

# Continuous Optimization:

The Next Evolution in Capacity, Resource, and Cost Optimization



# **Disruption.** It's everywhere!

We're living in a world of disruption that makes it challenging for organizations to optimize their IT resources accurately and efficiently. The volume of data is growing exponentially, as is the number of applications, device types, and users — along with their expectations. Technology disruption occurs as companies expand their IT infrastructure onto hybrid cloud, multi-cloud, Kubernetes, pods, containers, microservices, and more, often trying to integrate legacy systems and applications into the environment as well. In a parallel trend, lines of business are now able to develop low- and no-code apps alongside the IT department, leading to organizational disruption.

### The challenges that keep IT leaders up at night

Nearly 9 in 10 (86%) of 150 IT decision makers

across the U.S., UK, Germany, and France surveyed by IDG find it "very challenging" or "extremely challenging" to optimize their IT resources to meet changing business demands adequately. Survey respondents cited the following factors as their top challenges:<sup>1</sup>

› **53%** 

An inability to scale IT services to meet demand

> 47%

Difficulty predicting capacity required to meet peak demand

> 47%

Lack of visibility into resource usage and cost

# The conundrum: Balancing risk vs. cost

As complexity and volume grow, visibility across the entire ecosystem shrinks. Companies are getting by with a mixed bag of on-premises and cloud vendor-specific capacity management tools that don't communicate with one another. Because they lack visibility, IT organizations and lines of business face a lose-lose choice: They can spend more and over-provision resources to be sure they're available when demand requires them. Or they can make an uninformed guess at what resources they'll need, which can save money but risks frustrating users with poor performance. With on-premises systems, over-provisioning can mean making big bets on capital expenses by purchasing infrastructure such as servers and storage that are underutilized, under-provisioned, or not used at all. In the cloud, operational costs rise with the consumption — and waste — of computing and storage resources.



IT organizations see an average 36% reduction in usage with resource management solutions.



The IDG survey reveals how IT cost-management solutions can help organizations maintain and manage the balance between risk and cost.

Survey respondents indicated the top benefits of their current IT cost-management solutions are:



### 71% Improved clarity around billing to help proactively manage resource costs

**71%** Reduced risk during cloud migration

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### **55%**

Measurable improvements in IT efficiency

# Stop thinking capacity allocation. Start thinking resource optimization.

Having a toolset bulging with disconnected tools is clearly not the answer. What you need is a way to see resource usage and demand across your entire infrastructure to ensure you have the capability necessary to support applications, users, and business strategy with high service quality and responsiveness. Continuous resource optimization results in greater productivity and efficiency while reducing risk around migrations and strategic company initiatives, improving clarity into capital and operational costs as well as vendor billing, and making the business more agile. It also improves the accuracy of forecasts so you can plan and position for the future.

Get the visibility into resource usage and costs you need when launching new campaigns and customer-focused services, rolling out new applications, and migrating workloads to cloud, Kubernetes, pods, and containers.

### A mixed bag of tools

The IDG survey indicates that IT professionals must juggle multiple tools to manage capacity and cost of their hybrid cloud environments, making end-to-end visibility all but impossible, slowing remediation response time, and making it harder to accurately anticipate demand.

# ° **76%**

Use a combination of cloud-based and on-premises capacity management solutions

# · 63%

Use both on-premises and cloud-based IT cost-management solutions



# Can't see the forest for the trees: Gaining end-to-end visibility

Getting a snapshot of your infrastructure isn't particularly helpful in an environment where VMs and containers quickly spin up and down according to demand. You need ongoing visibility into the entire IT infrastructure — physical, virtual, cloud, Kubernetes, microservices, and container-based applications — so IT can easily add, remove, or adjust compute, storage, network, and other resources to assure service levels and align resources with business initiatives.

You should also have ready access to service views, resource modeling, Al-driven analytics, detailed reporting, and what-if simulations to understand future resource requirements, control the timing and cost of new capital and operating expenditures, and commit to firm deployment dates. Self-service dashboards and reports can inform project owners, business owners, and other stakeholders and eliminate surprises around service levels, costs, or implementation schedules.



48% of IT professionals say "better visibility into potential issues or disruptions" is a top priority when choosing a resource and cost-management solution.

# Resource optimization is everyone's responsibility

While resource optimization is more important than ever, the responsibility for it has shifted in many organizations. Large enterprises in highly regulated industries, such as financial services and insurance, continue to have dedicated capacity planners, but modern resource optimization applications like BMC's Helix Continuous Optimization make it easier for service owners and end users to run "what-if" simulations and reports to determine how much of their resources they need.

# The gold standard: Predictive insight and prescriptive action

Intelligent predictive analytics leverage machine learning (ML) and artificial intelligence (AI) to align infrastructure resources dynamically with the demands of applications and services — even those based on Kubernetes, microservices, pods, containers, and multi-cloud resources. They should also identify opportunities for optimization, such as overallocated pods and containers, oversubscribed nodes and clusters, and other potential bottlenecks (to ensure service levels and reduce potential service slowdowns and interruptions).



One of the most important functions of resource optimization is anticipating future needs without overprovisioning. IT organizations need the "Three P's":

Predictive failure analysis

Predictive resource allocation

Predictive optimization

# Crystal ball or SWAG method vs. accurate resource planning

Every business has periods when demand peaks: Retailers have Black Friday, health insurers have open enrollment, and everyone has mission-critical product launches. Planning for these moments requires input from multiple sources: marketing, sales, customer sentiment — and not just historical data. Best-in-class optimization tools offer AI- and ML-driven predictive analytics and business KPIs to determine the IT resources you need to support increases in business demand due to special events or business growth. What-if modeling provides insights to the best resource configurations, location, and cost so you can make informed decisions and prevent application performance slowdowns or failures.

# Just right: Aligning resources with demand and budgets

The more accurately and efficiently you can right-size resources with demand, the less of a need you'll have for over-provisioning that wastes resources. It also means reducing the risk that your services, applications, end-users, and customers will experience performance issues related to cost concerns and under-provisioning. Actively aligning resources with demand improves service while reducing both cost and risk, rather than pitting one goal against the other. This can result in significant savings without sacrificing service, workload, and application performance.



Using cloud-based IT costmanagement solutions helped reduce cloud service provider costs an average of 32%. Deploying a cloud-based IT resource management solution offers these advantages, according to IDG survey respondents:



**69%** The ability to reserve IT resources for new applications and services when needed

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Access to AI-fueled insights to better predict resource usage and potential savings

47%

Scalability — the ability to contract or expand deployment easily

# What to look for in a service assurance solution

A modern resource and cost optimization solution enables enterprises, particularly IT and LoB users, to keep pace with changes in resource demands while still assuring service performance and availability. Whatever solution you choose should offer these key capabilities:

- ✓ Visibility across the enterprise, including physical, virtual, container, Kubernetes, and cloud infrastructure resources
- Predictive saturation forecasting to understand the health of business services and avoid failures and slowdowns
- **Resource reservation** to ensure applications are deployed on time
- Consolidated views of application and infrastructure metrics to maximize performance and minimize costs
- Forecasting and modeling to anticipate changing service demand levels
- Self-service views of cost, budget, and resources
- ✓ Visibility into the risk, efficiency, and cost of IT resources for business services and applications

Automated optimization recommendations and actions based on AI-fueled insights and ML

### The three R's

Dennis Newberry, BMC director of product management, has a model for ensuring resource optimization he calls the three R's, which a modern resource optimization tool can facilitate and even automate:



**Reclaiming waste:** Look for overprovisioned VMs, idle VMs, or unattached storage volumes.



**Right-sizing:** Look to optimize the workload to the resource. Make sure you're matching the demand to the resources you're allocating to that demand.



## The BMC difference: Service Assurance through Continuous Optimization

BMC Service Assurance and Optimization drives accurate alignment of resources, applications, and performance with business requirements and changes in business demand. It is a key component of the award-winning BMC Helix integrated family of products. Integrations include the BMC Helix Platform, which leverages a microservices architecture to provide rich visualizations for expanded visibility and context, persona-based dashboards, centralized reporting, shared data, and cross-launch capability across the platform. The product also integrates with BMC Helix Discovery, which provides end-to-end visibility into resources as well as the relationships and dependencies between them.

**BMC Helix Continuous Optimization** gives enterprises; including IT, LoB, end-users, stakeholders, and decision makers the ongoing insights needed to balance resources with application demands and provide cost-efficient business service assurance.

- + Service assurance. View usage and performance of the infrastructure across on-premises, multi-cloud, Kubernetes, containers, and pods. Apply advanced, predictive analytics to identify optimization opportunities. Minimize potential change-related resource problems with what-if simulations.
- Business-aware analytics. Forecast saturation levels.
  Understand how configuration changes affect application performance. Model disaster scenarios to gain insight into business continuity.
- + **Reservations.** Deploy applications and services on time. Ensure you make the most of what you own and have reserved.
- Visualize business service resources and costs. View onpremises, physical, virtual, and cloud resources and associated costs for services and applications.

- + **Optimize resource and spend.** Leverage AI- and ML-driven analytics for resource and cost optimization. Automate right-sizing of infrastructure and terminate unused resources.
- + Plan for changes in business demand. Use predictive analytics and business KPIs to support demand periods or business growth. Create what-if models to determine the best resource configurations, location, and costs.
- + Control cloud migration and Kubernetes workload costs. Give business owners and project leaders control over their cloud and Kubernetes workload expenses with self-service views.

# Key benefits of BMC Helix Continuous Optimization

### + Reduce CapEx and OpEx

Defer or eliminate capital expenditures by 30% or more

- + Reduce cloud migration risk and costs Reduce cloud spend with right-sized recommendations for migrating workloads
- + Increase visibility and resource alignment Gain insight for transforming IT infrastructure
- + Reduce time-to-value Realize fast ROI with average payback in nine months
- + Increase performance and SLAs Prevent application slowdowns and failures
- + Increase business agility Support changes in business demand
- + Ensure accuracy and accountability Keep budget owners and stakeholders informed



# Continuous optimization checklist: Beware, not all solutions are the same

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Continuous optimization across on-premises, multi-cloud, Kubernetes, microservices, pods, and container-based applications	~		
Predictive saturation forecasting	✓		
IT resource reservations	<b>~</b>		
Consolidated views of applications and infrastructure	~		
Forecasting and modeling	<b>~</b>		
Self-service views of cost, budget, and resources	~		
Risk, efficiency, and cost visibility for services and applications	~		
ML- and Al-driven automated optimization recommendations	~		



### What do I do now?

Here are six steps you can take to begin your journey toward maximizing resources and optimizing costs.

Identify potential targets for increasing resource optimization across your infrastructure. Include on-premises, legacy, cloud, Kubernetes, pod, and containerized environments.

**Calculate costs** for existing resources, services, and applications. Are there opportunities for savings that won't impact service levels? Evaluate cloud migration opportunities using "whatif" modeling to determine the most cost-effective environment before implementation.

Leverage predictive analytics to identify how business services will perform under future conditions and identify ways to avoid service slowdowns and interruptions. Locate "blind spots" where AI and ML could provide actionable insights to increase application and service performance and IT staff productivity without increasing cost. Collaborate with line of business stakeholders to ensure you're aligning resources with business initiatives, implementation timelines, service level agreements, and budgets.

## Resources

### **Gartner Magic Quadrant for IT Service Management Tools**

#### A Recognized Magic Quadrant Leader for the seventh year in a row!

In its 2020 Magic Quadrant for IT Service Management Tools, Gartner evaluates 11 vendors on the ability to execute and completeness of vision. Download the report to learn:

- Why BMC was named a Magic Quadrant Leader in IT Service Management Tools
- Analyst strengths and cautions of all 11 participating vendors
- How to think about key evaluation criteria to guide your decision-making process

Get the detailed analysis and insight you need to make the best ITSM choice for your organization. Download the report >

### **Gartner Critical Capabilities for IT Service Management Tools**

#### **Discover where BMC Helix ITSM scored highest**

The best ITSM tool is the one that delivers on the critical capabilities that drive ITSM excellence. See how Gartner scores ITSM solutions and learn more details on how BMC Helix ITSM scored.

- Check out why BMC Helix scored highest in two Use Cases: Agile & DevOps Support (3.66/5) and Advanced-Maturity I&O (3.82/5)
- See how integration with DevOps and support for agile workflows are now critical for ITSM
- Compare evaluations for the critical capabilities that matter most

Make the right ITSM choice for your organization — to drive optimal value for your business. **Download the report >** 

### Service Assurance & Continuous Optimization product page

Learn about our solution for continuously optimizing IT resources and costs for business service assurance. **Visit the product page >** 

### Service Assurance and Optimization datasheet

Get more details about continuously optimizing IT resources and costs for business service assurance. **Download the datasheet >** 

### IDG White Paper: Meeting the Challenges of Optimizing IT Cost and Capacity Management

New IDG research highlights advantages of cloud-based IT resource management solutions in improving clarity, reducing risk during cloud migration, and making measurable improvements in IT efficiency. **Read the White Paper >** 

### **BMC Helix Continuous Optimization web page**

Learn more about our cloud-based solution for continuous IT resource management and service assurance. Visit the product page >

### **BMC Helix Continuous Optimization datasheet**

Get the details about how you can proactively plan, manage, and optimize IT resources for business service assurance. **Download the datasheet >** 

### **BMC Helix Discovery web page**

Learn more about automatically discovering assets and their relationships with up to 100% accuracy. **Visit the product page >** 

### **BMC Helix Platform web page**

Learn more about connecting across domains for visibility, observability, and Aldriven actionability. Visit the product page >



#### About BMC

BMC delivers software, services, and expertise to help more than 10,000 customers, including 92% of the Forbes Global 100, meet escalating digital demand and maximize IT innovation. From mainframe to mobile to multi-cloud and beyond, our solutions empower enterprises of every size and industry to run and reinvent their businesses with efficiency, security, and momentum for the future.

### **Run and Reinvent**

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