Infinidat and Veeam availability protect your always-on business

A very short time ago, industry pundits were telling us "Terabytes are the new gigabytes." With the geometric rate of increase in data creation each year, it's now, "Petabytes are the new terabytes," and will soon be, "Exabytes are the new petabytes." Every C-level executive understands that this is just the tip of the iceberg. What lies beneath the surface is a massive, mind-boggling amount of data that must always be available to power your business.

However, 84% of IT decision makers surveyed admitted that their organizations are unable to deliver the uptime and recovery service levels their organizations expect.[1] The sheer magnitude of the cost of maintaining SLAs for critical data and applications drains corporate resources, over-burdens IT operations, and pulls funding from initiatives that would grow your business.

Veeam® and Infinidat have collaborated on a verified solution that combines the features of the InfiniBox® and InfiniGuard® with industry-leading Veeam software. This proven combination of technologies enables customers to quickly realize the value of simple and efficient data duplication, backup, recovery, and enterprise DevOps operations.

Infinidat and Veeam come together for petabyte-scale availability for the Always-On Enterprise to deliver:

▶ More from your investment in scalable Infinidat storage

▶ Highly predictable backup, replication, recovery, and enterprise DevOps

▶ Operational control and efficiencies to meet ever-increasing service levels across your enterprise

VEEAM AVAILABILITY SUITE

Veeam Availability Suite™ is a comprehensive data protection solution supporting virtual, physical, and cloud workloads from a single management console for:

▶ **High-Speed Recovery**–Rapid recovery of what you want, the way you want it

▶ **Data Loss Avoidance**–Low recovery point objectives and streamlined disaster recovery

▶ **Verified Recoverability**–Recovery of every file, application or virtual server every time

▶ **Leveraged Data**–Using backup data to quickly create an isolated, exact copy of your production environment for development, testing, and training

▶ **Complete Visibility**–Proactive monitoring and alerting of issues before operation impact

VEEAM

Additional key capabilities of the Veeam Availability Suite include:

Infinidat InfiniSnap® integration allows you to orchestrate backups as often as needed without affecting the production environment.

▶ Image level VM backup and replication with application consistency

▶ Instant backup and recovery for a virtualized environment including VMware and Hyper-V

▶ Granular recovery for business-critical applications, including Exchange, SharePoint, and Active Directory

▶ Built-in WAN acceleration

▶ Workload mobility between on-premise data centers and cloud

▶ Scale-out backup repository in a single virtual pool

▶ Proactive monitoring and reporting, automated testing and documentation

INFINIDAT

Veeam enables the recovery of any IT service and related applications and data within seconds and minutes, and with Infinidat integrated data protection, Veeam is paired with storage that scales to keep pace with your ever-expanding data management needs.

INFINIDAT INFINIBOX® AND INFINIGUARD®

The InfiniBox is a new class of hyper-storage that offers unprecedented levels of performance, reliability, scale, ease of use, and cost savings to the enterprise. It is a highly innovative, multi-patented, storage software solution that runs on a high availability hardware configuration.

Due to the high cost of media-dependent architectures, it's nearly impossible today to find a Tier 0/1 storage platform that also makes sense as a Tier 2 solution. Infinidat's next-generation, Neural Cache architecture is built on math-innovative, patented, computer algorithms that decouple performance and reliability from the underlying storage media. The InfiniBox is a compelling choice for data protection and business continuance, as well as Tier 0/1/2 use cases. By design, it avoids the pitfalls of media-dependent architectures (i.e., all-flash systems) that increase the cost and complexity of primary and secondary storage solutions.

Built on the same Neural Cache architecture as the InfiniBox, InfiniGuard adds inline and variable-block deduplication to store up to 20 petabytes of data in a single 42U rack. By leveraging InfiniBox's advanced capabilities and smarter design, InfiniGuard delivers high availability, reliable backup, and fast restore at scale, ensuring your data is always there when your business needs it.

IT'S ALL ABOUT THE INTEGRATION

Through Veeam integration with InfiniGuard, customers achieve high performance, highly scalable, backup and recovery operations to meet their growing data needs.

Veeam customers can create Veeam repositories on the InfiniGuard system, and Veeam eliminates the inefficiencies most legacy solutions suffer, to deliver better backup performance when using server-side optimization.

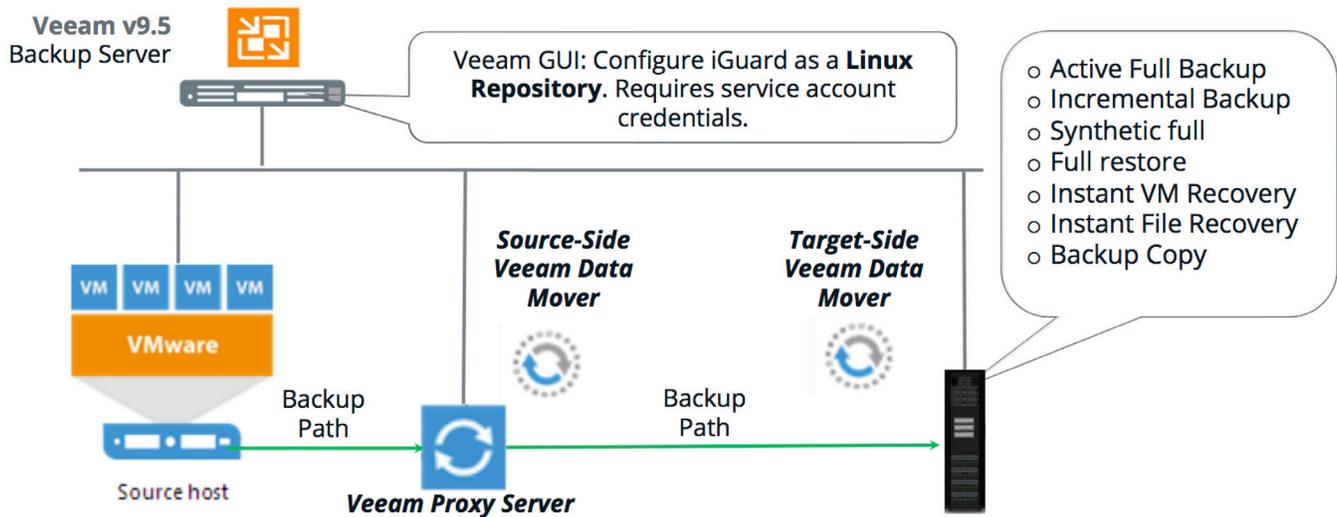### Key features of Infinidat InfiniBox include:

InfiniBox®

- ▶ Performance exceeding All-Flash-Arrays mainly contributed by architecture innovations, neural cache design, and real-time analytics

- ▶ Reliability (99.99999%) at orders of magnitude better than legacy monolithic arrays

- ▶ Densities, capacities, and efficiency that maximize floor space and consolidation efforts

- ▶ Ease-of-use and ease of automation that significantly reduces the petabyte (PB) per full-time-employee (FTE) management ratio

- ▶ An economy of scale that dramatically lowers TCO and increases ROI for large-scale data-intensive IT operations

Key features of Infinidat InfiniGuard include:

InfiniGuard®

- ▶ Built on top of InfiniBox technology with smarter availability design and better than all-flash performance

- ▶ Consistent and balanced performance design under all conditions for both backup copy and restore jobs

- ▶ Unique and instant data redundancy rebuild after a simultaneous double drive failure regardless of the drive size

- ▶ Maximum consolidation and footprint reduction to enable aggressive TCO savings

- ▶ Stateless Data Deduplication Engines (DDEs) equipped with online standby

- ▶ Less than 15-minute window for a DDE instance to complete a penalty-free failover with a full network spoofing

- ▶ Target-side Veeam Data Mover Services (VDMS) integration

- ▶ Verified as Veeam backup storage that supports all Veeam backup and restore features

SCALE TO WIN

INFINIDAT

Veeam v9.5 Backup Server

Veeam GUI: Configure iGuard as a **Linux Repository**. Requires service account credentials.

- o Active Full Backup
- o Incremental Backup
- o Synthetic full
- o Full restore
- o Instant VM Recovery
- o Instant File Recovery
- o Backup Copy

VM VM VM VM

VMware

Source-Side Veeam Data Mover

Target-Side Veeam Data Mover

Source host

Backup Path

Veeam Proxy Server

Backup Path

VEEAM AVAILABILITY SUITE

Infinidat InfiniSnap® is a patented, non-locking, snapshot technology that uses timestamps to eliminate the inherent scalability and performance issues common with snapshots. Metadata for volumes and snapshot operations is maintained with a highly efficient implementation of a Trie–the same data structure employed by Google's search engine. The use of the Trie allows for nearly limitless scalability of data operations. This means that your business can create snapshots for all of its data, at any frequency, with ZERO impact on the performance of the array during the snapshot and all subsequent I/O operations. Infinidat innovation ensures that your data, at any point in time, is always available and always current.
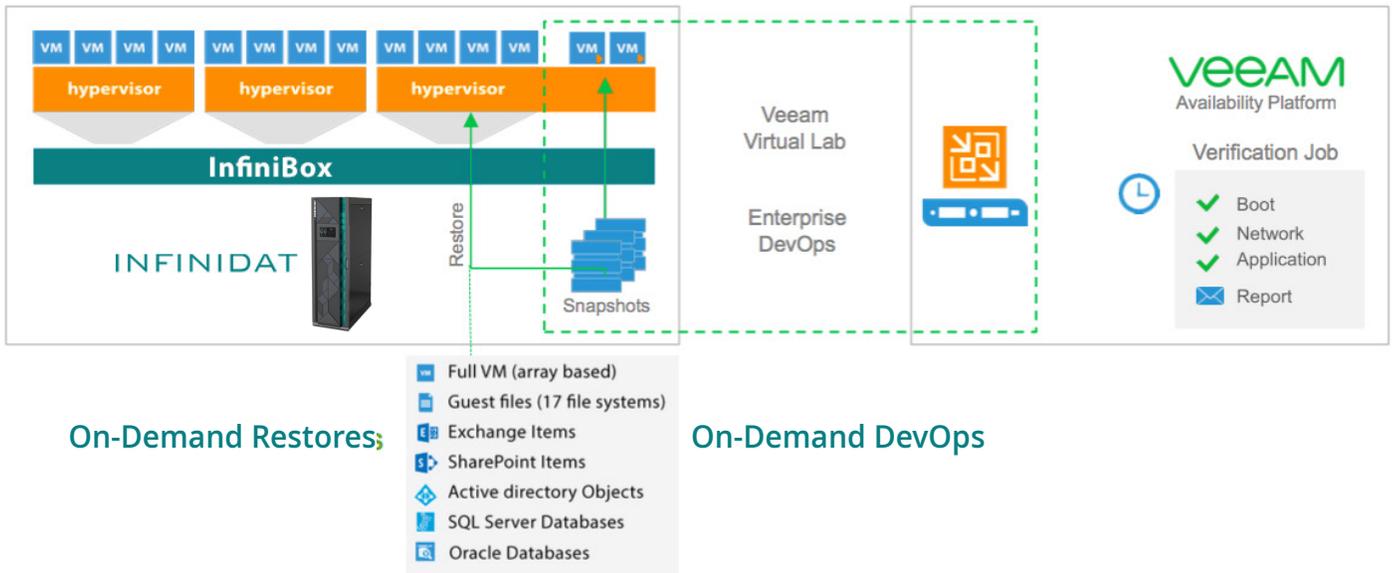
Veeam orchestration of InfiniSnap for backup and storage snapshots simplifies and automates IT operations, helping customers meet more stringent service level agreements and objectives. Veeam's agentless, application-aware backups combined with InfiniSnap, achieve better recovery point objectives (RPO) and recovery time objectives (RTO) with integrated capabilities, including:

- ▶ Veeam Backup from Storage Snapshots lowers the impact of backup operations on production environments for VMware, allowing backup at any time, at high frequency, while dramatically accelerating the backup process up to 10x faster than other solutions

- ▶ Veeam Explorer™ for Storage Snapshot quickly restores entire VMs, files, and individual application items directly from storage snapshots

- ▶ Veeam On-Demand Sandbox for Storage Snapshots creates complete, isolated copies of your production environment with just a few clicks for development, testing, and troubleshooting

Infinidat InfiniSnap Snapshots at a Glance:

Every Infinidat InfiniBox includes the InfiniSnap capability for snapshots. Unique to InfiniSnap® is:

- ▶ Fully integrated with the latest Veeam Universal Storage API Framework

- ▶ Massive scalability, up to 100,000 snapshots per system

- ▶ Timestamp-based, no metadata locking, no IO blocking, and no aggressive data relocation

- ▶ Ability to support dozens of snapshots per second with no performance impact

- ▶ Thin by default, requiring nearly zero additional capacity

- ▶ "Fast Overwrite" in-memory updates avoid unnecessary backend I/O and latency penalties common in systems requires frequent destaging

- ▶ When destaging is required, InfiniRaid® employed to optimize massively parallel I/O operations across all available media capacity

- ▶ Veeam-enabled application-aware backup, instant recovery, and enterprise DevOps on Infinidat snapshots

- ▶ Veeam restores VMs (Instant VM Recovery), guest files, application items and databases directly from Infinidat snapshots

- ▶ Veeam block-level incremental forever backup, direct out of Infinidat snapshot, with use of VMware Change-Block-Tracking

INFINIDAT

On-Demand Restores;

- Full VM (array based)
- Guest files (17 file systems)
- Exchange Items
- SharePoint Items
- Active directory Objects
- SQL Server Databases
- Oracle Databases

On-Demand DevOps

When dealing with large amounts of data, it is critical to insure backups are viable and recovery is verified. Veeam automatically tests replication and the recoverability of every file, application or virtual server, every time by running automated recovery verification jobs.

DRIVING DEVOPS AND DATA PROTECTION

Veeam® and Infinidat have collaborated on a verified solution that combines the features of the InfiniBox and InfiniGuard with industry-leading Veeam software. This proven combination of technologies enables customers to quickly realize the value of simple and efficient data duplication, backup, and recovery operations.

Your data is growing exponentially while your IT budget likely is not. Infinidat and Veeam have the right solution to help you cost-effectively answer the never-ending demand for storage while meeting the always-on requirement of your business.

[1] Veeam Availability Report https://go.veeam.com/2017-availability-report

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