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Join The Rack Scale Revolution

High Performance Storage for Composable, Rack-Scale Architectures

Pavilion Highlights

Performance Density
- 120 GB/s in 4U
- 100 us Latency
- 20m 4K Read IOPS in 4U

RSD-Compliant APIs
- Redfish API
- Swordfish API

Resiliency
- Up to 20 Active/Active storage controllers

Capacity
- 28 TB to 1 PB in 4U

Modular
- Up to 40 x 100 Gbe Ports

Data Management
- Dual-Parity RAID
- Thin Provisioning
- Snapshots & Clones

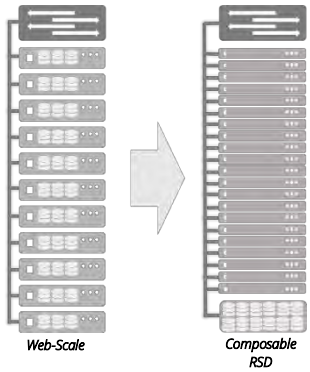
100% Standards Compliant
- U.2 NVMe SSDs
- Inbox NVMeOF Support
- NVMe-Over-TCP Support
- NVMe-Over-ROCE Support

Standard Components
- x86 Processors
- No FPGAs
- No Custom ASICs

Disruptive Economics
- Lowest $/IOPS
- Media Choice

Accelerate IT Transformation with Rack-Scale Design (RSD)

Datacenter infrastructure is evolving rapidly to respond to new demands placed on IT organizations. Modern applications are designed differently, and drive new requirements in the areas of flexibility, scalability, and cost. Also, the implementation of private clouds requires that a general type of infrastructure can be leveraged for multiple uses and provisioned on demand in a flexible way. Rack-Scale Design (RSD) is meant to deliver a standard rack-level building block that combines compute, network and storage, but is flexible enough to serve multiple types of workloads from the same infrastructure.



Traditional hyperconverged-based infrastructure, where compute and storage are combined in individual servers, has several limitations in regards to separation of resources. An illustration of how RSD can be architected to deliver much more flexibility than traditional hyperconverged infrastructure appears to the right.

Key RSD Requirements

In order to successfully gain the full benefits of Rack-Scale Design, several requirements need to be satisfied.

On-Demand Provisioning: Resources need to provisioned rapidly as the need arises, and repurposed just as flexibly. This will accelerate the rate at which new applications can be deployed and scaled on-demand.

Scalable in Multiple Dimensions: Separate demands for storage and compute resources need to be satisfied as the need arises. This requires that storage be disaggregated from servers within a rack, and administered as a separate pool of resources. In addition, the disaggregated storage resource needs to satisfy performance requirements, in terms of both throughput and latency, as if the resources were converged within local servers.

Simplified Management: In order to provision resources on demand, or scale in multiple dimensions, a management framework is required that can operate and manage heterogeneous resources from multiple vendors, in a common way.

Simplified Procurement: When storage resources are disaggregated from servers and flexibly provisioned from a centralized pool, it becomes easier to standardize infrastructure components using dramatically less parts or SKUs. A standard server component can be leveraged across more applications, regardless of storage requirements.

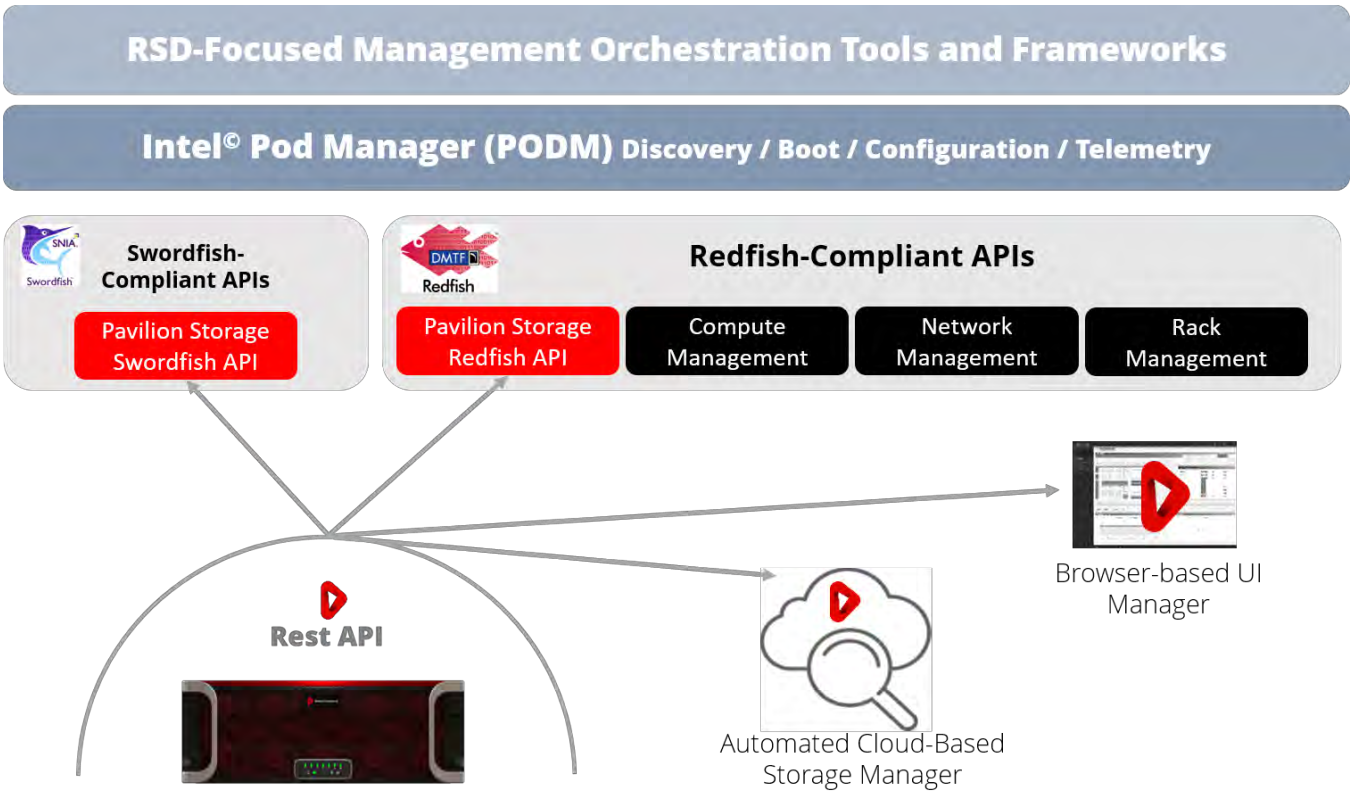
Storage Performance Density: In order to successfully deliver storage as a disaggregated service within a rack, the shared storage system needs to deliver enough performance from a small package (4U). The system needs to be able to replace or improve performance that could be obtained by deploying converged storage resources (DAS) in the rack's servers.

Pavilion Rack-Scale Storage Platform: A Critical RSD Building Block

Pavilion offers a storage platform ideally suited for delivering shared, rack-level storage in an RSD architecture. The key features supported by the Pavilion Rack-Scale Flash Array that enable RSD are:

- Allow storage to be scaled on-demand within a single rack or multiple racks, as performance or capacity requirements dictate
- Up to 120 GB/s of storage performance bandwidth in a 4U Appliance, or 30 GB/s per rack-unit of space
- Up to 20 million 4K read IOPS in a 4U Appliance, or 5 million IOPS per rack-unit of space
- A modular architecture which allows custom configurations for different types or racks, depending on varying storage performance and capacity requirements to meet the needs of diverse rack-level definitions and configurations
- Full support for the Redfish/Swordfish standard API, allowing seamless integration into Intel RSD-based Pod Manager (PODM) Design
- Full data management support, including thin provisioning to improve utilization, RAID6 protection for ensuring rack-level application up time even when multiple component failures occur, and snapshots/clones for instant backup and re-deployment of rack-level resources for test/dev/analytics purposes

The Pavilion Rack-Scale Storage Array integrates into the standards-based RSD management framework as follows:



Pavilion Rack-Scale Storage Platform Management Integration

Pavilion provides a set full set of Rest APIs that serve as a common interface for multiple types of management interfaces and frameworks, including Redfish-compliant and Swordfish-compliant API support for RSD manageability, a full browser-based UI, as well as a cloud-based manager which delivers automated support and management of Pavilion systems deployed in the field.

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