



Multi/Hybrid-Cloud Initiatives for the Federal Government

Run Your Business as You Reinvent It

November 2020

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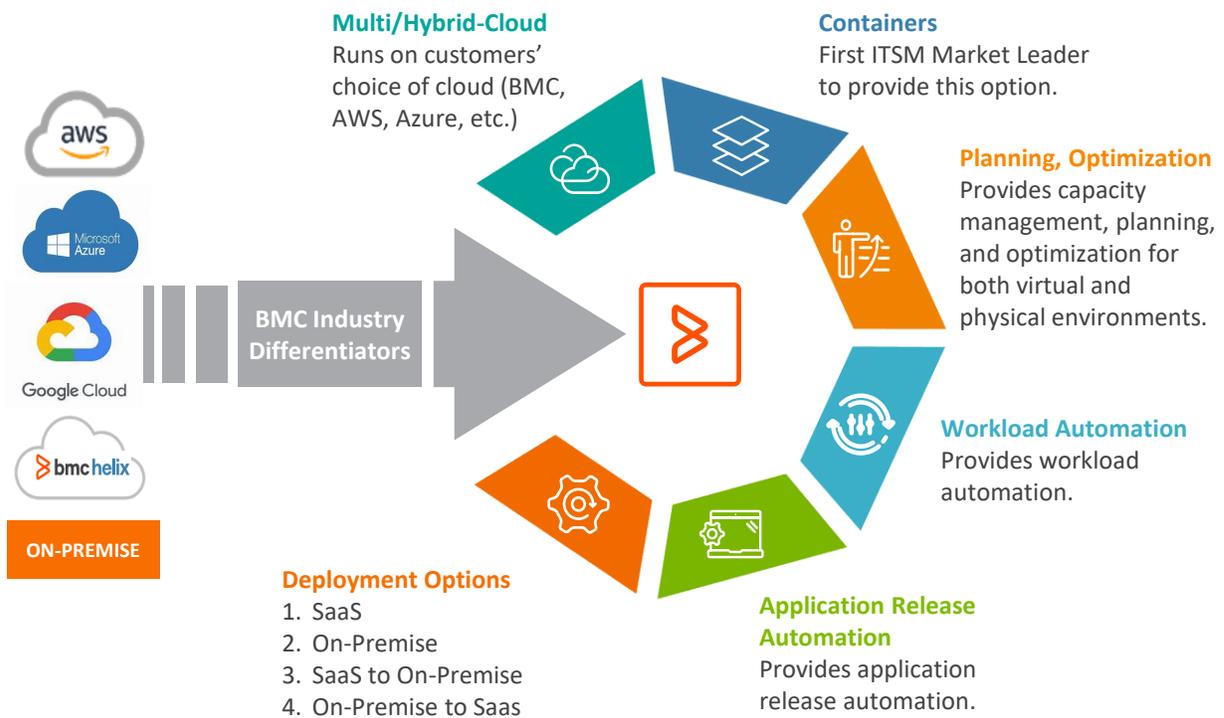
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EXECUTIVE SUMMARY

On May 12, 2017 President Donald Trump signed an executive order on cybersecurity mandating that all federal IT systems transition to the cloud.¹ Prior to this, in 2011, Federal CIO Steven VanRoekel, released a memorandum presenting guidelines to establish a process towards developing a trusted relationship between the federal government and Cloud Service Providers (CSPs), in what is now known as FedRAMP.² FedRAMP creates and manages a core set of processes to ensure effective, repeatable cloud security for the government.

Federal organizations have since prioritized moving on-premise assets and applications to the cloud to comply with current mandates, as well as align government organizations with the future of technology. Tomorrow’s government will be hybrid in nature, with one foot in the cloud, while the other remains on-premise. Organizations and agencies that want to keep up with the rapid pace of technology today must embrace multi/hybrid-cloud⁴ to prepare for this.



“By 2025, 80% of enterprises will have shut down their traditional data center, versus 10% today.”³

– Gartner

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Along with multi/hybrid-cloud as a top initiative, pressure is growing for government agencies to modernize the services they provide in order to effectively fulfill their stated missions. Agencies and organizations have now identified a critical need: Keeping pace with a new Digital Economy.

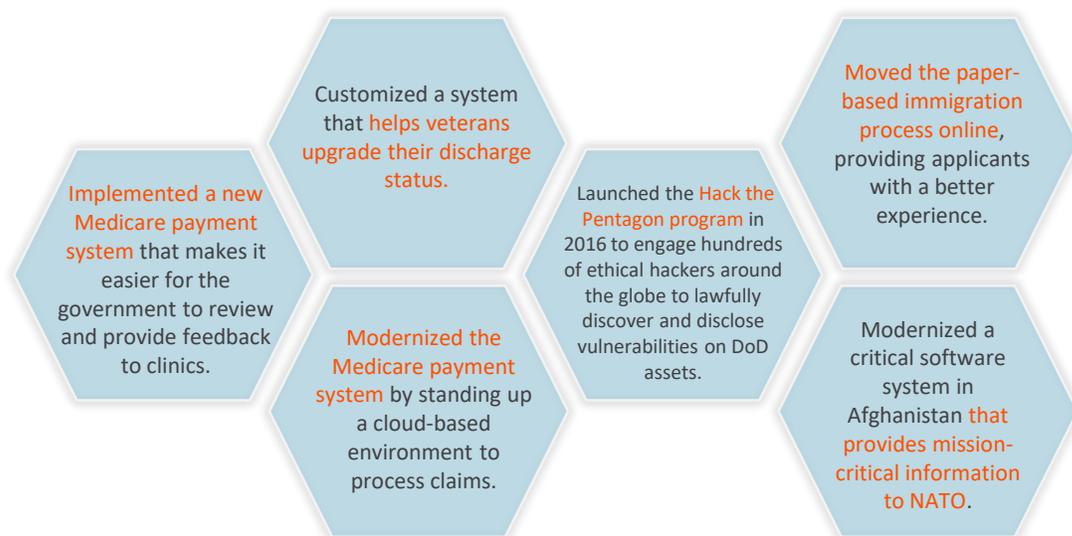
Examples of this can be seen with previous government initiatives, such as the Digital Government Strategy⁵ and Cloud Smart Strategy⁶ which highlighted the need for 'intuitive self-service applications that are accessible for all Americans and government employees anywhere and anytime.'⁷

Further pressure to transform is driven by the need to reduce operational inefficiencies, protect data and privacy, and share more information faster across agencies and the end users.

Millions of people use federal government services every day. Veterans apply for healthcare, schools apply for education benefits, and small business owners apply for grants to name a few. To serve citizens well, the government will need to continue its focus on integration: Connecting data and process flows to find new solutions, enhance security, and create personalized and engaging citizen experiences.⁷ To connect the data, it needs to be in one place, where it can then be analyzed. To do so requires multi/hybrid-cloud resources that can connect the entire environment.

Demand for 24/7 self-service, mobile, and on-demand services that serve our nation's employees and citizens are the new standard. Today, information must be available anywhere, anytime, and on any device in the same way that private businesses provide services. New services must be intuitive, secure, and based on open systems that maximize flexibility.

Here are a few ways, the US government has worked to transform digitally in the past several years⁸



OUR UNDERSTANDING

HOW DO I GET TO THE CLOUD?

For organizations moving to the cloud, BMC is a proven leader in aligning and preparing organizational priorities, initiatives, and costs to move to the cloud. Preparation is fundamentally the most important migration step that defines successful cloud infrastructure scoping, transition, and data management, as well as facilitating the ease of process adoption for the end users. At a high level, for most federal organizations, preparation includes key activities that allow an assessment of optimal use for the cloud environment. These activities include, but are not limited to:

	Decide which application or services can be hosted on a classified versus unclassified environment. <i>(Classified government information is most often hosted/maintained on-premise environment)</i>
	Decide on a cloud type, BMC provides public, hybrid, and private (on-premise) cloud solutions.
	Develop a migration schedule for the applications and/or services to be hosted on the cloud.
	Apply a forecast plan for use and scaling capacity management, as well as the performance metric tracking. <i>(BMC offers a cloud cost solution that works in conjunction with its cloud type offerings)</i>
	Assign a Point-of-Contact (POC) to serve as a liaison between your government organization and BMC Software.

Regardless of your current state, a cloud team should be created within your organization to vet requirements, establish a plan, and finalize request to our BMC cloud liaisons.



THE BMC SOLUTION

AUTONOMOUS DIGITAL ENTERPRISE

The ADE comprises intelligent, interconnected, technology-enabled, value-creating systems that operate with minimal human involvement across every facet of the organization and its ecosystem of partners. It is the evolution of growth-minded organizations looking to deliver value with competitive differentiation enabled by agility, customer centricity, and actionable insights.

The roles of people in the enterprise will evolve to positions that require human judgement and support the autonomous systems that run the business. Work in the future will shift as technology takes on menial and repetitive tasks across the government, allowing employees the ability to focus on higher-value responsibilities.

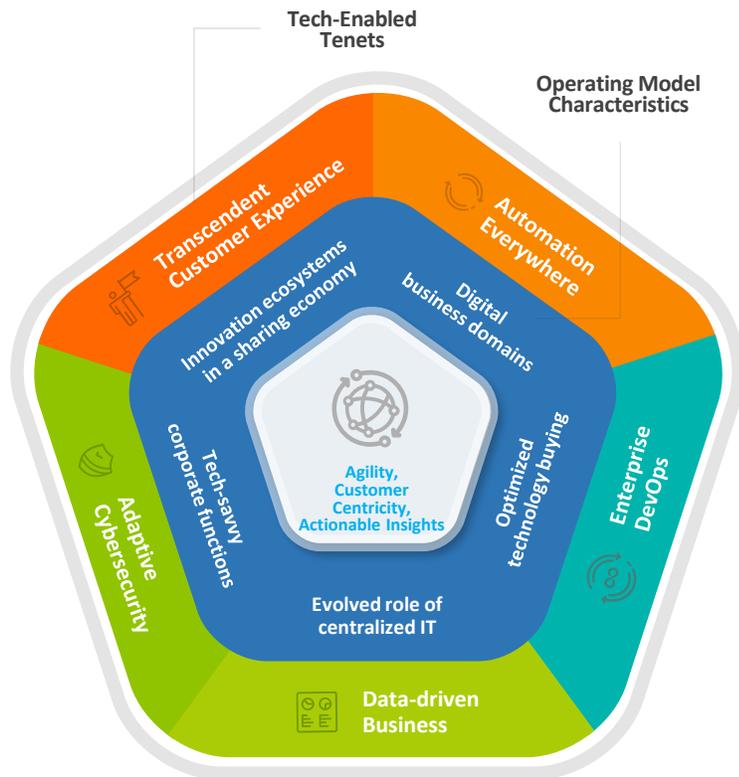
In order to support the evolution to an ADE, federal organizations and agencies will need to adopt a next-generation model, embracing new approaches to talent management, evolving IT organizations, working across the value stream with an ecosystem of technology partners, and optimizing technology buying across the organization.

In addition to an innovation mindset, **successful federal organizations will have three common traits:**

Agility : They create new operating models that integrate operations and technology into standalone organizational domains. This approach allows organizations to run and reinvent themselves—they can be truly disruptive in one area while still supporting traditional businesses.

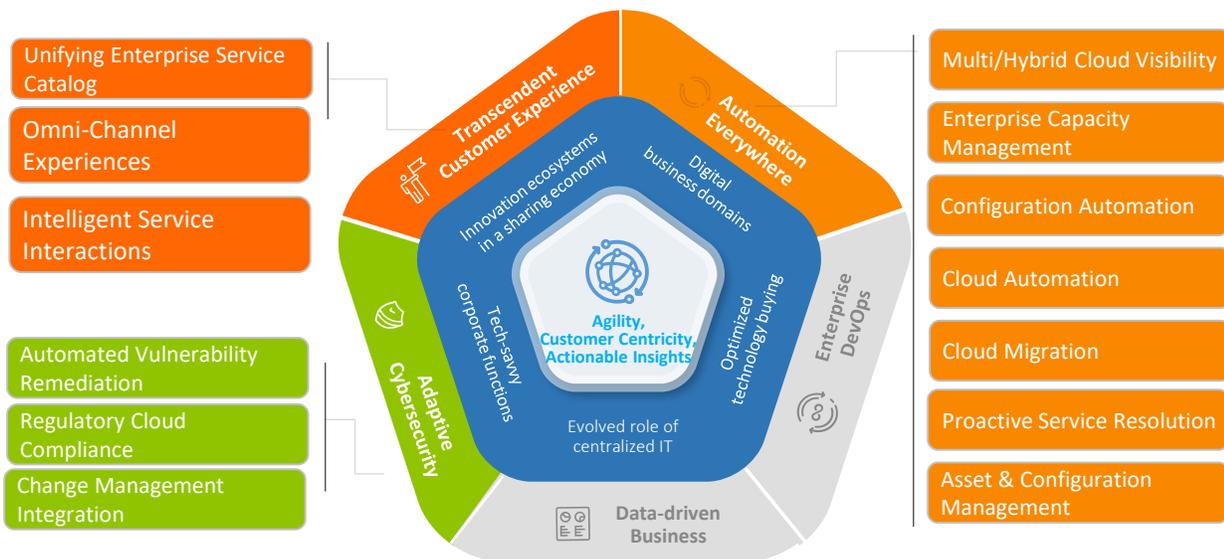
End-User Centricity : They leverage a connected economy to ensure they can meet and exceed end user expectations. By creating an ecosystem that uses technology to cater to every touchpoint of the end user journey, these organizations seem to anticipate their end users requirements and deliver the goods and services needed at the right time—via the end users preferred channel.

Actionable Insights : They know how to turn data into insights that drive actions which serve and anticipate end user needs. Organizations that know how to pull all the relevant information, capabilities, and people into the same place can act quickly and efficiently in making the right decisions.



CLOUD CHALLENGES

With the cloud came new architectures. Today, containers and microservices are the foundation of new digital applications due to their flexibility and scalability. This leads to a higher complexity difficult to manage, as well as a risk of excessive use of resources, in the cloud that impact the budget of an organization. In order to successfully use multi/hybrid-cloud services, the six key management challenges that must be addressed are: Cost, performance, visibility, security, automation, and migration.



BMC MULTI/HYBRID-CLOUD SOLUTIONS

- **Multi/Hybrid-Cloud Migration:** Ensure smooth migrations to the cloud with guidance on how to assess what to migrate, what it will cost, and how to keep it secure.
[Professional Services](#)
- **Multi/Hybrid-Cloud Cost:** Cloud cost governance
[BMC Helix Cloud Cost](#)
- **Multi/Hybrid-Cloud Service Management:** Broker incidents, changes, and releases across cloud providers.
[BMC Helix Platform](#)
[BMC Helix ITSM](#)
[BMC Helix Digital Workplace](#)
- **Multi/Hybrid Cloud Visibility:** Comprehensive visibility into multi-cloud environments.
[BMC Helix Discovery](#)
- **Multi/Hybrid-Cloud Performance:** Ensure the speed and performance of applications delivered to end users from complex multi-cloud environments.
[TrueSight](#)
- **Multi/Hybrid-Cloud Automation:** Automate orchestration of data, applications, and infrastructure across different cloud environments speeds innovation and time to market.
[Control-M](#)
- **Multi/Hybrid-Cloud Security:** Align the activities of security, operations, and development teams to maintain security and compliance.
[TrueSight Automation for Servers/Networks](#)
[BMC Helix Cloud Security](#)

HOW DO I MOVE MY APPLICATIONS TO THE CLOUD?

Careful and deliberate planning is essential for any successful cloud migration. Proper planning begins with a comprehensive and detailed inventory of enterprise assets, including the mapping of these otherwise disparate elements as a service. If agencies don't know what they have, how assets are connected, and how they are used, the movement of enterprise assets to the cloud becomes a very high-risk venture.

Technologies such as [BMC Helix Discovery](#) provide agencies with the ability to model all asset dependencies in minutes, providing a single trusted source of information to proactively manage IT spend and plan for migration to the cloud no matter what solutions you currently use.

With such a solution, departments and agencies will be able to:

- See **assets and dependencies** in a single-pane-of-glass, whether on-premises or in the public or private cloud
- **Empower security operations** to perform essential prevention and detection
- Start **mapping** from any piece of information—multi-cloud, software, hardware, network, storage
- **Reduce service outages** with predictable change and configuration management

The initial and comprehensive identification of assets and enterprise services allows agencies to prioritize migration planning, sustainment and begin the journey on a continuum of automation and cloud maturity. Building on this baseline identification of assets federal agencies can leverage technologies, such as [BMC Helix Optimize](#) to understand the true utilization rates of the underlying architecture for each service.

This utilization insight is necessary to right-size the service deployment in the cloud which is critical to avoiding over-provisioning and the related overspending when migrating to the cloud. Critical services can be prioritized, and appropriately resourced, desired outcomes and service level agreements defined, and unnecessary redundancy eliminated.

ENTERPRISE USE CASES:

Asset & Configuration Management

Multi/Hybrid-Cloud Visibility



Respondents are implementing either a multi-cloud or hybrid cloud strategy.

With the cloud came new architecture, i.e., containers and microservices, which constitute the foundation of new digital applications due to their flexibility and scalability. This leads to a risk of excessive use of resources in the cloud that can impact organizational budgets. Cloud users are focused on optimizing cost and cloud usage. With 73% percent of the votes, cost optimization is the top cloud initiative.⁹

DevOps

HOW MUCH WILL THE CLOUD COST?

Once government organizations, even at a program level, identify the assets, applications, databases, etc., that they desire to move to the cloud, the next logical step is to understand the economic consequences of such a decision. The federal government rightly knows that they can reduce their costs of power, space, and cooling by leveraging cloud resources. However, what does the cloud actually cost an entire organization? How can agencies forecast, manage, and budget their cloud costs?

To further understand this, cloud adopters within the federal government need to utilize cloud vendor-independent solutions such as [BMC Helix Cloud Cost](#) in order to forecast, optimize, and manage multi/hybrid-cloud resources and costs. This technology will aid agencies to do the following:

- Track and manage cloud costs with visibility across the multi/hybrid-cloud infrastructure
- Simulate migrations and deploy the right resources at the right cost
- Eliminate wasted spend by right-sizing resources and terminating idle resources
- Prevent budget overruns with insight to changes in spending
- Maximize savings by effectively managing the use of reserved instances

The 2019 Gartner CIO Survey found that 39% of government organizations plan to spend the greatest amount of new or additional funding in cloud services.¹⁰

HOW DO I MAKE IT SECURE?

The sheer scale of cloud environments is well beyond human scale, and no approach that does not rely on sophisticated automation will be able to keep pace with the increasing number of threats in today's environment.

[BMC's TrueSight family of solutions](#) is already in widespread use across the government. TrueSight supports any cloud environment, facilitating increased security, automated patch management, and integration with enterprise service desks for change and configuration management.

Additionally, TrueSight lowers costs and provides the reporting and oversight that leaders need to know – what's functioning, what's available, and the ability to document SLA performance across the enterprise.

ENTERPRISE USE CASES:

Cloud Migration

Enterprise Capacity Management

Automated Vulnerability Remediation

Regulatory Cloud Compliance

Change Management Integration

HOW DO I MANAGE AND MAINTAIN MY CLOUD ENVIRONMENTS?

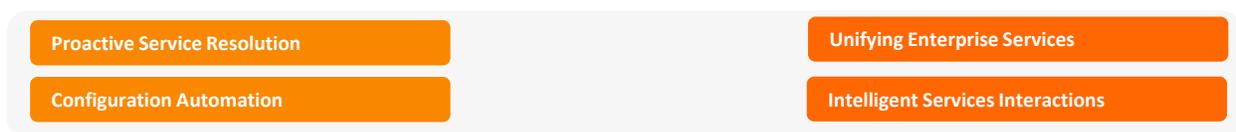
Once your organization has moved to the cloud, it will be vital to have a set of processes and tools in place to help manage and maintain the cloud environments throughout the IT lifecycle. Typical management responsibilities include; managing infrastructure issues, managing large amounts of data, user requests, managing security risks, in total, the prospect can be daunting. Federal organizations need the ability to manage complex environments while identifying any changes in the infrastructure to ensure all risks are properly assessed. Automating service management processes helps to manage approved changes to infrastructure while maintaining compliance.

Integrated operations management provides the ability to monitor critical services and components, and address issues before end users are affected. This helps organizations maintain a proactive strategy when managing the services they provide in the cloud. How do you manage the large volumes of data to move in the cloud? How do you provide a new service by moving applications from a dev/test environment to the production cloud environment? In the past, these activities would require a large effort by development and operations teams, however, with workload automation tools, tasks can be automated, allowing agencies to develop and deploy other services in a much more rapid manner. So, what do I need to govern the cloud and provide continuous improvement?

IT service management platforms, such as [BMC Helix ITSM](#), help organizations; manage requests for services from internal and external users of the cloud, automate validations to change the environment, and help IT managers keep track of valuable assets, and provide an impact view that allows support services to identify and prioritize critical services and components.

Integrating BMC Helix with Operations Management allows organizations to provide proactive monitoring of services from end users, as well as service provider perspectives. With the ability to integrate with the service management process, automation can streamline the creation and management of the ticketing process and reduce the time it takes to respond to and resolve issues. In many cases, even before the end user identifies there is an issue.

ENTERPRISE USE CASES:



respondents feel the cloud is more secure than the data center.¹¹

The challenges of multi/hybrid-cloud computing must be addressed. Releasing digital services in a multi- cloud environment can be slowed by manual workflow processes. Automating orchestration of data, applications, cloud services, and infrastructure across different cloud environments speeds innovation and time- to- market.

Cloud

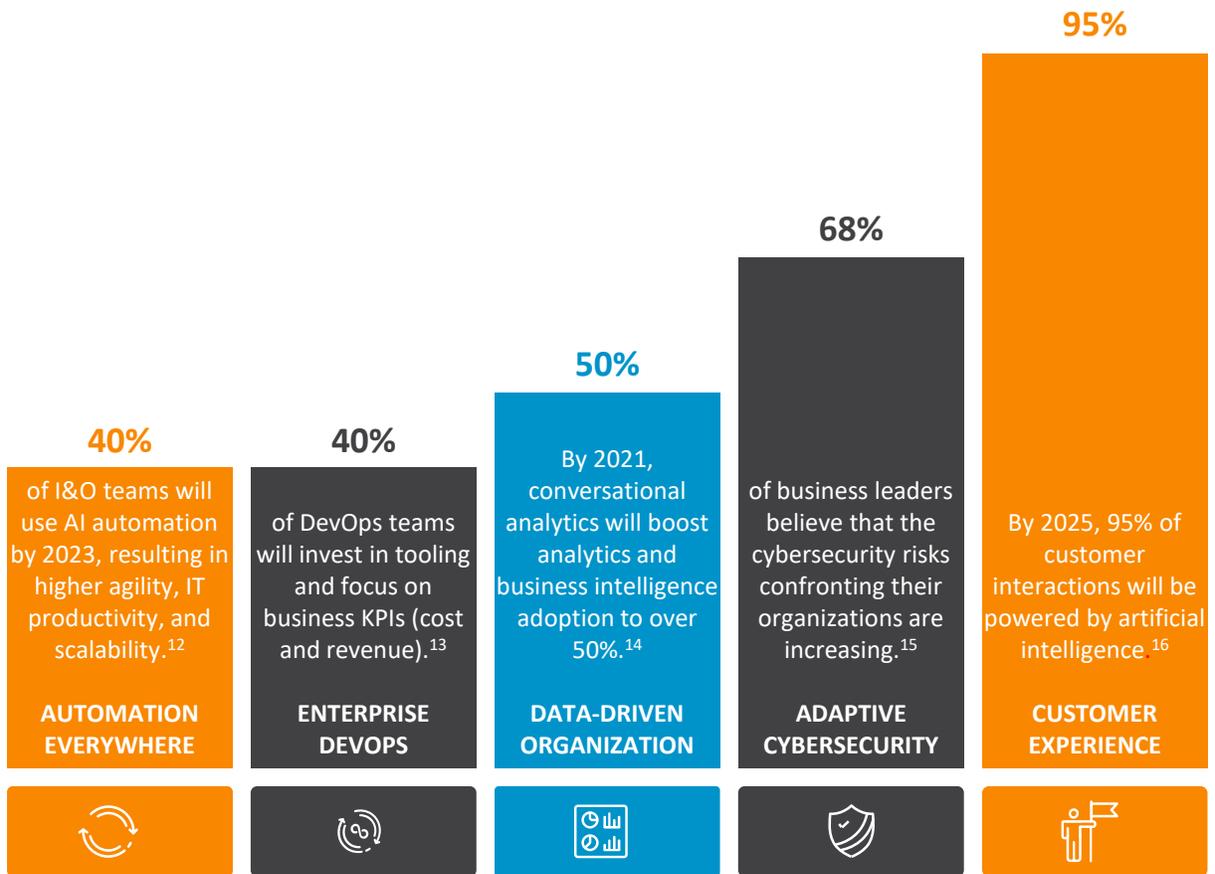
CASE FOR CHANGE

AUTONOMOUS DIGITAL ENTERPRISE: BMC'S VISION

Today's government faces fundamental challenges driven by the needs of a new working environment, technology, data, devices, and networks; forcing digital enterprises to adapt and evolve.

To lead the path to digital transformation, government organizations will have to combat these challenges by evolving into an *Autonomous Digital Enterprise*, where intelligent, interconnected systems operate with minimal human involvement across every facet of the organization and its ecosystem of partners.

Systematically working towards this goal by establishing and improving capabilities across five core technology tenets (i.e., Automation Everywhere, Enterprise DevOps, Data-driven Business, Adaptive Cybersecurity, and Transcendent Customer Experience), will put organizations on the path to becoming an Autonomous Digital Enterprise.



THE PATH FORWARD

A CALL TO ACTION: THE ROAD AHEAD AND NEXT STEPS

The Future of Hybrid-Cloud Computing

BMC is a market leader supporting the new Hybrid-Cloud manifestation of today's blended computing environments. The majority of federal agencies and large departments currently, and in the future, will continue to support a blend of On-Premises, Private, and Public Cloud(s). BMC is uniquely positioned to support the efficient planning, operations, and management of a wide range of deployed platforms. This unique capability ensures our customers have the information they need for reliable and efficient operations along with the delivery of critical resources, regardless of location or hosting platform.

For over 35 years, BMC Software has consistently found ways to modernize, innovate, and exceed client expectations. BMC is platform agnostic and supports multi/hybrid-cloud agendas to simultaneously support both on-premise and cloud environments, which makes our company uniquely positioned to help the government leverage existing infrastructure while migrating to the digital age. Our portfolio of highly ranked products can enable government agencies and departments to deploy, manage, and optimize IT services, whether mainframe, open systems, virtual, cloud-based, or mobile.

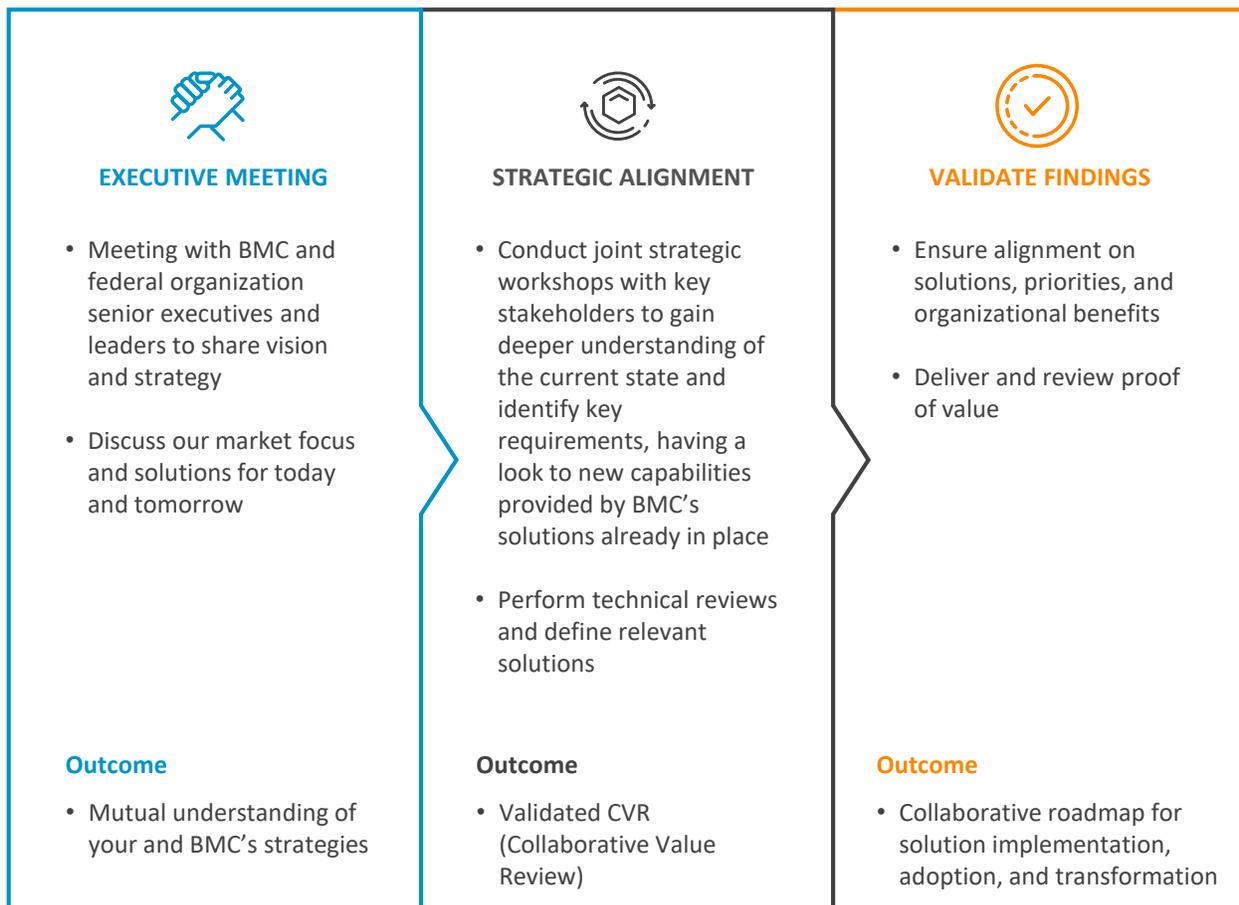
BMC can support your journey to Digital Transformation.



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We would like to discuss with federal executive leadership how you can leverage BMC’s expertise in achieving your vision and strategy, and how such an organizational and technology partnership can meet your current and future needs. Because there are many different corporate agendas, organization objectives, and in-flight initiatives, it is impossible to come up with a one-size-fits-all recommendation for hybrid initiatives.

BMC’s recommendation is to start with a collaborative value review to baseline the current state of your enterprise automation estate.



WHY BMC?

THE VALUE OF PARTNERING WITH BMC

As tech-savvy millennials become the predominant demographic, both as employees and customers, government agencies and departments must constantly innovate to remain competitive. Meanwhile, the security, stability, and performance of back-end systems continues to be top-of-mind for industry executives.

BMC brings unparalleled experience and a proven record of excellence to support specific organizational needs for flexible solutions that react quickly to the changing needs of customers, employees, and shareholders.

 <p>BMC's market leadership and financial strength support significant R&D investment. An extensive customer and partner ecosystem delivers assurance of a continued long-term partnership.</p>	 <p>BMC is a business partner, not just a software supplier. Our customers benefit from our continual focus on innovation—helping you stay ahead of digital transformation trends, leveraging this to your business advantage.</p>	 <p>BMC's proven, credible roadmap and history of organic growth and innovation ensure customers will benefit from new capabilities in a predictable, evolutionary manner.</p>	 <p>BMC is the worldwide leader in transforming companies into modern digital businesses.</p>
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*We look forward to our partnership
as you continue your journey of Digital Transformation.*

SOURCES AND RECOMMENDED READING

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WHY BMC?



500+
Patents Granted
or Pending



6000
Employees in 30
Countries



500 Partners
Serving Mid-Sized
Companies to Major
Enterprises



Versatile
Solutions from
Mainframe
to Mobile



~\$2B
Annual
Revenue

Federal Government IT Solutions

Execute your strategies for IT Cost Control and Innovation



10,000+
Customers Worldwide



Leader
Gartner 2020 Magic
Quadrant for ITSM
Tools



40 Years
Of Leadership in IT
Management Solutions



84%
Of Forbes Global 100
Companies powered
by BMC



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Investment in
Innovation Since
Inception

About BMC

From core to cloud to edge, BMC delivers the software and services that enable over 10,000 global customers, including 84% of the Forbes Global 100, to thrive in their ongoing evolution to an Autonomous Digital Enterprise.

BMC - Run and Reinvent

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