

■ ■ **What senior managers need to know about managing change in complex SAP® environments**

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Introduction

In order to bring to business the flexibility it needs to respond nimbly to market changes and innovations, the SAP environment has evolved from a core ABAP-technology SAP three-system landscape into a more complex SAP environment consisting of multiple interdependent applications running over multiple system landscapes and spanning a range of technologies.

IT departments in companies of all sizes are under increased pressure to better meet and support the needs of the business. In particular, IT organizations are faced with the key challenge of minimizing system downtime and maintaining stable systems while implementing and managing an increasing volume of business-related system changes.

Whereas change control has always been fundamental to managing IT systems safely and has always been ultimately a technical challenge, today's high-volume IT change requirements combined with the interdependency of various applications and technologies means change control has become a business challenge as well. Add to this the regulatory compliance aspects of modifying systems and processes, and effectual management of change becomes business-critical.

SAP environment complexity and the nature of system change

Unlike times past, when system change transports were within a single SAP ERP application system landscape of one uniform technology with dependencies that were relatively easy to track and maintain, now the following is true:

- Many system changes not only cross ERP modules but also cross applications
- Many system changes will include interfaces to other applications or publishing of pages to an Enterprise Portal.
- Many system changes will span technologies (*e.g.*, ABAP and Java) either within the one application or across several applications
- Many system changes will need to be replicated in parallel systems or landscapes

Multiple application landscapes

Typically, in addition to core SAP ERP systems, large organizations will run a number of interdependent SAP applications that could include , for example, Business Warehouse (BW/BI), Customer Relationship Management (CRM), Advanced Planner Optimizer (APO), Supplier Relationship Management (SRM) and Supply Chain Management (SCM), to mention a few. See Figure 1 below.

Companies also will likely use integration technologies such as Exchange Infrastructure (XI/PI) to interface with non-SAP applications and Enterprise Portal (EP) to provide maximized access to and distribution of the information. There may be other supporting applications as well.

This multiplicity of technologies and applications will often lead to system changes within several interdependent applications for certain business requirements. Therefore, a single change request often results in several technical change requirements across multiple applications.

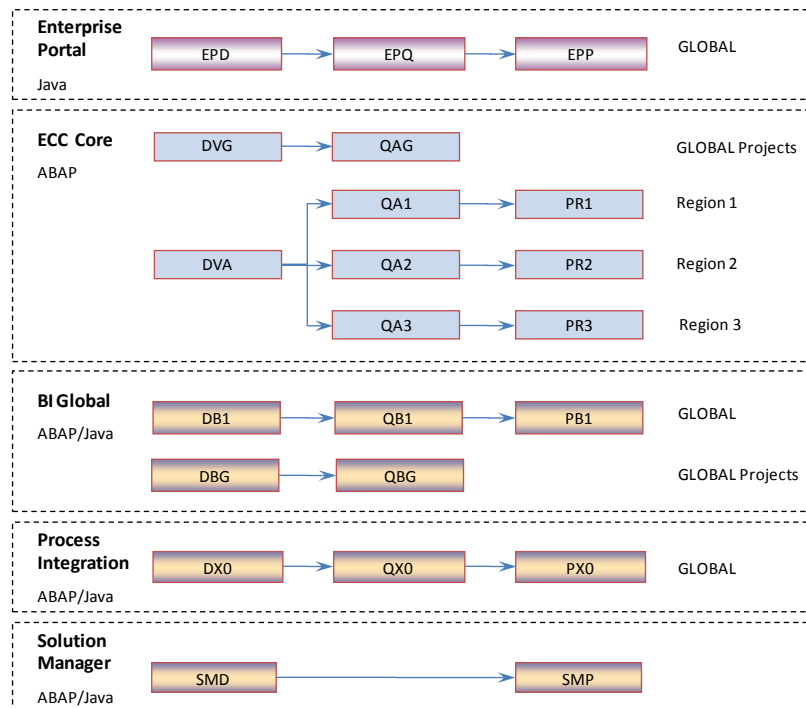


Figure 1: Multiple landscapes, multiple application dual technology SAP environment

Multiple technologies

The mix of SAP applications will typically utilize more than one programming technology – at least ABAP and Java. Some applications will be dual-stack, using both ABAP and Java technologies, while others will be single-stack and use only one or the other technology within the one application.

This means that a single change request may require several technical change requirements across multiple technologies as well as across or within applications.

Multiple system landscapes

Depending on the nature of the organization, a phased release process may be incorporated into the landscape design, bridging additional interdependent landscapes within a single application. In fact, SAP recommends a five-box system landscape for managing large volume project changes.

The five-box system landscape has become commonplace, adding yet another level of complexity to SAP system environments.

This scenario may be replicated for each running application and require double handling of almost all technical changes. This introduces a potential for diverging parallel development.

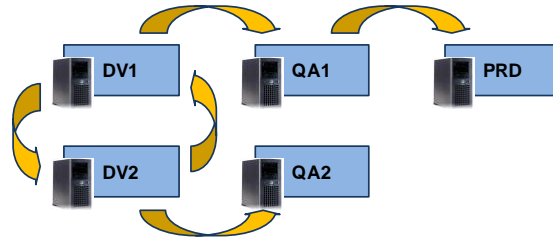


Figure 2: Five-box SAP system landscape

Key change challenges

Within such complex SAP system environments, IT organizations must struggle to turn around business requirements quickly, maintain system stability with minimum downtime and document an appropriate audit trail for regulatory purposes. Doing this successfully requires implementing well considered change control programs and change control technology.

It is somewhat unfortunate that many organizations required the ‘big stick’ of regulatory compliance brought about by the Sarbanes-Oxley regulations to realize how an effective change control program can mitigate the risk of system instability by managing changes consistently, with sound procedures and processes.

However, to ensure maximum benefit in the context of complex SAP environments, change control processes need to be capable of meeting several high-level key challenges.

- Provide process visibility across multiple SAP applications to ensure effective management of interdependent but independent changes across the system
- Provide process visibility across multiple SAP technologies to ensure effective management of interdependent but independent changes across those technologies
- Provide consistent process visibility across multiple development systems within multiple landscape environments

To meet these objectives, organizations must control the processes and tasks so as to manage the increased risks that come with changing complex but stable SAP environments. They must meet evolving business demands in a suitable timeframe at a reasonable and sustainable cost. IT managers have increasingly realized it is simply not adequate to attempt to manage and document their system changes using a mix of hybrid “home grown”

applications and manual processes that are not intrinsically integrated into the various SAP technologies.

Consider the following:

On average, a larger SAP customer can create (annually) 5,000 change requests to manage 8,500 transports, requiring up to 6 individual transport migrations (imports). Each change request can require up to 20 approvals (one or more approval per change process status change) before delivery into production¹.

This means it takes up to **50,000 individual manual Basis tasks** and around **100,000 documented approvals** to simply move transports through the development and testing cycles to production each year.

Consider also the need to:

- Document the reason for each and every change and transport.
- Document every approval and approver for each step in the process
- Carry out and document the impact analysis of each change

Further, consider the need to ensure each change has been managed by a predetermined, approved change process according to the risk profile of the change.

Effective change control in such an environment requires a comprehensive approach with maximum automation and reliability to enable the IT organization to manage a reasonable volume of business requests at lowest cost and lowest risk within reasonable timeframes.

Addressing key challenges

SAP itself has begun to address the challenge by introducing Change and Request Management (ChaRM) via SAP CRM features embedded in its Solution Manager. It has also introduced its CTS+ technology into NetWeaver 7. Solution Manager ChaRM at least provides a central point for gathering and collating change-related information while CTS+ gives change teams a single method to manage and deploy multiple technology change packages in a single deployment system.

It is a good first step, and recognition by SAP that managing change in complex SAP environments is a challenge worth addressing.

But to minimize risk and cost requires a comprehensive change control technology that enforces and automates, not only the tasks associated with making technical changes to SAP systems, but the policies and processes behind them.

¹ Source: Revelation Software Concepts Rev-Trac Health Check Reports

A technology that provides visibility across multiple SAP applications, technologies and landscapes will also aid the more technical aspects of change control. These include transport and change package dependency management and sequencing management, fundamental aspects of effective technical management of change.

Perhaps surprisingly, these requirements are not all addressed by Solution Manager. Many large SAP-using organizations look to Third Party Solutions, such as Rev-Trac, from Revelation Software Concepts, an SAP Software Partner, to fill the gaps.

Rev-Trac is an SAP certified add-on software used by SAP IT organizations of varying sizes to automate and enforce their entire SAP change control process. It has led this market segment since 1999 and is used today by many of the largest SAP-using organizations in the world.

Rev-Trac provides complete visibility across applications, technologies and landscapes, making it the leading SAP change control technology available today.

Conclusion

As SAP keeps adding applications and technologies, and continues improving the flexibility of its solutions, SAP IT departments and business users – particularly at larger organizations – will struggle to find optimum ways to manage business change requests. They will seek to minimize risk to stable production systems within a reasonable cost frame, and will find they must consider implementing a sound and comprehensive, integrated change control technology.

SAP IT organizations that implement a change control technology such as Rev-Trac can bring under control all changes introduced and can manage each with repeatable, appropriate change control processes, with maximized automation, minimum risk and at lowest cost.

About the writer

Rick Porter is the Vice President Business Development, Revelation Software Concepts, specialists in reducing risk and minimizing costs associated with SAP system change.

A native of Australia, Rick has spent that last 7 years understanding the change control needs and requirements of SAP user organizations around the globe, including some of the largest companies in the world.

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Revelation Software Concepts (RSC) specializes in SAP change control management, developing market-leading technology to reduce the risks and lower the costs of delivering changes into SAP-based enterprise information systems. Since RSC was founded in 1997, some of the world's largest companies have come to rely upon its mature change control solutions. Its deep expertise and responsive support have made RSC the leading change-control specialist for SAP infrastructures around the globe. RSC is 100% SAP-focused and is an SAP software partner. Its flagship change control solution, Rev-Trac, is SAP-certified. Rev-Trac supports change control for both SAP ABAP and non-ABAP technologies, reflecting RSC's commitment to technologically innovative change control solutions that serve current market needs. .

For information on how Rev-Trac can help manage software change control issues in use in SAP solution-based environments as outlined in this white paper, please contact us through the following:

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