

Administration and Infrastructure 2008

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Improve the Way You Communicate and Manage Change: A Tool-Based Recipe for Success

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In This Session ...

- This session offers a review of the wide variety of change control tools available and specific guidelines you can follow to implement new change control processes or improve existing processes
- Hear how a well-defined and well-managed change control process can assist with Sarbanes-Oxley (SOX) and other regulatory compliance, as well as prevent change conflicts and reduce unwanted troubleshooting and hours of system downtime
- Learn how to manage parallel change effectively to prevent conflicts and resulting production events

In This Session ... (cont.)

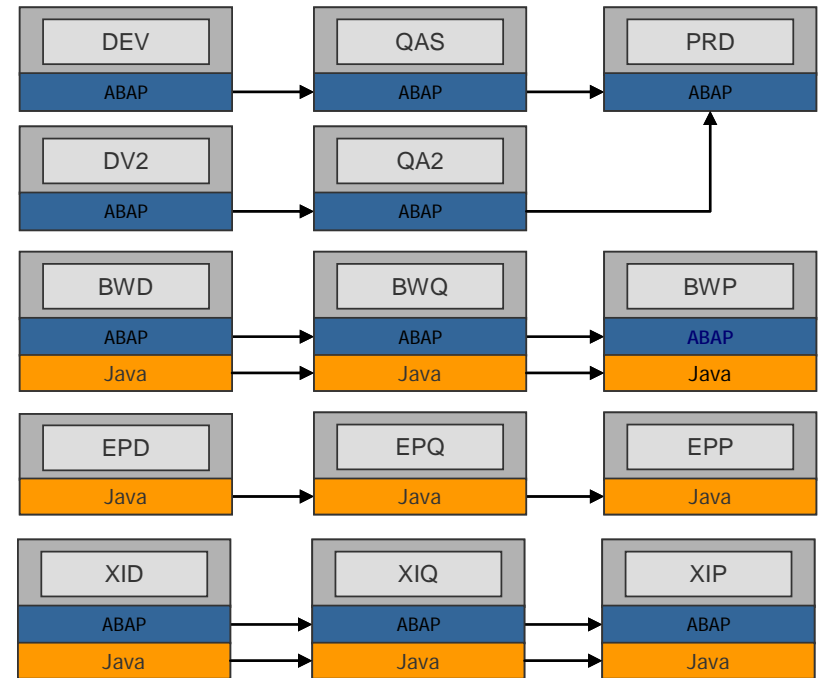
- Explore the latest change control tools and processes that are gaining acceptance and learn which third-party tools are most helpful for managing change across global SAP systems
- Come away with tips for selecting the right change control tools for your organization
- Get proven tips for managing the ever-increasing volume of changes from change teams, and learn which tools you can use to minimize — not restrict — change processes

What We'll Cover ...

- **Change control process**
- **Managing change effectively to prevent conflict and unwanted downtime**
- **Introduction to change control tools**
- **Selecting the right change control tools**
- **Managing change volume**
- **Wrap-up**

Emerging Issues

- **Change control issues**
 - ◆ Landscape complexity
 - ▶ **Multiple PRD systems**
 - ▶ **Phased system landscapes**
 - ▶ **Global system landscapes**
 - ◆ Landscape multiplicity
 - ▶ **ECC/BI/CRM/NW/APO/HRM**
 - ◆ Dual technology
 - ▶ **ABAP/J2EE**
- **Specific challenges**
 - ◆ Parallel development
 - ◆ Volume
 - ◆ Dependencies

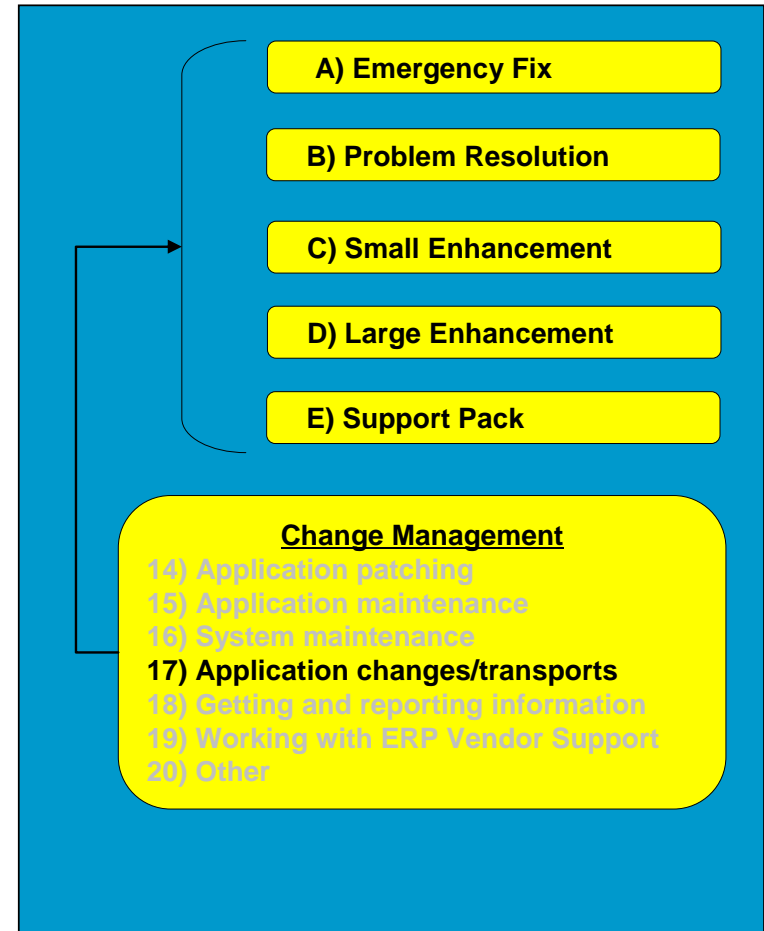


AMR Recommendations

- **Five different types***
 - ♦ Emergency fix
 - ♦ Problem resolution
 - ♦ Small enhancement
 - ♦ Large enhancement
 - ♦ Support pack
- **Unique process for each**
 - ♦ Different teams and approaches
 - ♦ Different authorizations
- **Best practice**
 - ♦ Multiple change processes
 - ▶ **Per change type**
 - ▶ **Per ERP application**
 - ♦ Simplicity is the challenge



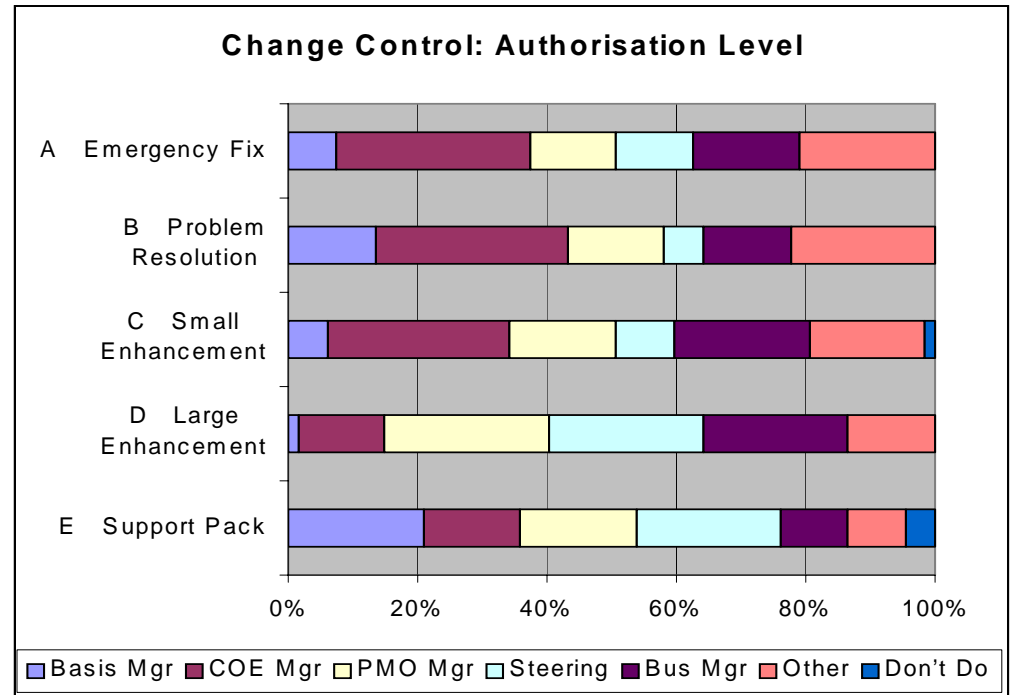
Tip



* Source: AMR Research – used with permission

Developing Process

- All processes involve authorizations from all levels*
 - ♦ Basis manager
 - ♦ COE manager
 - ♦ PMO manager
 - ♦ Steering committee
 - ♦ Business manager
- Level of authorization
 - ♦ Level of risk
 - ♦ Balanced with cost
 - ♦ Simplicity



* Source: AMR Research – used with permission

Developing Process (cont.)

- **Elements of change control process change according to organizational needs**
 - ♦ Regulatory requirement (e.g., SOX, FDA)
 - ♦ Complexity of SAP environment
 - ♦ Organizational structure
- **Typical elements**
 - ♦ Types of change
 - ♦ Approvers and approval authority limits
 - ♦ Approval processes and status steps
 - ♦ Rules such as segregation of duties, completion of documentation, change control board approval
 - ♦ Change request documentation

Developing Process (cont.)

- **Decide high-level process strategy**
 - ♦ Strict ITIL (Information Technology Infrastructure Library)
 - ♦ Regulatory requirements (SOX, FDA, SAS 70, etc.)
- **Decide process types**
 - ♦ Types of change to be processed
 - ♦ Number of processes
 - ♦ Level of control required for each
- **Decide approvers and authorizations**
 - ♦ Teams and team member roles
 - ♦ Approvers and approval authority limits
 - ♦ Workflow process – who receives alerts when
 - ♦ Tasks – who does what and when

Developing Process (cont.)

- **Define types of change to be processed**
 - ♦ Development, customization, interface, SAP Security, SAP Note, etc.
- **Define a set of unique processes**
 - ♦ Maintenance, Emergency, Reapplication, Project
- **Define the status steps for each process**
 - ♦ Status changes passed through in the process
 - ♦ Define documentation requirements – by status reached
 - ♦ Consider regulatory requirements (SOX, FDA, Basel II, SAS 70)



Tip

Developing Process (cont.)

- Define approvals required at each status for each process
 - ♦ Manage critical change with same process but require approvals from more senior team members!
- Define workflow for each process
 - ♦ Who receives alerts at what step in the process



Developing Process (cont.)

- **Typical approval (Maintenance) process**
 - ♦ Change approved
 - ♦ Specifications approved
 - ♦ Approved for Development
 - ♦ Unit tested in Development
 - ♦ Approved for QAS
 - ♦ Integration tested in QAS
 - ♦ Approved for PRD
 - ♦ In Production

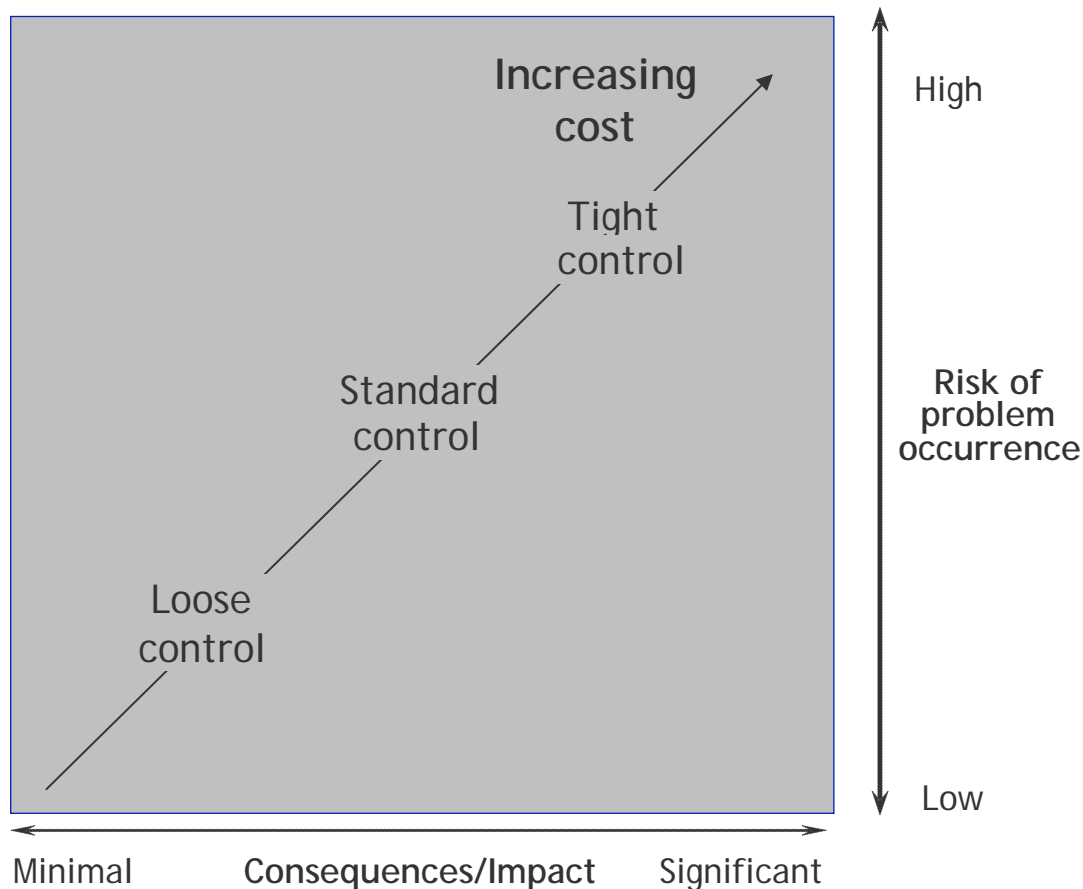


Tip

Rather than create multiple processes, simply require higher levels of approval at certain steps for changes of greater impact

Developing Process (cont.)

- **Likelihood x Consequence = Risk**
 - ♦ Consider the level of risk management when allocating approval roles to status steps



Developing Process – Summary

- Decide high-level process strategy
- Decide process types
- Decide approvers and authorizations
- Define types of change to be processed
- Define a set of unique processes
- Define the status steps for each process
- Define approvals required at each status for each process
- Define workflow for each process



Tip

- ♦ Hint: Start with a single generic process and then modify for additional scenarios

Critical Role of Change Control Process

- **Checklist**

- ✓ Effective control of all support and project changes
- ✓ Different processes for different types of change
- ✓ Targeted workflow process
- ✓ Capture of all support changes for project stream reapplication
- ✓ Testing of support changes in the project stream
- ✓ Control the import sequence of support and project transports
- ✓ Provide visibility into potential overwrite errors of both the project stream changes and support stream changes
- ✓ Documentation is completion
- ✓ Approvals received and documented

Regulatory Compliance

- Compliance requirements influence process design
 - ◆ Sarbanes-Oxley – key points
 - ▶ Often based on ITIL process
 - ▶ Segregation of duties (Business/technical)
 - ▶ Multiple approver rules (status separation)
 - ▶ Standardized processes
 - ▶ Documentary evidence
 - ◆ FDA CFR Part 11 – key points
 - ▶ Two-part electronic signature requirements

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Sources of Change-Related Production Events

- Specification deficiencies
- Ineffective testing
 - ◆ Quality of data
 - ◆ Impact analysis
 - ◆ Rushed
- Transport sequence errors
 - ◆ Volumes
 - ◆ Manual key entry
 - ◆ Dependencies
- Overtake and overwriting errors
 - ◆ Workbench objects, configuration sequencing
 - ◆ Parallel development

Managing Parallel Development

- Typical “phased release” scenario

- ♦ PRD collision issues

- ▶ PRD support changes

- ▶ Project changes

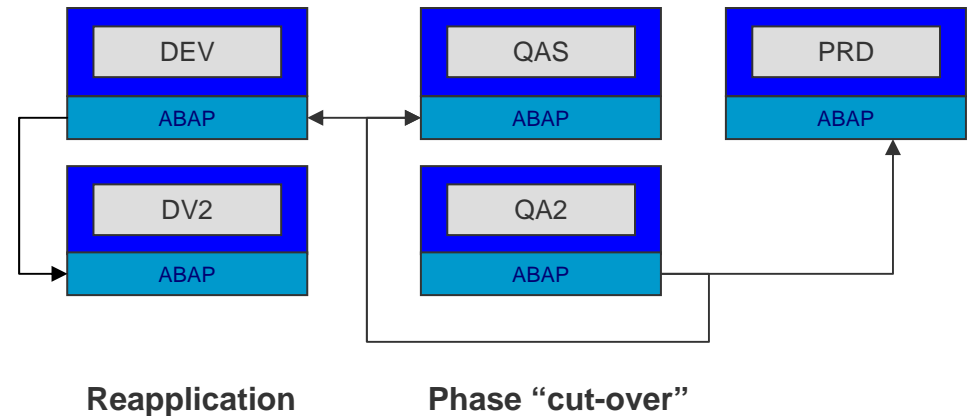
- ♦ DV2 collision issues

- ▶ Safe reapplication

- ▶ Manual – time consuming

- ♦ Dual stack technologies

- ▶ ABAP/J2EE



Managing Parallel Development (cont.)

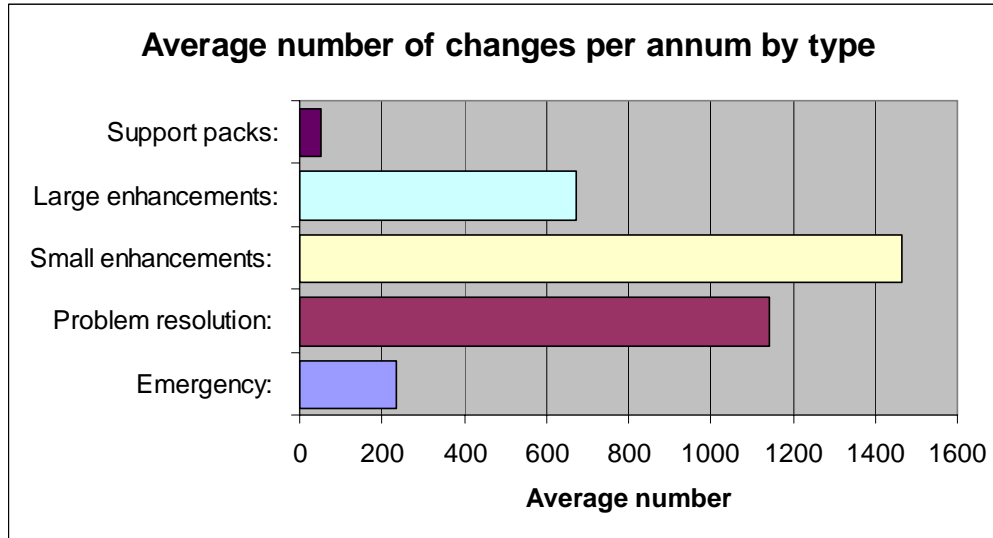
- Consider the following in “phased release” change control process design:
 - ♦ What method is used to capture all changes? Any guarantees?
 - ♦ When to replicate PRD changes? DEV, QAS, or after delivery into PRD?
 - ♦ How is manual re-keying of changes controlled?
 - ♦ For automatic imports – how is overwriting of project work or support changes prevented?
 - ♦ Visibility between development systems required?
 - ♦ Database/spreadsheets?
 - ♦ Prevention of parallel developments – alerts?
 - ♦ What about dependencies? How to alert/manage?

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Managing Volumes of Change: AMR Research

- Average of 3,564 changes per year*



- Transport movements/migrations

- ♦ 3,564 transports = 10,692-17,820 migrations
- ♦ Plenty of room for error
- ♦ Need for risk/cost minimization
- ♦ Does not include J2EE yet



* Source: AMR Research – used with permission

Managing Volumes of Change: RSC Customers

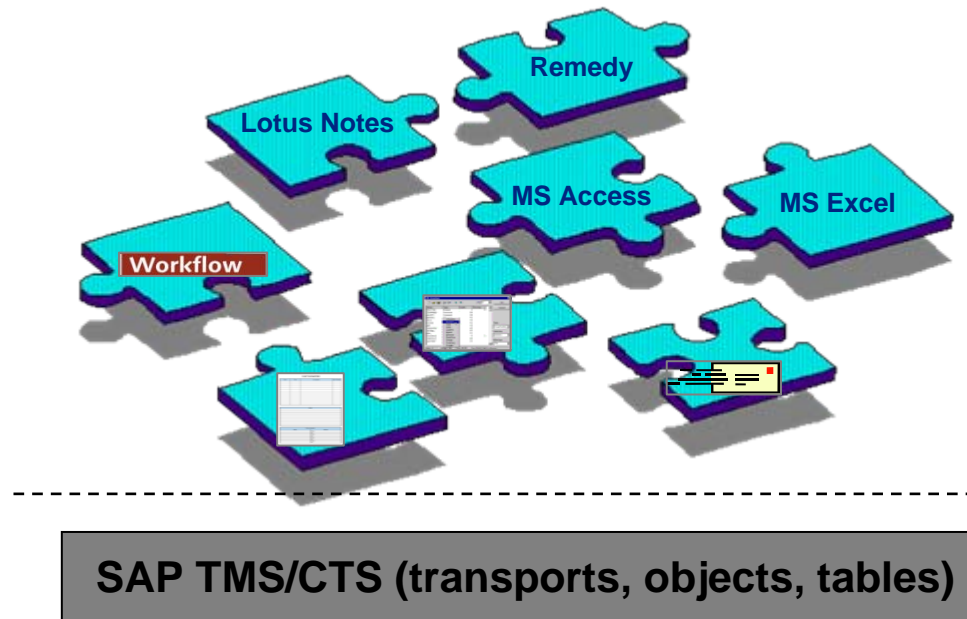
- Over a 12-month period, medium-sized SAP user organizations will undertake:
 - ♦ 54,532 unique approvals*
 - ▶ Approval from one status to the next
 - ♦ 152 unique approvers*
 - ▶ Signatories
 - ♦ 15-20 unique processes*
 - ♦ 4,489 transports*
 - ♦ 32,620 transport migrations (imports and exports)*

*Source: Revelation Software Concepts' Rev-Trac user organizations

Change Control Tools: Current Methods

- **Current methods (hybrid)**

- ♦ “Patchwork” of disconnected systems, processes, tools
- ♦ Few integrated with SAP TMS
- ♦ Dangerous disconnect between technical changes and the change control process



Why Tools and Ready-Made Solutions?

- Guarantee compliance with processes and policies
- Ensure safe and secure system development
- Maintain an accurate audit trail
- Manage documents and the paper trail
- Relate change to business requirements
- Provide mechanisms for communication and workflow
- Eliminate manual processes and human error
- **MANAGE RISK and REDUCE COST**

Change Control Tools: Solutions with Certification

- SAP Software Solution Partner Catalog: certified solutions
 - ◆ Two basic types:
 - ▶ Those fully integrated into SAP (ABAP)
 - *Rev-Trac* (Revelation Software Concepts)
 - *Automate!Change for SAP* (Newmerix)
 - *TransportManager* (Realtech)
 - ▶ Those external to SAP with interface
 - *Mercury* (HP)
 - *MKS* (MKS)
 - *Serena ChangeMan* (Serena)

Change Control Tools: Solution Categorization

- Varying degrees of functionality and interfacing with SAP solutions
 - ◆ Transport Management Component
 - ▶ Fully integrated
 - ▶ Interface
 - ◆ Change Control Component
 - ▶ Fully integrated
 - ▶ Interface
- Objective:
 - ◆ Integration into Help Desk and other tools and utilities

Change Control Tools: SAP Solution

- **SAP Solution Manager**
 - ♦ Change and Request Management (ChaRM) component
- **Several key considerations**
 - ♦ Requires SAP Service Desk
 - ♦ SAP CRM configuration and customization
 - ♦ Limited flexibility and configurability
 - ▶ **Customization requires specialized resources \$\$\$**
 - ♦ Task-intensive
 - ♦ Includes large manual component

Change Control Tools: SAP Solution (cont.)

- Many large SAP user organizations have opted for certified tools over SAP Solution Manager ChaRM
 - ♦ Mature and proven
 - ♦ Specialist vendors
 - ♦ Specialist support
 - ♦ “Out-of-box” functionality
 - ♦ Flexibility
 - ♦ Overall lower cost

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Change Control Tool Selection

- Know your key requirements
 - ♦ Technical requirement
 - ▶ Technical transport management only
 - ▶ Transport management and change control
 - ♦ Degree of automation vs. degree of reliance on manual process
 - ♦ Flexibility of configuration
 - ♦ Enforcement of use
 - ♦ Integration with other utilities (Help Desk, Testing, Document Mgt)
- For many – a regulated activity
 - ♦ Audit requirements
 - ▶ SOX, SAS70, Basel II, FDA CFR21 Part 11

Top Five Requirement Trends

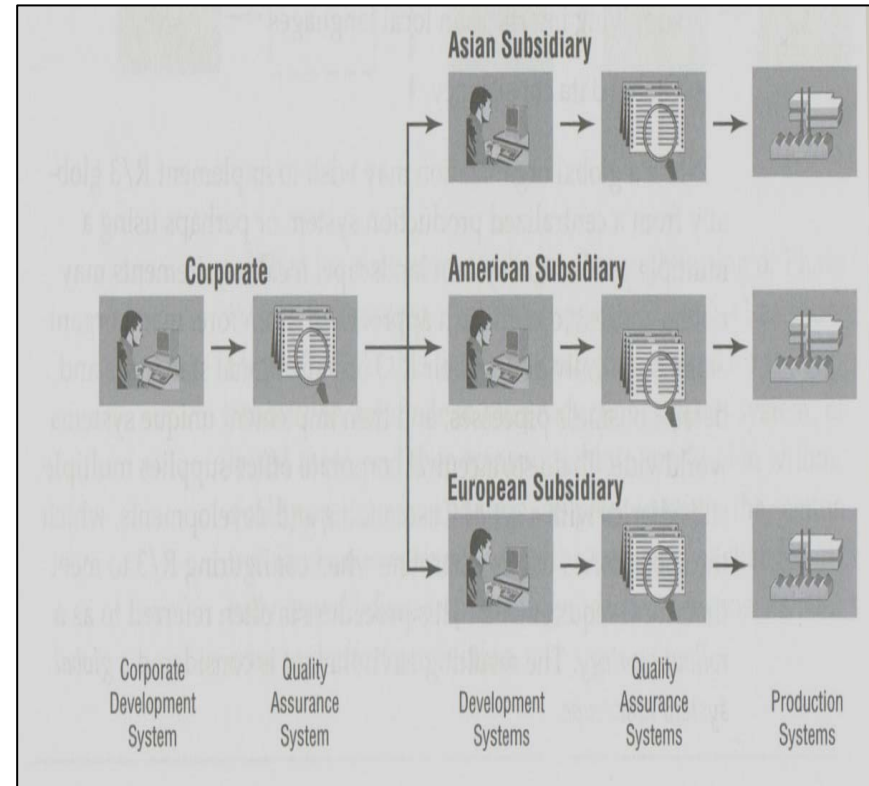
- Support for all SAP applications, ERP, SAP NetWeaver[®] BI, CRM, APO, HCM, etc.
- J2EE support (CTS+ and other)
- Manage and control parallel development – proactively
- Manage and control transport dependencies
- Assist with audit requirements (SOX) – segregation of duties

Change Control Tool Selection: Other Requirements

- Integration with other third-party applications
- Collision protection – proactive notification prior to action
- Flexible workflow and approval path configuration
- Process enforcement
- Transport migration automation and scheduling and transport grouping
- Change Control Reporting and monitoring capabilities
- Certification
- System/client monitoring and synchronization support
- Release management support

Global System Requirements

- **Monitor transport locations**
 - ♦ System and system client synchronization
- **Client independent/dependent transport distribution**
 - ♦ Global changes for all vs. global change for locale
- **Operate across multiple SAP versions**
 - ♦ Regional differences/upgrades
- **Prevent collisions between global changes and locally made changes**
 - ♦ Enforce standardized change control processes



Budgeting Guide

- **Various license methods**
 - ♦ User-based
 - ♦ System (SID)-based
- **Cost is relative to functionality and ROI**
 - ♦ Cost savings on ... 54,000 electronic signatures, 36,000 automated transport migrations, and preemptive human error prevention?
- **Budget accordingly**
 - ♦ Average SAP environment (\$100,000 ± \$35,000)
- **HINT: Find out ballpark amounts from vendors and budget before the selection process. Failed negotiations can be painful!**

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Managing Volumes of Change

- If using manual processes
 - ♦ Simple processes
 - ▶ Easy to follow, implement, and induct
 - ♦ As few processes as possible
 - ▶ Avoid a one-size-fits-all approach
 - ♦ Avoid bottlenecks
 - ▶ Multiple approvers, stand-ins, delegates
- Benefits of a tools approach
 - ♦ Flexibility
 - ▶ Increases process options
 - ♦ Elimination of manual tasks
 - ▶ Reduces risks, lowers cost – speeds up lifecycle of changes

Tools Requirements

- **Enforcement**
 - ♦ Change capture, ensures correct process and visibility
- **Flexibility**
 - ♦ Numerous processes, multiple teams
- **Degree of automation**
 - ♦ Reduces risks, lowers cost – speeds up lifecycle of changes
- **Safety features – parallel development/sequencing risks**
 - ♦ Extended locking
 - ♦ Transport sequencing
 - ♦ Overtake and Overwrite Prevention System (OOPS)
- **Higher the volume – the greater the ROI**

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Resources

- **White papers**

- ♦ Peter Dann, "Ten questions to ask when deciding how to manage changes to SAP® solution-based business intelligence systems " (Revelation, January 2008).

- ▶ www.xrsc.com/script_10_whitepaper_order_01.php

- **AMR Research**

- ♦ Derek Prior, "Evaluating the SAP Operations Tools Landscape To Take Pressure Off Your Busy Basis Team" (AMR Research, December 2005).
- ♦ Derek Prior and Bill Swanton, "Critical Operations In the ERP Terabyte Club" (AMR Research Executive Leadership Conference 2007).

Resources and References:

- **Upstream Technology**

- ♦ Rick Porter, "Change Management Comes of Age with ITIL" (July, 2007).

- **ITIL related resources**

- ♦ www.iti-officialsite.com / www.itlibrary.org / www.iti.org.uk

- **SAP Solution Catalogue**

- ♦ <http://preview.sap.com/catalog/index.jsp>
- ♦ Search terms for SAP Certified Change Control tools and solutions

- ▶ **Change Control**
- ▶ **Change and Transport Management**
- ▶ **Transport Management**
- ▶ **CTS+ or TMS**



7 Key Points to Take Home

- Know your specific change control requirements
- Design change processes accordingly
- Keep change control processes as simple as possible
- Design processes using the type-process-status-approval approach
- Specify requirements before beginning your tools selection process – project ROI if each are met
- Lobby for a known budget before you begin the process
- Concentrate on requirements specific to your need – complexity of landscape, volume, global or phased release

Your Turn!



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