

Service-Oriented Configuration Management

Understanding and Protecting Your Business-Critical
Services and Infrastructure

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Executive Summary

Successfully managing IT service delivery to the satisfaction of a dynamic and demanding business organization is impossible without first mastering change control in the underlying IT environment. Service-oriented configuration management integrates the technologies and best practices necessary to impose process-driven discipline and efficiency on infrastructure change. This paper describes the core functionality and transformational business benefits of service-oriented configuration management, distinguishes it from systems-oriented solutions, and describes an easy, affordable, step-by-step approach to implementation.

A Quick Quiz for the Service-Oriented CIO

How does your IT organization stack up as a service provider to your business organization?

- Of the services your IT department delivers to your business organization, do you know which is most critical for maintaining operations?
- If an unplanned incident renders that service unavailable for 24 hours, do you know the financial impact to the business?
- Does your IT staff know the relative importance of the services you deliver? Can they prioritize incident response and resource allocation appropriately?
- Can you map your most important services directly to the underlying infrastructure? Do you know which hardware, software, network, and other assets contribute to their delivery?
- Do you know, in advance, the potential impacts of changes in the physical environment on the performance of key services?

Any IT manager who has grappled with questions like these knows that the most difficult challenge in technology management is controlling change in the infrastructure that delivers business-critical services. No IT organization can complete the transition from reactive, crisis-driven cost center to proactive service provider and strategic business innovator without first mastering the discipline of controlled change. The well-marked path proceeds by way of ITIL best practices and ITSM solutions. This paper will discuss one of the most important, but least understood features of ITSM: service-oriented configuration management.

Configuration Management: It's Not Just for Systems Anymore

IT professionals know configuration management uses the tools and resources commonly featured in systems management solutions to discover, track, and manage hardware and software configuration in large populations of similar systems: PCs or servers, for instance. While service-oriented configuration management leverages these system-oriented tools and capabilities, it is distinctly different, with a more narrow management focus and more comprehensive feature set.

Service-oriented configuration management is a comprehensive solution for understanding, defining, and protecting an organization's most critical services by:

- Centralizing the management of all hardware, software, and network assets that contribute to key service delivery.
- Providing comprehensive context for all service management decisions by linking, organizing, and presenting all relevant information about services and their relationships to specific elements in the IT infrastructure, throughout their lifecycle.
- Optimizing service management through the systematic application of policy, rules, process, automation, and audit to control change in the supporting IT infrastructure.

Service-oriented configuration management lets an organization answer questions such as:

- What are my key services?
- What is the cost of delivering the service?
- What is the status of my service?
- How is it possible to improve the service?
- How do I ensure service continuity?
- How does each service add value to the business?

Unfortunately, there are some widely held misconceptions surrounding this extraordinarily beneficial and practical capability. For example, not only is service-oriented configuration management frequently confused with systems-oriented configuration management, it is often thought to be difficult, time-consuming, and expensive to implement and maintain. In fact, nothing could be further from the truth. Highly effective solutions can be deployed affordably and incrementally, with immediate and significant benefits at each step in the process. Organizations of any size can utilize low-risk entry points to protect a small set of essential services, extending coverage over time and as required.

Implementing Service-Oriented Configuration Management the Easy Way—in Steps

What makes service-oriented configuration management so uniquely accessible is that some of its constituent functions are core components of many IT management toolsets. Its power and versatility emerge when these common functions are integrated and applied hierarchically. In larger environments with many services to protect, these core technologies can be implemented easily, affordably, one-at-a-time—delivering significant ROI at each and every step.

Step One: Implement Discovery and Inventory

Because you can't manage what you can't locate, the cornerstone component of service-oriented configuration management is the ability to discover and inventory hardware and software items across your IT estate. Essential attributes include broad cross-platform management support and the ability to automate discovery and inventory update processes. These functions must provide the ability to monitor the configuration of target assets over time, detect changes, and provide tight integration with other systems management and security tools.

Whether or not you go on to implement service-oriented configuration management, an automated, cross-platform discovery and inventory capability will begin paying dividends as soon as you put it in production. Managing the IT infrastructure will immediately become faster, easier, more efficient and cost effective because every decision is informed by current, accurate information about the resources in the environment. Services too become easier to deploy and maintain, because the underlying IT environment is visible.

Step Two: Deploy Asset Lifecycle Management

Once hardware and software resources can be discovered and monitored automatically, the next step towards service-oriented configuration management is the ability to manage those assets efficiently and consistently throughout their service lives. All essential information about each asset—purchase and deployment dates, configuration history, service schedule, supplier and contract relationships—must be tightly associated and instantly accessible. Most importantly, all management and maintenance activities must be fully automatable through integrated workflow, process, and policy management. It's important to note that service management doesn't require that all assets be brought under management—only those directly involved in service delivery.

Like discovery and inventory, asset lifecycle management delivers immediate operational and financial benefits. It gives the IT organization control of its hardware and software assets. It reduces risk and simplifies compliance with internal policy and external mandates. It reduces costs by centralizing the management of acquisition, licensing, support, service, and other expenses. And finally, it improves operational efficiency and performance by streamlining management decision processes, improving decision accuracy, and ensuring accountability.

Step Three: Implement Configuration Management

The next step toward quality-controlled service delivery enters the realm of ITSM and ITIL by mapping the relationships between key services and the IT assets that deliver them, then bringing those assets under an effective configuration change control process. A configuration item (CI) can be any hardware, software, or service entity that is sufficiently important to the business to be protected within a managed change environment.

To be successful, a configuration management solution must provide four essential types of functionality:

- **Federation** – The ability to aggregate all relevant data about CIs, from multiple business services, producing a single integrated view of the services under management and the infrastructure that delivers them.
- **Reconciliation** – The ability to compare discovery data from multiple sources with management repository records, to validate existing records and identify unrecorded, unplanned, or unauthorized changes.
- **Mapping and visualization** – The ability to visually represent the relationships between multiple CIs, to represent the services to which they contribute. To be practical, a configuration management solution should be able to define relationships automatically from intelligent business rules.
- **Synchronization** – The ability to integrate a virtual configuration management change process, defined in software, with the physical change activity, however it is implemented. This should be an automated, closed-loop process that uses discovery as a verification source to discover unauthorized changes, to confirm execution, and to accurately update the management repository.

Configuration and change management must both be part of a fully integrated service management solution, with full access to all information from the incident, problem and change disciplines. Freestanding change and configuration

management systems cannot adequately protect business-critical services.

When correctly implemented in a tightly integrated solution, configuration and change management capabilities deliver immediate business value by improving management efficiency, increasing service quality, and reducing costs. By making all relevant information about the service delivery infrastructure instantly accessible to IT staff, configuration management improves the quality and accelerates the pace of management decisions. Analysts can trace incidents and problems to their configuration-level causes, and assess the impacts of potential changes in advance. Configuration management reveals the costs and value of service delivery, reduces unplanned service interruptions, and makes the business itself more agile and robust.

Step Four: Service-Oriented Configuration Management

Service-oriented configuration management builds on the integrated functionality of your successful change and configuration management systems. By instantiating business-critical services as CIs, with links not just to the hardware and software infrastructure but to service level agreements, version histories, financial cost drivers, and other intangibles, you set the stage for service lifecycle management that drives business strategy and financial discipline into IT decision-making at a granular, operational level.

Service-oriented configuration management realizes the ITIL concept of user self-service through a service catalog, and implements a service portfolio that tracks past, current, and future services through their lifecycles. It supports data-driven decision-making based on business-oriented KPIs and continuous performance measurement. It enhances efficiency and agility across the organization by capturing and utilizing process-driven events from third-party applications, and by enforcing service levels on every aspect of service management and delivery.

Service-oriented configuration management puts the IT organization on the same page and the same level as its customers on the business side of the enterprise. It provides the process-driven efficiencies to streamline service delivery, optimize service availability, and reduce the costs of operation. But equally important, it provides a methodology for incorporating business strategy into IT service management, and a quantitative framework for measuring performance and planning improvement.

It's Easy If You Take the Right Steps

Service-oriented configuration management can deliver huge benefits for the IT organization and the business, yet it can

also be an easy, affordable, non-disruptive implementation—so long as close attention is paid to a few basic requirements.

- Change management must be tightly embedded within the service management solution set.
- The service management solution must provide a flexible and easily configurable automation layer that provides out-of-the-box integration with existing systems, applications, and management tools.
- All changes to CIs must be validated and updated in the management repository through an automated synchronization process.
- Discovery tools must operate accurately and effectively across all major operating environments. Discovery results must be federated to support reconciliation between the discovered environment and management repository records, to reveal unrecorded changes through exception reporting, and to verify the execution of authorized change processes.
- Self-service must be easy to set up and access through a simple service catalog that is fully integrated with an automated provisioning process.

Choose the Service Desk Solutions that Make Configuration Management Convenient

Bringing order, business focus, and quality control to IT service delivery means taking control of change in the underlying environment. Service-oriented configuration management provides that control by centralizing the management of infrastructure assets that support key services, delivering complete and accurate context for service management decisions, and systematically enforcing process, rules, and policy. It's a solution based on a small number of closely related technologies that can be implemented easily, affordably and incrementally, with immediate and significant benefits at each stage in the process.

Companies worldwide are currently using service desk solutions that take the complexity and expense out of service-oriented configuration management, and that have one other thing in common: they were all developed and deployed by Avocent's LANDesk division. To find out more about how service-oriented configuration management can transform your service delivery capabilities and your relationship to the business, contact [LANDesk](http://www.landesk.com) today.