



# Automating System Copy & Refresh

A fresh approach to a  
staple of SAP operations

## I Introduction

**Among SAP basis professionals, executing System Copy and System Refresh hails as an essential rite of passage. Experienced SAP basis professionals know System Copy / Refresh activities can be especially time consuming and cumbersome, often days or even weeks of work for a basis team.**

**Modern automation solutions, however, have dramatically reduced the human component of these operations, reducing work time, complexity, and opportunity for error. This paper explores a better solution to automating regular System Refresh.**

The System Copy exercise is time honored in SAP operations, supporting the creation of project landscapes, debugging environments, HA/DR and more. The closely related System Refresh provides necessary data updates to these systems, maintaining fit for purpose, and is typically more frequently performed. In regular SAP operations, demand for System Copy and Refresh comes from a range of requirements. Some of the most common are:

- Testing and development, including new functionality, parallel development systems, integration and user acceptance testing, performance testing, production diagnostics and a large range of needs for real world data for non production operations.
- Migration, upgrade, and HA/DR projects where creating additional systems in a highly similar configuration and state as existing production environments is beneficial.
- Training and education: Providing hands on training and onboarding experiences on systems accurately mirroring production, using up to date data without risking live processes.

**So, we know we need to do this periodically. The business is probably already asking for it given the common requirements above.**

**What's the big deal?**



## I System Copy and Refresh

**System Copy and Refresh is traditionally a manual process and one littered with minutia and detail. The activities can take days or even weeks to perform – it's not uncommon for System Refresh runbook documentation to be many dozens of pages long. What's involved?**

These are just *some* of the more notable, manual and time consuming steps documented in the SAP Help Portal for an S/4HANA System Refresh. It is easy to make errors performing these or even miss steps entirely, which can create issues with resulting refreshes:

- Creating and transferring the database backup of the source system
- Convert Logical System Name (BDLS)
- Transport system configuration and synchronization
- RFC destinations and permissions,
- Spool activation/deactivation
- User/Credentials changes
- Encryption keys/Certificates (Secure Store)

When performing System Refresh, shared underlying IT infrastructure may create additional opportunities for conflicts between source and destination systems, common with 3rd party system interfaces. This increases the diligence required to avoid unintended interference with the source – often production – system.

The opportunities for automation and improvements to technical processes are abundant, and it's an area of immediate benefit for almost any SAP operations team to invest in solutions improving this common area of practice.

### The Avantra solution

Avantra is designed for SAP, featuring specific automation capabilities for System Copy and System Refresh, developed from experience managing more than 50,000 SAP systems over two decades. With Avantra, customers benefit from a range of built in automations and customization capabilities specifically designed to accelerate the System Copy and System Refresh processes:

- Eliminate most manual interactions for post copy steps.
- Accelerate system rename (BDLS) running each client portion in parallel, often drastically Automatically isolate the destination system, removing the potential for unintended communication with source system integrations and services.
- Automate the refresh run book, bringing consistency, speed and error reduction to the steps required before the refreshed system can be utilized.
- Dramatically reduce the level of effort and human labor required for System Refresh. This enables more frequent refresh, better aligning non production and production system data and behavior.

## I Customized automation

**Customized automation is essential to a successful System Refresh approach as each SAP environment and system is unique, with post copy steps such as RFC destinations and non production system integrations requiring change specific to each system.**

The concept of [Workflows](#) in the Avantra solution makes differences in complex runbook procedures between systems easy to automate for consistent, fast execution.

Within Avanta, most customers leverage the built in [SAP System Refresh template](#), customizing it for the unique requirements of each system where refresh automation is deployed. Customers with a mature DevOps practice may additionally leverage [Ansible Integration](#), not only automating refresh, but elastically allocating infrastructure dynamically as the business requires.

## I Conclusion

In practice, System Copy and System Refresh can be an expensive and time consuming process, but automation solutions reduce the manual effort and costs of performing these tasks.

With contemporary automation solutions, barriers to frequent, inexpensive and effective execution of SAP System Copy and System Refresh have been eliminated, enabling a more present support of the business, including test data better reflecting production.

## I About Avantra

Avantra is the industry leading AIOps platform for SAP automation operations. Avantra helps SAP customers to improve business experience, performance, and compliance, focus valuable resources on digital transformation while reducing operational cost.

Avantra delivers a unified operations platform, whether on premise, in the cloud, SaaS or hybrid, for both Build and Run operations.

**Learn more at [avantra.com](https://avantra.com)**

# What is BDLS?

BDLS, or Convert Logical System Name is a standard SAP transaction used to automate the rename of logical systems. It's an essential part of a System Refresh operation, updating database references from the source system to updated references to the target. BDLS is notoriously long running, especially for large systems, and processing times lasting a day or more are not uncommon, especially for traditional database (non HANA) technologies.

In addition to automating the execution of the BDLS transaction as part of System Refresh automation, Avantra can accelerate the execution of the transaction itself by executing multiple conversion processes concurrently, each on logically distinct portions of the total system rename operation.

The results can be dramatic, utilizing available computing resources in parallel otherwise idled by a long running serial operation.

## Benefits of Avantra for System Refresh

With automation, what should one expect in terms of benefits to System Refresh operations? The SAP System Refresh process is often time consuming and long running, and given a typical requirement of semi annual or quarterly execution, a prime opportunity for savings with automation.

**Common outcomes for Avantra customers automating System Refresh are:**

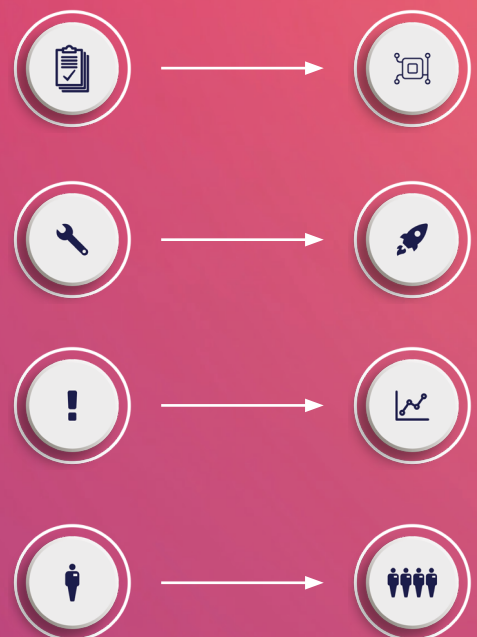
Before Avantra, the System Refresh runbook can easily run dozens to even more than 50 pages of manual activities and require days or weeks of manual effort.

After Avantra, the only long running tasks are technical processes such as BDLS, as manual tasks are broadly eliminated.

Manweeks of labor across staff supporting System Refresh are returned to more productive activities.

Common errors from manual activities are eliminated.

And, System Refresh requests are serviced more easily by a wider range of SAP technical staff than possible before automation.







### UK Headquarters

Parkshot House  
5 Kew Road  
Richmond  
TW9 2PR  
United Kingdom

### Switzerland

Lautengartenstr. 6  
4052 Basel  
Switzerland

### North America

33 West Monroe Street Suite 1025  
Chicago Illinois 60603  
United States

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