



streamworks  
Workload Automation

# Automating Infrastructure Patches

## Best Practice: Patch Management in SAP Environments

This application example demonstrates how to patch any number of servers in a SAP landscape using a standard batch process.

### Background Situation

Installing patches for operating systems, databases, Web servers, and applications is a complex SAP operational task. The process is becoming more and more time-consuming and requires more intensive coordination due to the increasing complexity of IT systems. A solution was developed combining „streamworks“ with other tools such as configuration management systems (previously CMDB, or configuration management databases), change and incident management, and established monitoring procedures in order to face this challenge. Arvato Systems has already achieved a high degree of automation in the first phase.

The second section describes upgrades to the solution concerning the automatic stopping and starting of virtualized, complex SAP components.

### Benefits



- Establish, automate, and implement standard patch processes for SAP
- Centrally control all ongoing patch activities Synchronize patch actions with business and operational processes
- Optimally use patch windows by means of parallelization





## The Challenge: Standardized patching of 200 servers in four hours

One of the tasks at Arvato Systems was to optimize existing patch procedures and patch up to 200 servers in a coordinated manner within a four hour time frame. The organizational environment presented a major challenge, in addition to the actual patching procedure. Generally speaking it's not possible to simply reboot the server. First off, applications being run on the server have to be stopped. It is also essential to temporarily deactivate monitors and stop batch processing on the servers in order to avoid unnecessary incidents during the patch action.

It is just as important for IT operations to create a standard policy for patches that meets its internal and external customers' requirements. The goal is to establish a policy that allows a high degree of automation. This way, the small number of administrators can focus on the remaining small number of individual solutions, which cannot be effectively automated due to economic reasons.

## The Solution: A standard patch process with customizable values for each server

Using the easy-to-use „streamworks“ GUI ensures a high level of transparency. System administrators and the IT operations team can view the status of the process of every server at a glance. Errors that occur in the central „streamworks“ incident view (such as problems when stopping a database) are documented in such a way that the name of the affected database is visible from the job name of the batch job, making it possible to promptly take automatic or manual action in response. The necessary information on the application landscape is automatically exported from the CMDB per server at the beginning of the patch process.

Using this data, „streamworks“ generates dynamic processes, or more precisely, individual jobs that execute the corresponding tasks (stopping, starting, etc.) for each configuration item (CI). When shutting down a multi-level application landscape, the Web servers are stopped first, followed by the application servers, and finally the databases. Scheduled and thoroughly tested patch actions are executed after the application has been properly shut down. Here, too, the process is initiated via „streamworks“. The successful completion of the sub-steps defined that can affect several IT divisions is checked in each instance. The application is archived in reverse shutdown order.

You have questions, need information or a contact?  
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