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Automating Data Masking and Reduction for SAP System Copy

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Executive Summary

Challenge

It is not uncommon for SAP system copies, including any post-editing, to take several days to complete. Meanwhile, testing, development and training activities come to a standstill, and the large number of manual tasks in the entire process ties up highly skilled SAP BASIS staff.

Opportunity

Enterprises are looking to automation as a way to accelerate SAP system copies and free up staff. However, this is only one part of the problem: What further complicates the system copy process is the need to safeguard sensitive data and manage huge data volumes while also ensuring that the data used in non-production systems adequately reflects the data in production systems so the quality of development, testing and training activities is not compromised.

Benefits

This white paper explains how a considerable portion of the SAP system copy process can be automated using the CA Automic Automated System Copy for SAP solution and SNP T-Bone, helping enterprises become more agile, go faster and free up resources, and achieve a level of visibility and compliance that makes their SAP system copies easy to audit.

SECTION 1

The SAP System Copy Process

Creating copies of SAP production systems is part of any enterprise's standard IT procedures. The SAP system copy not only provides a means for file backup, it also provides system environments for development, testing, training and demonstration purposes. Today, it is typical to have at least three-tiered systems, but environments with four, five or more systems are not that uncommon either. And the more systems, the larger the problem.

SAP systems are highly critical to the enterprise and as a result very sensitive to any intervention. For example, no SAP administrator who takes his or her responsibility seriously would ever test a new version of software or a new hardware component in a live production environment; the risks would be incalculable.

Even though this process is part of the regular workflow of a data center, it is still a complex and time-consuming task.

SECTION 2

Three Major Challenges of the SAP System Copy Process

Unavailability of non-production systems

SAP system copies can take up to 10 days to complete when using the standard functions available in SAP. This creates an issue of delays and unavailability of non-production systems delaying and impacting the efficiency of development, testing and training activities.

The time saved in terms of resources or the speed of performing an SAP system copy is directly related to the degree of automation used throughout the process.

Sensitive data

Ensuring that commercially sensitive and personal data—such as financial and personal records—that exists in production systems is not exposed in non-production systems is critical. To ensure data privacy and security, the original production data cannot be used in development, test and training systems. This is further complicated as any anonymization must not impact data integrity. If the data becomes unrealistic, the quality of development, testing and training could be compromised.

Impractical data volumes

The sheer volume of data created by production systems requires an amount of storage that is impractical for non-production systems, so enterprises are faced with the challenge of reducing data. This is complicated by different teams having different data requirements. For example, test users may need data based on date, while training users will need data that supports specific scenarios. Data slicing is also an important requirement for cloud integration, since databases that are several terabytes in size can be difficult or even impossible to transfer to cloud environments via the network or over the Internet.

SECTION 3

Automating the SAP System Copy Process

CA enables you to address these system copy challenges through a high degree of automation—up to 100 percent, depending on the scenario.

By combining CA Automic Automated System Copy for SAP with the T-Bone DPM solution from SNP, you can not only automate the system copy process, but also automate the masking and reduction of data for various integration scenarios.

Data provisioning and masking modes

There are three modes of data provisioning and masking (DPM) needed to overcome the challenges described earlier:

Masking DPM copy mode

Refresh DPM copy mode

- Used for refreshing existing clients
- Optional copying of customizing
- Client can be set up completely, with master data only or in reduced form as a time slice
- Master and transaction data is always deleted/replaced in the target client
- Possible to set up multiple target clients in parallel
- Users can transmit data directly via RFC or export it to the file system and import it from there multiple times
- Masking DPM mode anonymization functions can be used

Object-based DPM copy mode

- Target system/client must exist (recommendation: customizing only)
- Master and transaction data present in the target system might be overwritten (danger of inconsistencies in the case of already populated clients)
- Possible to individually compile/select business objects to be exported
- Is suitable for setting up very small target clients based on selected data (development clients, systems in the cloud, etc.)
- Can be used to load ad-hoc production support cases into a QA client (runtimes in the range of minutes)
- Users can transmit data directly via RFC or export it to the file system and import it from there multiple times
- Masking DPM mode anonymization functions can be used

SECTION 4

Application Scenarios for CA Automic Automated System Copy for SAP With SNP T-Bone DPM

DPM automation with CA

General automation of all DPM modes (see above) with CA Automic Automated System Copy for SAP enables you to:

- Automate (reduced/anonymized) client copies (e.g., refresh training clients)
- Use storage integration to create a snapshot—extract data from a "frozen" system

Secure system copy

CA Automic Automated System Copy for SAP and subsequent anonymization through DPM provides the following benefits:

- Automatic system copy
- Data anonymization that helps meet audit compliance requirements

Gold copy creation

CA Automic Automated System Copy for SAP with subsequent deletion of master/transaction data through DPM and DB reorganization:

- Allows creation of a small copy of the live system with 1:1 repository and customizing
- Can later be repopulated with reduced data using DPM
- Is ideal as a basic system for "cloudification"

Complex system copy control

Synchronous refresh control and DPM in complex multi-system environments gives a number of benefits:

- Parallelization
- High-level dependencies that are easy to map
- A structured, centralized release after all steps have been performed

A New Application Area or an Introduction to SAP Automation

Support for SAP system copy is not a new feature of the CA Automic One Automation Platform. It is an additional way of using functions already provided. Furthermore, almost all SAP processes can be automated, together with the integration of SAP, into external non-SAP applications, legacy systems and IT infrastructure. In addition, the incorporation of high-performance applications, such as SNP T-Bone, into a company's portfolio brings significant added value for customers, as well as considerable savings in time and resources. Business units will no longer be condemned to spending days twiddling their thumbs. The replacement of manual interactions by standard operations also improves traceability, because every process can be documented for audit compliance. This is an important process improvement with regard to a wide variety of compliance requirements, including data masking and anonymization. It represents an excellent opportunity for organizations to introduce SAP automation, SAP data masking and SAP data reduction while at the same time resolving the causes of several problems in their SAP environment.

In summary, the added value of increasing the level of automation of SAP system copy lies in the fact that hardware resources are used more efficiently and the employees responsible for SAP system copy are freed up for more important tasks. A further benefit for SAP development is the ability to use current test data for development and training purposes, as well as the option of creating realistic simulations of new business scenarios with existing data.

Enabling the Platform

- End-to-end automation for the entire company and its IT environments—physical, virtual, and in the cloud—on a single platform
- Saves time and improves accuracy by replacing manual processes with real-time automation
- Managing SAP and non-SAP processes, including the option of processing large volumes of data in parallel, which leads to significant cost reductions

Data Provisioning and Masking

- Reducing the amount of preparatory and follow-up administrative activities
- Flexible expansion of the scenarios
- Compliance with statutory data protection and data minimization regulations
- Use of data masking in every operating mode
- Back-up, administration, and restoration of extracts of reduced and masked data
- Pre-defined scenarios for SAP ERP environments
- Parallel migration and set-up of several clients
- Direct data transfer via SAP RFC or a file interface

For more information, please visit **ca.com/automation**

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