
**A Short Guide:
How to better plan
and securely implement
changes**

**Improving the Quality of SAP
Change & Transport Management**

White Paper, 2020

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1 INTRODUCTION

Too often, the measure of SAP Basis administration is simply how fast necessary changes can be imported into a company's production systems. This may make sense from a business perspective, but who deals with the consequences that may arise from the poor quality of the SAP change management process?

SAP systems handle mission-critical and accounting-related business processes. Changes to SAP systems and SAP applications involve risks that can bring a business to a halt. The processes of the SAP transport system are the key to governing the import of these changes into the production systems.

This white paper concentrates on how to optimize the quality of SAP change management by way of well-defined workflows, processes, and automated checks and shows how modern change management solutions like theGuard! SmartChange can effectively minimize the risk of system failures.

2 QUALITY TRUMPS QUANTITY: HOW TO PROPERLY PLAN CHANGES

Well-planned and -implemented changes are crucial to ensuring the quality of SAP change management processes. Companies need reliable and consistent processes to systematically improve them. Companies therefore handle the import of their SAP transport in the following ways:

Many companies prefer to import their changes into their production environments by means of periodic releases, for example once every quarter. The benefits are obvious. By focusing on a few dates, companies limit the risk of adverse effects on their production systems to these specified periods. The downside of this, however, is the large number of changes that ties up staff resources and requires a high level of attention to detail.

The alternative to these periodic releases is to rely on ad hoc transports to import changes to the production systems on an as-needed basis. Scheduled developments are captured in individual change requests and moved to production in a timely manner and using a predefined process. The benefits are greater flexibility and the ability to respond to problems much faster, as packages are much smaller, making it easier to resolve any errors.

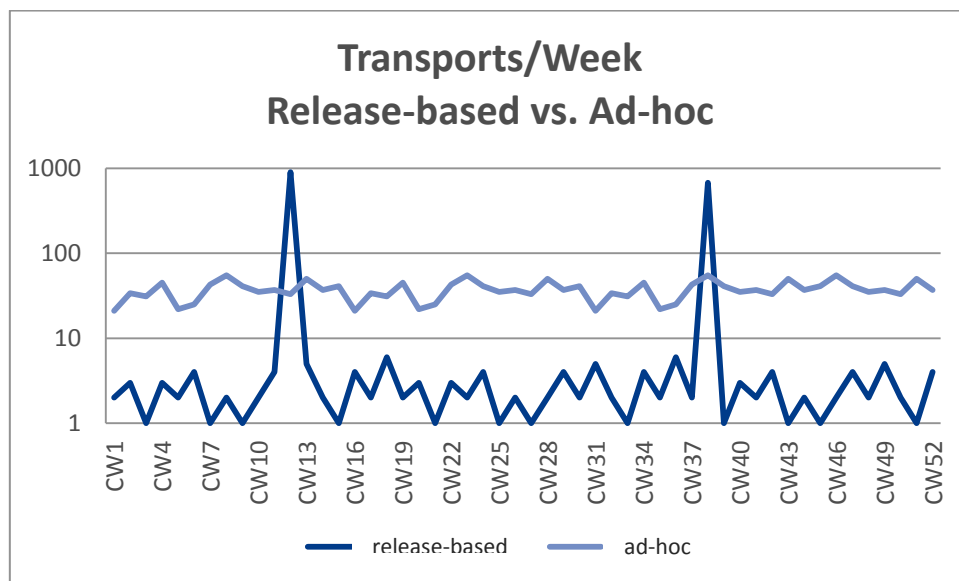


Figure 1: How to properly plan changes

Regardless of how they are scheduled, these two approaches have one thing in common: All change requests must be described in detail. Only then can they be classified, reviewed, and approved by the change manager. The same applies for de facto standards such as the IT Infrastructure Library (ITIL).

Key aspects for effective SAP change and transport management:

- Establish a reliable change management process
- Ensure consistent processes for all changes
- Make sure to capture and approve change requests for every change
- Assign responsibilities throughout the process
- Enforce the segregation of duties
- Document all activities
- Maintain audit trails

The change manager is the first person to review a change request. He or she assesses the requirement, determines its impact, and schedules the change. The change manager also checks whether the requirement represents a new feature or whether it has already been implemented as part of another project or change request. Sometimes new features are developed more than once because developers lack a development tracking system or because their system is never used productively. This unnecessary waste of resources can be avoided by centralizing and integrating a company's change and release management processes.

Still, many companies shy away from implementing an integrated change management process for their SAP systems. If at all, they rely solely on isolated Excel sheets or similar tools to execute their planning processes. Some companies even choose not to manage their development requests at all. This can easily result in unnecessary SAP transports and a considerable waste of time and money. By establishing a reliable process and deploying an integrated change management solution, companies can achieve significant quality improvements, reduce the workload of their staff, and free up valuable resources.

3 NO TRANSPORT WITHOUT CHANGE REQUEST APPROVAL: IMPLEMENTING CHANGES USING ESTABLISHED PROCESSES

After a change request has been reviewed and approved, it is scheduled and assigned to a developer. This stage focuses on the best way to implement the requirements. Here, it is very important to make sure that no development is transported without prior approval of the change request. It is also crucial to keep a full audit trail of all requirements and of the corresponding change management activities. This eliminates unnecessary developments that will never be used productively, saving the company time and money over the long term.

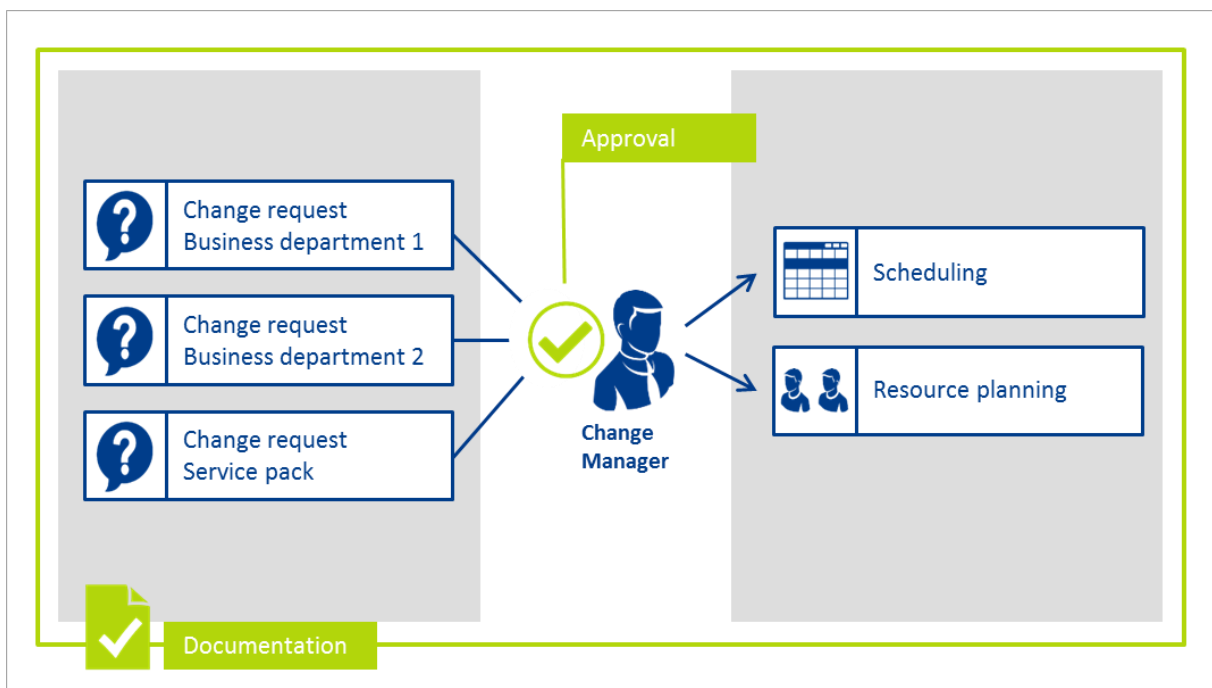


Figure 2: Implementing changes using established processes

4 COORDINATED DEVELOPMENT PROCESS: KEEPING THE ORDER AND AVOIDING ERRORS CAUSED BY OVERTAKERS

Another important aspect in the quality of SAP change management processes is the way the application development process is organized. Functional requirements need to be captured in the form of change requests and treated as a unit throughout the entire change management process, whether it is during development, testing, or their import into the production systems. One request, however, can involve a variety of technical changes, which in turn necessitate many different SAP transports.

One major challenge is to identify potential interferences and collisions with other change requests or development projects ahead of time. This is where the "1-10-100 rule" comes into play. The rule states that the cost of an error increases exponentially the later it is discovered. The cost of correcting an error during testing is about 10 times higher than during development, and is about 100 times higher once it reaches the production systems.

It is also important to keep the transports associated with a change request, project development, and/or release in the right order. Even though SAP transports are context-related due to the definition of change requests, there are a number of other technical requirements that need to be taken into account. Prior to the import of an SAP transport, a change, or release, it is important to make sure that they fit the overall context of all current changes to a system.

Example: Overtakers and their consequences

Failure to verify the correct order can lead to transports from different change requests or releases being imported at the wrong time. This results in overtakers, whose consequences are not immediately obvious after completion of the import. The damaging effects of an overtaker are felt later, when a required functionality is no longer available in the production system and the company has to invest additional time and money to restore the lost functionality. Restoring the correct import order of transports often requires significant effort. Features that have already gone live have to be reset and individual systems may have to be turned off during error recovery.

Preventing these types of situations and the costs associated with them are the primary objective of SAP change management. Too often, overtakers remain undetected for extended periods of time. If a large number of changes have been made to the production system since the erroneous import, it is usually no longer sufficient to simply re-import these transports. This makes it all the more important to detect potential overtakers or object collisions before importing them into the production system, to notify users, and to identify the correct order.

5 COMPLETENESS CHECKS AT ALL LEVELS: IDENTIFYING DEPENDENCIES BETWEEN DIFFERENT SAP TRANSPORTS

In addition to the correct order of changes, their completeness is also key. Technical dependencies between the objects of different SAP transports can potentially cause serious problems when importing and activating changes in the production system.

One simple example is a function module that accesses a data element. If the function module is imported into the production system without the data element being present in the system, it cannot be activated – a costly import error both in terms of time and money.

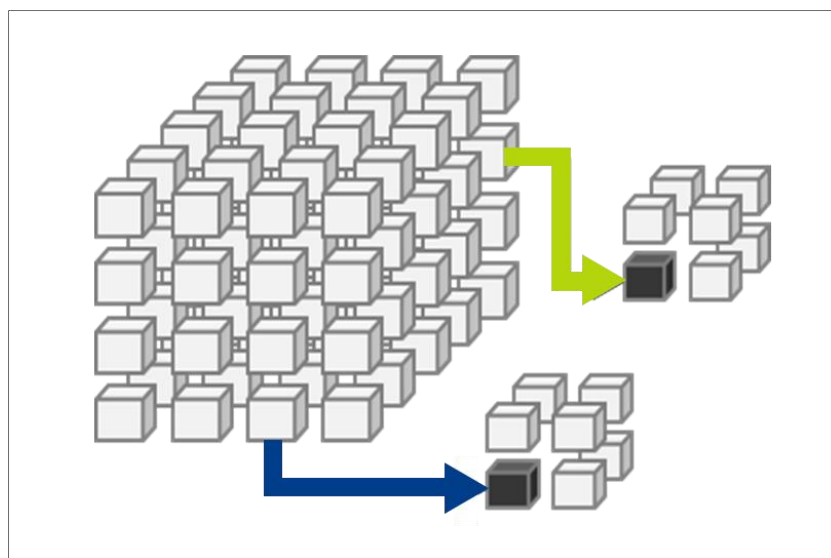


Figure 3: Identifying dependencies between different SAP transports

The larger and more complicated a change is, the more complex are its relationships. When dealing with a new release, users can no longer adequately handle the complexity involved, making it necessary to use dedicated tools. By reviewing changes for completeness across all levels before importing them into the production systems, companies can improve the security and quality of their SAP change management while reducing the time, risk, and cost involved.

6 THEGUARD! SMARTCHANGE SUPPORTS YOU

theGuard! SmartChange provides companies with a modular solution to streamline their SAP change and transport management. The solution comes with customizable, automated workflows and processes and quality assurance checks that make it easy for companies to securely and efficiently implement changes in the most complex and dynamic SAP system environments while providing complete visibility and audit trails.

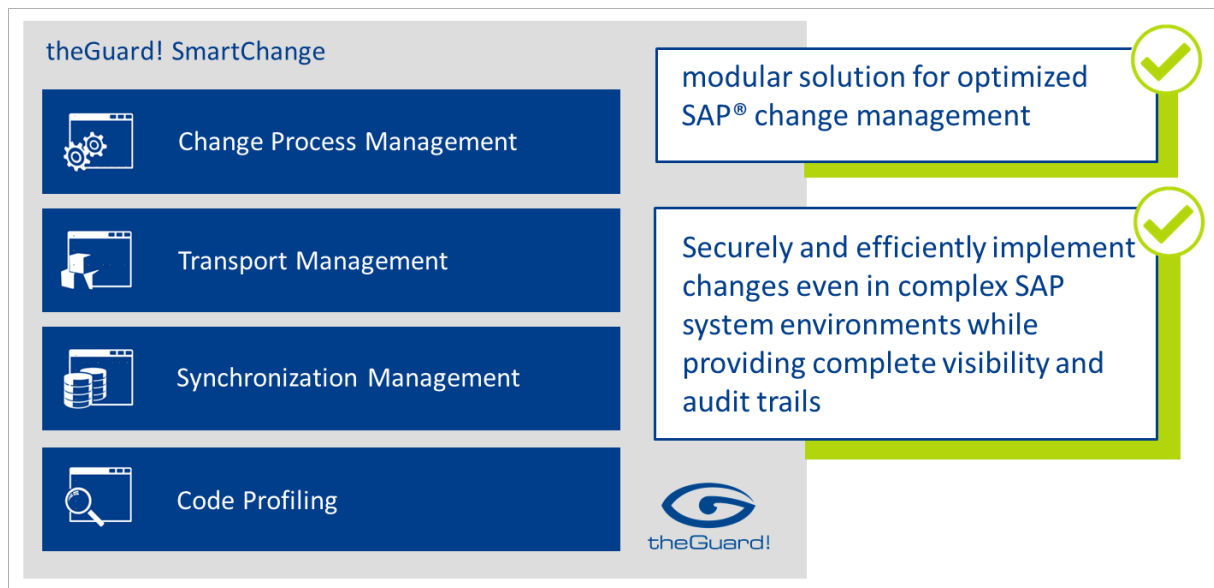


Figure 4: theGuard! SmartChange at a glance

theGuard! SmartChange is comprised of four integrated modules that can be used individually or combined:

- **Change Process Management** for the straightforward implementation of change and release processes that are consistent across the enterprise and meet compliance requirements such as COBIT and ITIL.
- **Transport Management** for the secure, transparent, and automated execution of ABAP and non-ABAP transports even in complex SAP landscapes.
- **Synchronization Management** for the easy, reliable, and automated synchronization of parallel SAP development systems.
- **Code Profiling** for the effective and efficient identification of security, compliance and quality issues in ABAP code.

The latest release includes many improvements that were made in response to customer requests, delivering enhanced configuration options, new features, and more intuitive usability, just to name a few. The Transport Management module of theGuard! SmartChange 2013 now allows users to check their transports for completeness before starting the import. This eliminates the risk of errors and production system downtime associated with incomplete transports. Companies can also draw added value from a tighter integration of the individual modules and the solution's comprehensive analysis capabilities that go all the way down to the object level. The all-new reporting environment with its customizable reports that share a common data foundation and the workflow monitor ensure complete visibility and control over any changes to SAP systems.

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