

Meet the Challenges of the Digital Age with Control-M

Overview of Control-M capabilities designed to drive your digital transformation



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Executive Summary

In today's digital-first business world, it's essential to keep pace with the rapid evolution of digital technologies. That means bridging your current infrastructure, data, and applications with modern digital-first technologies. It also means delivering applications and new business services faster by supporting DevOps and big data initiatives while ensuring security and scalability.

You can meet this challenge by embracing Digital Business Automation—the next wave of IT automation. Digital Business Automation builds upon and bridges existing infrastructure, data, and application technology platforms with new digital-

first technologies and processes. A [recent BMC survey](#) of 650 IT decision makers in 12 countries found 92 percent believe adopting Digital Business Automation across the enterprise is a business imperative—the only way to keep up with technological advancement.

Control-M provides a powerful vehicle for transitioning to Digital Business Automation. With Control-M, you can move beyond traditional workload automation to take advantage of modern IT technologies and processes that enhance service delivery, boost employee productivity, and accelerate application deployment.



CONTROL-M: POWERING THE TRANSITION TO DIGITAL BUSINESS AUTOMATION

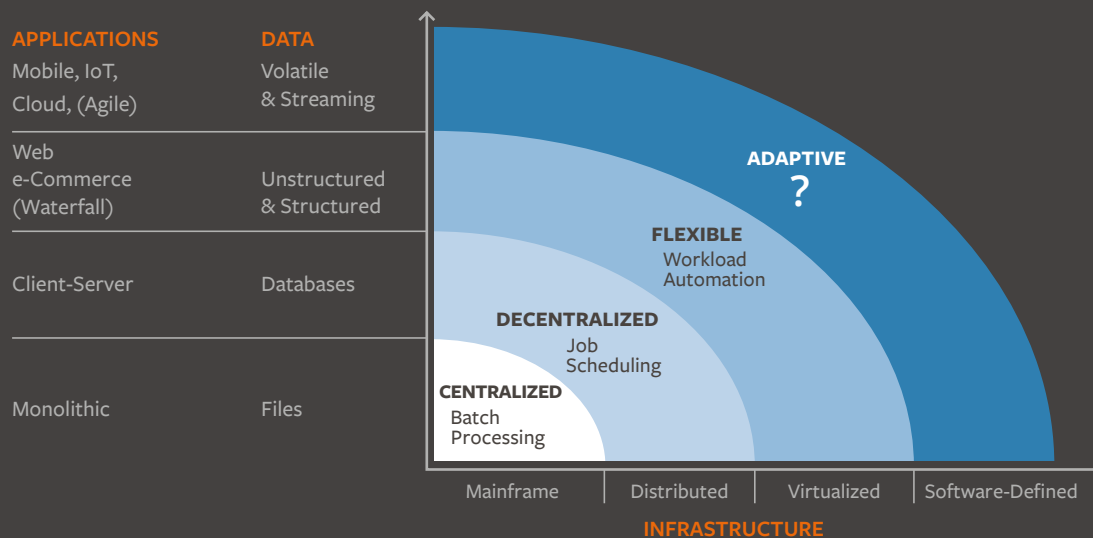


Figure 1. Digital Business Automation—the fourth wave of IT automation

BMC has continually enhanced Control-M over the years, evolving it from its origins as a mainframe batch scheduler to a distributed job scheduler and then to a workload automation solution. Now BMC has further evolved Control-M, enhancing it with capabilities that power the transition to the next wave of IT automation. There are four major phases in the evolution of Digital Business Automation. Figure 1 shows the characteristics of applications, data, and infrastructure in these phases.

To transition to Digital Business Automation, you must address three major challenges, as illustrated in Figure 2:

- **Increasing infrastructure complexity** resulting from multiple operating platforms; private, public, and hybrid clouds; and rapidly evolving technologies including software-defined architectures, NoSQL, containers, and the internet of things
- **Many disparate data sources** with multiple formats, and unstructured data
- **Accelerated applications**, meaning rapid-fire delivery of new applications and updates while maintaining reliability and security

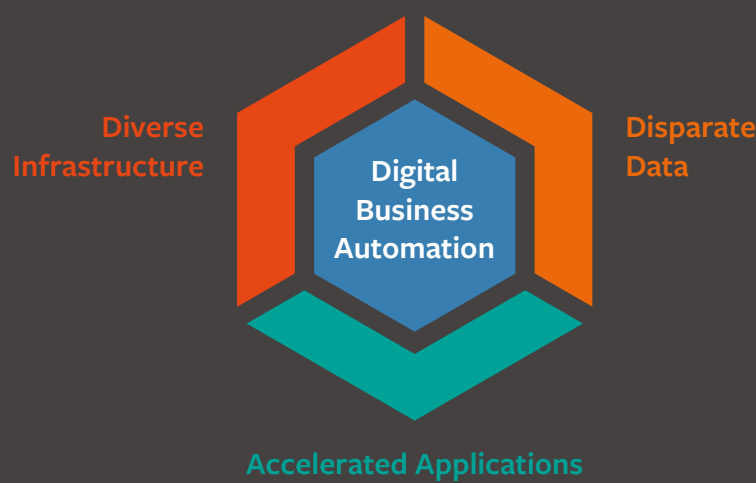


Figure 2. The Three Challenges of Digital Business Automation

Control-M automates and manages business application batch services at the nexus of infrastructure, data, and applications to address these challenges. Moreover, Control-M integrates with and builds upon your existing infrastructure, data, and application technology platforms. Consequently, you can leverage your infrastructure investment while transitioning to modern technologies in an incremental fashion. This approach also allows you to keep business processes running reliably and securely throughout the transition.

“We harness world-leading systems to provide our clients with an extraordinary service. Control-M allows us to integrate and unify all these systems where no natural integration existed.”

Tasliem Williams, Senior Manager of System Administration, Maitland Group

The payoff is substantial. Control-M simplifies and automates complex workflows to help you deploy new services faster, while significantly reducing operating costs. BMC customers report that Control-M reduces workflow deployment time by up to 80 percent and slashes administrator time from months to days.

“When we look at how much work we push through our environment running multiple platforms, we estimate that we would need 30 full-time personnel working seven days a week to do the amount of work that our team of six does with Control-M.”

Don Snios, Senior Manager of Operations and Scheduling, Ingram Micro

A number of capabilities clearly distinguish Control-M from other automation offerings, making it the leading solution in the Digital Business Automation category. [Learn more >](#)

SOLUTIONS FOR DIVERSE INFRASTRUCTURE

Control-M on the Cloud

Innovations by public cloud providers allow provisioning of highly scalable and flexible platforms and infrastructures for customers with little more than a single click. With time to provisioning now reduced to minutes, companies are looking for ways to achieve the same speed when installing and configuring applications that run on the cloud platform. Many of these applications include batch processes that must be deployed and managed along with the application.

Control-M on the Cloud enables you to extend comprehensive Control-M automation functionality to a broad range of public, private, and hybrid cloud environments. Control-M automates creation and management of business application workflows and file transfers across multi-cloud and on-premises infrastructures with a single view, end-to-end enterprise scheduling platform. With Control-M, you can take advantage of the improved agility and scalability of cloud ecosystems.

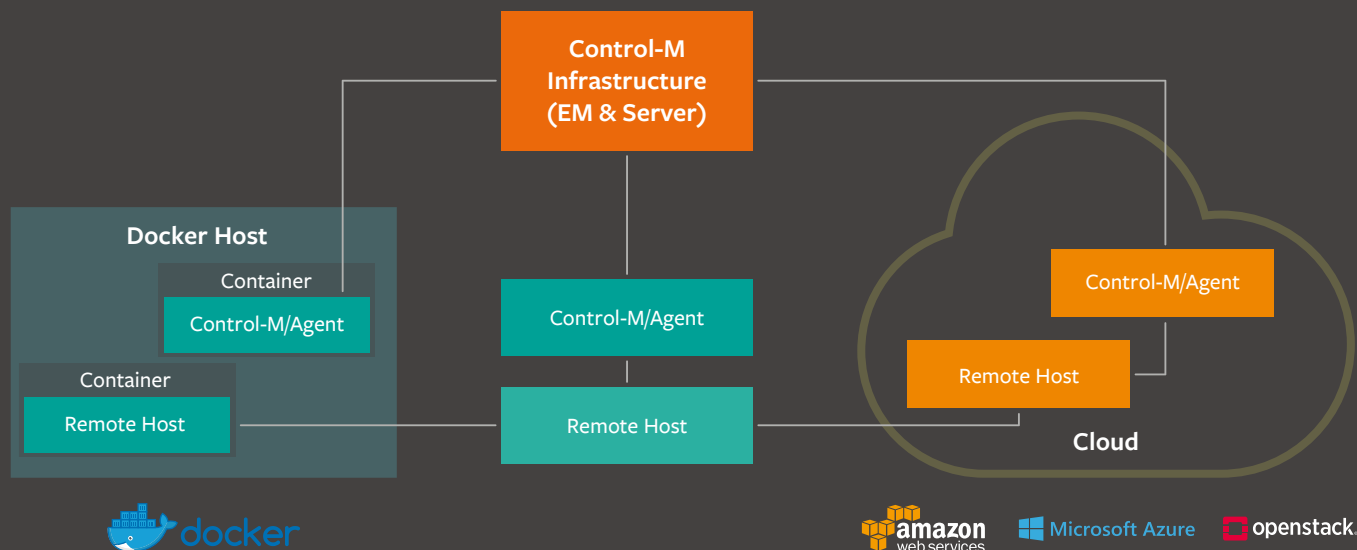


Figure 3. Control-M on the Cloud

As shown in Figure 3, you can easily provision, install, and configure the full Control-M stack on Amazon Web Services (AWS) and Microsoft Azure in minutes, using interactive deployment or DevOps automation tools. You can also take advantage of modern container technologies. Control-M on the Cloud integrates with Amazon Web Services (AWS), Relational Database Services (RDS), Elastic Computer Cloud (EC2) and PostgreSQL Databases, and is available for download in the AWS and Azure marketplaces. You can provision Control-M through AWS Cloud Formation, Chef, or other provisioning tools. [Learn more >](#)

Control-M Self Service

Traditionally, when users need to run business-related workloads or determine their status, they must involve IT staff by phone, email, or service desk tickets. These queries add to IT's already significant workload, soaking up valuable staff time, driving up costs, and causing delays in responding to these business users. This approach drives down everyone's productivity.

With Control-M Self Service, business users can get the answers they need immediately and on their own—an essential capability in the digital-first era. Control-M Self Service provides a web-based portal that business users can access on demand, from any device. Users can execute jobs from a catalog or check their status without assistance from the scheduling staff. Control-M Self Service gives them the visibility, control, and responsiveness they need in a way that's easy to understand.

BMC has found that organizations that leverage Control-M Self Service can reduce the number of service requests by up to 60 percent, which frees up time for the scheduling staff to focus on activities that improve customer satisfaction and business results. [Learn more >](#)

“Control-M enables us to get more done in less time and minimize risk by running jobs more reliably. And with Self Service and the mobile interface for our project managers, we can do a better job of serving our customers while increasing our own productivity.”

Wilson Lucas, Applications Support Manager, Instituto de Informática

Control-M Batch Impact Manager

The impact of a batch process failure or latency on the business isn't always immediately obvious. Yet you can't afford to delay your response, especially if the failure could interfere with a critical business process, you need to react quickly before the business is disrupted.

Control-M Batch Impact Manager provides the visibility and information you need to determine if a business service is at risk of a delivery delay. It detects potential delays and errors in batch workload processing and proactively determines how the delay or failure will affect systems and business users. You can take corrective action before business services are affected, thereby minimizing disruptions. What's more, you can prioritize issues based on their business impact to maximize IT efforts. [Learn more >](#)

“Batch Impact Manager tells us if a problem is coming so we can suspend parts of the system and do mitigations instead of stopping everything. It’s an early warning system that lets us intervene in time to complete all the jobs within the batch window.”

April Johnson, Senior Engineer and Project Manager, Seattle Public Schools

SOLUTIONS FOR DISPARATE DATA

Control-M Managed File Transfer

Businesses are collecting massive amounts of data from a growing number of diverse sources. Reliable and secure delivery of this data when and where it is needed has become a business imperative. Traditionally, IT has used multiple tools and methods such as scripting, proprietary applications, and manual work to manage file transfers. This fragmented approach, however, does not scale well, requires considerable internal support, and limits integration and automation. What's more, it increases the risk of issues that disrupt business operations.

Control-M Managed File Transfer provides a single system to build, schedule, monitor, and manage secure file transfers in the same straightforward way as other Control-M batch jobs. You can securely automate file transfers from a central interface, integrating them with other applications and activities for greater convenience, visibility, and control. Because file transfers are included in the overall enterprise view (along with other batch jobs), you can monitor file transfers in the context of the applications and business services they support. [Learn more >](#)

“With the increased requirement for big-data-fueled applications, we need to deliver files reliably and quickly. The new dashboards and enhanced search functionality that come with Control-M Managed File Transfer are very popular with our first- and second-line support staff, and we anticipate that this will result in up to a 75 percent reduction in time spent on customer inquiries.”

Andrew Taylor, Batch Operations Team Leader, British Sky Broadcasting

Control-M for Big Data/Hadoop

Big data and data analytics are giving enterprises unprecedented visibility into their business environments and customers. As the label implies, big data involves massive volumes of data, much of which is unstructured. The data comes from many internal and external sources, including enterprise data warehouses, relational databases, traditional applications, and social media streams. Because data sources are diverse and applications that use the data are complicated, integration is cumbersome and often done with scripts that are time-consuming to create and difficult to manage.

To address the big data challenge, many organizations are turning to the Hadoop framework. Control-M for Hadoop supports the Hadoop framework by enabling the IT staff to automate and manage complex workflows and large-scale data, speed data consolidation from internal and external sources, and move the data into Hadoop for analysis. As a result, the big data team can access processed and analyzed data sooner than with manual processing. With Control-M for Hadoop, you can develop, schedule,

manage, and monitor Hadoop workflows in the same way as all other enterprise workloads. As a result, you can implement big data projects faster and more accurately. [Learn more >](#)

“In the Connected Vehicle Age, our vision for big data is to add a new dimension of insight-driven service that enables customers to get the maximum value from our product. We’ve just begun to tap the power of Control-M to help us use big data to enhance remote diagnostics, improve vehicle quality, and protect critical resources from unauthorized access, among other initiatives.”

Todd Klessner, Senior Data Operations Specialist, Batch Operations, Navistar

Control-M Workload Archiving

When problems occur, information contained in output and logs generated by batch jobs can help on-call programmers, business analysts, and IT staff resolve them. In addition, this data is essential for achieving and demonstrating compliance with auditing and governance regulations. Organizations, however, often find it difficult to gather, store, search, and retrieve this data efficiently. As a result, issue resolution times may increase, and it may be difficult and time-consuming to demonstrate audit and regulatory compliance.

Control-M Workload Archiving quickly delivers historical output and logs for problem analysis and audit compliance to all interested stakeholders in an easy-to-understand format. The result is faster diagnosis and repair of issues and simplified audit and compliance processing. [Learn more >](#)

SOLUTIONS FOR ACCELERATED APPLICATIONS

Control-M Automation API

In today’s digital-first environment, enterprises must deliver new applications and application updates in rapid succession without jeopardizing reliability or security. That requires transitioning applications and updates from development to operations quickly and with the quality and scalability needed to deploy and operationalize them as enterprise-ready applications. But rapid development efforts often stall during testing, debugging, and deployment. Problems occur when batch workflows aren’t managed in the same way as other application package components, such as source code and environment configuration objects. The result is inconsistency between the production environment and the development and test environments.

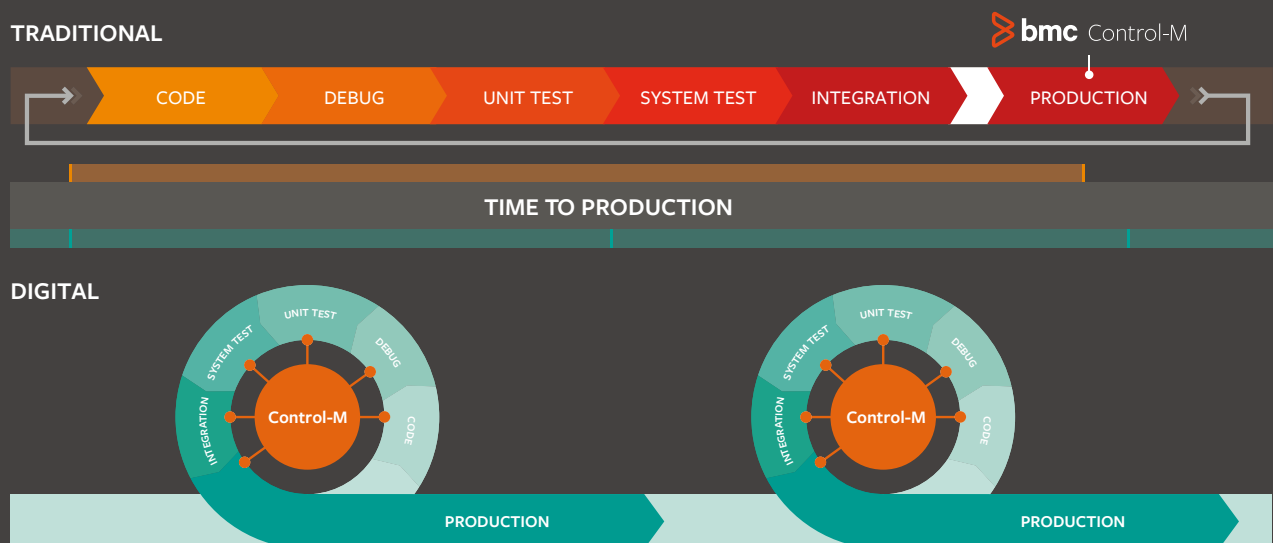


Figure 4. Extending the Power of Control-M Automation

With Control-M Automation API, developers create, test, and manage batch service workflows by embedding Jobs-as-Code best practices into the agile application release process. This helps shift left the development of jobs in the software development lifecycle with a set of programmatic interfaces that let developers and DevOps engineers use Control-M through a self-service portal within the agile application release process. As Figure 4 illustrates, Control-M Automation API extends Control-M automation to all phases of the development lifecycle.

Control-M seamlessly integrates with most modern continuous integration/continuous delivery (CI/CD) automation tools that support the DevOps process. As a result, DevOps engineers can continue to use familiar tools. By building automation and consistency into the development process, Control-M accelerates the movement of applications and services from concept to production. [Learn more >](#)

“A Jobs-as-Code approach is paramount for anyone doing agile development and DevOps. We have been using Control-M for years in operations, and now the product gives our developers full ownership and control of their jobs in a coding environment that is familiar to them, so they can define the business processes they want to automate in production.”

Robert Stinnett, Automation Analyst, IT Operations, Carfax

Control-M Application Integrator

IT organizations are under tremendous pressure to deliver more applications at a faster pace. To implement workload automation required to connect these applications with their supporting batch processes, IT has had to work with multiple toolsets and write custom scripts or proprietary code. This process has—increased costs and impeded IT’s agility in responding to business needs.

Control-M Application Integrator is a workload automation design tool that easily connects applications and processes. With Application Integrator, you can tailor workload automation to any application natively, without resorting to scripts or proprietary code. Application Integrator provides robust support for 40 of the most popular applications out of the box, and includes tools to customize integrations with thousands of other applications. The solution is supported by the BMC Application Integrator Hub, a community that enables customers and partners to find, submit, and share open application templates or “job types.”

[Learn more >](#)

With [Control-M Application Integrator](#), you can accelerate innovation, improve services for critical applications, and extend your reach through crowd-sourced jobs types and community experts. [Learn more >](#)

“BMC’s Workload Automation team continues to deliver innovative solutions that create customer value, such as Control-M Application Integrator, with the added benefit of the Application Hub community exchange.”

Rich Ptak, Managing Partner, Ptak Associates

Control-M Workload Change Manager

Many application development organizations employ manual processes for creating and modifying workflows and moving them into production. These tasks are often handed over to scheduling specialists who are also responsible for managing other enterprise workflows. Manual processes hinder efficiency in delivering new applications and application updates.

Using Control-M Workload Change Manager, developers can quickly build and modify workflows that adhere to automatically enforced, enterprise-defined standards—on their own. Automation features manage important quality control functions, while

schedulers retain authority for approving workflows and putting them into production. Consequently, the solution decentralizes the workflow development process without compromising quality or control. By simplifying and accelerating the creation of batch application workflows, Change Manager helps reduce costs, accelerate delivery of business services, improve service quality, and increase business agility. [Learn more >](#)

Control-M for SAP

Without automation, creating or making changes to SAP jobs is difficult and complex. Scheduling new jobs is challenging because you have to deal with multiple dependencies. Even simple requests require scripting and testing before going into production. SAP provides only basic tools that are of little help in today's complex, digital-first environments.

Control-M for SAP is an SAP-certified solution that automates and simplifies the scheduling of SAP batch jobs. With Control-M for SAP, you'll eliminate the time, complexity, and specialized knowledge traditionally required to manage SAP workflows. As a result, you'll be able to fully exploit the functionality of the SAP ecosystem, such as SAP HANA without scripting or manual procedures. The result is accelerated SAP batch jobs and enhanced service delivery. [Learn more >](#)

“[With] BMC support for newer technologies such as SAP S/4HANA, Oracle R12, MFT, web service client, and Hadoop, we are confident Control-M will be able to support our environment as we move forward.”

Larry E. Hicks, Manager, Data Center Services, IT Infrastructure, Eaton

CONCLUSION

Control-M delivers an unparalleled combination of capabilities that enable you to:

- Take advantage of cloud ecosystems' greater agility and higher scalability
- Automate and manage complex workflows and large-scale data in the Hadoop framework for unprecedented insight into business environments
- Increase convenience, visibility, and control of file transfers
- Speed progression of applications and services from concept to production
- Raise business user productivity and satisfaction through self-service
- Accelerate issue diagnosis and remediation
- Simplify audit and compliance processing
- Speed SAP batch jobs and enhance SAP service delivery

With Control-M, you can meet the challenges of the digital-first age while leveraging the investment you've made in your current infrastructure. You'll increase your ability to deliver continuous innovation and drive down costs at the same time.



FOR MORE INFORMATION

To learn more about Control-M, visit [bmc.com/
it-solutions/control-m](https://bmc.com/it-solutions/control-m).

BMC is a global leader in innovative software solutions that enable businesses to transform into digital enterprises for the ultimate competitive advantage. Our Digital Enterprise Management solutions are designed to fast track digital business from mainframe to mobile to cloud and beyond.

BMC digital IT transforms 82 percent of the Fortune 500.



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