

▶ ENABLING THE FUTURE OF COMPUTING – TODAY

▶ Bright Computing and Dell EMC—Accelerating HPC and AI for today's medium to large enterprises

Bright Cluster Manager provides infrastructure management software for Dell EMC Ready Solutions for HPC and AI. These future-ready, flexible solutions are pre-tested and pre-validated to ensure they deliver the right research and business outcomes. Bright Cluster Manager makes it possible to quickly deploy the infrastructure, identify potential problems before they impact end-users, and provide visibility into how system resources are utilized by end-users to ensure they are being utilized efficiently. Backed by Bright software, the Dell EMC Ready Solutions portfolio speeds deployment and simplifies operations and management of solutions for data analytics, HPC, AI, and more—incorporating best-in-class building blocks from Dell EMC and its partners.

"Dell EMC's expertise, technology, and partnerships deliver state-of-the-art HPC systems from the workgroup to the TOP500. With Bright Cluster Manager for HPC, our customers can quickly and easily install fully integrated systems, and both monitor and manage them across their lifecycles, allowing our customers to focus on innovation, as opposed to operations."

– Thierry Pellegrino, VP/GM,
High Performance Computing,
Dell EMC

▶ BRIGHT COMPUTING AND DELL EMC DELIVER CUTTING-EDGE SOLUTIONS FOR HIGH-PERFORMANCE COMPUTING AND ARTIFICIAL INTELLIGENCE

HPC AND AI—WHAT'S STANDING IN YOUR WAY?

Across industries and around the globe, data is the key to reinventing the future. Organizations are transforming their business practices by using high-performance computing (HPC) and artificial intelligence (AI) to tap the hidden value of data gathered from an ever-growing number of sources.

Once restricted to scientific and research organizations, HPC is now more widely used within the enterprise due to the compute resources necessary to drive AI applications and workloads that save lives, help us understand the universe, build better machines, neutralize financial risks, anticipate customer sentiment, and much more¹.

Even so, many organizations have shied away from HPC, AI, and intense data analytics, believing the technology is too complex to deploy, too costly to run, and too difficult to manage.

If these roadblocks stand between you and the benefits of HPC and AI, Bright Computing and Dell EMC can help remove them.

GETTING MORE FROM HPC AND AI

To help you capitalize on everything HPC and AI have to offer, Bright Computing and Dell EMC deliver a comprehensive portfolio of scalable, flexible solutions designed to help you solve complex problems faster than ever before. With Bright and Dell EMC, you receive optimized solutions that deliver game-changing results:

- Maximize the uptime of clusters by monitoring everything within the cluster and alerting administrators to problems before they impact users; or if configured, to take corrective action on behalf of the administrator.
- Accelerate time to value with a simplified design, configuration, and ordering process that takes hours to complete instead of weeks.
- Automatically setup, configure, and provision a fully functioning cluster from bare metal in minutes.
- Perform end-to-end cluster monitoring, health checking, and automated updates from a single pane of glass.
- Re-purpose servers on the fly—without taking down the servers—to address workload demand in areas deemed "more important" by the business.
- Benefit from domain-specific designs tuned for specific science, engineering, and analytics workloads using flexible, industry-standard building blocks.
- Enjoy the confidence of deploying tested and validated solutions, with a single point of contact for services and support.
- Select from a price/performance-optimized portfolio of HPC and AI solutions.
- Be ready for whatever new technologies await with built-in flexibility and future-proofing.

PUTTING HPC AND AI TO WORK

To help enterprises use HPC and AI to drive technical innovation, Bright and Dell EMC deliver Ready Solutions for HPC and AI. These systems include everything you need, including servers, storage, networking, management, software, and service. They are designed to reduce the skill level and effort required to deploy the solutions, while still providing the ability to scale out, as well as the flexibility to adopt new technologies and workloads in the future. For small and medium enterprises, Ready Solutions that combine proven products from Dell EMC and Bright makes strategic technology, that would otherwise be out of reach, very attainable.

Ready Solutions support a wide—and growing—number of use cases.

- Healthcare and life sciences
- Financial services
- Government security and defense
- Media and entertainment
- Manufacturing
- Energy
- Transportation
- Retail

DELIVERING ADVANCED HPC CLUSTER MANAGEMENT

Bright Cluster Manager is included in all Dell EMC Ready Solutions for HPC. These advanced yet easy-to-use solutions enable administrators to deploy complete clusters over bare metal and manage them efficiently and effectively. Bright provides single-pane-of-glass management for everything in the cluster - including all hardware, networking, power, temperature, operating system, HPC workload managers, Kubernetes, users, jobs, and more.

With Bright Cluster Manager for HPC, system administrators can quickly get clusters up and running and keep them running reliably throughout their lifecycle—all with the ease and elegance of a full-featured, commercially supported, enterprise-grade cluster manager.

¹ https://www.dell EMC.com/en-us/solutions/high-performance-computing/index.htm#overlay=en-us/collaterals/unauth/brochures/solutions/hpc_ai_convergence_brochure.pdf

As a commercially developed piece of software, Bright Cluster Manager is always a step ahead in preparing your business for what comes next. To further its end-to-end capabilities, the latest release of Bright Cluster Manager (8.2) includes a variety of innovative new features and functions:

- Bright Edge automates the process of securely provisioning and managing servers that provide compute in remote locations (e.g., for IoT).
- A five-fold reduction in the amount of inter-node management-related traffic—freeing up more bandwidth for job-related communications and improving the overall performance footprint of the entire cluster.
- The Bright User Portal now provides each user with relevant information about job metrics, as well as accounting and reporting information about their jobs.
- PythonCM makes it easy to integrate Bright Cluster Manager into Python-based automation scripts.

In addition, Bright Cluster Manager for Data Science helps deliver resource management to the Dell EMC Ready Solutions for AI, Deep Learning with NVIDIA. This add-on to Bright Cluster Manager enables you to administer data science clusters as a single entity—provisioning and managing the hardware, operating system, Kubernetes and software for data analytics and deep learning from a single interface. This approach makes it easier to build and manage a reliable, clustered data science infrastructure. Once the system is up and running, Bright monitors every aspect of each node in the cluster and reports any problems (or potential problems) it detects so administrators can take appropriate action.

NEXT STEPS

Contact your Bright Computing or Dell EMC representative today to learn more about these solutions for HPC and AI. Find out how your organization can use these innovative offerings to enable the future of computing—today. For more information, please visit brightcomputing.com and dell EMC.com/ai.