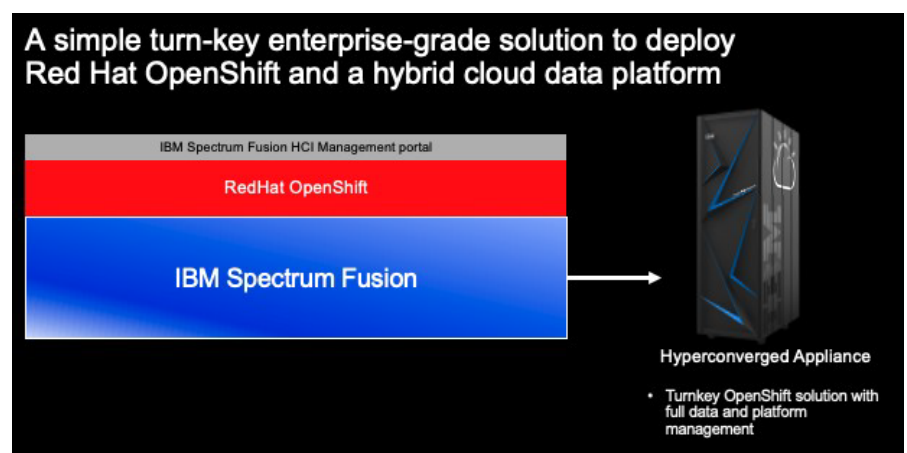


IBM Spectrum Fusion HCI

OpenShift + Spectrum Fusion = Faster
business results

Highlights

- Integrated HCI appliance for containers
- Highly scalable containerized file system with erasure coding
- Data resilience for local and remote backup and recovery
- Simple installation and maintenance of hardware and software
- Global data platform for storage resources
- IBM Cloud Satellite® and Red Hat ACM native integration
- Ready for AI applications with optional NVIDIA A100 GPUs
- Starts small with 6 servers and scales up to 20



IBM Spectrum Fusion HCI

IBM Spectrum Fusion™ is a hyperconverged configuration of the Red Hat® OpenShift® container platform (OCP). This is a simple turn-key enterprise-grade solution to deploy Red Hat OpenShift and a hybrid cloud data platform. This solution is planned for GA in the 2nd half of 2021.

The Base configuration includes

- 42U rack
- Two Ethernet ToR switches (100GbE)
- Two Ethernet management switches
- Six 1U x86 storage/compute nodes

Storage can be expanded in pairs on each node from 2 to 10 disks per node. Compute can also scale in pairs from 6 to 20 nodes (16 if the optional GPU nodes are added). There is also an optional pair of GPU accelerated nodes for AI workloads that leverage the latest NVIDIA A100 GPUs which can also leverage the latest Red Hat OpenShift Operator for AI from NVIDIA. This will make creating and running AI workloads on IBM Spectrum Fusion HCI even easier and there is a slide how this can be integrated into an overall AI enhanced workflow.

With the HCI appliance its Red Hat OpenShift made simple.

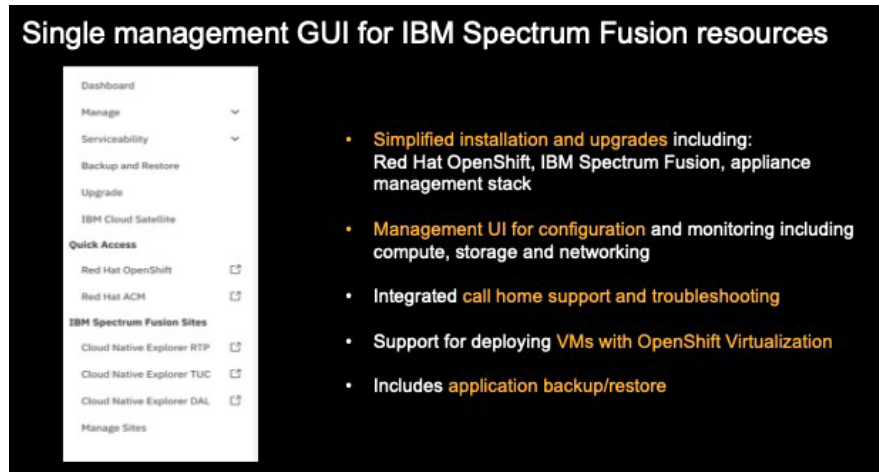
- Simple to manage infrastructure
- Simple to integrate to current and hybrid cloud data
- Simple to build and run container applications
- Simple to deploy Red Hat OpenShift
- Simple to manage storage services

Customers who want the most efficient container environments should consider taking out the excess VM layer which is a typical solution for containers in the data center. The problem with typical HCI solutions is they depend on a VM layer. Its best to run VMs on a VM environment but run cloud native application and containers on a system built and designed for containers and integrates to the hybrid cloud -> IBM Spectrum Fusion HCI

IBM Spectrum Fusion HCI includes:

- An Integrated HCI appliance for both containers and VMs using Red Hat OpenShift
- A Highly scalable containerized file system with erasure coding
- Data resilience for local and remote backup and recovery
- Simple installation and maintenance of hardware and software
- A global data platform stretching from public clouds to any on-prem or edge locations
- IBM Cloud Satellite and Red Hat ACM native integration
- Enhanced AI capabilities with global data for better AI results and optional NVIDIA A100 GPUs
- 6 servers with scalability to 20 (16 with if HPC GPU options are chosen)

A single management GUI

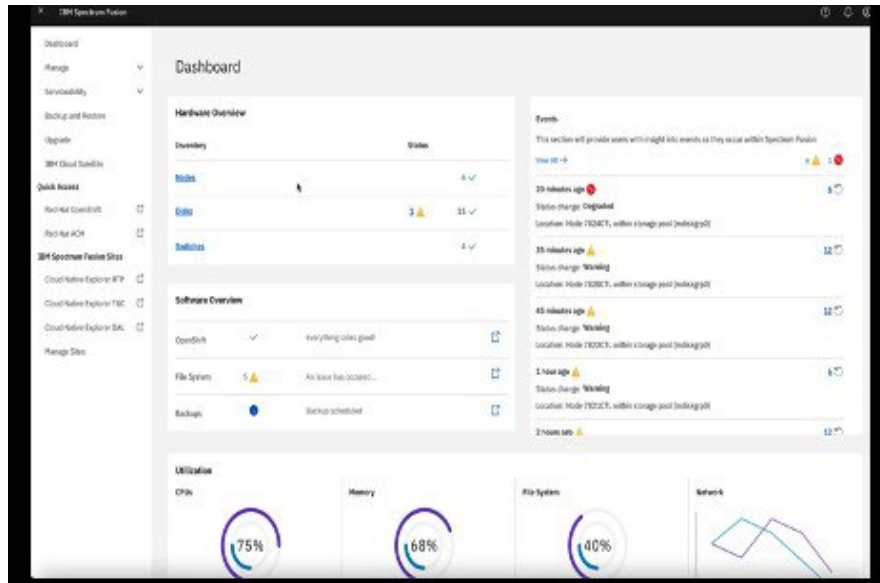


Single management GUI

IBM Spectrum Fusion HCI has a simple management GUI for the storage, compute and networking resources associated with the hyperconverged appliance. The management GUI includes key elements such as:

Simplified installation and upgrades including:

- Red Hat OpenShift, IBM Spectrum Fusion, appliance management stack
 - Management UI for configuration and monitoring including compute, storage and networking
 - Integrated call home support and troubleshooting
 - Support for deploying VMs with OpenShift Virtualization
 - Application backup/restore
-

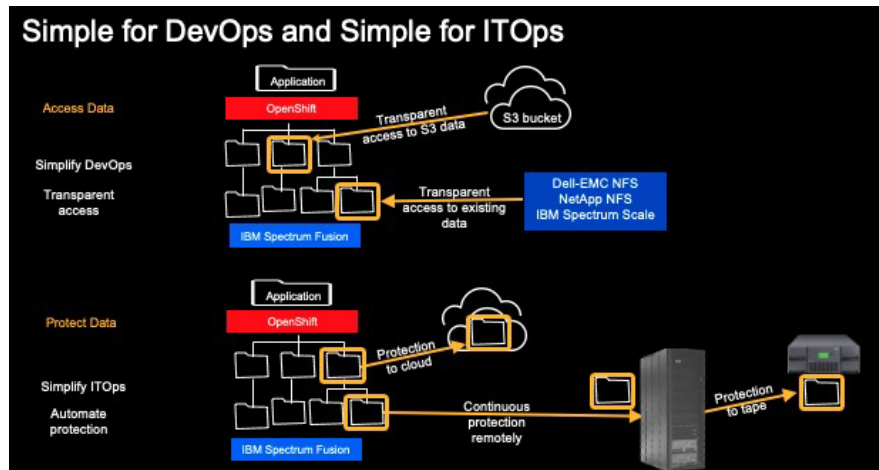


Spectrum Fusion HCI Dashboard

We can see from our Spectrum Fusion HCI dashboard that we can easily view and manage both the hardware and software resources for our OpenShift cluster. We can view CPU, memory, storage and network resources and utilization rates as well as important status events. Administrators can also manage local services such as software upgrades and storage services such as backup/restore from the main menu. Other services such as cloud management using IBM Cloud Satellite and OpenShift advanced cluster management (ACM) can also be accessed with one click from the dashboard.

You can also see other resources such as server nodes, disks and switches as well as resource utilization rates and important event status. You notice that we have a disk failure that should be address but it is not currently impacting any of our applications in a critical way but we do notice a status of degraded.

The competitive differentiator



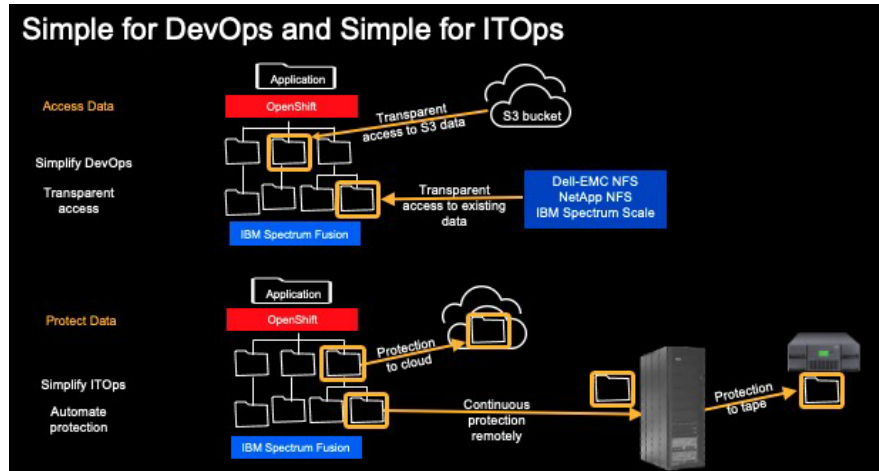
Simple for DevOps and simple for ITOps

The competitive differentiator is not just the fact that IBM has fused a storage platform with storage services but with the storage platform we have leveraged years of investment in a global parallel file system with global data access and advanced file management (AFM).

Applications simply access a local file or directory but are accessing data from information that is stored in a public cloud bucket or legacy data from a remote system 1000s of miles away. In either case by using the Spectrum Fusion storage platform you will start to see the power of advance file management and global data access.

IBM Spectrum Fusion global access to data not only preserves existing data as the previous slide shares but also provides transparent access that helps simplify both DevOps and ITOps. Developers can write applications and transparently access data from one or many applications or even across different IBM Spectrum Fusion clusters. Operations can protect data directly to cloud or to a remote IBM Spectrum Scale System and then even archive to tape.

Optimized for AI workloads



Simple for DevOps and simple for ITOps

IBM Spectrum Fusion can also be used to optimize AI workflows with modern container applications. Data can be processed on the IBM Spectrum Fusion HCI and then data can be transparently leveraged in the Cloud (S3 data) or on another IBM Spectrum Scale system leveraging the high performance ESS 3200 or ESS 3000 NVMe flash system. If a customer is using NVIDIA for AI IBM Spectrum® Scale can preprocess or process at the edge with NVIDIA A100 GPUs and `NVIDIA Red Hat Operator and tools and then transparently leverage that data in the cloud or directly on another larger more compute intensive NVIDIA DGX A100 system with the IBM ESS 3000 or ESS 3200 high performance storage system.

Why IBM?

IBM is going to where the puck is going and not necessarily where the puck is at. Some customers are already on their journey with containers, and this is the perfect solution for those container workloads and container environments: Easy to start with Red Hat OpenShift, easy to run containers with enterprise data, and easy to integrate to existing and hybrid cloud workloads. Some customers are just starting their journey to containers, and this is also the perfect solution for them because of our simple approach to a complex problem and easy way to start with an expandable and easy to integrate solution.

Next steps

→ [IBM Spectrum Fusion web page](#)

For more information

For more information see the [IBM Spectrum Fusion software solution brief](#)

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IBM Spectrum Fusion HCI



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