Advanced Automation and Monitoring in an SAP Environment

Extending SAP Solution Manager with SAP Central Process Scheduling by Redwood

A Redwood Software Technical Brief

REDWOOD®

Harmonize technology with business

Introduction

Organizations deploying SAP® solutions to drive their key business applications can implement the comprehensive monitoring and reporting facilities provided by the SAP Solution Manager component to help them implement, operate, monitor and support their SAP landscape. SAP Solution Manager provides tools, content and a gateway to SAP designed to reduce risk and lower cost of ownership through centralized management.

In this technical brief we explore how integrating SAP Solution Manager with SAP Central Process Scheduling by Redwood can deliver even greater business benefits by enabling not only two- way communication between SAP and non-SAP environments but also sophisticated process automation that will increase productivity and overall efficiency of the distributed business application environment.

SAP Solution Manager Overview

The SAP Solution Manager platform is designed to provide a means for SAP customers to establish a centralized monitoring environment for their entire SAP landscape. SAP Solution Manager offers facilities to manage implementation and upgrades, service levels, change requests and application performance analysis. It can also be used as a direct interface between the customer's environment and the SAP Active Global Support (AGS) organization for rapid problem analysis and resolution.

By providing core functions such as change management and service desk, SAP Solution Manager can replace the need for customers to purchase and maintain separate applications for these functions. Combined with the integration into SAP solutions themselves, the ability to provide a single point of management for the SAP landscape makes a compelling case for implementing SAP Solution Manager.

The SAP Solution Manager Monitoring Framework

At the heart of SAP Solution Manager is the monitoring infrastructure. These components make use of data passed from the SAP application systems to provide availability and service level reports and deliver the real-time Early Watch Alert (EWA) reports generated by the occurrence of system events. The monitoring infrastructure also includes the CCMS (Computer Center Management System) Central Performance History database which can be used for analysis of historical data for, amongst other things, business intelligence purposes.

Whilst monitoring is an important part of managing any business critical application environment, there are two key areas where SAP Solution Manager does not have functionality:

- Response to monitored and detected events
- Management and monitoring of non-SAP applications

Designed as a central monitoring component for SAP environments, SAP Solution Manager is not an automation tool. Beyond some basic actions (raising alerts, SNMP traps) it cannot initiate actions and has no capability for monitoring or automating non-SAP environments. Stand-alone, Solution Manager can highlight the results of process monitoring (like a status change) but requires someone to investigate events, determine the next course of action and initiate the response manually; a far from "real-time" approach.

Expanding the Framework to Include Automation

Given the amount of information that SAP Solution Manager can access from SAP applications it makes sense to capitalize on its position as a central monitoring infrastructure to enable advanced automation of the environment. Enabling automation turns SAP Solution Manager from a largely passive tool into a component that can add even more to the productivity and efficiency of the overall SAP landscape. SAP Central Process Scheduling expands the monitoring framework to become an automation framework.

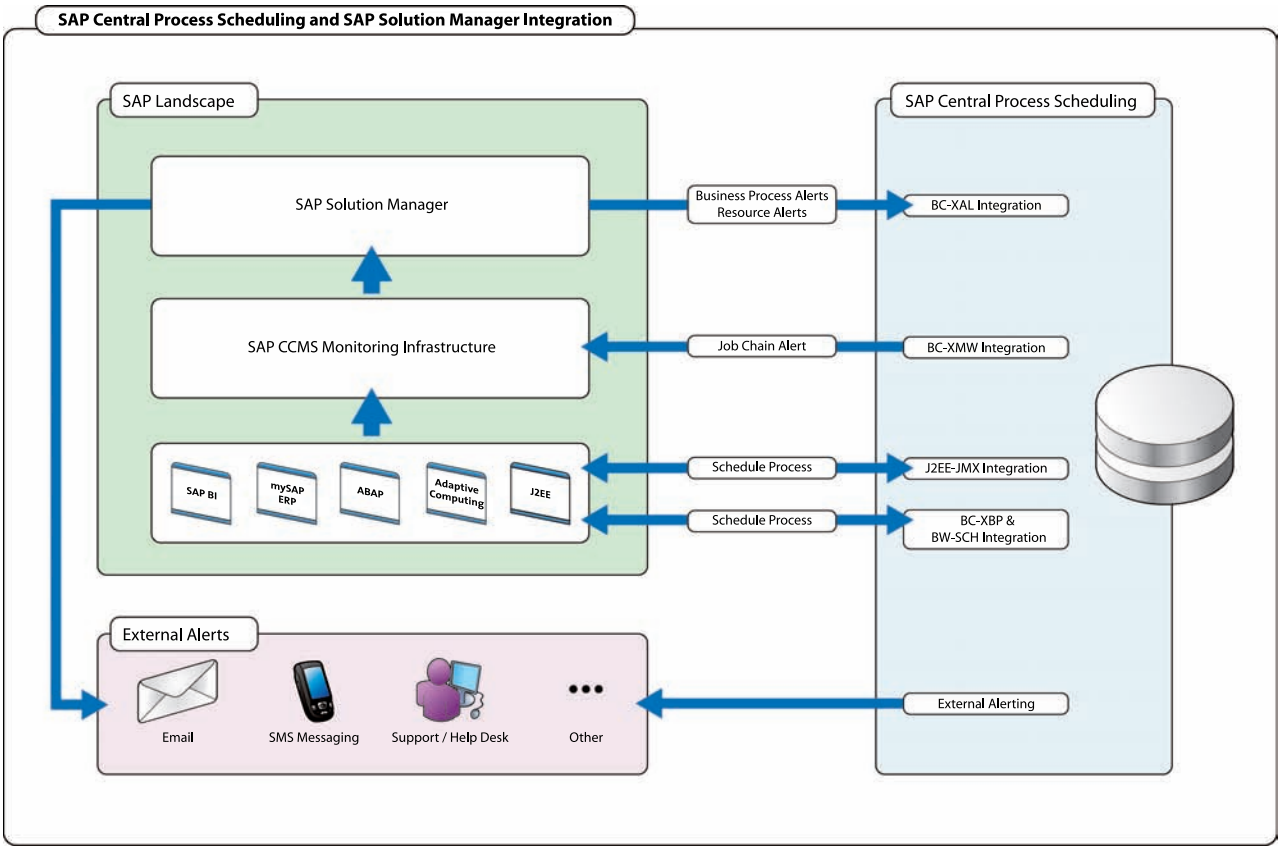

Figure 1: SAP Central Process Scheduling and SAP Solution Manager Integration

By exploiting the officially published SAP interfaces for both receiving alert messages from SAP Solution Manager (BC-XAL) and passing information back (BC-XMW)*, SAP Central Process Scheduling can communicate at a very detailed level with the SAP environment. This enables opportunities for creating sophisticated automation rules based on events occurring within or between any SAP or non-SAP applications. There are several areas where integrating SAP Central Process Scheduling with SAP Solution Manager will increase the overall efficiency of the application environment:

1) Using SAP Solution Manager information to trigger SAP Central Process Scheduling – In this scenario SAP based events and information are passed from SAP Solution Manager to SAP Central Process Scheduling and used to determine a particular course of action depending on an event. For example:

- The change in status of an SAP application from online to offline at the end of the business day, indicating to SAP Central Process Scheduling that overnight background processing can commence.
- The detection of an exception condition (SAP Solution Manager alert) triggering SAP Central Process Scheduling to initiate complex automated recovery procedures.

2) SAP Central Process Scheduling repository data is passed to SAP Solution Manager – In this case SAP Central Process Scheduling can pass, or publish, information to SAP Solution Manager that can supplement information held in the Central Performance History (CPH) database and added to the data that can be used for service level reporting, performance analysis and so on. Such SAP Central Process Scheduling information might include:

- Individual job run time information or information at Jobnet level.
- Job queue statistics (how many jobs in a period, run time data, level of parallel processing etc).
- Scheduler information (activity levels on process servers running on SAP application servers, availability data, contention information, resource utilization).

*Automation vendors using the jMON interface (instead of XMW) require an SAP CCMSR agent to be installed. jMON is a non-certifiable SAP interface and is not directly supported.

3) Creation of a fully automated SAP application environment – The two way flow of information between SAP Solution Manager and SAP Central Process Scheduling combined with the event-driven automation capabilities of SAP Central Process Scheduling enables sophisticated automation procedures to be built into the entire SAP landscape, linked across all SAP applications. This means that, for example, SAP Central Process Scheduling can be used to initiate an SAP NetWeaver BI data warehouse upload using data extracted from a SAP ERP instance once SAP Solution Manager has notified SAP Central Process Scheduling that all real-time transaction processing is ended and all data saved to disk. In this way boundaries between different SAP applications can be overcome.

4) Integrating SAP and non-SAP Automation - SAP Central Process Scheduling provides the capability to create a seamless interface between SAP and non-SAP application process automation and to publish information about non-SAP applications to the CPH (see 'Embracing the non-SAP World' below).

It is through adding powerful automation to the SAP monitoring framework that the full value of implementing SAP Solution Manager into the SAP landscape can be realized. The resultant reduction in management overheads, increased responsiveness to system events and increased operational productivity will lead to improved service levels for the business user. SAP Central Process Scheduling allows initiation of responses based on pre-defined escalation procedures, triggering necessary reactive processes on behalf of Solution Manager.

Embracing the non-SAP World

Modern end-to-end business processes rarely rely on a solution supplied by a single application vendor. In most cases there will be some interaction required between disparate applications from, often, competing vendors. For example a SAP ERP application may need to access data held in a non-SAP Human Resources application such as PeopleSoft. As a result there is little or no facility for integration built in to the applications themselves which typically means that, for completion of the business process, manual intervention is required. This leads to processing bottlenecks and increases the opportunity for error.

SAP Central Process Scheduling is designed to provide precisely the sort of cross application automation demanded by these modern business processes. The automation capabilities that SAP Central Process Scheduling brings to the SAP Solution Manager framework can be extended across the entire application environment, providing a common central automation service. Complex dependencies can be managed between processes running in different applications and context sensitive analysis ensures that correct actions are taken based on the outcome of preceding tasks. A single interface can be used to manage the processing workload for all business applications, non-SAP information can be passed to SAP Solution Manager enabling the display of non-SAP alert data and process status information in the central monitoring user interface (See figure 3). Non-SAP application data can also be stored in the SAP CPH database providing a single point for auditing all historic process information.

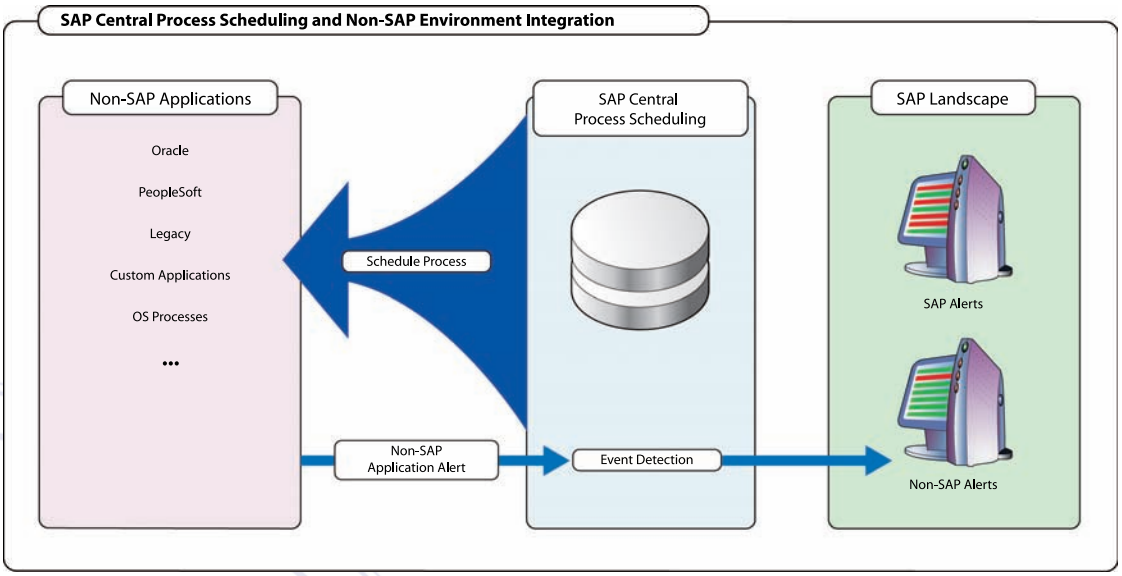

Figure 2: Integrating the non-SAP environment

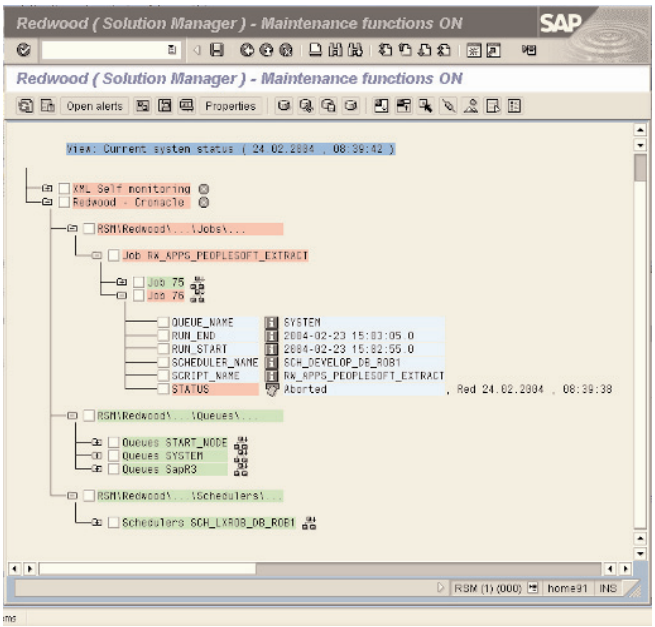

Figure 3: Non-SAP data displayed in SAP Solution Manager

Ultimately, it is impossible to fully optimize the investment in SAP solutions without embracing non-SAP automation and centralizing management of alerts and metrics from the non-SAP environment. SAP Central Process Scheduling enables this optimization.

How Does the Business Benefit?

Operationally the combination of SAP Central Process Scheduling and SAP Solution Manager delivers clear benefits in terms of reduced management overheads, centralized control of all processing and improved agility. In addition there are a number of benefits that more directly affect the business such as:

Hardware Optimization – "doing more with less"

Extending SAP Solution Manager to exploit the automation and load balancing capabilities of SAP Central Process Scheduling for both the SAP environment and the wider enterprise can drive costs downward by optimizing utilization of existing hardware to the extent where even widening the SAP environment can require little or no additional infrastructure investment.

Service-Level Management

Through SAP Central Process Scheduling SAP installations can sign up to service levels never previously considered, for example guaranteed next day delivery of goods or defined application response times and availability. Service level commitment and fulfillment is essential both in regard to interdepartmental (internal) service provider scenarios as well as externally from one company to the other.

Reduced Cost of Ownership

The significant gains of enhancing Solution Manager with automation contribute to speed up business responsiveness by optimizing hardware and software investments. This results in greater ROI from enterprise solutions, including non-SAP solutions. As a result of asynchronous and event-driven automation capabilities, SAP Central Process Scheduling can double SAP environment process throughput, reducing application supporting hardware by up to 50% allowing total IT operational costs to be significantly lowered.

Conclusion

The comprehensive monitoring environment provided by SAP Solution Manager can help the IT organization simplify and streamline operational management of the SAP landscape. Although delivering value and efficiency gains, management based on monitoring alone will ultimately be dependent on manual intervention.

The addition of a robust automation infrastructure enables the creation of a fully controlled process automation environment across all applications that can not only ensure optimum end-to-end execution of critical business processes but also provides sophisticated error recovery, centralized management, reduced administrative overheads and the ability to respond quickly to business events anywhere in the environment. Together SAP Solution Manager and SAP Central Process Scheduling unlock the full potential of the information collected by the SAP monitoring framework.

Redwood is a registered trademark and Cronacle is a trademark of Redwood Software. SAP®, SAP NetWeaver and all other SAP products and service names mentioned herein are the trademarks or registered trademarks of SAP AG in Germany and several other countries. All other products or company names mentioned are used for identification purposes only and may be trademarks of their respective owners.

LA.0307.R2

© Redwood Software 2007.
All rights reserved.