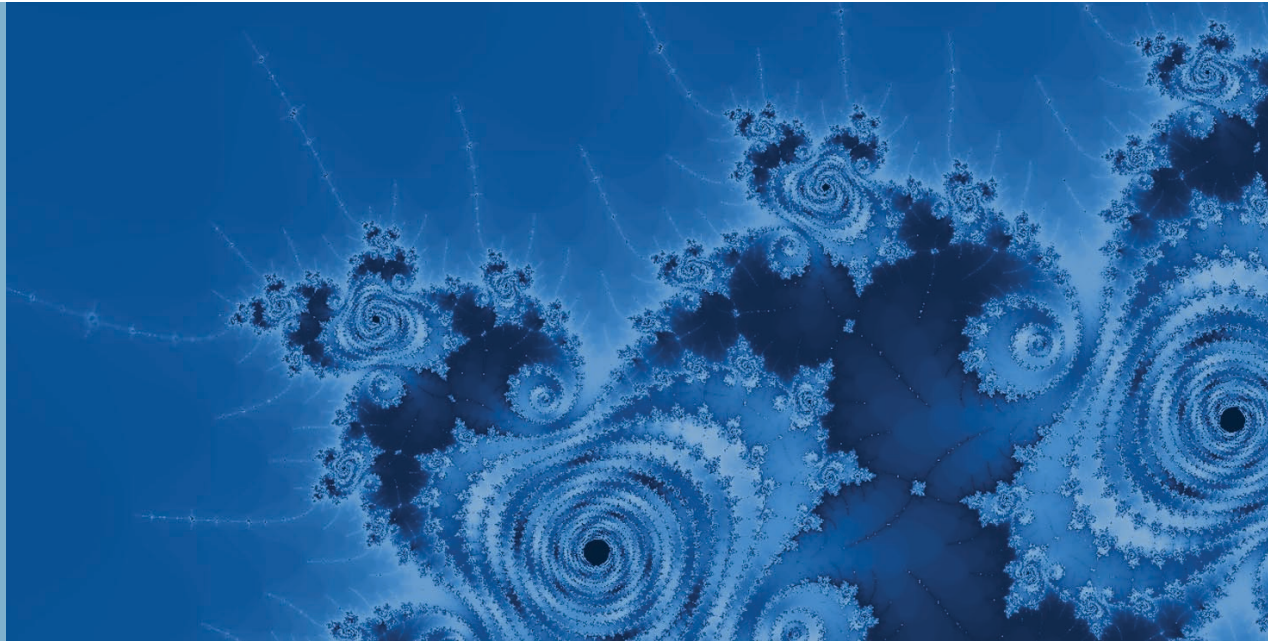


Virtualization



Key Initiative Overview

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Virtualization brings flexibility, agility and increased capabilities to enterprise users. IT leaders can use this overview to assess their virtualization needs and present a cohesive business case to decision makers.



Analysis

Virtualization enhances flexibility and agility by detaching workloads and data from the functional side of physical infrastructure. Possibilities abound for networks, storage, servers and desktops.

Virtualization involves substantial upfront investment, so IT management should understand the total cost of ownership (TCO) and prepare a business case for leadership. This involves an assessment of elements to be virtualized, and an evaluation of reasons for moving forward. A review of offerings by various vendors is also key. Enterprises can achieve a 20% to 50% cost savings, while enjoying improved quality of service. For example, server virtualization yields a rewarding return on investment (ROI) in servers, power and cooling, data center space, and administration, while enabling administrators to develop business-driven policies for optimizing resources.

Consider these factors to determine your readiness

The following considerations can help you discern whether and where your organization should implement virtualization projects:

- If you've only virtualized to consolidate workloads, or virtualized only test/development, then consider benefits such as improved service-level agreements and availability. Convey this to the business.
- Review upfront savings and operational aspects, recognizing that goals vary among implementations and technology domains. For example, there are no consolidation savings for desktop virtualization, but there may be for storage and servers.
- Identify what not to virtualize. Not every desktop, server or storage array should be virtualized. Understand the goals of the implementation. Some workloads are less virtualization-ready than others.
- Do not focus only on virtualized workload management. Identify those workloads that should remain physical, and manage them accordingly.

Conduct your virtualization initiative in six phases

Virtualization projects require “before and after” comparisons at each phase. Keep a business focus, and implement these steps:

- **Strategize and plan:** Integrate an IT-centric model with a business-focused one to make the case for virtual investments; measure related savings.
- **Architect solution:** Assess elements to be virtualized. Evaluate reasons for moving forward. Architect the infrastructure to adapt to cloud and other delivery models, planning for rapidly evolving innovation and mixed service delivery.
- **Select solution:** Balance vendor capabilities and contracts with an eye toward heterogeneity and interoperability. Compare road maps and contracts across the portfolio.
- **Build:** Initially, drive efforts that lower costs, attaching the project to an ROI target. Manage variables such as timelines, dependencies, resources, setback schedules, teams, steering committees and periodic reviews.
- **Deploy:** Focus on service and service-level improvements. Use a process-based approach that integrates other major Information Technology Infrastructure Library (ITIL)/IT management processes. Implement process work as an ongoing, repeatable series of tasks.
- **Operate and evolve:** Track cost savings and investments and expenses in all areas—beyond vendor costs—to maintain enthusiasm for virtualization. Invest in tools that allow you to measure the effects of virtualization at all phases. Convey costs and savings to the business.

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Read More From Gartner About Virtualization

The following is just a sampling of the research and tools Gartner clients have access to every day.

Strategize and plan

Gartner's Top Predictions for IT Organizations and Users, 2009 and Beyond: Where Is the Money?

ID: G00165225

These top predictions herald changes in approach for IT organizations and the people they serve for 2009 and beyond.

Q&A: How to License Software Under Virtualization

ID: G00171793

Many organizations have been struggling with the challenges of licensing software under server and desktop virtualization. The answers to frequent client questions from recent Gartner events and analyst inquiries are addressed, but there are no easy magic answers.

Gartner Data Center Conference Poll Findings: Server Technology Evolution

ID: G00164611

At the Gartner 27th Annual Data Center Conference, attendees were polled on their preferences and expectations regarding the evolution of server technologies, focusing particularly on multicore architectures, virtualization and blades. Here, we examine the findings.

Architect solution

Hype Cycle for Server Technologies, 2009

ID: G00167475

This Hype Cycle highlights the emerging technologies of server virtualization, next-generation server building blocks, increasingly dense processors, operating systems and data center cooling technologies

Server Virtualization: One Path That Leads to Cloud Computing

ID: G00171730

Server virtualization is a modernization catalyst and helps move an organization in the direction of both delivering and using cloud computing. We discuss the challenges, and provide recommendations to overcome them.

The Great Virtualization Dilemma of the Next Decade: What You Need to Know

ID: G00164938

IT planners will need to be alert and cautious to the sweet candy effect of virtualization. Without the strategic guidance advised in this research, they could cause unintended consequences such as silos, dysfunctional operations, fragmented management and poor procurement processes.

Select solution

Vendor Rating: Microsoft

ID: G00166708

Microsoft is the world's largest software provider with offerings and support spanning endpoint, server, and back-end processing, as well as development tools. Gartner's 2009 vendor rating for Microsoft evaluates its overall strategy and all its enterprise offerings.

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Understand Oracle's Virtualization Policy to Avoid Unexpected Costs

ID: G00165003

Many organizations are using virtualization software, such as VMware, with their Oracle database management system and infrastructure licenses. Oracle has created policies for how it counts usage under virtualization, but these policies are not a formal part of the Oracle license agreement.

Cool Vendors in IT Operations and Virtualization, 2009

ID: G00165447

The growth of virtualization and the emergence of Web 2.0 and cloud-computing architectures are resulting in repercussions across a range of virtualization technologies and management tools, but several vendors are applying new techniques to managing the changing IT infrastructure landscape.

Build

The 10 Key Server Virtualization Unknowns, and What to Do About Them

ID: G00164385

As infrastructure virtualization hype runs rampant, does anyone know whether total or comprehensive virtualization will benefit all enterprises? Can we predict best-case/worst-case behavioral effects to create service-level-agreement-predictable deployments? Here are 10 crucial factors and advice.

Selecting Virtualization and Consolidation Platforms: SEM 'Combination Workloads'

ID: G00169757

The Gartner Server Evaluation Model provides comprehensive results for mixed workload patterns, including consolidation and virtualization. The leading server platforms start with and extend well beyond x86 servers.

Best Use Scenarios for Hosted Virtual Desktops

ID: G00165252

Considerable confusion exists concerning where and how to deploy hosted virtual desktops. It's important to clarify the use cases, as well as the issues and opportunities that HVDs present.

Deploy

IT Resource Planning: Going Beyond Capacity Planning

ID: G00164794

Traditional capacity planning will no longer be sufficient, especially with the rapid evolution of virtualization. IT organizations need to incorporate a multidimensional approach to meet emerging ITRP needs.

Best Practices for Deploying Hosted Virtual Desktops

ID: G00167963

Hosted virtual desktops continue to garner significant market attention. Organizations considering their deployment can minimize cost and risks by following best practices outlined by early adopters.

Case Study: Cloud Provider Achieves 10 Times Lower Total Cost of Ownership Over FCoE With Input/Output Virtualization

ID: G00167114

Server virtualization, virtual machine mobility and business agility requirements put demands on server and network infrastructure. Fibre Channel over Ethernet promises to address these, but external InfiniBand I/O virtualization with automated provisioning can deliver this now at a lower TCO.

Operate and evolve

The Virtual Organization: Roles and Structure in Support of Server Virtualization

ID: G00159553

Enterprises adopting virtual server technology often find that their organizational alignment is not up to the new requirements of this infrastructure. We examine the new roles and structure.

When Servers Go Virtual: The Impact on Configuration Management

ID: G00156178

Without a strong configuration management footing, the move to a virtual server infrastructure will increase risk and potentially add costs. This research identifies several key parts of the configuration management life cycle that need increased attention.

The Server Virtualization Management Marketplace

ID: G00154109

There is a contest for virtual server infrastructure management among three groups—virtual infrastructure providers, the Big 4 (BMC Software, CA, HP Software and IBM's Tivoli business unit), as well as traditional management vendors and emerging virtualization-specific management vendors.

Strategic Insights on Key Initiatives

All your initiatives are important, but some are mission-critical. Key Initiatives organize the vast Gartner resources around the projects and programs at the top of your list, helping you achieve demonstrable business results efficiently and cost-effectively.

Our 650 analysts engage in 260,000 one-to-one interactions each year with 60,000 clients from 10,000 organizations worldwide. Every day, clients tell us what they do to support their key decisions and processes for the initiatives that matter most to them. We apply that knowledge to deliver targeted insight and valuable tools just in time, from strategic planning through implementation and benefits realization. Our solutions evolve with our clients' changing needs, but our commitment to quality never changes.

Key Initiatives address significant business opportunities and threats, and typically have defined objectives, substantial financial implications, and high organizational visibility. They can involve multiple projects, but are typically implemented by a designated team with clear roles and responsibilities, and defined performance objectives. It's our solemn mission to guide your key decisions and processes so you achieve the highest possible returns at the lowest possible risk.

So which initiatives will make or break you this year? Don't worry, we've got you covered.

Key Initiatives

Application Development

Application Governance

Application Integration

Application Overhaul

BPM Technology and Tools

Business Continuity Management

Business Intelligence

Competency Center

Business Process Program Management

Cloud Computing

Compliance

Corporate Performance Management

CRM

Customer Experience Management

Data Center Modernization and Consolidation

Data Management and Integration Maturity

Enterprise Architecture Program

Enterprise Architecture Stakeholder Engagement

Enterprise Social Software

ERP

Identity and Access Management

Information Governance

Infrastructure Application and Data Protection

Information Security Program Management

IT Cost Optimization

IT Governance

ITIL and Process Improvement

IT Risk Management

Master Data Management

Microsoft Windows 7 and Office

Mobile Enterprise Strategy

Negotiating Vendor Contracts

Outsourcing

PMO

Portal Strategy

SharePoint for ECM

SOA and Application Architecture

Strategic Planning

Supply Chain Management

Vendor Management

Virtualization

VoIP, Unified Communications and Collaboration

Three ways to learn more about how Gartner can help you move your Key Initiatives forward:

- Contact your account executive.
- Attend a webinar: gartner.com/webinars.
- View additional resources: gartner.com/virtualization.