





Automation

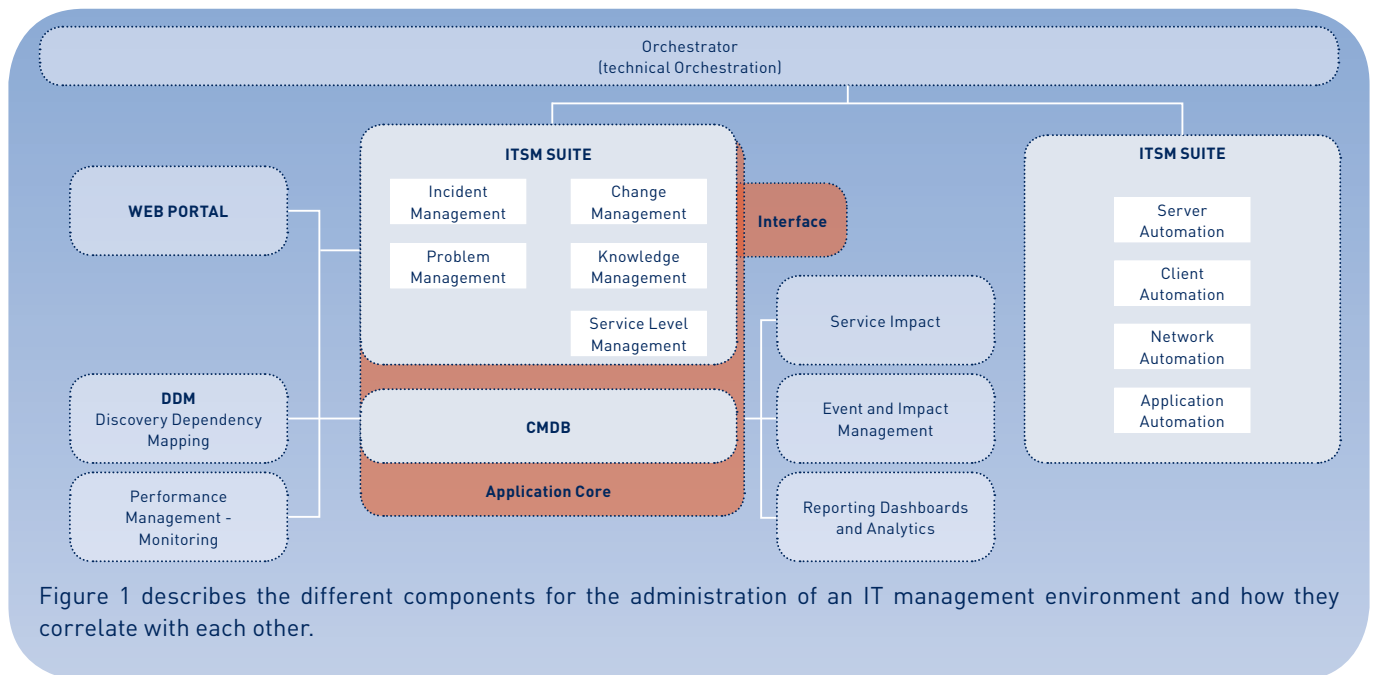
GOOD REASONS FOR AUTOMATING IT OPERATIONS

The challenge of having your IT infrastructures under control is becoming an increasingly complex one. Just updating a server can involve several hundred individual steps, all of which have to be undertaken manually. Yet there are modern software tools which will automate a variety of IT management processes, even across heterogeneous system landscapes.

IT managers are relying more and more on automated processes within their IT departments: automation solutions carry out processes considerably more efficiently and quickly, freeing IT staff from recurring tasks so that they can spend more time on the strategic development of the IT infrastructure.

The following simple example illustrates just how complex the operation of an application can be. The IT service management solution, BMC Remedy, requires at least one database, one application and one web server, with several levels of the application usually running concurrently. Although mainte-

nance work regularly requires the import of software updates, downtime at individual desktops is obviously to be avoided. Users may therefore have to be temporarily diverted to other servers, since the systems have to be shut down for the actual update itself. Then the patch is imported and the computers are rebooted. With administrators carrying out many of these steps manually, an update can take 15 to 30 minutes per server, depending on the application and the scale of the system. If each server and application is treated separately, it will take several hours before the patch is fully installed. However, many of these time-consuming manual steps can in fact be



carried out automatically and simultaneously using special software solutions.

Defining responsibilities

A further challenge arising from decentralised IT systems lies in establishing who is responsible for what. In other words, the responsibility for operation systems and database, application and web servers tends to be attributed to different groups of people. Silo structures of this type can hamper the smooth running of the system. For example, the “managed server” service encompasses the provision of hardware, operating

system and database. Although the customer is receiving a service in the form of database operation, however, this department does not check whether the database is actually working optimally with the application as a whole. The silo mentality of many IT departments and service providers can turn out to be a hindrance to innovation.

Another relevant factor here is how specifically the service catalogue for operating the application is already defined. It should include detailed information concerning the steps required for the administration and operation of an application. This information allows an accurate calculation of the appli-

Reasons for automation and orchestration

Manual steps are tedious and unproductive.

Unclear responsibilities and a silo mentality are a hindrance to IT operations.

Correlations between components and an overview of the IT landscape are lacking.

Until now, frequently only subcomponents have been automated.

Heterogeneous structures can be administrated uniformly.

Differences between processes and tools can be overcome and consolidated.

cation management costs, so that individual services can be offered at specified prices in the form of a service catalogue.

The provision of a complete application consists of a series of individual steps which together amount to a service: "There are around 130 steps involved in implementing and operating an IT service management solution," explains Ulrich Pöhler, Senior Consultant at MATERNA. "Moreover, when an operation system update is imported onto a web server, other departments are also involved in the process", according to Pöhler. First of all, administrators must establish whether the application and the patch are compatible. Then the question arises who will deal with any performance problems that may present themselves: the application or the database team? Ulrich Pöhler: "Particularly in global outsourcers and large IT departments this stalemate – who is responsible for what – is a source of endless negotiation as to who will take care of which step and what the effects of changes to the IT infrastructure will actually be."

Questioning established processes

As a rule companies have specialised teams, for example for applications, operation, security and provisioning. All of these teams work on the systems, yet are unaware of who is carrying out work manually on a given system at a given time. When a problem arises, it is difficult to trace the cause since no one has an overview of the entire system, or is familiar with every correlation. The larger the company, the more pronounced these coordination problems become. Often it is not just individual teams but entire departments and business units that are responsible for the tasks.

Opting for automation means leaving these familiar processes behind. The various activities involved in providing a dedicated service are carried out by automation tools for all departments in immediate succession: for example administrators, who until now only took care of one application and never had anything to do with the patching of the operating system, can now manage all processes in one go. "This means that IT managers no longer face the headache of negotiating between departments when responsibilities are scattered," Ulrich Pöhler explains the advantages.

Avoiding reliance on tools

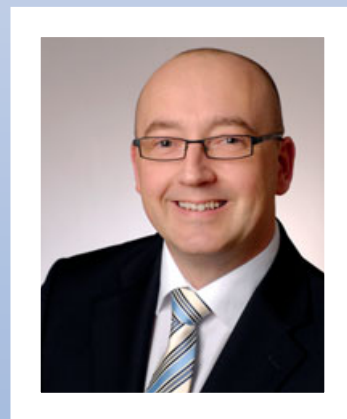
IT managers wanting to introduce just one tool, however, are ill-advised. Most tools provide solutions only for part of the overall problem, such as the automation of the server, client, network or application. The situation is exacerbated by the fact that many companies have heterogeneous system landscapes.

"On the one hand very high-performance specialist solutions exist for the automation of dedicated subcomponents. But at

the same time it is important to administrate the system as a whole, rather than as a collection of component parts," points out Ulrich Pöhler, using the following example: if an SAP application is running on a Microsoft server, special tools are available which only deal with the Microsoft operating system and the Microsoft database, whilst SAP is administrated using the SAP Solution Manager, and yet another separate solution is required for the web server. "As the example shows, there are three different products employed in this scenario. Yet none of them takes the whole IT landscape into consideration," Pöhler describes the problem.

Comprehensive system control

The provision of an automated service at the push of a button, therefore, involves complex processes. Detailed information regarding the IT components, the tools employed and the processes has to be consolidated. This is done using specially designed solutions, which, starting with the process, integrate technologies and tools comprehensively (see figure 1). Providers of such solutions include BMC and HP with their automation platforms BladeLogic and Server Automation.



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Senior Consultant at MATERNA

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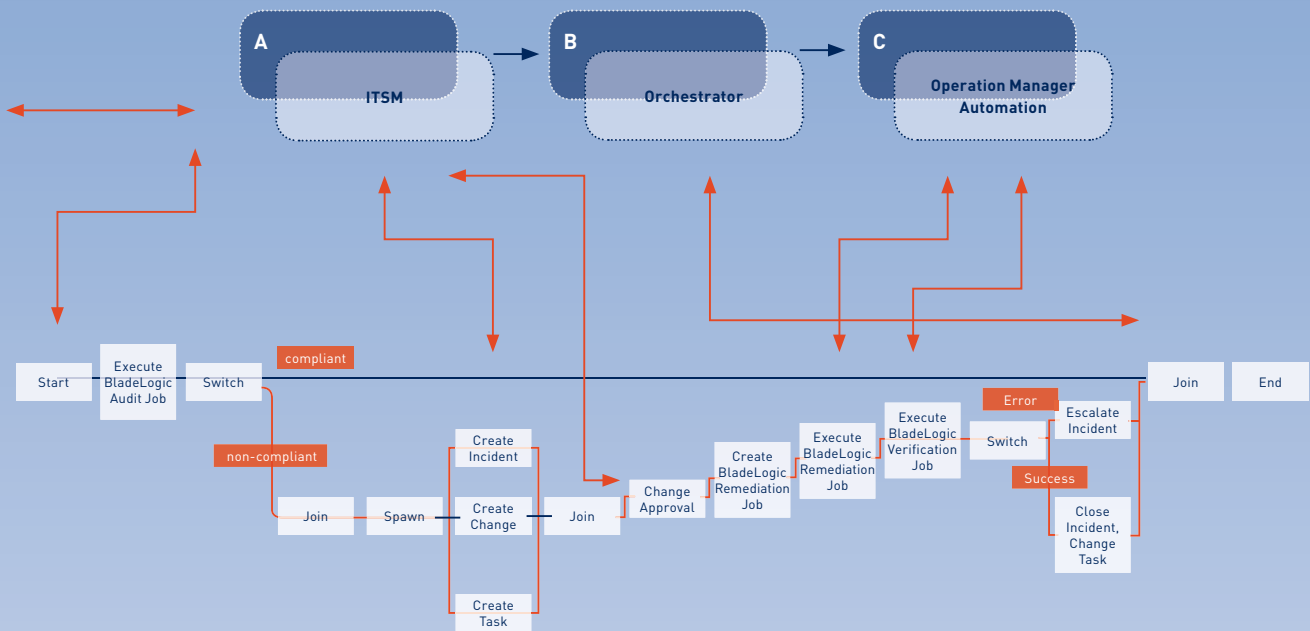


Figure 2 describes a typical process which automatically runs through the individual steps whilst being processed by an orchestration tool.

A further major aspect of these tools is their ability to orchestrate processes. This allows many more actions to be carried out, for example, than just the server or client automation. The orchestrator makes sure that all steps and procedures are triggered and carried out, even beyond the tool itself, for instance if a certain ITIL® process is to be initiated from an ITSM suite (see figure 2). In this way, the various automation tools can fulfil their tasks as part of the overall process. For example, an administrator can conveniently define a process for the administration of the complete landscape. Only by combining orchestrated services with cross-system automation can IT managers sustainably improve the efficiency of their IT operations.

The best of all worlds

“In our projects we analyse the processes and which tools a company already uses. We then look at whether it makes sense to replace these products with a comprehensive consolidation tool,” Pöhler reports from experience. “The next step is orchestration. Here we integrate the existing landscape and existing tools. Ultimately all components should fit into the new process chain, so that we use the best tools for each area.”

To ensure that all components work together optimally, a company must first think about roles and authorisations: who is permitted to take which steps at which point? “Quite a major aspect of our consultation work is to close this information

gap,” according to Pöhler. Many companies are unaware that they have some catching up to do. The larger a company grows, the more difficult it is to ascertain who is authorised to do what.

Quick and lean processes thanks to automation tools

In recent years the major producers have pushed forward with what is known as the umbrella mindset – comprehensive automation beyond individual subcomponents. The result is a range of automation and orchestration tools from BMC, HP, IBM and Microsoft which have now reached a certain degree of maturity and live up to their reputation as universal solutions.

Even established structures where existing tools cannot be replaced must be incorporated into this type of concept. Companies have come to recognise the necessity of improving the administration of their heterogeneous structures. Moreover, the growing popularity of virtualisation is also contributing to this trend: in order to meet the challenge of extremely fast service provisioning in virtualised environments, manual steps have to be replaced by automation landscapes. Service providers in particular have no choice but to take action if they intend to provision IT services in virtual environments and cloud services faster in future. All this is made possible for the first time with today’s sophisticated tools. ■