



Ten questions to ask when evaluating SAP change management solutions

Organizations with SAP systems use a variety of different processes and tools to help them address the challenges outlined in this white paper.

Taken as a whole, these processes and tools can be regarded as the organization's SAP change management solution.

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Typical components of an SAP change management solution

Many organizations track changes to their SAP systems at an individual transport level, using paper forms, spreadsheets, or, in some cases, dedicated transport tracking systems for this purpose.

In addition, many organizations use a high-level help desk or change management system to record new requirements for SAP system changes, and in some cases to provide some kind of high-level tracking of the progress of these changes.

Inevitably, organizations working with SAP systems develop rules and procedures to describe how different kinds of changes should be progressed through a landscape. Among other things, these specify who is responsible for approving each stage of work as it progresses. People making changes to an SAP system are expected to be familiar with these procedures, and to follow them closely.

Organizations use a variety of means for managing the documentation associated with the change process. Such documentation may include functional specifications, test results, references to SAP's own documentation concerning a particular bug or problem, and various approvals associated with a change. Typically, conventions are established concerning appropriate documentation formats, and the locations where such documentation should be stored.

Some organizations migrate large numbers of transports between systems automatically, using software applications known as "transport automation tools". These may be useful for reducing the amount of labor involved in migrating changes manually. Some versions of these tools can also report on the location of transportable changes within a landscape.

Ten questions to ask

When evaluating any SAP change management solution, it is worth considering the following key questions.

1. How effectively does this solution integrate the management of transports and business requirements?

SAP users whose work involves changing SAP systems tend to view these changes from very different perspectives, depending on their own role within the organization.

Users who initiate or manage changes on behalf of end users (for example, by requesting and overseeing the development of a new sales report) typically need to understand how this change is progressing overall. Is the development work complete? Has the change been tested yet?

This is the business perspective of change.

By contrast, technical experts within the organization focus on the specific software components needed to address each issue. What system objects need to be created or changed? In which transport is which version of each object? To which systems and clients has this transport been migrated?

This is the technical perspective of change.

When evaluating any SAP change management solution, it is important to consider whether the solution is capable of representing SAP changes from both a business and technical perspective simultaneously, and, if so, how effectively the two perspectives are integrated.

To appreciate the benefits of a solution where these perspectives are well intergraded in a helpful fashion, consider the following questions:

- When viewing a report on the location of transports in a landscape, is it possible to see immediately what business requirements these transports relate to?

If not, how much effort would be required to determine who owns these changes and what their purpose is?

- If the technical aspects of a change are altered (for example, by the addition of a new transport, and the subsequent requirement for additional testing), is the status of the change immediately updated as seen from a business perspective?

If not, how are those who have purely business interests in the change to obtain a meaningful, real-time view of its status?

- How easy is it to determine which systems and clients currently contain a particular change, as seen from a business perspective?

If this is not easy to determine then who really understands the significance from a business perspective of what is actually being tested?

- If a decision is taken not to move a particular change (as identified from a business perspective) into production, how easy is it to determine which transports should be isolated to ensure that this change is not migrated accidentally?

2. Are approval and migration rules both flexible and easy to follow?

When organizations decide how they want to manage the creation and progression of changes in their SAP systems, they typically create procedures and manual processes that incorporate a reasonable degree of flexibility.

Such procedures and processes usually recognize that different types of change should have their own rules concerning testing, approval and migration. For example, the approval and migration requirements for a minor bug fix are normally different from the requirements for a major development.

Manual procedures may also contain quite flexible provisions about who is eligible to approve a change in the absence of a normal signatory.

By contrast, the same procedures tend to embody a highly idealized view as to how these changes are typically progressed.

These procedures rarely reflect the reality that changes tend to be reworked through the development and test cycle many times before they are ready to be moved to production. This is particularly evident in the design of paper or electronic signoff forms that assume approval for any given stage of the development cycle will be required only once.

Not surprisingly, users working with simplistic approval forms and approval procedures often fail to obtain additional approvals when rework is undertaken.

Those who are subsequently responsible for approving the migration of such changes into production may find it difficult to determine whether rework has really been adequately tested and checked. Certainly some of the work has been approved and tested -- but has all of it?

It is often necessary to trade off flexibility with simplicity in order to create manual processes that users can reasonably be expected to understand and remember. However, confusion concerning what aspects of a piece of work should be, and have been, approved is potentially a recipe for disaster.

When evaluating methods for managing the promotion of SAP changes through the development cycle, it is worth asking:

- Does this method implement approval and migration rules that are as flexible as we need?
- Does this method implement approval and migration rules in a way that requires users to recall complex "if this... then this..." conditions?
- How well does this method perform when it comes to tracking the approvals required, and given, when a change requires extensive rework?

3. Can this solution prevent accidental damage to your production system?

One of the main purposes of the rules and procedures described in the previous section is to prevent damage to an organization's production system. Such damage may cause considerable disruption, resulting in loss of business and incurring considerable repair costs.

Damage may occur to a production system if:

- Changes are introduced that have not been properly tested or approved
- Transports are imported in an incorrect sequence

While managing these risks may sound reasonably straightforward, there are practical subtleties involved that are not immediately apparent.

Introduction of untested changes

We have already considered the practical difficulties involved in keeping track of all the approvals required, and obtained, when a change passes many times around the development and test cycle.

While managing this process carefully significantly reduces the risk that untested changes will enter production, it is not a complete solution.

To understand why, it is necessary to recognize that testing procedures usually assess the effectiveness of a known change. Thus, for example, if a report is changed with a view to including a new subset of data, those who test this change will focus on whether or not the new data is selected and displayed correctly.

In a typical SAP environment, however, situations arise from time to time where two or more developers find themselves working on the same object (usually in connection with different business requirements), each unaware that the other has been making changes to some aspect of this object.

In such situations, the persons responsible for testing each set of changes will probably be unaware of the full extent of the changes occurring to the object. As a result, it is quite possible for someone testing this object to conclude that it is performing correctly, when in fact some other aspect of the object, of which they are quite unaware, is faulty.

If, at this point, the apparently "tested" object is migrated into production, it may well be carrying untested, and potentially damaging, changes with it.

When assessing any SAP change management solution, it is important to ask how the solution would address and contain this risk.

Incorrect importation sequence

It should be clear already from our earlier discussion that importing transports into a production system in the correct sequence is vitally important when it comes to preventing system damage.

This is because many transports contain only incomplete versions of system objects, and "depend" on the prior importation of other transports that contain the remaining components of the object.

When you consider that hundreds or thousands of transport movements are likely to be occurring every week, that developers working on different business requirements are probably creating multiple version of the same system object, and that each transport contains versions of many different objects, it soon becomes clear that sequencing imports correctly is not a trivial exercise.

When assessing an SAP change management solution, be sure to consider whether it is capable of determining the correct import sequence for transports under such conditions, quickly and with a high degree of confidence.

4. How powerful is the change visualization tool this solution provides?

In even a simple SAP landscape it quickly becomes difficult to visualize the location of all the changes that have arisen as a result of configuration and development of work, bug fixes, the application of hotpacks, and various client copies and system restores.

An effective SAP change management solution should include tools that allow the location of these changes to be visualized. Such tools should be capable of presenting clear, easy-to-understand answers to questions such as the following:

- When were these changes migrated? On whose authority? Was each migration successful?
- What changes are present in this client that do not exist in that client?
- What changes are present in this client that were not present in the same client last week?
- What changes have failed to reach this client which, according to our plan, should have done so?
- Across which systems and clients has this change been disseminated so far?

It should be just as easy to answer these questions from a business (i.e. issue-oriented) perspective as from a technical (i.e., transport-oriented) perspective.

5. To what extent does this solution depend on voluntary compliance?

Any SAP change management solution that relies heavily on voluntary compliance is open to greater risk of failure than a solution that reduces the margin for human error as far as possible.

When assessing any change management solution for SAP, consider questions such as the following:

- Are you absolutely confident that people making changes to your SAP system will always record enough information about those changes to allow them to be tracked in a meaningful way?

Might they sometimes forget? Is there any way you could ensure that they don't?

- **Can you be sure that changes are migrated only after they have received all the approvals you have specified?**

Or is there sometimes pressure on your Basis people to migrate changes without the necessary formal approvals, on a "trust me" basis? What risks might be associated with such a practice?

6. Does this solution provide an accurate and readily accessible audit trail?

Good change auditing not only encourages personal accountability, but also helps organizations to improve their processes by accurately pinpointing where failures have occurred.

While most SAP change management solutions maintain some form of audit trail, user confidence in the accuracy and comprehensiveness of the audit information may not be high. Furthermore, the information may be maintained in a format that makes it difficult to search for many purposes.

When assessing any SAP change management solution, consider asking how long it would take you to find answers to questions like the following:

- **Who approved the budget for a particular business report?**
- **How long did it take to do the QAS testing for a particular change that went into production two months ago, and which subsequently failed? Who actually approved the migration of this change?**
- **Who authorized whom to approve migrations on behalf of someone while on vacation?**
- **For the months of June and July last year, what was the average elapsed time between when a customizing change entered the QAS system and when it was finally tested there?**

7. Does this solution address the needs of all interested parties?

Managing changes to SAP systems involves addressing the needs of many different groups whose needs are likely to vary considerably.

For example:

- **Managers are most likely to need real-time information about the status of a cluster of changes, as viewed from various high level perspectives**
- **User representatives or help desk staff may be more focused on the progress of individual changes that they themselves have initiated, or in which they have a particular interest**

- Configurers and programmers may need ways of quickly identifying all the work they are responsible for performing, or which they are currently due to approve
- Testers may need accurate information about what changes are currently present in various test systems and clients
- Basis team members may be particularly focused on identifying and resolving migration-related issues

When assessing any SAP change management solution, it is important to consider how well it addresses the needs of all those involved in the change process, rather than just a subset of interested parties.

8. Does this solution simplify and assure access to business-related paperwork?

A key issue to consider when evaluating any SAP change management solution is how well the solution manages paperwork associated with change.

This paperwork may include information such as notes from SAP bearing on a particular problem, a design requirement, a budget, screenshots, email messages, and various iterations of functional specifications and test results.

Taken together, this paperwork represents much of the intellectual property associated with a given change. If the people most closely familiar with the change should leave the organization, this paperwork may represent the only available "memory" of why the change was planned, and how it was intended to function.

When evaluating an SAP change management solution, consider such questions as:

- How easy would it be for someone assuming responsibility for a semi-completed change to locate all the paperwork associated with this change?
- Can everyone who needs to work on this change get speedy access to all the related documentation?

For example, if some of the documentation is stored as email, does everyone have access to this email? If the documentation is stored on the LAN, does everyone know where it is stored, and do they have authorized access?

- Is business-related documentation stored in such a way that it is vulnerable to loss by misplacing, or contamination by software virus?
- Does your disaster recovery planning adequately cover restoration of change documentation?

9. Does this solution offer significant time and cost savings?

There are significant costs associated with setting up and operating any SAP change management solution, regardless of whether this solution employs largely manual processes or includes significant elements of automation.

When comparing the apparent costs of change management solutions, it is important to ask what aspects of the real cost may be hidden from view. An apparently less expensive solution may actually cost far more than an alternative when true operating costs of the two systems are compared.

When assessing any SAP change management solution, be sure to examine the amount and unit cost of time that will be spent on such activities such as:

- **Identifying the correct sequences in which to import transports**
- **Manually migrating changes**
- **Tracking the locations of changes throughout the landscape and assessing what their impact might be**
- **Preparing management reports on the overall status of changes**
- **Retrieving audit information to identify the root causes of process failures**
- **Briefing new staff members on approval and migration procedures**
- **Tracking down documentation relating to particular changes**
- **Following up people to ensure they have approved changes**
- **Waiting for minor changes to be migrated so they can be tested**

An automation SAP change management solution that eliminates such costs may well provide a better return on investment than an apparently less expensive manual solution.

10. Is this solution easy to implement and maintain?

Finally, when assessing any SAP change management solution, it is worth considering how easy it will be to implement and maintain.

Regardless of whether the solution is wholly manual or partly automated, users will need to learn how to work with it. How easy will this be?

If the solution requires the use of a new tool, it may also be worth considering what additional overheads may be involved. For example:

- **Does this tool require its own infrastructure (i.e., its own hardware and database)?**
- **Are users required to learn a new, unfamiliar interface?**
- **Does the tool require its own disaster recovery planning and backup facilities?**
- **What authorization mechanism will be used to control access to the tool?**