can you simply and effectively manage my VMware virtualized platform without introducing greater cost, complexity, and risk?
CA Technologies can help solve your virtualization challenges with new solutions designed to provision, control, assure, secure, protect, and optimize both your stand-alone VMware virtualized platform and the IT services you deliver across hybrid virtual and physical infrastructure.
executive summary

Challenge
Your VMware platform 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 often stall, or even fail. As a result, without robust, insightful management tools, virtualization often remains limited to “low-hanging fruit” and technology-centric applications and services. CIOs and their teams need new and better ways to harness the IT and business value of the VMware platform by breaking down significant barriers that stand in the way.

Solution
Virtualization management from CA Technologies provides the solution to these challenges with the ability to better provision, control, assure, secure, protect, and optimize stand-alone VMware or mixed hybrid physical and virtual environments. With its newly developed solution, CA Technologies provides the depth needed to address more immediate problems unique to virtualization, together with the flexibility required to manage and optimize from a top-down business perspective regardless of underlying infrastructure.

Benefits
With CA Technologies, your VMware 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 virtually deploy even mission-critical “tier 1” applications; you are able to use staff more effectively and more efficiently; you can better provide for the integrity and availability of data, systems, and applications; and you can increase the value of your virtualization investments while leveraging your existing infrastructure.
The CA Technologies advantage

Virtualization management from CA Technologies delivers a comprehensive range of solutions and capabilities for every stage of your VMware 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 our 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 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.

Section 1: challenge

Unmanaged VMware leads to “VM sprawl, crawl, and stall”

Virtualization is a compelling technology with substantial promise. It can be beneficial for 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 VMware VMotion drive dynamic workload agility, but can 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 management 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 other staffs 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, crawl, and stall”

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
section 2: solution

Driving greater benefits with virtualization management

Virtualization solutions from CA Technologies provide the robust capabilities you need to reliably provision, control, assure, secure, and optimize your stand-alone VMware virtualization platform and hybrid physical and virtual environments. CA Technologies can help you to achieve greater efficiencies and superior value well beyond typical expectations.

Virtualization Management

CA Technologies offers a portfolio of virtualization solutions designed and engineered to address the “virtualization-specific” needs of virtualization administrators in organizations of all sizes.

- **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
Comprehensive IT Management for VMware

drift, and virtualization dashboards to facilitate change tracking and review, compliance audits, and reporting on environmental status.

- **CA Virtual Privilege Manager** secures privileged user access to virtual machines, hypervisor service consoles, and virtual appliances—helping you control privileged user actions, secure access to the virtual environment, and comply with industry mandates. It delivers key capabilities to manage privileged user passwords, harden the hypervisor service console, and monitor privileged user activity.

**Hybrid Virtualization Management**

CA Technologies also provides many solutions for integrated automation and service assurance across heterogeneous physical and 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 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 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 Application Performance Management** manages the performance and availability of critical Web-based applications. It also manages the service quality of end-user transactions in real-time. These are critical views into your organization that enable you to measure the business value of each user’s online experience and proactively identify and prioritize problems, based on business impact.

- **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 Virtual Assurance for Infrastructure Managers** is an add-on to the CA Technologies Infrastructure Managers (CA eHealth® Performance Manager, CA Spectrum® Infrastructure Manager, CA NSM, and CA Spectrum® Automation Manager), that provides centralized management across physical and virtual environments, providing the much-needed virtualization visibility to confidently deploy production applications in virtual environments.

- **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 modelling, and business service analytics.
Extended security and data protection

- **CA Access Control** delivers 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 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 enables logging of data flows between physical and virtual systems.

- **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.

IT best practices, energy, and sustainability management

- **CA Service Desk Manager and CA CMDB** provides 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** delivers a streamlined front end to enable self-service resource provisioning across heterogeneous physical and virtual services. Additionally, integrated service accounting tracks costs of requests associated with virtualization and associated services, and enables chargeback for cost recovery, insight, and behavioral change.

- **CA Oblicore Guarantee™** provides a top-down approach to service level management, leveraging standard service descriptions to rapidly create IT-business agreements and obligations. The solution then aggregates and correlates operational data from your existing tools to monitor performance against business-relevant metrics.

- **CA IT Client Manager** provides detailed inventory and deployment of physical and virtualized client applications such as VMware ThinApp, and 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 you manage vendor relationships and gain greater awareness of the terms and conditions of licenses governing the use of software in virtualized and physical environments, while helping you manage IT assets from a cost, contract, and inventory perspective.
CA ecoMeter & CA ecoGovernance helps evaluate overall energy consumption—including the energy reductions as a result of virtualization and server consolidation—and reduce waste by easily comparing, analyzing, and tracking energy expenses and resources across the organization.

Virtualization Management: your path to the cloud
CA Technologies solutions enable you to advance your IT environment through virtualization maturity stages (including: consolidation, infrastructure optimization, automation, and service orchestration), providing a flexible agile platform for your cloud implementation. We also enable you to adopt a revolutionary approach—implementing a cloud model and migrating those activities and processes that make immediate business sense. Here, CA Technologies is truly changing the game with solutions such as 3Tera AppLogic. 3Tera AppLogic virtualizes the infrastructure needed to support an application, and, by deploying and managing this virtual service composite allows you to increase application deployment agility and more easily fast track the benefits of cloud computing.

section 3: benefits
Driving agility, efficiency, productivity, and confidence
Virtualization management from CA Technologies addresses the “virtual-specific” requirements of standalone VMware deployments while supporting hybrid physical and virtual environments:

- Addresses virtualization challenges and reduces “virtual sprawl, crawl, and stall” with easy-to-use, best-of-breed solutions that expand and extend through straightforward migration to tightly integrated solution suites;
- Eliminates silo-based management and other operational inefficiencies by managing from a service perspective regardless of supporting physical and virtual technologies;
- Aligns IT with business objectives through top-down monitoring and automation driven by business service policies, requirements, and best practices such as ITIL®;
- Provides for a keen understanding of costs and ROI to help provide strict budget controls and to justify IT investments as you go;
- Embeds knowledge and skills in software, not people, allowing senior staff to focus on strategic tasks and allowing junior staff to be more productive;
- Is a strategic choice that fits your environment, leverages existing investments, and prepares you for future change.

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

- **Visibility** across and through your virtual systems, networks, storage, and applications, to enable high performance;
- **Knowledge**, including deep discovery and real-time insight to better understand your virtual infrastructure and Applications, and the business services that rely on them;
• **Control** and reduce the burden on staff with advanced automation that embeds knowledge in software to free up experienced people for strategic activities;

• **Security** that allows you to manage exactly how data is being used and shared with content-aware identity and access management that goes down to the data level;

• **Certainty** ability to solve problems quickly at the root cause so you can move forward with confidence and meet service level agreements;

• **Efficiency** that shortens the value chain of IT operations so you can achieve team efficiencies and meet growing business demands with flat budget resources;

• **Economy** helps to achieve significant reductions in capital and operating expenses, lower infrastructure TCO, and lower cost of user productivity;

• **Diplomacy** allows better sharing of IT assets, to enhance and expand the benefits of virtualization, and to promote staff retention;

• **Speed** to prepare the business for market readiness and increase speed time-to-value for new products and services with a fast, lean, focused virtual infrastructure;

• **Flexibility** to harness the power of your IT resources with greater flexibility to access valuable data and applications anytime, anywhere.

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**section 4:**

**why CA Technologies**

Virtualization management from CA Technologies includes a comprehensive range of solutions for VMware, together with the capabilities needed to progress your 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 provides:

• 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 computing;

• Cutting-edge best-of-breed management technologies like 3tera AppLogic garnered through strategic acquisition and developed from within like the CA Virtual suite of products;

• Industry-recognized leadership in virtualization management, highlighted by industry analysts, respected journals, and other thought leaders;

• “Virtualization-specific” industry partnerships with best-in-class hypervisor and management leaders such as VMware.
CA Technologies is also uniquely positioned to help make your virtualization management a success with additional implementation and training services:

**CA Services**
CA 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.

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**section 5:**

**next steps**

If you need better ways to provision, control, assure, secure, and optimize the services you deliver across stand-alone VMware or hybrid physical and virtual environments; if you need robust management capabilities to expand enterprise-wide virtualization and drive immediate and long-term business results, then take a look at virtualization management from CA Technologies. To learn more, and see how CA Technologies enables other organizations to accelerate the business value of virtualization, please 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. Our 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.