Data Centre and Virtualization

Creating Cyber Resilient Technology
Joe Roa

Biography

Joe Roa is a Senior Corporate Solution Architect at Infinidat (https://www.infinidat.com), with a focus on IP data storage integration and data protection solutions. He has four decades of experience in data services and data protection.

Prior to joining Infinidat seven years ago, Roa worked at IBM as a storage solution architect and global lead GPFS solution architect.

Earlier in his career, he spent 15 years as a data protection specialist in the healthcare sector, among other IT responsibilities.

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Abstract
The threat of cyberattacks has become such a huge issue facing the largest global enterprises that 66% of Fortune 500 CEOs named it the Number One threat to businesses in the May 2021 survey of Fortune 500 CEOs. Similarly, CEOs in the March 2021 KPMG CEO survey also said cybersecurity was their Number One concern. As the author of this article explains, the issue is not "if" you will suffer a cyberattack, but when and how often.

Introduction
To effectively execute cyberattacks, such as ransomware, cyber criminals have realized they need to control not just your essential business data sitting on our primary storage, but also the valuable data sitting in your secondary storage and backup repositories. If they do not control both, then any enterprise under attack could just do a recovery from their backup datasets and ignore the request for ransom. Thus, being prepared encompasses having cyber-resilient backup and secondary storage as a critical component of your enterprise's corporate cybersecurity strategy.

Given this environment, we have infused our award-winning InfiniGuard purpose-built backup appliance (PBBA) with not just powerful modern data protection,

backup, and disaster recovery capabilities, but also with a comprehensive set of cyber resilience with our InfiniSafe technology. The architecture of the InfiniGuard enterprise solution combines our redundant data deduplication engines with our award-winning InfiniBox platform. This approach extends our software defined storage technology not only in our primary storage solutions – the InfiniBox and the InfiniBox SSA, but also to our InfiniGuard platform.

By leveraging our InfiniBox design into the InfiniGuard, we have created a unique storage solution that offers the highest reliability in the industry for any PBBA, with the highest performance at scale. This allows customers around the world, in every business vertical, to consolidate and simplify their storage resources with exceptional ease and confidence, saving time and money.

For example, one of our previous generation InfiniGuard customers – a Cloud Service Provider focused on healthcare companies – achieved savings of 40% from their previous vendor, meets stringent healthcare regulations on backup dataset retention, and increased their daily backup load from 30,000 backups per day to 90,000 backups per day.

While another InfiniGuard customer – a Global Fortune 500 Financial Services company – not only leverages InfiniSafe cyber resilience technology, but also saved 46% compared to their previous vendor.

As Dave Vellante, Co-founder and Chief Analyst, SiliconANGLE/Wikibon explains, "A comprehensive cyber resilience strategy needs to be part of every enterprise, given the fever pitch at which cyberattacks are impacting organizations globally. It's important for buyers to consider products that offer rich capabilities such as a single fenced network, immutable snapshots, logical and physical air-gapping and faster recovery. With its next generation of InfiniGuard, Infinidat's InfiniSafe offering is a key ingredient that delivers these fundamental attributes with a differentiated approach. It's an important part of a holistic cyber resilience solution combing advanced data protection, disaster recovery and business continuity to thwart cyberattacks."

Infinidat provides the simplest and most comprehensive service, maintenance, management, and monitoring capabilities in the industry and its all included. We do this at massive scale and cost savings to our customers, providing up to 50PB of capacity their backup storage workloads.   Included in our basic product is InfiniGuard's cyber resilient InfiniSafe capabilities that leverages a built-in third (redundant) data deduplication engine that can effectively use immutable snapshots, that are logically air-gapped, fenced/isolated network for test and validation, near instantaneous recovery, and an incredibly easy-to-use GUI to reduce operational complexity.

Using our built-in stand-by data deduplication engine Infinidat has the fastest and simplest means for near instantaneous recovery of a known good recovery point – in fact, we can get full recovery of our customers datasets in 30 minutes or less. Additionally, unlike our competition, all this happens on a single InfiniGuard and without any movement of data, while our competition usually requires two PBBAs and movement of the data, making their cyber resilience offerings more costly, more complex, and harder to execute recovery.

Snapshots are scheduled in an automated fashion (set it and forget it). Administrators simply select the snapshot to test, and they are evaluating for known good recovery points faster than any other solution on the market. Cyber recovery

operations were never easier or more comprehensive, regardless of the size of capacity represented by that point-in-time. Snapshots can recover a Dynamic Data Exchange (DDE) or attach to a privately air-gapped, InfiniSafe/vault for test and validation. DDE's can also use the stand-by node for engine fail-over redundancy.

InfiniGuard's immutable snapshots capture the entire data deduplication engine information, including all of its configurations, logs and data. Protecting the point-in-time snapshots from modification, deletion, change in policy or any other action, while also protecting the Shares, folders and files. This is unique in the industry and comes with no compromise in performance, reliability, ease of use or cost, as InfiniSafe technology is simply built-in at no charge.

Data deduplication and storage appliance engines are entirely immutably protected in accordance with your specific goals and our automated protection strategy. Everything is protected (users, passwords, logs, network config's, shares, files, folders, share access, etc.). InfiniGuard is built with complete system level redundancy that not only protects data from end-to-end silent data corruption, but it also provides a secure, logical air-gap, and an InfiniSafe Vault Appliance for

routinely testing and evaluating your immutable of data snapshot securely and efficiently, in your own fenced/isolated network to perform forensics to get to a known good recover point. InfiniGuard can even create a duplication to a second InfiniGuard at a remote site, combining cyber resilience with disaster recovery.

Key benefits of the included InfiniSafe technology include:

- "Set & Forget It" Immutable Snapshot Automation;

- Continuous Granular Replication;

- No Raid Groups to Build and Manage;

- 100% Back-end Storage Reliability;

- Button Operated Deduplication Engine Failover (full redundancy);

- Button Operated immutable snapshots, logical air-gapping, a fenced/isolated network for vault for test and validation of snapshots (local and remote); and

- Near instantaneous recovery of "all" deduplication data (not just MTree Files and Folders) to a validated recovery point, regardless of size (this can represent up to 25PB of protected data per data deduplication engine or up to 50PB per InfiniGuard).

Add extra connections on the Stand-By Node - Expanded
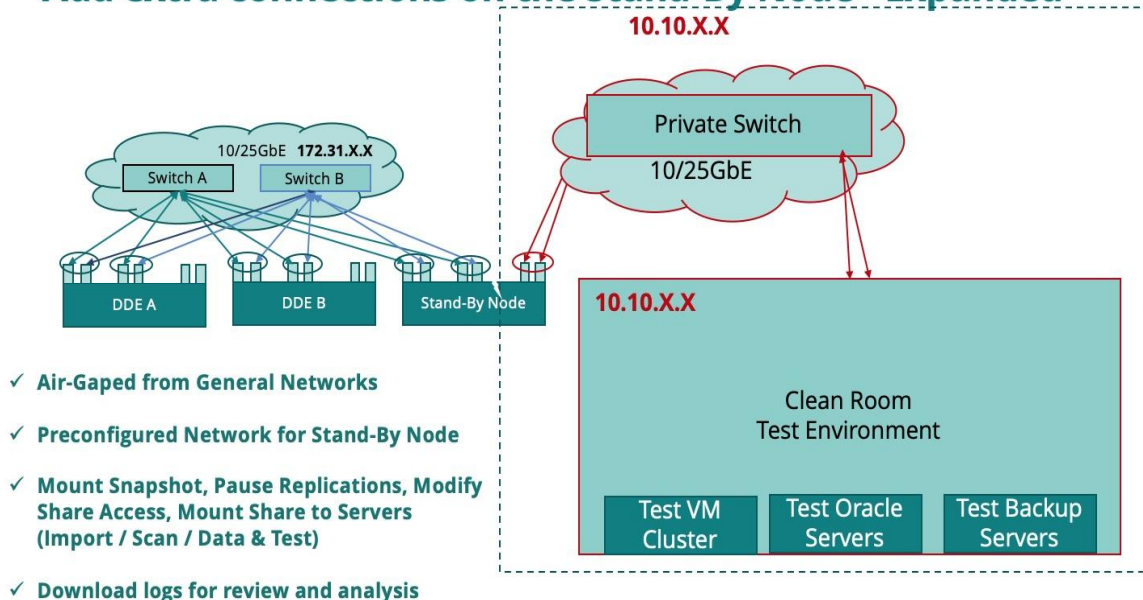
Using our InfiniSafe with our stand-by data deduplication engine delivers the most effective, comprehensive and advanced means to test and validate your immutable snapshot copies for full validation and investigation of data and services, regardless of size, for true cyber resiliency.

It's all built-in and requires very little administration education for effective use and management – and it's all backed with an industry acclaimed enterprise storage solution that provides the highest performance in the industry at massive scale, delivering consolidated cost savings with 100% storage reliability.

InfiniGuard – InfiniSafe Cyber Protection

- ✓ Transparent protection of the entire backup appliance
- ✓ Immutable snapshots using space efficient WORM technology
- ✓ Policy-based Point-in-Time recovery
- ✓ Fast recovery of the entire backup appliance
- ✓ Isolated recovery environment for validation and test/dev* (in v3.6 and above)
- ✓ Monitoring and Alerting

In conclusion
At Infinidat, we work with laser focus to bring businesses the best in enterprise storage, modern data protection, disaster recovery, and cyber resilience. Infinidat is faster, bigger, more comprehensive, easier-to-use, all-inclusive, and dramatically reduces a business' CAPEX and OPEX.