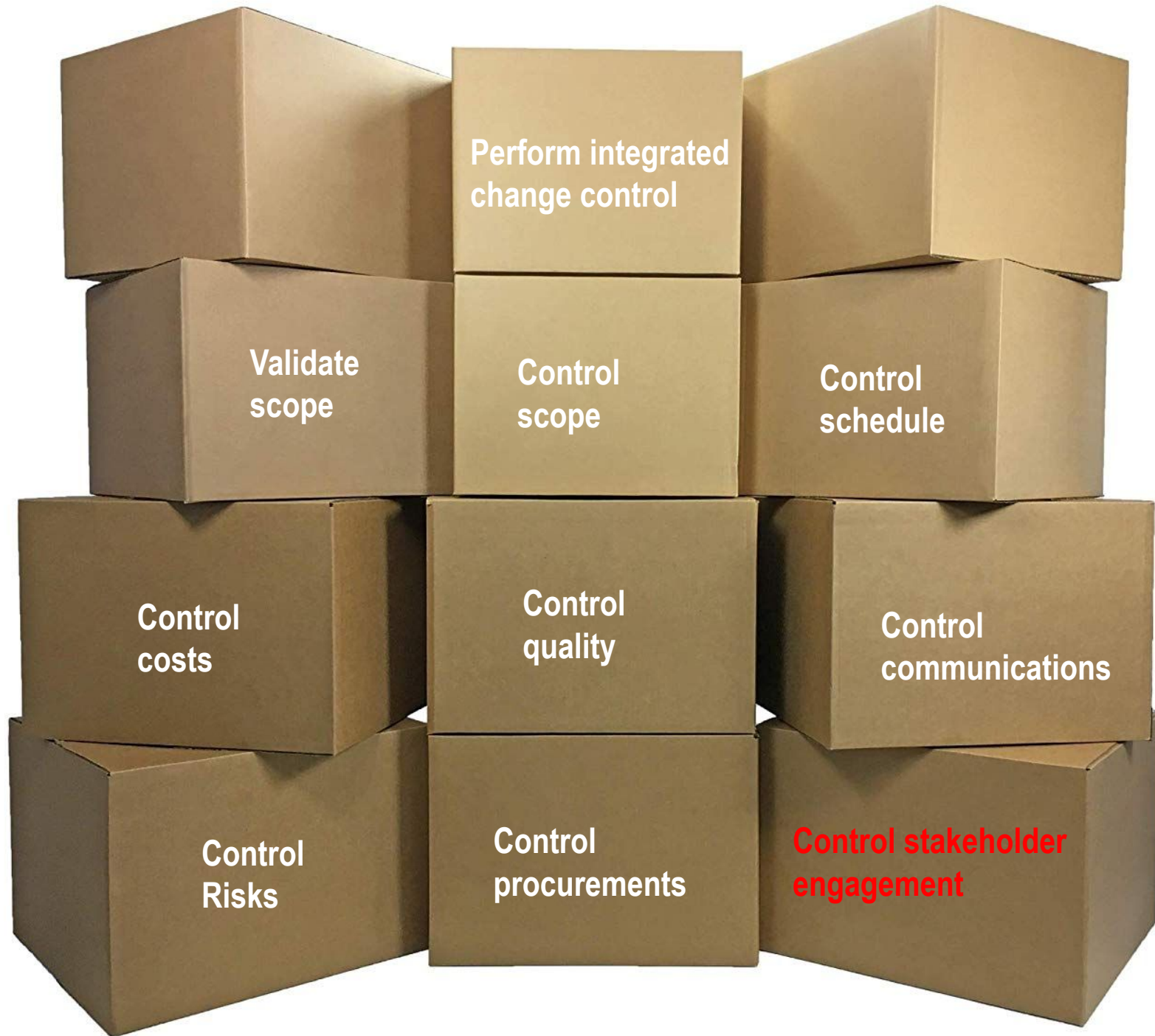
Monitoring and Control

- ☐ Are procurements / recruitments as planned?
- ☐ Are all standards and version acceptable?
- ☐ Are there sunset dates on software elements?
- ☐ Are there changes in delivery dates of suppliers to project deliverable dates?



Monitoring and Control

- ☐ Are all stakeholders up to date?
- ☐ Are stakeholder changes managed?
- ☐ Have changes in scope, schedule communicated to stakeholders?



We have covered the following

- ☐ **Understand the rationale of software configuration management**
- ☐ **Understand the elements of project monitoring and control**