

# Unlock the value of virtualization with Integrated Service Management

*Helping organizations realize the full potential of virtualization*



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## Highlights

- Leverage a comprehensive set of capabilities for virtualized hardware and software resources.
  - Automate image management, provisioning, workload management and other tasks to reduce cost and risk associated with manual processes.
  - Rely on one source of tools to manage workloads, servers, applications, storage and network resources across heterogeneous physical and virtualized environments.
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Virtualization offers organizations the potential to meet new goals and reach new levels of business performance by delivering valued services to business users more efficiently and effectively. But to realize this potential, organizations need more than virtualization capabilities. They must have the virtualization management capabilities in place that will enable them to deliver quality services while, at the same time, helping to control costs and manage risk.

Management is an important part of the journey that organizations today must make toward virtualizing across business and IT infrastructures. IBM has identified four points at which an organization can begin this journey:

- Consolidating resources to reduce capital costs and use assets more efficiently, and to enhance service delivery and business agility
- Managing workloads across both the physically consolidated infrastructure and virtualized resources, to extend cost reduction and improved service delivery across both environments
- Automating processes to increase process effectiveness by codifying business rules and priorities and automating standardized processes
- Optimizing delivery to leverage the most cost-effective ways of providing service and to more fully align IT and business by enabling service self-provisioning

Integrated Service Management improves the efficiency and effectiveness of the dynamic and flexible nature of virtual environments, and helps organizations achieve quality delivery of essential services.



Integrated Service Management capabilities help businesses:

- Improve service availability by managing service performance and deploying and optimizing servers and workloads quickly.
- Improve time to market for services with automated provisioning of virtual resources and scheduling of virtual workloads, driving efficiencies even as requirements grow.
- Reduce data center costs by providing complete visibility across heterogeneous physical and virtualized environments.
- Reduce risk by understanding how changes to the environment will impact resource dependencies and business services.

### Achieve new levels of visibility

Effective IT service management requires complete visibility into applications, servers and networks in physical and virtualized environments. This is why Integrated Service Management includes capabilities for discovering information across these resources, including information on configuration changes. Being able to view all the different IT components, applications and services that exist across physical and virtualized environments, to understand how they relate to each other, and to map those relationships can help organizations make better, more informed decisions about which resources are the best candidates for consolidation and virtualization. In addition, visualizing configuration item dependencies can help reduce the risk that change will affect service availability. Visualization of what has changed helps reduce the time to isolate and resolve problems in the event that changes do affect service. The result is improved service and reduced risk, at a lower cost to the business.



### Support fast, efficient services deployment with automated provisioning

While virtualization makes it possible to bring large numbers of servers online more quickly than ever, the benefits of this unprecedented ability to scale hardware will inevitably be limited by how rapidly software applications can be deployed on that hardware. Manually deploying applications in virtual server environments is a time-intensive and error-prone process that can significantly undermine the value of virtualization by reducing rather than increasing efficiency and productivity—and by adding to rather than lowering operating costs. For these reasons, automated provisioning is essential if organizations hope to realize the full potential of virtualization to help improve service delivery to their business users.

Integrated Service Management provides automated capabilities that speed end-to-end provisioning across physical and virtual environments, with support for provisioning and configuring the broadest spectrum of resources including servers, applications, storage devices, network devices and firewalls. This provisioning capability includes integrated image management, with the ability to create, store, catalog, deploy, secure and track images.

These capabilities help to increase utilization of existing resources while reducing both the energy costs associated with these resources and the labor costs of manually deploying operating system software, middleware and new, mission-critical applications on virtual resources, as well as saving time and effort by automatically deploying application changes and releases. More importantly, they enable rapid deployment of new services and production environments and therefore support a faster time to value for virtualized resources.

### **Keep it all running with performance monitoring and reporting**

With Integrated Service Management, all physical and virtual resources and critical applications can be managed using a single integrated set of capabilities. Real-time, historical and predictive performance, availability and capacity monitoring and reporting provide detailed visibility into virtual machine performance (as well as cluster and server performance) and their use of shared physical resources. Performance monitoring and reporting are vital to understanding how virtual machines are utilizing resources. Utilization reporting can help optimize resource utilization by identifying resources that are trending to run out of capacity and resources that are underutilized and are therefore candidates for consolidation. In addition to CPU, memory, and storage and network utilization, data can be collected on data center energy usage. This data can be combined with information on virtual to physical server inventory ratios to demonstrate how virtualization is reducing an organization's energy footprint. In addition, availability monitoring can be used to find problems

with critical resources and alert operations teams before users are adversely affected, helping to ensure that availability requirements are met. Targeted monitoring and reporting can make it possible to:

- Cut energy costs by monitoring and managing data center power.
- Reduce hardware costs by improving utilization and deferring hardware purchases.
- Reduce time for problem resolution through contextual visibility.
- Determine the most efficient placement of applications and ensure adequate capacity before provisioning additional services.
- Improve application availability using proactive problem identification.

### **Count on IBM for comprehensive capabilities**

Integrated Service Management also enables:

- Management of diverse virtualized storage environments, which can improve storage utilization and storage administrator productivity.
- Software licensing management, which is critical in virtualized environments where the constant shifting of resources makes it challenging to keep track of where software is running.
- Usage and accounting management to allocate IT costs appropriately in these shared environments.
- Support for multiple virtualization technologies to enable customer choice.
- Comprehensive security management for virtual environments, including threat protection, isolation, federated identity and access management, as well as compliance and audit tracking.
- Energy monitoring and management.

## Solutions that are built to meet your specific requirements

IBM works with organizations to build solutions based on their needs, rather than imposing the same solution on every situation. IBM solutions work with existing data center infrastructures and avoid vendor lock-in that is associated with proprietary technology and relationships. IBM can manage existing data center infrastructures as well as provision and manage new environments. IBM also offers prepackaged services that not only virtualize environments, but also provision applications and business services—rather than forcing organizations to first determine what services they need and then purchase them at an additional cost.

## For more information

To learn more about how Integrated Service Management can help you realize the full potential of virtualization, please contact your IBM sales representative or IBM Business Partner, or visit [ibm.com/Tivoli](http://ibm.com/Tivoli)



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