

3rd British Computer Society Configuration Management
Specialist Group Conference

The Problem

IT departments are faced with a growing array of issues that hinder the delivery and development of internally developed applications including:

- Increasingly **larger** and **globally distributed** project teams.
- Increased scrutiny and auditing of IT processes and governance. (ex: **CMMI, SOX, 21 CFR Part 11, ITIL**)
- Inability to track issues or tasks with respect to the actual changes that are made to your 'e-Asset'. i.e. **Change management**
- **Disparate development tools** across departments and locations, which increases complexity and adds significant administrative overheads.
- Growing numbers of independent applications to **develop and track changes**
- No easy way to **reproduce any product release** and ensure the integrity of the product artifacts that make up that release.
- **Time/resource costly** process to track, monitor, and audit the communication exchanges amongst project team members and stakeholders or **no established process at all.**

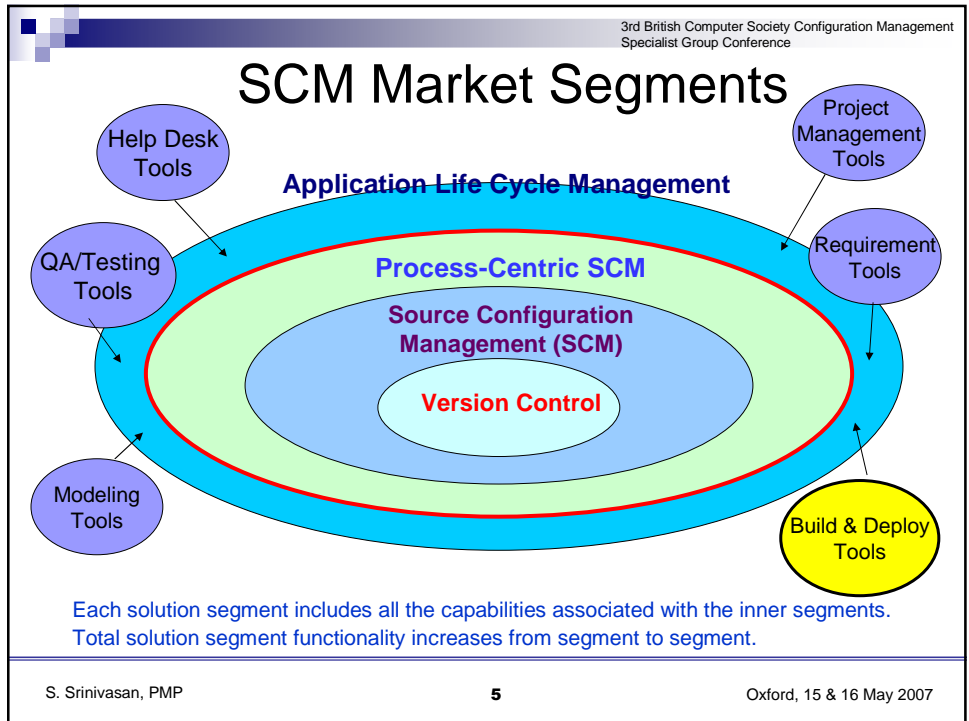
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How does an enterprise meet these challenges?

- How is the definition, development, creation and release of all your 'e-Assets'. *i.e software, documents, source code, images, drawings, web pages etc. managed?*
- What tools do you use for managing changes to your 'e-Assets'?
- How are workflow/process compliance steps enforced?
- How is the change and approval process tracked and handled?
- How are tasks/issues tracked with respect to the actual changes that are made to your 'e-Asset'?
- How are frequent releases of software, documents, web pages etc. created, tracked and managed.

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- ## Is this True ?
- Version Control is considered “Configuration Management”.
 - Configuration Management is simply a conglomeration of disparate systems “interfaced” together.
 - Low-end tools, that were bought in pieces of functionality, and needed a lot of manual or homegrown integration “procedures”.
 - High end tools that were purchased, that are expensive, complicated and awkward to maintain.
 - Dedicated effort and resources spent on “interfacing/ integrating” with subsystems through scripts or loosely coupled APIs to simulate a single cohesive CM system.
 - No tools or process in place – Managed manually, people dependent.
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How Real is it?

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Build and Deployment – How Accurate is it?

Example Build-Deployment process flow

```
graph LR; A[Extract Sources] --> B[Build Product]; B --> C[Test The Build]; C --> D[Package]; D --> E[Deploy The Package]; E --> F[Archive Deployed Package]
```

- Is it Accurate ?
- Is it Reproducible?
- Is it Fully Auditable ?
- Is it Reliable ?
- Is the Integrity Guaranteed ?

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Different Types Of Builds

- **Developer Builds**
 - Usually built within their private workspace, sandbox or development stream
 - Usually performed adhoc or lot more frequently than a Integration or Release build
- **Integration Builds**
 - Usually built by bringing together or assembling various product components
 - Generally performed on a specific timeline. For ex: nightly build/weekly
 - Acts as a snapshot of all the artifacts that will make the final formal release
 - Could be incremental or full build activities
- **Release Builds**
 - Usually considered to be undertaken for a formal release. For ex: QA verification, customer acceptance or production
 - Must guarantee absolute integrity and total reproduce-ability of any such release at any time all the time.

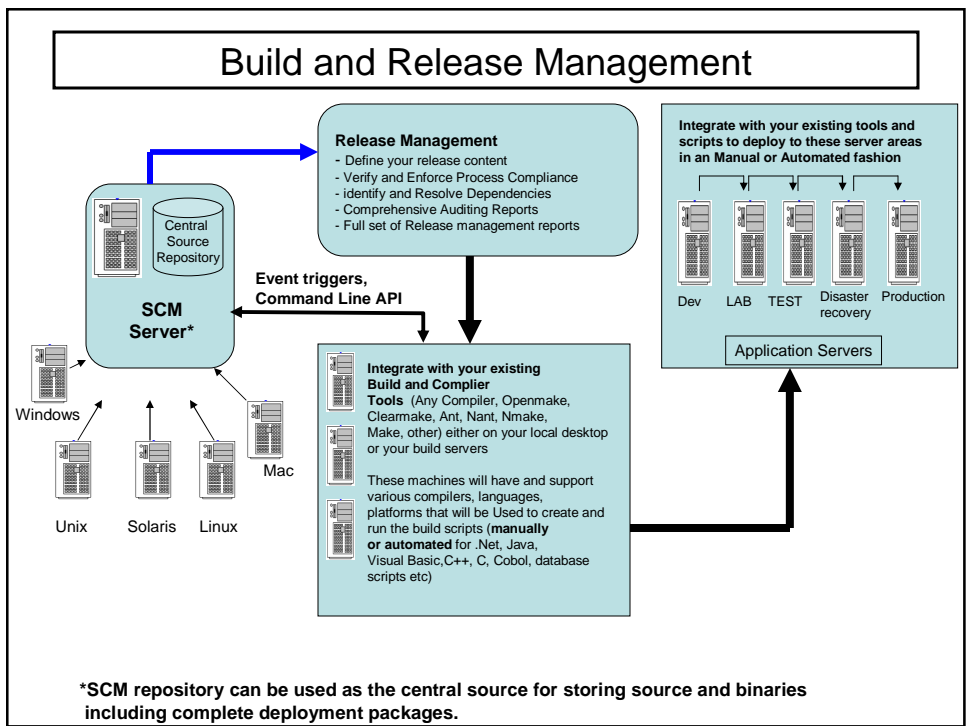
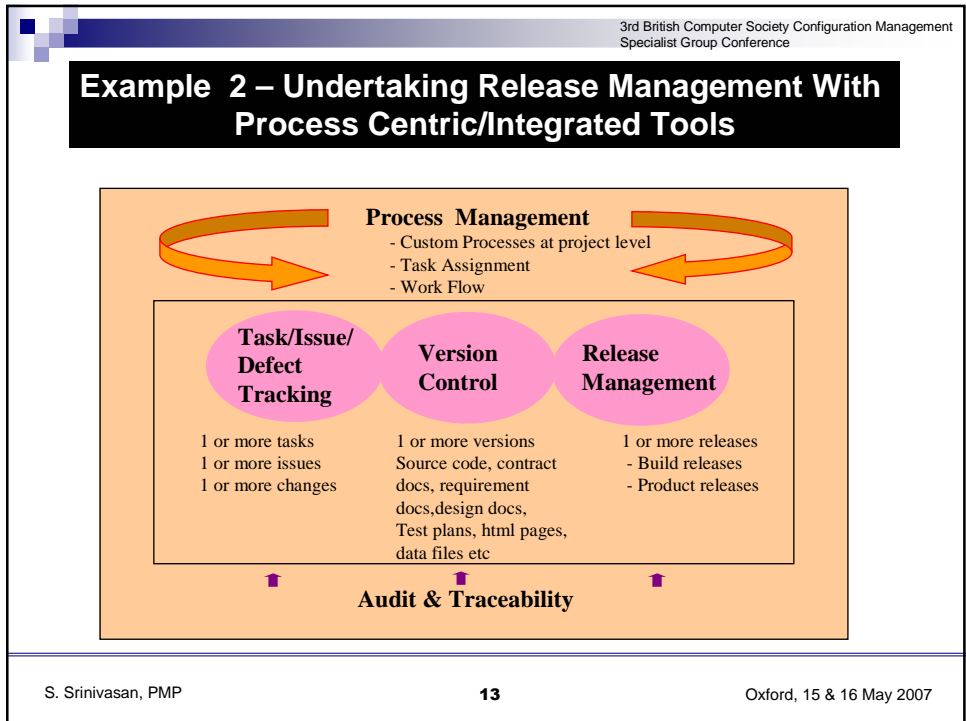
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Key Benefits

- Acts as the gatekeeper and enforcer of all of your build and deployment activities.
- Provides the process framework to manage, track and audit your builds and production artifacts that are derived from the SCM repository.
- Ensures the integrity of any software release before the sources reach your build and deployment area.
- Build process becomes repeatable, reproducible, enforceable and fully auditable.
- Eliminates most of the common error prone steps and offers many features to the build/release engineer to make better decisions.
- Enables users to detect and trouble shoot build errors quickly and efficiently.
- Most importantly it will enable you to **Do It Right The First Time, All The Time**

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Example Process Centric and Integrated SCM Systems

▪ Telelogic Synergy	Telelogic AB	Single Tool
▪ Serena ChangeMan Dimensions	Serena Inc.	Single Tool
▪ SpectrumSCM	Spectrum Software Inc	Single tool
▪ StarTeam Enterprise	Borland Corp.	Single tool
▪ Sablime	Alcatel-Lucent Technologies	Single Tool
▪ CM +	Neuma	Single Tool

▪ IBM Rational Clearcase Change Management Solution	IBM	Suite
▪ CA All fusion Change Management Suite	Computer Associates	Suite
▪ MKS Integrity Suite	MKS Inc	Suite
▪ AccuRev, AccuWorkflow, AccuBridge	Accurev Inc	Suite
▪ Microsoft Team System Foundation Server	Microsoft Corp	Suite

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Keep your Solution Simple Yet Effective!!

- When NASA began the launch of astronauts into space, they found out that the pens wouldn't work at zero gravity. In order to solve this problem, they hired Andersen Consulting (Accenture today). It took them one decade and 12 million dollars. They developed a pen that worked at zero gravity, upside down, under water, on practically any surface including crystal and in a temperature range from below freezing to over 300 degrees C.
- The Russians used a pencil. Source: Internet

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