



REALTECH

THE IT VALUE COMPANY

QUICK START GUIDE
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**ENSURING
COMPLETENESS OF SAP
TRANSPORTS**

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INTRODUCTION

For application systems to thrive, they must be continuously adapted to the varying needs of surrounding conditions. In particular, SAP applications are anything but static – they are regularly being updated with new support packages due to new business demands that derive from the field.

The result is an ever-growing number of change requests, demanding a safe and efficient implementation. It is important to counter risks when importing or when activating changes in SAP systems. So for example, incomplete shipments and related additional expenses should be effectively avoided.

As part of this guide, we'll show you how the Transport Management module of theGuard! SmartChange with the function Return Code Forecast (RCFC) prevents the incomplete transport of objects into a production system in advance.

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INCOMPLETE TRANSPORTS - WHAT IS THAT?

A „classic“ SAP system landscape is divided into three systems (3-system landscape). In the development system, all the developments, customizing settings, and system tests generally take place. Here, changes are recorded in change requests, transferred after their release into the quality assurance system, and tested afterwards. After successful testing and appropriate authorization, the transfer into the production system takes place. The aim of this division is to ensure a trouble-free production operation, regardless of the complexity of the changes.

What happens when changes are transferred incompletely from one system to another system?

Too often “incomplete transports” manifest themselves as failures in the productive system that may cause production downtime. Reasons such as not being able to detect object dependencies and versions in the target and non-target systems could be a source of many issues if not detected early in the workflow process.

Figure 1: SAP 3-Tiered System



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AVOIDANCE OF INCOMPLETE TRANSPORTS

To avoid incomplete SAP transports, it is important to map change processes in SAP systems consistently.

In practice, SAP Basis Administrators are often faced with the challenge to provide applications at any time, but perform desired or required changes in a very short time.

Transferring development objects into the production environment without thorough checks could result in the instability of the production environment. This is further complicated by inadequate documentation or problems when importing changes.

For example, a lack of completeness check of these transports may cause production system failures due to transferring missing dependent or incorrect versions of development objects. The consequences can range from minor disturbances to serious system failures

But how can costly downtime due to faulty transfer orders be avoided? theGuard! SmartChange solution allows an intelligent SAP Change and Transport Management - changes to SAP systems are securely and efficiently implemented and fully reviewed.

IMPROVED SAFETY AND QUALITY WITH THEGUARD! SMARTCHANGE



TheGuard! SmartChange helps companies to implement changes securely and efficiently in complex and dynamic SAP system environments while providing complete visibility and audit trails.

The solution is fully integrated with SAP and consists of four complementary modules (Change Process Management, Transportation Management, Synchronization Management and Code Profiling), which can be used separately or jointly.

As part of an integrated quality assurance procedure, theGuard! SmartChange allows automated tests on many levels. For example, the solution will proactively collision check for the same or overlapping development objects that are in different transport requests and reduce the risk of version mismatch. Even the ABAP code in the transported objects can be examined for potential security risks, as well as other vulnerabilities.

TheGuard! SmartChange also checks for object dependencies and consistency of transports and target systems. The aim is to effectively counteract system failures due to lack of

development objects or incorrect versions. If development objects are missing, errors due to a complete documentation of all activities down to object level.

To summarize: With the help of theGuard! SmartChange, one can increase enterprise security and quality in the SAP Change and Transport Management. At the same time, there is a reduction of costs and risks in the context of changes to SAP systems



Figure 2: theGuard! SmartChange Overview



Modular solution for optimized SAP change and transport management



Changes in complex SAP system landscapes can be conducted safely, efficiently, and at all times transparent and comprehensible.

INTEGRATED COMPLETENESS CHECK WITH THE RETURN CODE FORECAST (RCFC)



In order to continuously optimize processes and workflows in the SAP Change and Transport Management, theGuard! SmartChange has been steadily improved to adapt to ever changing customer requirements. So the new version of the software has been extended with a function for Return Code Forecast. This allows shipments to be checked for completeness before loading into the target systems. Before importing it into a target system, the check for completeness of the transports, i.e. which development objects are missing in the transport or in the target system or in an incorrect version, is carried out. The advantage: errors caused by incomplete transports and associated risks can be effectively avoided.

Take the example of Figure 3: RCFC dependency tree C01K901587. In the transfer order C01K901587 are the development package „ZTH“ and the program „ZTH_TEST“. The dependency tree shows that the source code (REPS) of the program (PROG) „ZTH_TEST“ directly tied to the data element (DTEL) „ZTH_D_TRKORR“ in the transport C01K901589. Also, the dependent structure (TABL) „ZTH_S_TRKORR“ resides in an entirely different transport C01K901718. Thanks to the recursive analysis of indirect dependencies, the structure to the already mentioned data element as well as the previously unrecorded domain (DOMA) „TRKORR“ can be captured and recorded. Furthermore, the table analysis can be done based on the scan depth configuration setting. For example with respect to the turn table of the domain referenced by E070 is possible.

If transport C01K901587 is now exported from the development system, the Return Code Forecast (RCFC) captures the mentioned dependencies according to the export date. These dependencies can be compared later with the actual situation in the target system.

The analysis of the previously determined dependencies can be used to find potential errors by importing the incomplete transport into the target systems.

It quickly becomes clear that the transport C01K901587 will become successful when importing changes to the program „ZTH_TEST“. Here, import errors would occur in this constellation in the second target system. The objects „ZTH_D_TRKORR“ and „ZTH_S_TRHORR“ are not even available yet in the transport in a compatible version in the system—only the domain „TRKORR“ exists, since it is part of the SAP standard.

Through an integrated completeness check (check for the presence of the development objects and the appropriate version) the RCFC detects incomplete shipments in advance and thus contributes effectively to greater safety and quality in the SAP Change and in Transport Management.

Figure 3: RCFC dependency tree C01K901587

Transport	Date	Time	User	Date	Time
		00:00:00			00:00:00
		00:00:00			00:00:00
		00:00:00			00:00:00
		00:00:00			00:00:00
		00:00:00			00:00:00
C01K902051		00:00:00	KUBICA	02.10.2013	10:03:45
		00:00:00			00:00:00
		00:00:00	SAP	31.01.2001	17:27:54
		00:00:00			00:00:00
		00:00:00	SAP	31.01.2001	16:50:58
		00:00:00			00:00:00
C01K901589		00:00:00	HOFFMANN	16.05.2013	14:17:56
		00:00:00			00:00:00
		00:00:00	SAP	31.01.2001	16:50:58
		00:00:00			00:00:00
		00:00:00			00:00:00
C01K901718		00:00:00	HOFFMANN	16.05.2013	14:18:55
		00:00:00			00:00:00
C01K901589		00:00:00	HOFFMANN	16.05.2013	14:17:56
		00:00:00			00:00:00
		00:00:00	SAP	31.01.2001	16:50:58
		00:00:00			00:00:00
		00:00:00			00:00:00
C01K901767		00:00:00			00:00:00

Figure 4: Example of the Return Code Forecast

Request	SID	Program ID	Obj. Type	Obj. Name	Source SID	Target SID	Status	Depend.	Mess
C01K901587	C01	LIMU	REPS	ZTH_TEST	C01	C02	▶	Comp	
C01K901587	C01	LIMU	REPT	ZTH_TEST	C01	C02	▶	Comp	
C01K901587	C01	LIMU	REPT	ZTH_TEST	C01	C03	▶	Comp	
C01K901587	C01	LIMU	REPS	ZTH_TEST	C01	C03	▶	Erro	
C01K901587	C01	LIMU	CUAD	ZTH_TEST	C01	C02	▶	Comp	
C01K901587	C01	LIMU	CUAD	ZTH_TEST	C01	C03	▶	Comp	

Program ID	Obj. Type	Object Name	Source SID	Target SID	Status	Message
LIMU	DTE	ZTH_D_TRKORR	C01	C03	▶	Missing in Transport
LIMU	DTE	TRKORR	C01	C03	▶	Compatible
LIMU	DTE	ZTH_D_TRKORR	C01	C03	▶	Missing in Transport
LIMU	TABD	ZTH_S_TRKORR	C01	C03	▶	Missing in Transport
LIMU	DTE	ZTH_D_TRKORR	C01	C03	▶	Missing in Transport
LIMU	TABT	ZTH_S_TRKORR	C01	C03	▶	Can't verify existence

IQ-LIB (INFORMATION QUALITY LIBRARY) - ANALYSIS OF THE OBJECT LEVEL



The optimization potential of theGuard! Smart-Change, however, goes one step further. Provided with the so-called Information Quality Library (IQ-LIB) is a company central data pool, which contains the information on all changes at the object level, and the users involved and the respective dependencies. All activities can be analyzed down to the object level. For Transport errors analysis, the information in the IQ-LIB manager can be used as a root cause analysis tool. In the case of incomplete transports, they can be “tracked” by using the IQ-LIB, for example, lack of development objects. Furthermore, it provides administrators with predefined reports, among other things, the Top 10 of the revised development objects, the distribution of transports to SIDs, or the object distribution on application components. Individualized reports offer further analysis options.



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