

SOLUTION BRIEF

Virtualization Management

can CA Technologies
make virtualization
management easy
and effective, so
I can deliver the
exponential benefits
of virtualization?

we can





CA Technologies can help solve your virtualization management challenges with solutions designed to provision, control, assure, secure, and optimize your stand-alone virtual or hybrid virtual and physical environments, in new and unique ways, to drive exceptional and exponential value.



executive summary

Challenge

Virtualization has the potential to deliver exceptional benefits in agility, cost, quality, and risk. However, inherent problems with visibility, control, scalability, and staffing can cause virtualization deployments to stall, or even fail. As a result, without robust, insightful management tools, virtualization remains limited to basic deployments. CIOs and their teams need new and better ways to harness the full IT and business potential of virtualization by breaking down the significant barriers standing in their way.

Solution

Virtualization management from CA Technologies provides the solution to these challenges with the ability to better provision, control, assure, secure, and optimize stand-alone virtual or hybrid physical and virtual environments. Acclaimed by analysts and other thought leaders, CA Technologies has the breadth and depth of ability, the heterogeneous environment support, and the top-down business service perspective to help ensure your virtualization deployment delivers the agility, responsiveness, and competitiveness you need.

Benefits

With virtualization management from CA Technologies, your virtualization deployment becomes easier to manage and easier to expand, so you can reap the benefits of cost reduction, agility, flexibility, business alignment, and more. You gain the visibility and confidence to virtualize even mission-critical “tier 1” applications; you are able to use staff more effectively, and more efficiently; you can better ensure the integrity and availability of data, systems, and applications; and you can increase the value of your virtualization investments while leveraging your existing infrastructure.

CA advantage

Virtualization management from CA Technologies delivers a comprehensive range of solutions and capabilities for every stage of virtualization deployment. With an exceptional breadth and depth of solutions for every organization and size—from “virtualization-specific” departmental deployments to the largest enterprise-wide hybrid physical, virtual, and private cloud environments—CA Technologies delivers the virtualization management capabilities you need to help reduce costs, improve efficiency, and drive business agility.

These solutions also benefit from CA Technologies’ 30+ years of recognized expertise in enterprise-class IT management, exceptional support for complex heterogeneous environments, and fast time-to-value through the training and implementation services offered by CA Technology Services and CA Education. With CA Technologies, your IT is better equipped to help your enterprise more aggressively pursue emerging business opportunities—and win them!

Next steps

If you need better ways to provision, control, assure, secure, and optimize your stand-alone virtual or hybrid physical and virtual environments; if you need robust management capabilities to successfully expand enterprise-wide virtualization and drive immediate and long-term business results; then you need to take a look at virtualization management from CA Technologies. To learn more, and see how CA Technologies enables other organizations to unify and simplify IT management for better business results, please visit ca.com/virtualization.

Section 1: Challenge

Unmanaged virtualization driving “VM sprawl” and “VM stall”

Virtualization is a compelling technology with substantial promise. It can provide strong benefits to flexibility, resource efficiency, and continuity, and has the potential to finally link IT and business at the core with respect to agility, cost, quality, and risk. However, for many IT leaders, virtualization deployment is constrained by several difficult challenges.

Visibility and control

The abstraction of IT resources inherent in virtualization means that virtualization administrators cannot easily see the details of virtual machine (VM) deployments, especially in larger environments. The ease of VM deployment and features like live migration drive dynamic workload agility, but also avoid traditional safeguards like approval or procurement steps that previously ensured security, compliance, and cost control. Traditional management tools cannot deal with this type or rate of change, so administrators lose control of VM deployment, configuration, compliance, migration, and performance.

Skill and resource challenges

Virtualization also creates training and skill set challenges, including the need for new, complex, and expensive skills that cross traditional silos (e.g., servers, storage, networks, applications, security). As a result, virtualization creates a substantial resource drain, as architects and other senior staff are over-allocated to routine and mundane tasks like service provisioning, while junior staff are underutilized. In order to keep up, organizations often resort to outside consultants and contractors, further draining budgets, constraining virtualization rollouts, stalling other projects, and limiting virtualization benefits.

“VM sprawl”

Without visibility and control, and without skilled resources to manage virtualization, VM deployments can proceed unchecked and unmanaged. As a result, IT faces an uncontrolled proliferation of virtual machines—known as “VM sprawl.” Poor capacity allocation damages performance, over-subscription breaches license compliance, unplanned overruns blow out budgets, and under-resourcing means other critical projects go untended. Virtualization becomes a burden that threatens to consume IT resources, budgets, and reputations.

“VM stall”

These problems often culminate in “VM stall,” where virtualization deployment grinds to a halt while IT—unable to responsibly scale the virtualization deployment—figures out how to deal with these challenges. Despite clear benefits, without robust management, virtualization remains limited to basic deployments and low-risk applications. In fact, despite widespread adoption, Gartner says 16 percent of workloads are running in virtual machines today.¹

Meanwhile, application owners struggle to deliver immediate value, while business leaders continue to demand even more value, without supporting additional IT funding. IT organizations need new and better ways to harness the full IT and business potential of virtualization by breaking down the significant barriers standing in the way.

Section 2: Solution

Exponential efficiencies with virtualization management

Virtualization management solutions from CA Technologies change the virtualization game, with robust solutions designed to provision, control, assure, secure, and optimize your stand-alone virtual or hybrid physical and virtual environment. CA Technologies can help you to achieve exponential efficiencies and superior value well beyond typical expectations.

CA Virtual

CA Virtual is a portfolio of solutions designed specifically to meet the “virtualization-specific” needs of virtualization administrators in organizations of all sizes. These stand-alone solutions include:

- **CA Virtual Assurance** Provides comprehensive event, fault, and performance management of heterogeneous virtual infrastructures. Key features include application traffic response time monitoring and intelligent root-cause analytics (across systems, networks, and applications) to help isolate and remediate faults quickly and deliver the visibility, assurance, and automation needed to support an agile business.
- **CA Virtual Automation** Provides automated, self-service VM lifecycle management, including provisioning, resource pool management, VM tracking, cost accounting, and scheduled de-provisioning. Key features include a self-service interface, template-based provisioning, integrated authentication, approval workflows, and policy-based VM configuration (for CPU count, RAM, disk, etc., with support for custom configurations).
- **CA Virtual Configuration** Provides configuration discovery, reporting, and remediation for heterogeneous virtual infrastructures. Key features include discovery of server and application dependencies, configuration baselines and validation, detection and remediation of configuration drift, and virtualization dashboards to facilitate change tracking and review, compliance audits, and reporting on environmental status.

CA Technologies hybrid virtualization management

CA Technologies also provides many solutions for integrated management of heterogeneous physical and virtual environments. These solutions include:

- **CA Virtual Assurance for Infrastructure Managers** This add-on to CA Technologies’ Infrastructure Managers (CA eHealth® Performance Manager, CA Spectrum® Infrastructure Manager, CA NSM, and CA Spectrum® Automation Manager), provides centralized management across physical and virtual environments, adding much-needed virtualization visibility to confidently deploy production applications in virtual environments.
- **CA Spectrum® Automation Manager** Provides policy-based automation for server provisioning, configuration change detection, self-service resource provisioning, and virtualization management. Features include application and systems discovery, process automation workflows, configuration change and detection management, performance and capacity monitoring, server and application provisioning, and self-service reservation management across physical systems and both virtual hosts and guests.

- **CA ARCserve®** Provides data protection, replication, disaster recovery, and high availability for physical and virtual server environments (including VMware ESX & vSphere, Microsoft Hyper-V, and Citrix XenServer). Features include automatic VM discovery, VM/hypervisor/guest protection, comprehensive migration (physical-to-virtual (P2V), virtual-to-physical (V2P), virtual-to-virtual (V2V)), bare metal restore to dissimilar hardware, backup data de-duplication, disk and tape backup, dashboard with Storage Resource Management (SRM) reporting and infrastructure visualization, VM file-level restore from image-level backups, multi-streaming, and infinite incremental backups.
- **CA Access Control** Provides privileged user management (PUM) for physical and virtual systems/applications. Features include role-based access control (RBAC), impersonation control, fine-grained enforcement, and support for an exceptional number of virtual platforms (including VMware ESX, Oracle/Sun Solaris Zones and LDOMs, Microsoft Hyper-v, IBM VIO and AIX LPAR, HP-UX VPAR, Linux Xen, and Mainframe z/VM).
- **CA Spectrum® Infrastructure Manager** Offers deep visibility, rapid fault isolation, and root-cause analysis for virtualized environments based on a patented, real-time operational model of the infrastructure. Automated discovery, monitoring, and managing physical host servers and guest VMs extends the value of infrastructure management to eliminate the need for a domain- or vendor-specific tool.
- **CA NSM** Provides high-capacity event management on a common console for physical, virtual, and clustered systems, with event filtering, correlation, service level reporting, and business service integration, on multiple platforms, including Microsoft Windows, Oracle/Sun Solaris, HP-UX, IBM AIX, Red Hat Enterprise Linux, Apple Mac OS X, OpenVMS, and more.
- **CA eHealth® Performance Manager** Actively monitors the performance of physical and virtual infrastructures through both real-time dashboards and historical views. Provides extensive reporting of performance to baseline, tracks trends, determines allocation of resources, helps improve utilization rates, and aids in capacity planning.
- **CA Spectrum® Service Assurance** Provides a centralized, consolidated dashboard designed to enable IT operations to manage infrastructure across physical and virtual infrastructures, with a top-down focus driven by business service perspectives. Features include SLA reporting, service modeling, and service impact analytics.
- **CA Insight™ Database Performance Manager** Proactively monitors database performance and provides alerts (within one solution) for databases located in physical, virtual, and cloud environments—including continuous monitoring of databases in VMware environments, even across VMware live migrations (VMotion), without user intervention.
- **CA Enterprise Log Manager** Helps simplify IT security activity compliance reporting and delivers comprehensive log management across distributed, mainframe, and virtualized environments.
- **CA DLP** Provides data loss prevention to help prevent the inappropriate (accidental or malicious) redirection of data in physical and virtual environments, and ensures logging of data flows between physical and virtual systems.

- **CA Service Desk Manager & CA CMDB** Provide robust incident, problem, and change management capabilities, as well as change impact and root-cause analysis for physical, virtual, and private cloud systems.
 - **CA Service Catalog** Provides a streamlined front end to enable self-service resource provisioning across heterogeneous physical and virtual services. Service accounting tracks costs of requests associated with virtualization and associated services, and enables chargeback for cost recovery, insight, and behavioral change.
 - **CA IT Client Manager** Provides detailed inventory and deployment of physical and virtualized client applications (e.g., VMware ThinApp, Microsoft App-V), as well as inventory and relationship management of virtualized images, with integrated support for dynamic and context-aware workspace composition and centralized device management.
 - **CA IT Asset Manager** Helps customers manage their vendor relationships and gain greater awareness of the terms and conditions of licenses governing the use of software in virtualized environments, while managing IT assets from a cost, contract, and inventory perspective.
 - **CA ecoMeter & CA ecoGovernance** Helps enterprises to evaluate overall energy consumption—including the energy reductions as a result of virtualization and server consolidation—and eliminate waste by easily comparing, analyzing, and tracking energy expense and resources across the organization.
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Section 3: Benefits

Driving agility, efficiency, productivity, and confidence

Virtualization management from CA Technologies:

- Addresses the “virtual-specific” requirements of stand-alone deployments, yet thrives in heterogeneous, enterprise-wide hybrid physical and virtual environments
- Supports organizations of any size, from departmental and “virtual-specific” implementations to the largest enterprise-wide physical and virtual deployments
- Supports multiple operating platforms, multiple virtualization technologies, and multiple virtualization vendors to eliminate silo-based management
- Is a strategic choice that fits your environment, leverages existing investments, and prepares you for future change
- Aligns IT with business objectives through top-down monitoring and automation driven by business service policies, requirements, and best practices (e.g., ITIL)
- Comprises multiple best-of-breed solutions that expand and extend through straightforward migration to tightly integrated solution suites
- Provides solutions that are easy to install and easy to use, with practical innovations presented in radically simple interfaces

- Provides for a keen understanding of costs and ROI to help ensure strict budget controls and to justify IT investments as you go
- Embeds knowledge and skills in software, not people, unburdening senior staff to focus on strategic tasks and allowing junior staff to be more productive

With exceptional control and deep insights, virtualization management from CA Technologies helps achieve these outcomes by providing:

Visibility See across and through your entire virtual systems, networks, storage, and applications, with greater visibility than ever before to assure high performance

Knowledge Use deep discovery and real-time insight to understand your virtual infrastructure and applications, and the business services that rely on them

Control Reduce the burden on staff with advanced automation that embeds knowledge in software to free up experienced people for strategic activities

Security Manage exactly how data is being used and shared with content-aware identity and access management that goes down to the data level

Certainty Solve problems quickly at the root cause so you can move forward with confidence and meet service level agreements

Efficiency Shorten the value chain of IT operations so you can achieve team efficiencies and meet growing business demands with flat budget resources

Economy Achieve significant reductions in capital and operating expenses, lower infrastructure TCO, and lower cost of user productivity

Diplomacy Reduce or eliminate internal conflict to allow better sharing of IT assets, to enhance and expand the benefits of virtualization, and to promote staff retention

Speed Prepare the business for market readiness and speed time-to-value for new products and services with a fast, lean, focused virtual infrastructure

Flexibility Harness the full power of your IT resources with greater flexibility to access valuable data and applications anytime, anywhere

Section 4: CA advantage

Virtualization management from CA Technologies includes a comprehensive range of solutions and capabilities that span the virtualization maturity cycle, from development and testing through limited production and extensive “virtual-first” deployment to a dynamic data center or private cloud initiative.

In addition, CA Technologies boasts:

- 30 years of recognized expertise in robust, reliable, secure, enterprise-class IT management software
- An unparalleled commitment to emerging technologies and IT delivery paradigms such as virtualization, SaaS, and cloud
- Cutting-edge best-of-breed management technologies garnered through strategic acquisition and developed from within
- Industry-recognized leadership in virtualization management, highlighted by industry analysts, respected journals, and other thought leaders
- “Virtualization-specific” industry partnerships with other best-in-class virtualization and management leaders

CA Technologies is also uniquely positioned to help make your virtualization management a success with additional implementation and training services, including:

CA Technology Services

CA Technology Services forms an integral part of the virtualization management solution, providing assessment, implementation, health check, and other pre- and post-deployment services. This enables organizations to accelerate time-to-value for their virtualization investment, mitigate implementation risks, and improve the alignment between IT and business processes.

CA Education

CA Education also contributes exceptional value to the CA virtualization management solution, providing skills training and best practices education through classrooms, virtual instructor-led training, and Web-Based Training (WBT). This enables organizations to rapidly build expertise in virtualization and virtualization management, overcome many barriers to deployment, reduce or eliminate deployment errors, and gain fast time-to value with a high-quality solution.

Section 5: Next steps

There is no doubt that virtualization can provide exceptional benefits for IT and business.

However, almost every organization faces substantial problems delivering these benefits in a broad virtualization deployment. Problems with visibility, control, scalability, and resourcing threaten to derail deployments as VM sprawl and VM stall create a massive burden on overworked staff and undermine the gains in agility, efficiency, and cost control.

Fortunately, CA Technologies can help with sophisticated, robust, and innovative solutions that help to solve the difficult uptime, performance, capacity, optimization, automation, and provisioning demands of a complex virtualization deployment.

If you need better ways to provision, control, assure, secure, and optimize your stand-alone virtual or hybrid physical and virtual environment; if you need robust management capabilities to successfully expand enterprise-wide virtualization and drive immediate and long-term business results; then you need to take a look at virtualization management from CA Technologies.

To learn more, and see how CA software solutions enable other organizations to unify and simplify IT management for better business results, visit ca.com/virtualization.

CA Technologies is an IT management software and solutions company with expertise across all IT environments—from mainframe and physical to virtual and cloud. CA Technologies manages and secures IT environments and enables customers to deliver more flexible IT services. CA Technologies' innovative products and services provide the insight and control essential for IT organizations to power business agility. The majority of the Global Fortune 500 rely on CA Technologies to manage their evolving IT ecosystems. For additional information, visit CA Technologies at ca.com.

1 Gartner, Inc., Press Release—*Gartner Says 16 Percent of Workloads are Running in Virtual Machines Today*; October 21, 2009. <http://www.gartner.com/it/page.jsp?id=1211813>

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