Solution brief

Optimize system health and efficiency with HPE Performance Cluster Manager

System provisioning, monitoring, and management capabilities for fast setup and peak performance

HPE Performance Cluster Manager provides key features for:

— System setup

— Hardware management

— Image management and software updates

— Cluster health management

— Power management

— Independent software vendor (ISV) and open-source integration

Supports HPE ProLiant DL, HPE ProLiant Compute XD, HPE Cray XD, HPE Compute XD, and HPE Cray Supercomputing EX systems

As high performance computing (HPC) and artificial intelligence (AI) continue to advance rapidly, organizations desire systems capable of handling diverse and resource-intensive workloads with maximal efficiency and security. Customers are deploying extremely powerful infrastructures—integrating the latest accelerators, processors, memory, and storage technologies.

HPE's HPC software portfolio is designed to help customers unleash the full potential of their investments, improving performance, scalability, and reliability. Complementing HPE hardware and compatible with third-party and open-source solutions, our HPC software solutions empower organizations to accelerate innovation. Learn more about the portfolio in this infographic: Unleash the full potential of your HPC architecture.

HPE Performance Cluster Manager is our integrated software solution designed to optimize system manageability and performance. It is flexible and easy to use, offering system administrators tools to efficiently manage even the most complex configurations—from clusters with dozens of nodes up to exascale-level systems!

System-wide, streamlined coverage

Covering compute nodes, fabric, power and cooling infrastructure, and more, HPE Performance Cluster Manager provides robust provisioning, monitoring, and management features for the entire system. The solution supports HPE ProLiant DL, HPE ProLiant Compute XD, HPE Cray XD, HPE Compute XD, and HPE Cray Supercomputing EX systems.

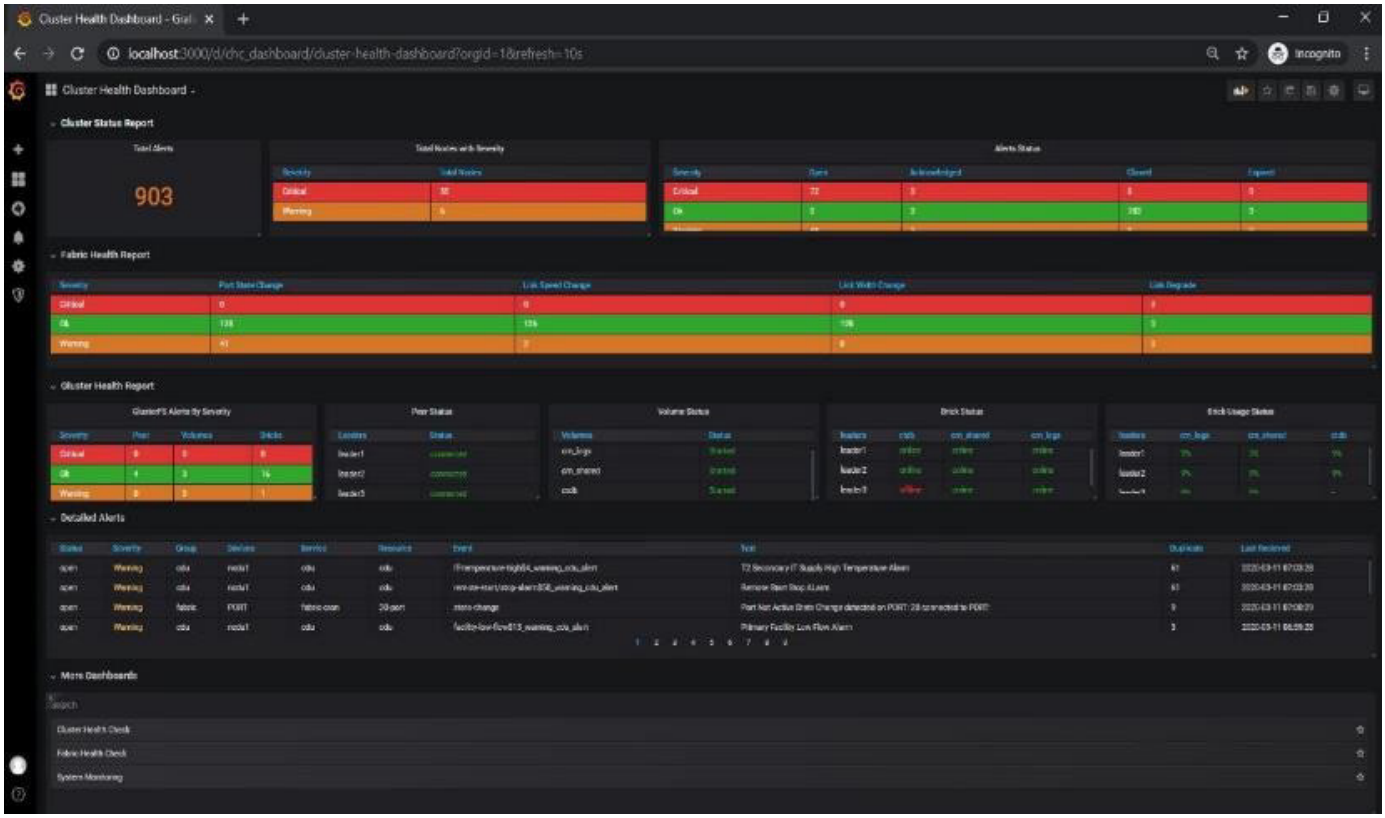

Figure 1. Example of HPE Performance Cluster Manager system health monitoring dashboard

Efficient system setup and provisioning

Initial system setup includes installation of the Linux® operating system on the administrative node, discovery of hardware components for the cluster nodes, and operating system provisioning for all the compute and service nodes. HPE Performance Cluster Manager can quickly provision thousands of nodes from bare metal in parallel. Additionally, new nodes can be automatically discovered and configured without requiring a system shutdown.

Comprehensive system monitoring and management

HPE Performance Cluster Manager collects detailed telemetry and stores them in a secure repository, enabling system administrators to review metrics such as CPU load, memory load, fabric link speed changes, PDU power, and CDU temperature. Integration with NVIDIA® Datacenter GPU Manager enables monitoring of GPU diagnostics, health, configuration, and alerts in GPU-enabled servers.

System admins can review data with both a command line interface (CLI) and a graphical user interface (GUI). This demo video showcases visualization maps for power status, power consumption, job placement, and fabric health. Notably, maps are based on the physical locations of the nodes in the racks of the HPC system, helping system admins efficiently pinpoint potential problems.

HPE Performance Cluster Manager can also send alerts in response to certain system conditions or issues. For some alerts, the system administrator can set up automatic responses to alerts triggered when thresholds are reached for selected metrics. An example would be activating power capping when a specific temperature is reached in the data center. AIOps anomaly detection features help to further predict and flag concerns based on historical patterns of behavior.

Effective power and cooling management

HPE Performance Cluster Manager offers comprehensive power monitoring and management for the nodes, chassis, and racks, as well as power distribution units (PDU) and cooling hardware. The solution is designed to detect and alert system administrators to key events such as water leakage, temperature changes, and power supply failure.

This video overviews how HPE Performance Cluster Manager helps customers manage their liquid-cooled systems, protecting system health while driving efficiency.

Conclusion

HPE Performance Cluster Manager empowers customers to maintain reliable and high-performing systems, decreasing costly downtime and increasing productivity. Even extremely large-scale, complex infrastructure can be provisioned, monitored, and managed through this flexible, easy-to-use solution.

Learn more at

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