



NUCLEUS
RESEARCH

GUIDEBOOK CONTROL-M by BMC

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THE BOTTOM LINE

Computing jobs are expected to run smoothly in the background all the time, but administrators know it is not that easy. BMC's Control-M solution supports and simplifies processes that lead to efficient and reliable workload

automation. Businesses rely on computing jobs for all manner of IT functions, such as data loading and processing. Job efficiency is critical for service level agreements (SLAs) around key deliverables or business operations, but too many tools working at once and lack of visibility have plagued administrators. Control-M's flexibility, integration, ease of use, and event-based scheduling drive significant benefits in productivity and customer satisfaction.

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THE SITUATION

Computing jobs are an integral part of IT processes and perform a variety of data-related functions. The trend away from pure mainframe computing a few decades ago to the modern distributed computing environment has also led to a more diverse set of job scheduling software products. An overall increase in data and job volume exacerbates the issues of managing a range of tools manually. Businesses have a number of challenges regarding workload automation:

- **Tight SLAs.** As SLAs continue to get closer and closer to 100 percent uptime, businesses need extremely reliable software on the back end that can be rectified quickly in case of a crash.
- **Human error.** Manual processes always lead to higher human error. Part of the core function of a job scheduler is workload automation, but traditionally job scheduling software has had significant human input in order to correct failed jobs, adjust schedules in conflict, and monitor performance.
- **Lack of visibility.** IT functions are increasingly part of the daily workflow for non-IT employees, who are often monitoring department computing jobs related to their specific deliverables or workflow. Traditional job schedulers allow little visibility into the job status, meaning that employees have to contact IT to receive updates and request jobs.
- **Wide range of tools.** Often customers end up with multiple tools and multiple user interfaces for the mainframe and distributed scheduling environments, leading to low usability and integration issues.

- Time-based job scheduling. Job scheduling was originally done on a time schedule—i.e. if administrators had two jobs to run, they would have to schedule the first one, estimate the duration of the job, and manually schedule the second job for after the first one finishes. The issue with this process is that job duration is not always predictable. Time is wasted if the first job ends early, and there could be overlap issues if the first job ends later than expected.

Each of these issues contributes to low employee productivity and lack of user adoption. Moreover, customers and business executives are increasingly taking for granted the smooth operation of these processes. With more to deal with on the front end, businesses need to find ways to deal with these back end problems quietly and enable administrators to play more of an overview role than acting as a liaison between a variety of groups and software products.

THE SOLUTION

Control-M, BMC's workload automation solution, facilitates batch process scheduling, monitoring, and management. The product uses a number of modules through a single graphical user interface (GUI) to centralize job scheduling across applications and between mainframe and distributed computing environments. It uses event-based scheduling to maximize efficient process queueing and has various levels of governed data access to allow different users to interact with the system in a controlled environment.

Control-M has a number of other capabilities that one would expect in a mature workload automation product. Usage alerts and run time analytics allow for advanced monitoring and optimization of system processes. Administrators are able to send workload automation reports and data to other users who are not themselves Control-M users, allowing greater visibility and easier content sharing. Control-M also enables IT staff to use a code-based interface through REST APIs or a Command Line Interface to build, test, and run jobs.

WHY CONTROL-M

Nucleus found that customers who made the decision to replace their existing workload automation solutions—including those from CA and IBM—had five common reasons for choosing Control-M: ease of conversion from legacy applications, a centralized single GUI, event-based scheduling, application flexibility, and error reduction.

EASE OF CONVERSION

One of the biggest challenges facing businesses as they transition to new job scheduling software is the daunting conversion process. For companies with thousands of jobs running everyday, switching products requires significant planning and resources—on top of the costs of the product itself. BMC has taken several steps to facilitate smooth transitions to Control-M through pre-planning consultation and technician support.

Every customer Nucleus interviewed used a consultation partner—either from Cetan or CFS Consulting—with their Control-M deployments, and they all said that the consultation ecosystem is a critical part of the project's success. Between BMC and its partners, there is plenty of advanced expertise in deployment and conversion that limits the strain of running the old and new system in parallel during implementation:

- *"Our consultant from CFS, he's the smartest Control-M guy I've ever met. He blows your mind. It's helped us tremendously to have a consultant. It's a different mindset. It probably saved us 10x the time."*
- *"For our project, we had been using HPE NonStop before. BMC sent in a NonStop technician to help, and they were lightyears ahead of the rest of the field for that kind of service."*
- *"BMC and the partners from Cetan really took a vested interest in explaining what their tool could do. They were right there and they were fully engaged."*
- *"BMC's conversion tools were also great. They work as advertised and really helped facilitate a successful migration."*

CENTRALIZED SINGLE GUI

Control-M uses a single centralized GUI for workload automation, even across multiple scheduling tools. This feature is a huge boon for administrators, providing a simplified way to schedule mainframe and distributed jobs with one interface. Because admins had to work between several systems in their old technology stack, they often struggled with managing workflows efficiently, maintaining visibility, and mitigating the risk of errors. As one customer said:

- *"Control-M was easy to manipulate through the intuitive graphical user interface. People who used to use CA Autosys to monitor their jobs love it. Instead of having three different distributed schedulers, Control-M brought it all on one platform, which was great."*

Job monitoring is particularly easy with the centralized GUI compared to using multiple tools for different processes in the past. Administrators are able to see the

status of Control-M and non-Control-M jobs together and are able to distribute governed access to the system so that individual departments can monitor their job's status as well. As a result of switching to a single interface, operations training was simplified for many customers:

- *"BMC has given us the ability to let the departmental end users service themselves and has given us insight into where jobs are and what the status is. They no longer have to send an email for us to look into the scheduler, then we determine the status and email back."*
- *"Before, we were having problems with messages being lost. Sometimes something hadn't kicked off, and monitoring was becoming difficult to keep track of everything. At the same time we experiencing growth of our workload environment. Control-M and the single GUI was a key part of the solution for us."*

EVENT-BASED SCHEDULING

In the past, job schedulers were time-based, which meant that an administrator would have to predict the duration of jobs and manually schedule time parameters. This type of scheduling often leads to overuse or underuse of job processing time. Even worse, if one job failed, it would disrupt the entire schedule of queued jobs. Control-M offers event-based scheduling, where the completion of one job triggers the start of another job. This setup leads to maximum efficiency for running jobs and eliminates much of the manual setting and monitoring that admins would have to do otherwise:

- *"So many other products are time-based with no predecessor relationship to other jobs. Control-M is seamless in going between distributed and mainframe environments, and we have a lot of that."*

APPLICATION FLEXIBILITY

Customers have found that Control-M handles a wide range of expected and unexpected problems. Administrators have found that the flexibility of Control-M for unique scenarios has surpassed expectations and continues to deliver value outside of its usual arena:

- *"Every time one of our employees asks me if we can do something in Control-M, I say 'I'm not sure, but probably.' And I have been able to find a solution everytime so far."*
- *"It's done everything and more than I could expect, and it keeps improving."*

Administrators have found that the ease of use and flexibility of Control-M for unique scenarios have surpassed expectations and continue to deliver value outside of its usual arena.

BMC is very involved with its customers, working with them to develop solutions to new problems and to make sure they receive maximum value from the solution. Control-M's Application Integrator module has also allowed for much more diverse data connection scenarios by enabling the IT team to create custom integrations outside of common vendors:

- *"Of course, Control-M has integrators for things like SAP and PeopleSoft, but new technology comes out so fast that it's hard for BMC to keep up with all the integration challenges for every customer. Application Integrator allows us to do work on our end for our more specific requirements."*
- *"We are involved with BMC on almost all of their functionality. We have good customer-vendor discussions around development. For the things that affect us, we're really on the ground floor working with them. If you're in an organization willing to work with BMC, they want to work with you to build their tools."*

ENHANCED ERROR REDUCTION

More automation and less human involvement in the workload automation and monitoring process naturally leads to fewer errors. With Control-M, administrators are able to better control their own involvement with the system through a single source of truth centralized interface.

They can also use data governance controls to limit the capabilities of other users, which means more users have insight into the processes without the risk of causing an error. Overall, the product handles more of the administrative duties and helps the human admin become more of a liaison between the system and those in need of scheduling jobs:

- *"Control-M is much simpler than our previous error handling setup. Now, you press a few buttons and off it goes. Before we had to manually apply fixes one at a time."*

KEY BENEFITS

The benefits of Control-M revolve around the simplification of multiple, comingling processes that were previously done manually. Administrators are working faster, doing more, achieving greater stability, and facilitating external knowledge of job statuses. Customers remarked that switching to Control-M was necessary to facilitate their company's growth, and that they have realized indirect and direct ROI benefits compared to their previous systems.

INCREASED PRODUCTIVITY

All of the advantages of Control-M—the single GUI, error reduction, flexibility, etc.—contribute to better productivity across the board for users and admins. Obvious productivity benefits include the time saved between jobs that are event-scheduled rather than time-scheduled. Less obvious productivity benefits were the time saved sending emails back and forth between departments and even between other companies regarding job status:

- *"Sending information through Control-M is faster, and other viewers don't have to have specific software installed on the server. Now we can pull and send files to a vendor even if they don't have a Control-M client on their end. Definitely saves time and boosts security."*

IMPROVED SERVICE LEVEL AGREEMENTS

SLAs represent a core part of many businesses that use job scheduling software since there are frequently customer deliverables associated with the computing tasks. Stability of the platform is a major driver of value as SLA expectations increase every year:

- *"We are all about stability and consistency. That's a huge deal, that's our business. If our customers don't get the data, we're not doing our job, and what we were using before was nowhere near where we are with BMC now."*

Control-M can scale from a couple thousand jobs onward without compromising stability. Moreover, customers are able to maintain SLAs while expanding, even up to ranges of 50,000 jobs per day:

- *"Scalability of the product was able to accommodate huge growth without missing a beat. Our workload from last year grew 60% without any signs of slowing."*

Control-M can scale from a couple thousand jobs onward without compromising stability. Customers are able to maintain SLAs while expanding, even up to ranges of 50,000 jobs per day.

INCREASED KNOWLEDGE

Lastly, having better job scheduling and job status visibility has changed the way business users work with admins to schedule and understand jobs. Control-M Self Service allows users to take on more related tasks themselves. In some cases, users are given the ability to design and request jobs, leaving the admin only the task of slotting them into the schedule:

- *"The various departments had more resources to allocate to job creation than we did, so it worked out really well. We were able to get what they needed done without adding much to our plate."*

Insight into the job scheduler also allows users to explore and better understand jobs and how the process works. This in turn allows them to craft better jobs and have more reasonable expectations about system performance:

- *"About 90 percent of the people that interact with Control-M actually use it as a research tool. They can get into the job database and understand what the jobs do without making any changes, so they can monitor and learn from current processes."*

BEST PRACTICES

When asked what advice they would give others using or deploying Control-M, customers discussed two additional points: a careful conversion process and new paths opened up by Control-M.

CONVERSION

Conversion is a critical part of the success of workload automation deployments, and Control-M is no exception. Most customers used a slow conversion process, operating the old and new scheduling system in parallel and rigorously testing jobs before transferring them batch by batch. For customers that tried to rush the conversion process, problems occurred down the line:

- *"Our biggest problem was that we didn't do enough parallel testing, so we had a lot of problems after implementation. We were not focused enough on*

monitoring it clearly. I think our internal team was too ambitious with the timeframe."

INNOVATION

An additional advantage of Control-M that comes from its flexibility and continued improvements is its ability to handle more advanced functional use cases.

Customers have found success with advanced analytics, machine learning, and creative integration challenges. Customers report that BMC's constant innovation was an unexpected benefit that keeps them on the crest of the technology wave:

- *"I think Control-M is the best in the market. It opens up doors to a lot of the new technology in the market around machine learning or other advanced functionality."*

CONCLUSION

Workload automation is an element of infrastructure that may not be an obvious focus for financial decision makers looking at the company's data landscape from a high vantage point, but it provides the backbone for many processes that are critical to everyday operations around data processing and SLAs. As businesses grow beyond the patchwork system of multiple scheduling tools that built up over 25 years of mainframe and distributed workload advancements, the need becomes even greater to find a stable platform to base their other IT projects on.

Customers have leveraged Control-M to simplify their technology stack through a single interface and more advanced automation. With Control-M's strong ability to handle diverse requirements and the help BMC and its partners provide for conversion, administrators are finding that they are navigating stricter requirements on higher amounts of data, all while empowering self-service users to interact with jobs themselves and take greater interest in their own departmental projects.

Confidence in BMC's dedication to its customers and product innovation ensures that Control-M is a long-term investment that will scale and improve as businesses do.