End-to-End Data Center Automation

Accelerate your digital transformation, improve security, and lower costs

bmc

THE FUTURE IS NOW. TRANSFORM OR GET LEFT BEHIND.

“Whereas digital transformation may once have been just a buzzword in some boardrooms in 2017, 2018 will force many companies to realize DX (Digital Transformation) is no joke. It’s an imperative in today’s business market. Disruption will continue to be an increasingly common occurrence in the next few years, and companies unable or unprepared for those changes will quickly fall to the bottom of the pack.”

Daniel Newman, author of Futureproof

(Source: Top Ten Trends for Digital Transformation in 2018, Forbes, September 2017)

DIGITAL TRANSFORMATION CHALLENGES

The trend toward digitizing everything is rooted in a desire to become more nimble and competitive. This capability enables organizations to quickly address market needs or change directions when they are underperforming. Digital transformation is enabled by more affordable and available compute power, storage, and bandwidth, as well as agile development models and enabling tools. The result has been the rise of new and innovative services offered to employees and customers.

For IT, this connected, digitized world means that everything matters: speed, cost, performance, and security. You're expected to deliver services that are stable, secure, and scalable while also facilitating and driving innovation.

However, this operating model raises a few key challenges for CIOs, including:

+ Staying ahead of the business demand for new and innovative digital services
+ Delivering infrastructure services that are both agile and cost-effective
+ Maintaining a secure and compliant IT environment in a time of increasing complexity, rapid change, and relentless security threats
+ Maintaining visibility and control of changes across multi-cloud environments

Balancing these priorities requires a strategic approach to automation. In this e-book, we'll show you how to make that happen.

THE CASE FOR AUTOMATION

Attempting to deliver a dynamic set of services on top of a static infrastructure is a short-term solution at best. It will likely inhibit innovation and delay time to market, potentially slowing revenue or negatively impacting customer satisfaction. BMC customers that have automated IT infrastructure have seen:

+ Service deployments execute 90% faster
+ Compliance with regulations improve by 95%
+ Downtime decrease by over 60%
+ Labor costs decrease by over 80%

GETTING STARTED WITH AUTOMATION

Taking a tactical approach to automation may seem like a rational approach to dealing with overwhelming complexity. However, without careful thought and planning, an ad hoc approach can lead to technical debt that delays more critical projects and ultimately limits achieving the full benefits of transformational projects.

That's why we recommend taking a more deliberate, strategic approach to data center automation. This should include automation of routine and recurring tasks across servers, networks, and databases, while also considering the full lifecycle of each resource (i.e., deployment, security and compliance, updates and patching, configuration maintenance, and retirement).

Many processes also span tools and teams or departments, leaving gaps where manual tasks create bottlenecks and points of failure. Therefore, it's important to automate the steps that happen between the tools and connect the processes from end to end, ensuring consistent execution and tracking.

IDENTIFY AREAS WHERE AUTOMATION CAN HELP

Begin by identifying the ideal opportunities for automation. Look for frequent manual tasks that slow employee productivity. This may include onboarding employees in a fast and secure way, automating service commissioning or decommissioning, or automating simple service desk tasks such as password resets.

Consider whether the proposed automation meets the following criteria:

+ **Strategic –** Will automation of a particular task or process support strategic objectives or projects? Will it improve how business services are delivered or foster greater collaboration and insight between organizations?
+ **Policy-driven, compliant, and secure –** Does the proposed automation use established policies to enforce governance, eliminating the need to make manual decisions? Does it ensure compliance with established regulations? Is the proposed automation secure and limiting access to resources or tasks as per policy?
+ **Scalable –** Does the proposed automation improve the ability of the organization to scale up operations? Does it work at small- and large-scale volumes supporting growth initiatives without requiring a do-over? Does it scale across physical and cloud-based environments?
+ **Agnostic –** Will the automation support key infrastructure platforms, including networks, and databases, as well as physical, virtual, and multi-cloud servers? Will it help you connect processes that use different technologies?
+ **Reliable and consistent –** Will it quickly enforce task or process compliance, providing reliable and predictable results without manual intervention? If it encounters errors, will it help you make corrections or roll back unintended effects?
+ **Incremental –** Can you implement the automation in the current brownfield environment, leveraging existing resources, or does it require new infrastructure, processes, and people? Does it help you prove the value of the automation with each step in the project, or does it require months-long effort that delays benefits until the end of the implementation? While incremental, does each step in the automation contribute to the full lifecycle management of the resources, allowing you to expand the scope gradually and with lower risk?

Not all boxes will need to be checked before embarking on an automation initiative. In practice, the level of analysis should be commensurate with the size of the project. The key is to consider automation projects methodically, with stated, measurable goals that are established early on. This enables teams to drive toward their success criteria and prove their value to the organization.

AUTOMATION PITFALLS TO AVOID

Single-point function tools: Automation efforts that are tactical and leverage tools that solve a single problem often fail to consider fit with higher-level business objectives. Some organizations then try to overextend these tools with scripts or customization that consumes resources and binds them to static processes.

Freebies: Pressure to achieve more with less funding also causes many IT organizations to adopt automation tools simply because they're perceived to be free (e.g., open-source software or tools that come bundled from a vendor). However, the true cost of the tool should consider the skills required to make it run, the cost of integration with other tools in your environment, and the effort required to maintain and scale the tools.

Isolated approaches: Individual IT functions, such as server, network, and database administration are often automated through the use of extensive scripting that requires ongoing maintenance and can bind organizations to their existing infrastructure. Be careful to ensure that automation is done in a way that considers the impact on other related resources. Also, make sure that you do not create an automation platform that relies on subject matter experts who could leave at any time.

Ignoring process gaps: Automation projects often stay within a particular domain (e.g., servers or networks) and fail to address the gaps between processes, tools, or departments. This situation often results in process delays that require manual steps, such as additional data entry or approvals. Closing these process gaps can significantly improve the end-to-end process flow, shortening process execution time and creating more consistent documentation.

4 TOOLS TO DELIVER STRATEGIC AUTOMATION AND ENABLE YOUR DIGITAL BUSINESS SUCCESS

BMC data center automation tools allow you to master control and improve efficiency in managing your servers, applications, networks, databases, and processes. These tools will help your team take a strategic approach to meet the challenges of digital business, driving business value while reducing risk and ensuring compliance.

These tools include:

1. **TrueSight Server Automation:** Provides automated management, control, and enforcement of server and software configuration changes in the data center and the cloud to accelerate vulnerability remediation, increase regulatory compliance, and improve system reliability, while greatly reducing labor cost and effort.

2. **TrueSight Network Automation:** Automates network provisioning and configuration changes to accelerate new deliveries, improve security and compliance, and reduce network downtime, all while reducing administration costs for physical and virtual network infrastructure.

3. **BladeLogic Database Automation:** Automates common database administration tasks to dramatically improve speed, increase stability, and reduce cost and risk for your multi-vendor environment.

4. **TrueSight Orchestration:** Automates the gaps between the tools and processes that are often manual and time consuming, to speed service delivery, improve consistency and reliability, and enforce process compliance.

CUSTOMER STORY: THE STATE OF MICHIGAN

The State of Michigan leverages IT automation to provide more secure digital government services to its ten million citizens. With TrueSight Server Automation, server provisioning is now 30 times faster, server audits are 99% faster, and compliance has been streamlined.

“When we found the BMC toolset, we realized this met all of our requirements for what we were going forward with...We’ve been able to get employees out of the mundane tasks of doing everyday clicking through ‘next’ menus and we’re able to allow them to do what they really love, which is administering servers and being able to solve problems and become automation engineers.”

Tony Stevens, Cloud Automation Specialist

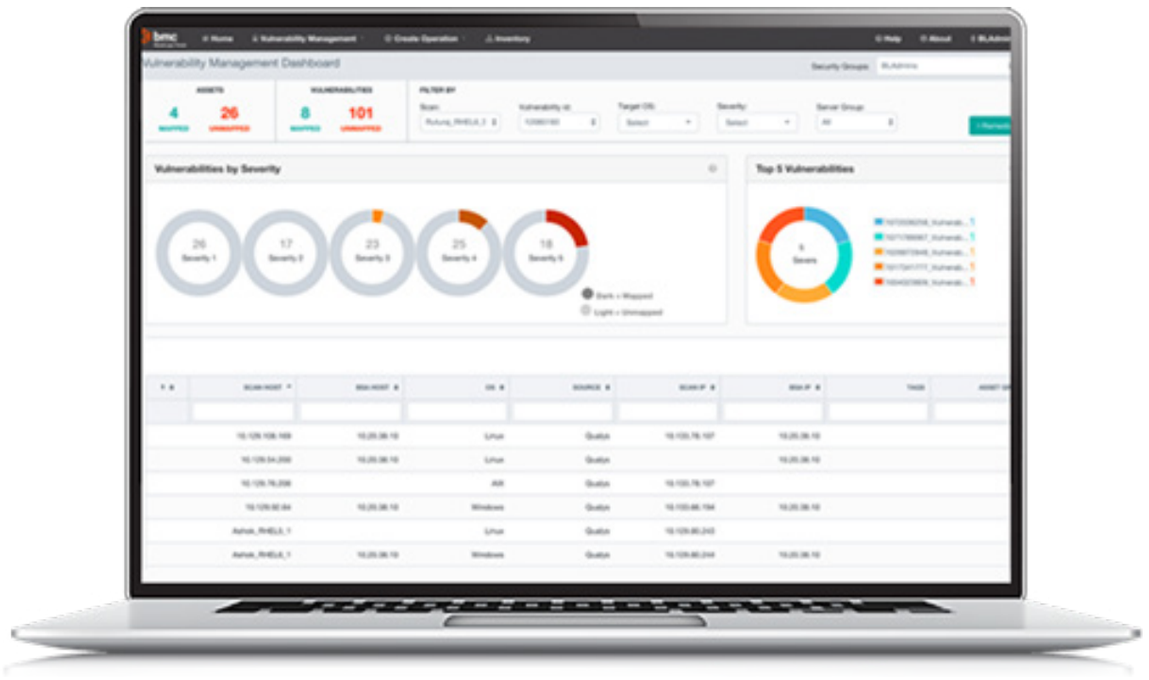
TRUESIGHT SERVER AUTOMATION

Quickly and securely provision, configure, patch, and maintain compliance of physical, virtual, and cloud servers.

+ Achieve regulatory compliance and audit readiness up to 95% faster with pre-configured policies for CIS, DISA, HIPAA, PCI, SOX, NIST, and SCAP
+ Drastically reduce the time required to assess the impact of change, develop remediation plans, and create closed-loop change documentation
+ Accelerate end-to-end patching to quickly close security vulnerabilities, even across complex, heterogeneous enterprise environments
+ Reduce deployment failures, and manage complexity and scalability across massive, heterogeneous environments

Maintain server compliance and improve IT Ops productivity by up to 200%.

Fujitsu streamlines cloud-based services with TrueSight Server Automation. Fujitsu reduced their 80 data centers to just 2, provisions servers 5x faster, and 3 people manage the entire cloud across 2 sites.

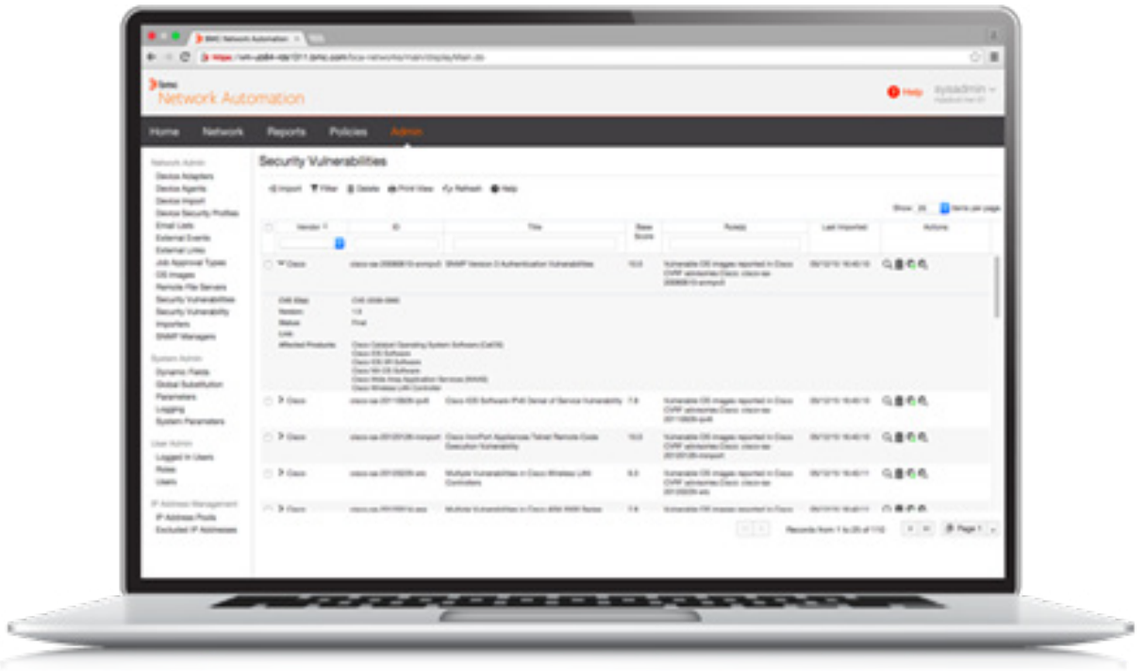


TRUESIGHT NETWORK AUTOMATION

Accelerate network changes to support digital transformation, expedite vulnerability remediation and compliance, and reduce network outages by automating configuration, change, and compliance processes.

+ Natively detect network vulnerabilities without the need for additional hardware
+ Perform scan-less audits across a diverse network environment without degrading performance
+ Apply mass changes to network configurations to support business changes
+ Remediate security risks and non-compliant devices in minutes
+ Guarantee compliance with best practices and regulatory standards

Collect scans for 1,000 devices in less than one minute and free up staff time for high-priority work.

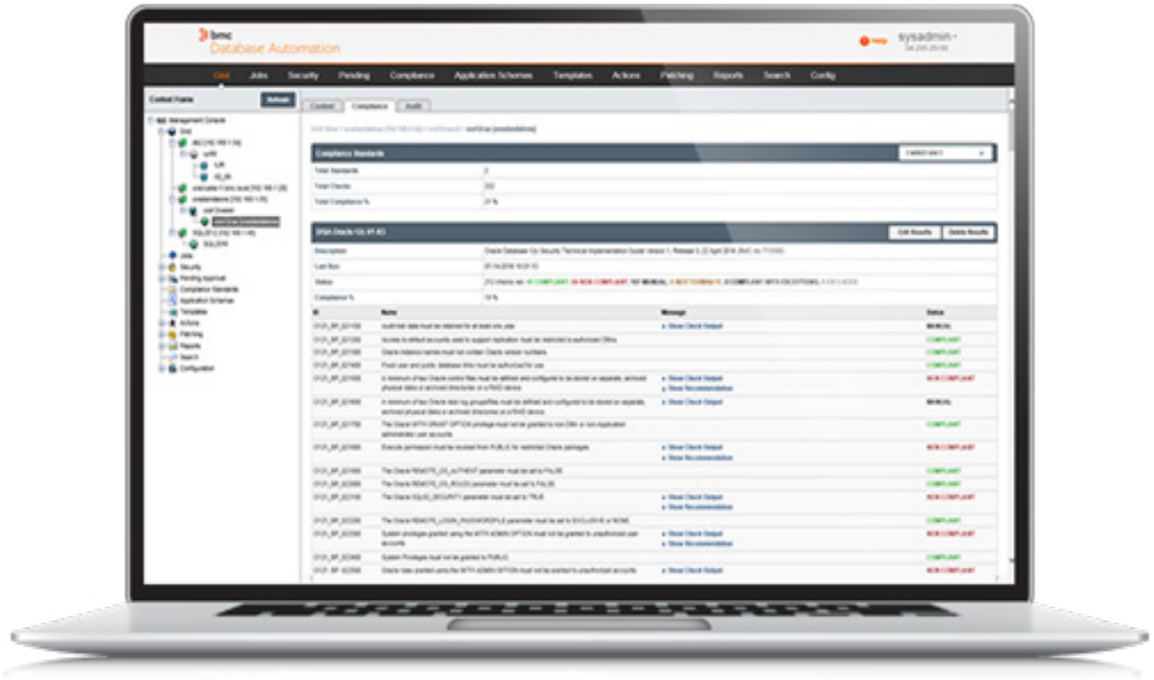


BLADELOGIC DATABASE AUTOMATION

Automate database administration tasks to accelerate digital change, automate compliance, and reduce downtime.

+ Ensure databases start and remain highly compliant without sacrificing speed
+ Automate compliance checks, completing over one hundred steps within a few minutes
+ Rapidly harden databases from a variety of vendors, improving staff productivity
+ Improve service by reducing downtime and resolving issues faster
+ Manage risk by enforcing new controls and policies

Cut database provisioning time by up to 95%, including clusters and multi-version database support. Reduce manual tasks for highly qualified resources by 85%.

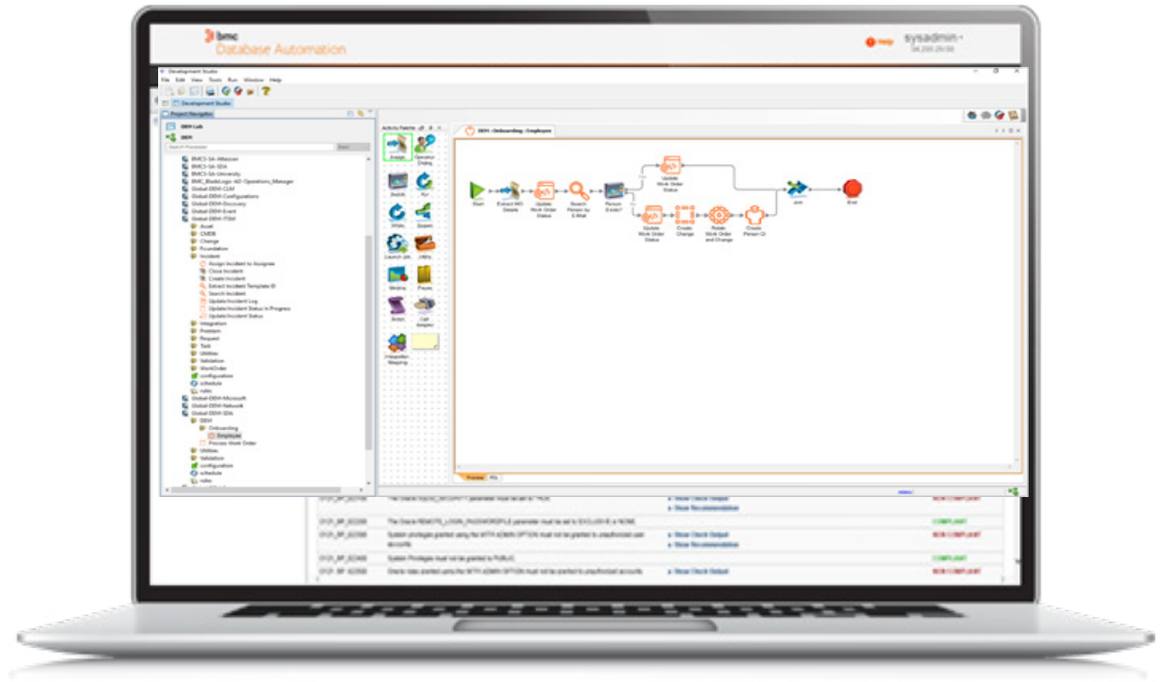


TRUESIGHT ORCHESTRATION

Automate the gaps between tools and domains to keep IT and business processes flowing and costs down by reducing manual steps and ensuring consistent and accurate execution.

+ Accelerate delivery of service requests by shifting manual tasks to automated self-service
+ Simplify process compliance and reduce administrative burden by creating change requests, executing tasks, and closing change records
+ Automate resolution of routine network and system events through event validation, enrichment, ticket opening, remediation execution, and ticket close
+ Integrate and reconcile service desk tickets across departments and partners for better data sharing, collaboration, and problem resolution

Reduce MTTR by up to 60% through automated event handling.



A CLOSER LOOK AT COMPLIANCE

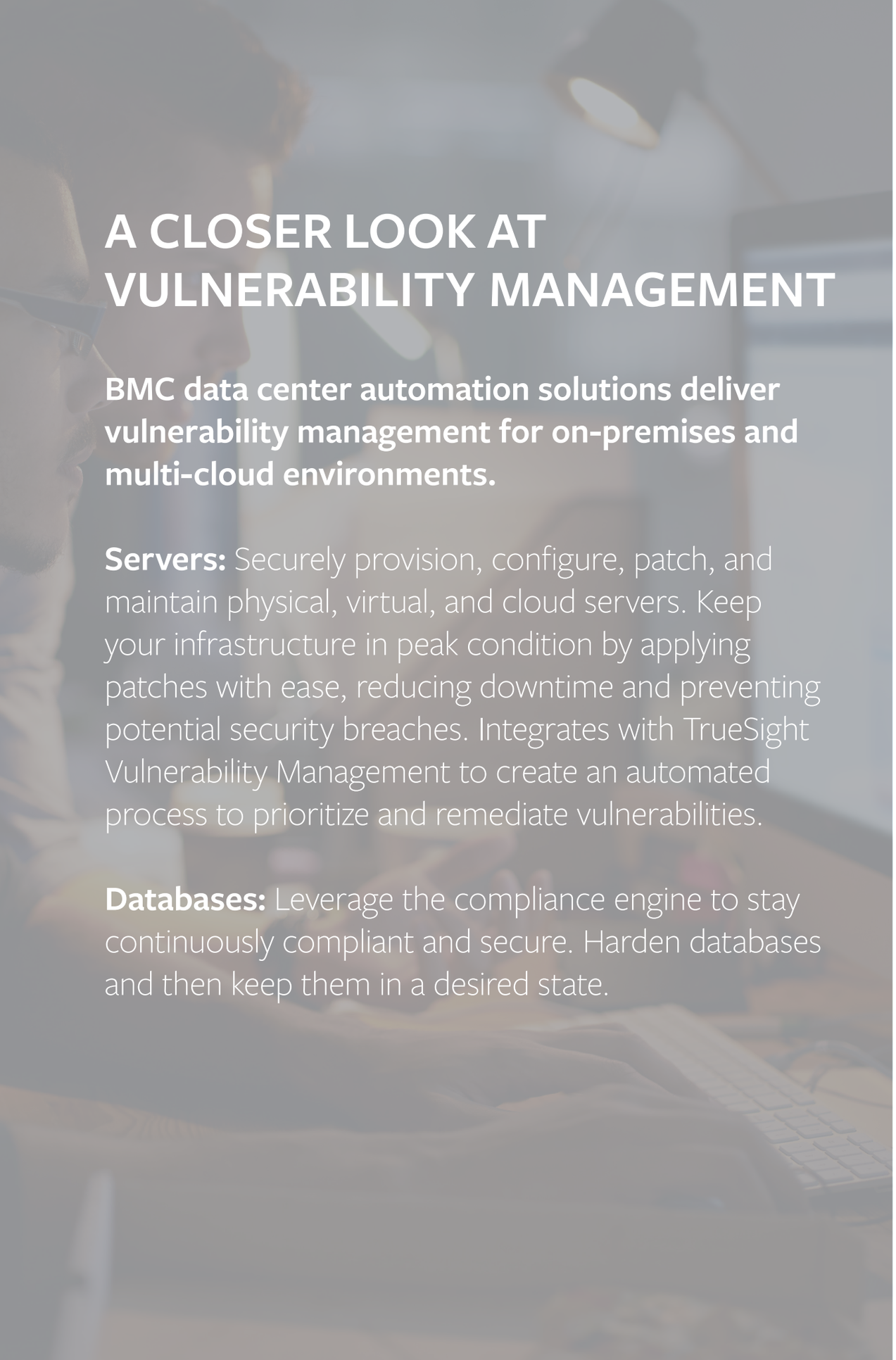
BMC data center automation solutions focus on these key areas of compliance:

Servers: Build, configure, and enforce configuration and software compliance faster and more reliably. Simplify governance with role-based access control, preconfigured policies for CIS, DISA, HIPAA, PCI, NIST, and SCAP. Integrated documentation simplifies repair, rollback, and configuration updates.

Networks: Quickly apply changes across thousands of heterogeneous devices fast to enable digital transformation and or enforce compliance. Use the compliance engine to apply standards for regulatory and security rules. Automate audit cycles with built-in compliance reports. Close the loop on compliance with integrated change management.

Databases: Improve efficiency, lower costs, and reduce risk by automating routine administrative tasks and compliance processes. The compliance engine ensures continuous compliance using industry standards, vendor security patches, and remediation. Apply the compliance engine to your databases to run compliance policies, associate remediation operations to specific rules, and exclude environments that are irrelevant.

Processes: Connect the domain tools and tasks with broader IT processes to accelerate change. Ensure consistent process execution and automatic change documentation for improved audit readiness, fewer errors, and less downtime. Connect nearly any tool and process with thousands of workflows and connectors to speed automation.



A CLOSER LOOK AT VULNERABILITY MANAGEMENT

BMC data center automation solutions deliver vulnerability management for on-premises and multi-cloud environments.

Servers: Securely provision, configure, patch, and maintain physical, virtual, and cloud servers. Keep your infrastructure in peak condition by applying patches with ease, reducing downtime and preventing potential security breaches. Integrates with TrueSight Vulnerability Management to create an automated process to prioritize and remediate vulnerabilities.

Databases: Leverage the compliance engine to stay continuously compliant and secure. Harden databases and then keep them in a desired state.

Networks: Natively perform scan-less and real-time detection of vulnerabilities across a diverse network environment without degrading performance. Cut exposure to breaches by continuously monitoring and managing the entire network infrastructure. Quickly remediate non-compliance through network firmware updates or configuration changes at cloud scale.

Processes: Connect remediation actions with change management activities to create closed-loop documentation and audit readiness.

A DIGITAL ENTERPRISE IS A MORE SUCCESSFUL ENTERPRISE.

Companies advancing their digital initiatives perform significantly better than companies that are less digitally mature.

43%

43% of companies saw growth by advancing their digital initiatives[1]

26%

26% increase in profitability realized from digital solutions[2]

25%

25% of companies will lose rank due to digital incompetence[3]

BMC data center automation solutions can deliver the speed, performance, security, and innovation necessary for the success of your enterprise's digital transformation.
To learn more, visit: http://www.bmc.com/it-solutions/truesight-server-automation.html.

Sources: [1], [3]Gartner; [2]Capgemini and MIT Study

About BMC

BMC helps customers run and reinvent their businesses with open, scalable, and modular solutions to complex IT problems. Bringing both unmatched experience in optimization and limitless passion for innovation to technologies from mainframe to mobile to cloud and beyond, BMC helps more than 10,000 customers worldwide reinvent, grow, and build for the future success of their enterprises.

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