



## DELIVERING IT MANAGEABILITY WITH RED HAT ON NVIDIA DGX-1

Enterprise data centers are rapidly transforming to support AI and deep learning workloads running on GPU computing. Red Hat Enterprise Linux (RHEL) on NVIDIA® DGX-1™ systems lets IT realize all the benefits of AI-at-scale in the data center. They can now get exceptional flexibility and ease-of-use for enterprise operations, while also improving AI developer productivity.

Businesses around the globe have built their AI success on NVIDIA DGX-1—the world’s first supercomputer created for the unique demands of AI and deep learning. Its revolutionary performance, simplified installation, and effortless productivity lets data scientists and AI developers achieve faster time-to-insights. Best of all, they can do this with greater efficiency and reduced cost when compared to a traditional computing infrastructure.

As developers seek to infuse business applications with the power of AI, they need the ability to scale their work on production IT infrastructure in the enterprise data center, while preserving their focus on optimizing deep learning models and extracting greater levels of application performance, without impacting productivity. They need access to familiar tools and a productive workflow that can be supported within enterprise IT.

In contrast, many enterprise IT departments have built operational processes and tools in support of their data center servers running on RHEL. These Linux distributions enable streamlined configuration and manageability for large scale environments, while also taking advantage of the feature richness and stability of an enterprise OS platform.

With the proliferation of DGX-1 in the enterprise data center, the interests of IT teams and their developer communities are converging. These stakeholders want greater manageability and control of this new infrastructure. But they also want to use the familiar tools and approaches already employed within their existing operation, without sacrificing or impacting user experience or productivity.

### **BENEFITS OF RED HAT ENTERPRISE LINUX ON DGX-1**

- Integration with enterprise IT
- Simplified deployments at-scale
- Robust, feature-rich OS's
- Support for bare-metal workload
- SELinux support



## The Best of Both: IT Manageability Meets AI Developer Productivity

NVIDIA and Red Hat have collaborated to bring the enterprise IT benefits of RHEL to NVIDIA DGX-1—the most popular AI platform for deep learning developers. Organizations can now deploy this essential tool of AI research and development within the familiar management paradigm of RHEL—employing IT-developed methods and NVIDIA-provided software. Organizations can use the DGX Server OS that's pre-installed on DGX-1, delivering the ultimate in choice and flexibility for IT managers responsible for AI compute infrastructure.

Now IT teams have a scalable hardware and OS platform for AI that's easily managed, with support from Red Hat, while developers can enjoy a productive workflow with enterprise-grade AI software support from NVIDIA.

### Bare-Metal Workload Support

For those organizations that prefer not to take advantage of container technology, RHEL on DGX-1 offers support for bare-metal execution of workload, including deep learning frameworks and the NVIDIA CUDA® toolkit.

## Security with SELinux

For IT teams that need a solution compatible with their security architecture, RHEL on DGX-1 enables use of SELinux (Security-Enhanced Linux). This Linux kernel security module offers policy-based (instead of user-based) management and secure compartmentalization of applications and processes, helping to isolate and limit the exposure of a compromised system.

### RHEL Enterprise Support

RHEL has been tested and qualified with the DGX-1 and NVIDIA optimized deep learning framework containers to help ensure end-to-end compatibility. Organizations can use RHEL in combination with their DGX-1 environment with the peace of mind of a configuration backed by Red Hat and NVIDIA. Red Hat provides L1 and L2 support for typical RHEL operating system issues and NVIDIA offers support for NVIDIA-provided software.

### CentOS Support

NVIDIA acknowledges the wide use of CentOS in certain market segments. This is a community-developed derivative of Red Hat Enterprise Linux without the enterprise-grade support provided by Red Hat. While NVIDIA ensures compatibility and provides support of NVIDIA-provided software, other parts of the OS are supported by the CentOS community.

Learn more, [www.nvidia.com/dgx-1](http://www.nvidia.com/dgx-1)

