

Can People Be Configuration Items?

The configuration management database (CMDB) is fast becoming the unified source of information for IT service management functions. The CMDB provides an important store of information about assets and configuration items (CIs) in the IT infrastructure, including their relationships and dependencies. The CMDB also contains information about the alignment of IT resources with an enterprise's business needs. IT personnel increasingly rely on such a data source to effectively manage the incident, service, and support processes.





Get more out of your CMDB and streamline your IT service support by maintaining a dynamic repository of information about the people involved in, and affected by, the incident management process. **By TROY McALPIN**

Can people be CIs too? The answer is an overwhelming “yes.” People can — and should — be CIs because they represent an organization’s human assets. Therefore, the CMDB should include data about the relationship of an event to the business customers who rely on a service, as well as the relationship of an event to the personnel required to resolve it in the incident management process. This relationship information relies upon data about People CIs.

People CIs are an obvious extension to the data you already include in the CMDB. Personnel, after all, are some of the most expensive resources in IT. Information about people can improve your organization’s ability to resolve incidents and provide IT services to the business.

PEOPLE CI DATA

What information about people should you maintain in your CMDB? You’ll want to include their duties, skills, certifications, and interests, as well as the services they use and the services they support. Relevant contact information, such as phone or pager number, e-mail address, instant messaging handle, location, language, time zone, and schedule, should also be included. In other words, People CIs should include the following information about the people who consume and provide services: who they are, what they do, how you find them, and the events and services that are pertinent to them.

People CIs have attributes that help you understand who the best person is to help resolve an incident. The attributes also can indicate that a person is an end user of IT, is associated with a particular service, and wants to know about an impact or a potential service level agreement (SLA) violation, for example.

Sometimes, a person will play different roles depending on the event. Someone may be a direct impact person for one type of event because of a dependence on a particular asset or service. But, for another type of event with a different asset, that person may be respon-

sible for resolving incidents. For example, if a network component fails, the network support or operations team is primarily responsible. However, the network security group may also need to be informed about the failure. You have to understand the person’s relationship to the service and the different components that make up the service, as well as the role the person will play.

Because a person’s functions can change often, all of this information can get complicated. For example, travel plans or schedule changes affect someone’s availability. If someone gains additional technical certifications, that person can now assist on different types of events. Maintaining People CIs in your CMDB can help keep all the information straight.

AUTODISCOVERY OF PEOPLE CI DATA

When you populate the CMDB with normal asset configuration information, you probably use an autodiscovery tool. However, discovering the relevant information about your people assets, their attributes, and the relationships affecting the incident management processes, while equally important, would likely be accomplished in a different manner.

Discovering your People CIs can be especially challenging. These CIs are mobile. They get on airplanes; they move around often; they travel from time zone to time zone; they speak different languages; they are globally dispersed; and their interests and contact methods change. You need to have a “people” equivalent to autodiscovery: a self-service collection mechanism.

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The mechanism should have a front-end user interface that allows the owner of a service, or someone who is involved in incident or service management, to provide specific information. Using the self-service functionality,

individuals would state: This is who I am, this is when I'll be available, and this is how you find me when the events I care about occur. Because your human assets are mobile and ever-changing, don't expect a one-time static load of People CI information to be sufficient. Stale data in the course of an event is useless data. Therefore, you should make it easy for people to access and update the information as necessary.

IT assets and tools — because they're machines that don't have feelings — don't care how many times they get pinged during auto-discovery. Humans, on the other hand, tend to be a little more upset when they get pinged often. Participants will be more satisfied with the process if the updating of People CI information is accomplished through a straightforward, Web-based, self-service mechanism. If you need a more forcible approach, remind them periodically that they need to confirm the accuracy of their CI information, and automatically invalidate unconfirmed data on a timed basis.

MATCHING PEOPLE CIs TO INCIDENTS

Using People CI data can benefit incident management and support. Not only can this data help you identify the best person to resolve an incident, but it also can help you determine which people are the users of the service affected by an incident. Such knowledge facilitates better communication with these users.

Storing the People CI information in your CMDB enables other service impact and systems management applications to use it. For example, say an original event is dispatched as a low-severity ticket, and appropriate people are assigned to work on the problem. However, the attempted resolution fails. Perhaps the severity of the incident changes, an SLA is about to breach, or something changes the way the event is proceeding. Proactive communication to the business users of the affected service is now necessary.

The content of your communication is very important — you need to relay appropriate information to the right people. Knowing attributes about people and their roles in different processes will help you deliver context-sensitive information.

As a result, business users of the services IT provides will have a higher degree of satisfaction because you will be able to target information more specifically and reduce the all-too-common noise of the incident management process. When users receive messages that are filtered and relevant to them, they are unlikely to tune out the information. Your messages to them should be few and pertinent — sent only when there is a direct impact to the services they need.

A LOOK TO THE FUTURE

Incident resolution and notification can become an automated process. Events and incidents detected by management applications can be enriched from the CMDB and matched against personnel who are best suited to cure the incident. Those personnel can be located, notified, and enabled to resolve the event based on the expert information in the CMDB. The service desk, service owner, business service owner, and other impacted stakeholders can be proactively notified with relevant information about the incident. As a result, you can reduce the number of support tickets, increase service levels, and ensure personnel assets are focused on important business services. •

ABOUT THE AUTHOR



Troy McAlpin is the founder, chief executive officer, and chairman of Invoq Systems. The company develops and provides automated, broad-scale notification and interaction solutions to customers in a wide range of industries.

5 TIPS ON PEOPLE CIs

1 Include information in the CMDB about your personnel assets (People CIs).

2 Capture the attributes, interests, skills, and duties for the people involved in, or affected by, the incident management process.

3 Establish a self-service collection mechanism for gathering and updating People CI data.

4 Use the CMDB to match incidents with the personnel best-suited to resolve them.

5 Let the CI data help you communicate the appropriate information to the right people.

Using BPEL, BSM, and the CMDB



TO MANAGE I.T. FROM THE BUSINESS PERSPECTIVE

By DEVESH SHARMA

When CMDB information links a BPEL-designed business process to Web Services and underlying IT services, you can dramatically improve the alignment of IT with the goals of the business.

Lego® revolutionized building blocks by providing a set of standardized pieces with uniform connectors that children of all ages can assemble to create large structures of nearly infinite variety. Service-Oriented Architectures and Web Services have brought a similar revolution to application development.

The Web Services model offers a building-block approach in which each “block” delivers a particular business service, such as credit card verification. Like Lego blocks, these services have standard interfaces, so you can easily combine them to create larger services. For example, you can integrate a credit card verification service with other services to create an online order entry service. Such services are also called composite services.

Web Services have some interesting properties that make them a valuable building block for the IT-intensive enterprise. First, once developed, a Web Service can be reused many times, which drives down development costs and cuts development time. Second, Web Services are independent of both location and platform, so you can combine services even if they reside on different servers, in different organizations around the world, running different operating systems and applications. Third, independent

software vendors have added standard Web Services interfaces to their applications, exposing application functionality as a Web Service. As a result, business application programmers can now take advantage of Web Services to integrate applications and third-party systems.

The Web Services model offers a building-block approach in which each “block” delivers a particular business service.

What makes this really powerful is the addition of tools and standards that allow the execution of these services to be combined into a process flow. A standard that creates a common approach to process-based execution of Web Services is the Business Process Execution Language (BPEL). BPEL is an XML-based programming language designed to utilize the Web Services interface that connects to applications and third-party systems. BPEL is now backed by major industry players, such as BEA Systems, IBM, Oracle, and SAP. BPEL enables programmers to define entire business processes that execute through a managed series of Web Service calls. The processes designed in BPEL can be easily combined to create even higher-level processes — to any level of hierarchy.

TWO SIDES OF A GREAT STORY

BPEL enables you to take a giant leap forward in business process and application development. You can now develop business applications from the top down by starting with a simple definition of the business processes you want to enable. These processes can transcend the boundaries of traditional packaged business applications, paving the way for the development of composite applications that span multiple traditional applications. What's more, BPEL makes it easier for IT to work closely with business managers in developing business applications because it provides a common means of communication that both parties can understand.

But enhancing business application development is only half the story. The other half is equally exciting. BPEL enables you to take a giant leap forward in aligning IT with the goals of the business. A BPEL-designed business process, by definition, identifies the underlying Web Services needed to execute the process. Those Web Services are tied to and executed on specific IT infrastructure components. Therefore, BPEL provides the link between the business process and underlying IT services and infrastructure. That link is critical to managing and prioritizing IT resources from a business perspective. With the combination of BPEL and Business Service Management (BSM), your IT organization can step up the service maturity ladder and manage IT services from a business process perspective.

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CMDB — A NATURAL LINK, A NATURAL EVOLUTION

There is a natural place in the IT service management infrastructure to link IT service management tools and solutions with BPEL.

That place is the configuration management database (CMDB). In fact, BPEL awareness is a natural next step in CMDB evolution.

The CMDB evolved from an IT asset repository to a more sophisticated data source that houses not only assets but also their physical and logical topologies. Today, the CMDB is evolving further to include the relationships among assets and the business services they support. This evolution has been enabled primarily by a corresponding evolution of autodiscovery tools that populate the CMDB. These tools have advanced from discovering assets to discovering the physical and logical relationships of the assets. And, like the CMDB, autodiscovery tools are continuing to evolve to discover the relationships of the assets to business services.

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The natural next step in CMDB evolution is the discovery of the relationships between business services and business processes. This step will be enabled primarily by the evolution of autodiscovery tools to capture these relationships from BPEL processes. Another exciting possibility is to evolve infrastructure monitoring tools to permit them to leverage the BPEL information in the CMDB to monitor the availability and performance of business processes, and pass the information to a business activity monitoring (BAM) system.

By having business processes defined in the CMDB, the IT organization will now have increased visibility into the business. This means that knowing the real-time impact of IT events on business processes is now possible. IT can prioritize its response based on the importance to the business, rather than follow the all-too-common first-in, first-out incident management approach. In addition, the planning of IT-related changes can now take into consideration the

impact to specific business processes. This, then, allows IT to act in partnership with the business to assess the most appropriate time for the change, and to route the approval through the process owner. Finally, the inclusion of business processes in the CMDB greatly enhances regulatory compliance by providing auditors and process control departments with direct line of sight from the process to the supporting infrastructure. Through automation with autodiscovery tools and the CMDB, you have also reduced the burden on the IT department.

BETTER AND BEST

The implications of a BPEL-aware CMDB are enormous for virtually all IT service management disciplines. A broad range of IT service management functions are greatly improved with the addition of CMDB information about the relationship of various IT infrastructure components. However, those functions are dramatically improved with the addition of CMDB information about how those IT infrastructure components are used in the course of executing a business process.

For example, IT staff focused on incident and problem management are more productive when they are armed with relationship information about the infrastructure. But they become instantly business-aware when they can determine priorities for addressing problems based on the effect those problems will have on business operations. For example, if two server problems are reported concurrently, the staff can see which business processes are supported by each server, and make informed decisions about which problem to address first based on business impact. It is the CMDB information linking the BPEL process to Web Services and underlying IT services that makes this dramatic improvement in efficiency and business alignment possible.

Another example is in the functional area of change and configuration management. With information about the relationship of infrastructure components to Web Services and business processes, the staff can deter-

mine, up front, the business risk and potential impact of a proposed infrastructure change. As a result, the staff can implement the change in a way that minimizes — or even eliminates — disruption to the business, through forward scheduling of changes and proactive communication to potentially affected business users. Without a link from business process to IT infrastructure, that level of effective change management is just not possible.

In infrastructure and application management, the operations staff can look beyond the infrastructure and applications themselves to see the more relevant business picture. With this visibility, the staff can monitor and manage capacity, availability, and performance from a perspective that is aligned with business priorities.

BPEL-aware discovery will greatly facilitate reporting to auditors, making it easier and less costly to comply and to demonstrate compliance.

In addition, BPEL-aware discovery tools will permit the IT staff to immediately determine and document the relationships among IT infrastructure components and business processes. This mapping, which is essential for compliance with government mandates, such as the Sarbanes-Oxley Act, is currently consuming many hours of IT staff time because it typically must be collected and organized manually. BPEL-aware discovery will greatly facilitate reporting to auditors, making it easier and less costly to comply and to demonstrate compliance.

What's more, the discovery tools will be able to detect changes made to either the infrastructure or to the BPEL processes, and can update the CMDB accordingly. This will not only ensure the validity of the CMDB information, but also will make the organization more agile in adapting both business processes and the supporting IT infrastructure to changes in the business environment.

As with Lego building blocks, the possibilities are limitless — and the fun is just beginning. •

BUSINESS PROCESS EXECUTION LANGUAGE

Business Process Execution Language (BPEL) is an XML-based programming language and execution environment that is built on top of Web Services specifications. It enables programmers to define portable business process definitions for Web Services Definition Language (WSDL)-based processes. These processes can be used and reused, as well as combined into larger processes.

What's the difference between BPEL and business process modeling tools? BPEL actually executes processes that are based on Web Services. A process modeling tool is generally used to depict processes. Those processes may be based on BPEL processes, some other programming environment, or simply a process model that is not linked to any specific technology. Because process modeling tools can be used to design and model processes that do not include their execution components, such a process model may differ from the actual processes being executed, whereas BPEL brings together the offline modeling capability with actual execution (so long as the model is driven by Web Services).

BPEL is derived from the combination of two similar languages: Web Services Flow Language (WSFL) from IBM and XLANG from Microsoft. The two companies decided to integrate their languages into a new language, BPEL4WS. In April 2003, BEA Systems, IBM, Microsoft, SAP, and Siebel Systems submitted BPEL4WS 1.1 to the Organization for the Advancement of Structured Information Standards (OASIS) for standardization. The OASIS WS-BPEL technical committee voted in September 2004 to release the standard specification, named WS-BPEL 2.0.

Today, a number of engines run standard BPEL processes, including engines from IBM, Microsoft, Oracle, and SAP. Some of these engines permit graphical representation of the processes and their interrelationships.

ABOUT THE AUTHOR



Devesh Sharma is senior principal product manager for Oracle Fusion Middleware. His areas of focus include business process management, Service-Oriented Architecture, and applications integration. He also spearheads Oracle's strategy for business process modeling and simulation tools. Devesh has more

than 14 years of diverse experience in the IT industry.

Jihad El-Assaad, Pierre Germain, and Matthew Selheimer also contributed to this article.

5 BENEFITS OF BPEL, BSM, AND THE CMDB

1 Enhanced ability to prioritize and address problems, based on business impact.

2 Greater insight into how proposed changes will affect business processes.

3 Enhanced monitoring and management of process availability and performance.

4 Improved ability to comply with government mandates through reporting of relationships among infrastructure components and business processes.

5 Increased agility in adapting both business processes and the IT infrastructure to changes in the business environment.