E.V.E. Advantage – Data Storage and Backup

Data Storage and Backup is an Essential IT Security Consideration for Today's SMBs

Despite popular belief, all cloud IT environments are not created equal. The benefits that differentiate one cloud IT provider from another stem from the design choices they make when building and maintaining their hosting infrastructure — and the services they include with their standard hosting fees.

Infinitely Virtual (IV) takes an intentional, customer-centric, and forward-looking approach to designing the Enterprise Virtualization Environment™ (E.V.E). E.V.E., our proprietary cloud hosting platform, delivers 100% uptime, absolute data protection, and unlimited scalability to meet the needs of today's small and medium-sized businesses (SMBs). As technology evolves, we continually enhance E.V.E. to ensure the highest levels of reliability, performance, and security.

E.V.E. provides numerous advantages over other cloud platforms, including our uncompromising approach to data storage and backup — an essential consideration in today's evolving threat landscape. We leverage best-in-class technology to deliver exceptional storage performance and data protection, along with perfect backups and fast, seamless restoration.

Fast Performance

When IV set out to design E.V.E., we understood that virtualization requires a much higher level of disk performance than physical machines with local storage. That's why we selected NetApp technology for building out storage solutions and backups across our cloud environment. By using NetApp, we were able to provide a tiered storage system that consists of both Solid State Drives (SSD) for active data and Near Line Serial Attached SCSI (NLSAS) for archival data. This approach allows your organization to get just the right balance of performance and cost-efficiency.

Tier 1: SSD at 8,500 IOPS

Tier 2: SSD at 5,000 IOPS

Tier 3: SSD at 1,000 IOPS

Tier 4: NLSAS at 500 IOPS

Fault-Tolerant Availability

E.V.E.'s data storage infrastructure is built to withstand any kind of physical failure possible—from disks, controllers and cables to system boards and memory. Our NetApp devices are clustered, meaning that if one of the controllers fails, the other controllers will automatically take over the load. This configuration is designed to ensure the availability of stored data through any hardware failure — without risk of service disruption or data loss.

For maximum data protection, E.V.E. takes advantage of NetApp RAID-DP, which means our cloud systems can survive two simultaneous disk failures in every RAID group. With NetApp RAID-DP, the chance of data loss as a result of a double disk failure is hundreds of times less likely than in the RAID 5 configurations. What's more, NetApp RAID-DP incurs virtually zero performance penalty compared to single-parity RAID.

Storage Efficiency & Flexibility

In order to keep our solutions affordable, IV designed E.V.E to be highly efficient with each customer's disks, As noted above, IV's tiered storage system utilizes two types of drives – high-performance, low-latency SSD (that uses flash memory) and slower, lower-cost NLSA — to arrive at the best fit for the customer's workload.

E.V.E. 's Virtual Storage Infrastructure is composed of multiple VMware datastores running on our NetApp devices. Using Storage vMotion, a component of VMware vSphere, we can move VMs from one datastore to another "hot" or without shutting down the virtual machine. This gives us the ability to load-balance datastores without disrupting customer uptime.

Data Security

IV storage solutions provide encryption at rest for all in-scope data (as determined by the customer). We use sophisticated algorithms to convert sensitive data, such as PII, into another form that threat actors or other unauthorized users cannot decrypt without a key. This ensures customers that their in-scope data remains secure in our cloud storage.

Perfect Backups

Free Backups You Can Count On

Data backup provides peace of mind. That's why IV designed our backup process to take place on schedule — no matter what. Even better, we retain three months of backups at no additional cost beyond what you pay for storage.

Our rigorous backup schedule includes:

- **Monthly (3)**
- **Weekly (4)**
- **Daily (6)**
- **Every hour during business hours (12)**

Read-Only Backups that Prevent Changes or Deletion

For security purposes, our backups are immutable, read-only snapshots taken by the NetApp storage controller, which means our approach does not rely on third-party software that could fail and prevent backups. These backups are not tied into the operating system or the Active Directory system. As a result, threat actors cannot delete these backups — even if they were to login into the operating system on a virtual machine and take over your system.

IV maintains two SSAE 18 Type II Audited data centers with redundant power and cooling systems. This multi-data center strategy places perfect copies of customer data at two separate physical locations. If one data center were to go down, we could bring your data up from a flawless remote backup. Furthermore, IV maintains a private link between the two data centers so customer data is never being streamed over the web — a important requirement for compliance in many industries.

NetApp takes a perfect point-in-time snapshot instantaneously and replicates it block by block to the other data center storage system. As those blocks change, the changes are written elsewhere. When the next snapshot is taken, all the data that was created or modified since the last snapshot is frozen. In this way, the snapshots build upon each other to provide three months' worth of perfect crash-consistent backups.

Application-Consistent Backups for Complete Restoration

Because crash-consistent backups come with a small risk of in-flight data loss (incomplete writes), IV goes one step further and runs an application-consistent backup every night. The VSS feature that comes with Windows instructs the operating system to pause writes just long enough for a VMware snapshot to be taken. Then NetApp takes a hard snapshot of all the blocks and releases the VMware snapshot.

This coordinated, application-consistent snapshot ensures that IV can provide a completely clean and complete restore of your virtual machines at any given point in time — in only a matter of minutes—by mounting a read-only backup into a read-write volume and connecting the virtual machine to that volume. From the customer's perspective, it's like a simple system reboot.

Checklist for Evaluating Cloud Providers

Ask these data storage and backup questions:

1. How are backups being performed?
2. How often is data being backed up?
3. How long are backups being retained?
4. How long will it take to restore my system?
5. Where are the backups stored?
6. How do you ensure the reliability of your backups?
7. How often do you test your data restores?
8. If a threat actor breaches my operating environment, can they modify or delete my backups with the username and password?

About IV

Infinitely Virtual (IV) is the most comprehensive and customer-focused cloud providers for Small and Medium Sized Businesses (SMBs). Since 2007, we've been helping SMBs solve real business challenges with solutions and services that leverage our revolutionary Enterprise Virtualization Environment™ (E.V.E.). When you work with IV, you get a dedicated team of virtualization experts whose sole responsibility is to help you achieve your goals with an efficient, cost-effective cloud solution tailored to your business, application, user, and data requirements.

FREE MIGRATION
Connect with us today!

InfinitelyVirtual.com

📞 (866) 257-8455