

OVERVIEW

Riverbed Granite solutions enable the complete consolidation of edge servers and storage to the data center, while projecting applications and data to edge locations where they perform as if they were local.

Benefits

- » Reduces IT costs up to 50% compared with managing traditional, distributed infrastructure
- » Enables centralized management and control of data, applications and servers
- » Increases business agility
- » Ensures data security

Granite consists of two components:

- » **Granite Core appliance** – physical or virtual appliance that resides in the data center alongside centralized storage
- » **Granite Edge appliance** – a service that runs as a standalone target at the edge or bundled with a Riverbed Steelhead appliance

Granite Core appliances mount storage provisioned in the data center and extend it to branch offices running Granite Edge appliances. Granite Edge appliances virtually present the data center storage targets for use in the branch and ensure that data created in branch office locations is securely stored in the data center. This industry-first file-system aware block acceleration capability allows data from centralized storage to be available wherever and whenever it is needed.

Granite products bring the full benefits of data center-quality virtualization, consolidation, and protection against disasters – both natural and man-made – without compromising performance. They set a new architectural standard for the modern, fluid enterprise and enables organizations to extend and control the virtual edge of consolidated, software-defined data centers.

Riverbed Granite

Extend the virtual edge of the data center for total consolidation and control

Riverbed Technology is the market leader in WAN optimization since inventing the category with the launch of its flagship Steelhead® product line. That leadership position has been maintained through a continuous string of industry-firsts, the latest of which empowers IT to provision entire applications in the data center and project them over the WAN to the edge of a network, for maximum control and protection.

The result is 100 percent consolidated data and applications that deliver LAN performance at the edge over the WAN. Riverbed® Granite™ storage delivery products radically reduce operational burden on IT managers while massively increasing their control over the infrastructure — all at a lower total cost of ownership.

Maintaining storage resources at the edge creates issues

In the past, data centers and remote offices were managed through separate operational processes, procedures, and infrastructures. Organizations traditionally run applications on servers and corresponding storage in edge environments close to end users for performance reasons. The demands of custom and write-intensive applications at the edge, the need to work with large data sets that defy acceleration over a WAN, and the concern of user productivity in the face of WAN outages have forced businesses to maintain storage resources at the edge. This has increased IT footprint and introduced administration and infrastructure overhead. These resources however are difficult and expensive to manage, are growing at a fast pace, and introduce security vulnerabilities.

Granite addresses issues — allows storage to be decoupled from server

Granite appliances address all of these issues by bridging the gap and allowing for seamless integration between data center and globally distributed operations. This new approach allows IT to consolidate and manage all edge servers in the data center. Granite technology allows storage to be decoupled from its server over thousands of miles and actually work as if the storage were local to the server. End users at edge locations get uncompromised performance, while IT management is able to manage, backup, provision, patch, expand, and protect branch data on enterprise storage within the four walls of the data center.

Granite products solve the problem of distance (bandwidth and latency) at the block level. This lowest-common-denominator block-storage approach makes deployment straightforward, widely applicable, and application-agnostic. File system intelligence at the block layer and other technologies parallelize the interactions between server and storage that was otherwise sequential. Data and servers that used to be distributed can now reside centrally, yet be projected to the edge locations where they perform as if they were local.

Businesses gain significant operational and financial benefits

Granite appliances enable IT departments to embrace a more fluid architecture by overcoming the barriers of distant storage while maintaining the performance characteristics required in the branch. Organizations can enhance business agility and gain significant operational and financial benefits by:

- Enabling LAN access to centrally stored data for instant branch provisioning and recovery
- Delivering an accelerated end-user experience regardless of location
- Providing flexibility and scalability in branch infrastructure
- Simplifying data protection operations
- Achieving greater economies of scale for storage in the data center

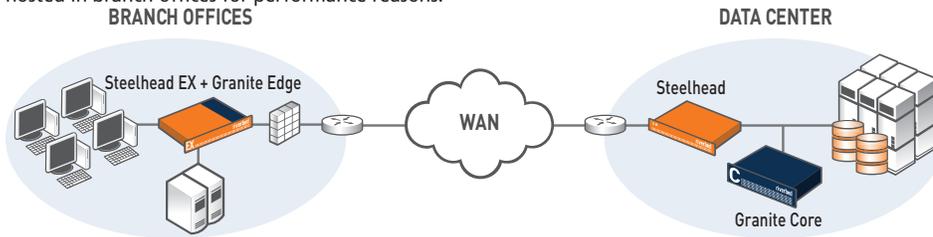
- Simplifying management

Granite products extend data center storage to branch locations, enabling users and applications to write and access centrally managed data, server images and applications over the WAN at LAN speeds. Data is available at the edge with the added benefit of ensuring that any data created in branch office locations is securely stored in the data center.

Benefits

Complete server and storage consolidation

Certain business applications still require local servers and storage to meet the performance requirements of end users. With Granite products, IT can successfully separate branch computing from data storage eliminating the need to purchase and support servers and storage traditionally hosted in branch offices for performance reasons. With Granite, IT can successfully separate branch computing from data storage eliminating the need to purchase and support servers and storage traditionally hosted in branch offices for performance reasons.



Instant branch provisioning and recovery

Growing organizations that need to rapidly provision new locations to support dynamic business requirements can count on Granite products to quickly establish service wherever and whenever needed. Servers are quickly and easily booted over the WAN in as little as one minute. In the event of disaster, services can be quickly re-provisioned to continue business operations.

Resiliency to WAN outages

Though storage has been completely centralized, Granite products enable remote office workers to have local access to data even when the WAN link to the office goes down.

Centralized data protection

Services and data are protected and secured in the data center leveraging the same tools and methodologies applied to all corporate data. This eliminates the need to purchase, install, and manage a backup solution in the branch office.

Secured data

With storage in the branch, data is exposed to risk. Granite products enable organizations to use state-of-the-art authentication and encryption to ensure the security of data assets while in-flight from the data center as well as in the branch.

Simplified management

By eliminating the need to maintain storage in branch offices, organizations can reduce administration costs by leveraging standardized data center-centric policies and procedures: all data management and support activities can take place in the data center. Branch-based IT personnel and "fly and fix" missions are no longer required.

High availability

Granite high availability (HA) deployment options and multi-path I/O (MPIO) support ensures storage availability for remote sites.

About Riverbed

Riverbed delivers performance for the globally connected enterprise. With Riverbed, enterprises can successfully and intelligently implement strategic initiatives such as virtualization, consolidation, cloud computing, and disaster recovery without fear of compromising performance. By giving enterprises the platform they need to understand, optimize and consolidate their IT, Riverbed helps enterprises to build a fast, fluid and dynamic IT architecture that aligns with the business needs of the organization. Additional information about Riverbed (NASDAQ: RVBD) is available at www.riverbed.com.



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