



Software Configuration Management

How Cisco IT Uses Software Configuration Management to Minimize Business Risk



A Cisco on Cisco Case Study: Inside Cisco IT

Overview

- Challenge

 - Reduce risk of new application deployment

- Solution

 - Inject greater rigor into application change management by adopting Software Configuration Management (SCM)

- Results

 - Increased quality and reduced risk

 - Increased developer productivity

 - Improved IT service to internal clients

 - Enhanced scalability

Overview (Contd.)

- Next Steps

- Apply SCM to other Oracle 11i business flows and Web applications

- Introduce concurrent development

Challenge: Reduce Risk of New Application Deployment

Drivers for change:

Implementation of Oracle 11i

Unprecedented amount of change for Cisco

400 to 500 developers producing code

Simple production promotion could no longer provide needed tracking and management

- Sarbanes-Oxley Act

Need to ensure that application changes don't cause outages affecting timely delivery of accurate information

- Transition to a process-focused enterprise

Larger and more complex software implementations with cross-functional dependencies

Solution: IT Software Configuration Management

- Old paradigm

Developers saddled with code version tracking, code deployment, application patch processes, quality reviews, security controls, and dependency tracking

- New paradigm

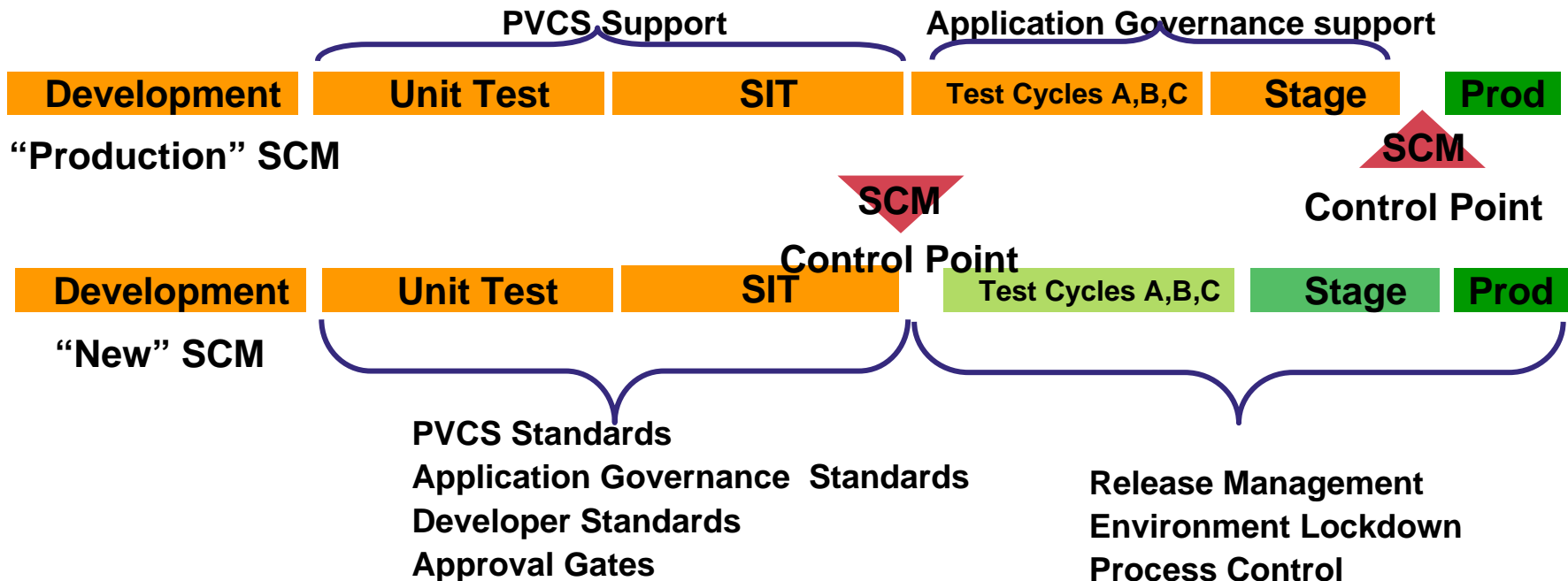
Developers focus on core competencies: design and development

IT SCM team provides centralized and automated mechanisms to manage and predict change

Solution: Earlier Check Point for New Code

- Before 2003, Cisco IT checked code just before an application was moved into production
- Now new code is under SCM control as soon as it leaves development

RISK	→	Defer risk, inject maturity and predictability
SCHEDULE	→	Reduce slippage
PRODUCTIVITY	→	Increase developers throughput and team focus on core competencies
COST	→	Core competency focus decreases overall cost to business flow and to project



Solution: SCM Resources, Tools, Process

- Resources

 - Application code migration

 - Configuration migration

 - Facilitation of quality control and analysis

 - Environment management

 - Application patch management

 - Coordination with Cisco Infrastructure change management group

Solution: SCM Resources, Tools, Process

- Tools

 - Application change tracking and development tool

 - Archiving software version manager

- Process

 - Repeatable processes enable Cisco IT to manage change and predict its effect

 - Automatic checking for naming standards

Results: Stable, Flexible, Productive Application Environment

- Increased quality and reduced risk

 - >90% reduction in manual deployment-related outages, from 10-15 per quarter to 1 per quarter

- Increased developer productivity

 - Freed developers to work exclusively on code

 - Reduced application maintenance requirements by enforcing naming standards

 - Cisco Customer Care team could hire 10% fewer people than planned

Results: Stable, Flexible, Productive Application Environment (Contd.)

- Improved IT service to internal clients

Quality (*example*: “Of 1000 lines of code, 10% failed due to quality issues”)

Velocity of change (*example*: “50 of 1000 lines of code changed today”)

- Enhanced scalability

SCM accommodates steadily increasing number of languages, developers, applications, and sites

Next Steps: More Business Flows, Web Content

- Other Oracle 11i business flows
 - Quote-to-Cash, Procure-to-Pay, Plan-to-Build, Hire-to-Retire
- Web applications used for revenue generation, revenue recognition, and customer service
 - Cisco Connection Online (CCO), Cisco Connection Internal (CCI), and Cisco Connection External (CCX)

Next Steps: More Business Flows, Web Content (Contd.)

- Concurrent development

Enabled by centralized archive software version manager

Benefits: more relaxed development cycles and better code quality

To read the entire case study, or for additional Cisco IT case studies on a variety of business solutions, visit Cisco on Cisco: Inside Cisco IT

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