Going beyond high availability on Microsoft Azure Stack

ZeroDown Software for HPE ProLiant for Microsoft Azure Stack

Cutting downtime to zero while keeping critical workloads available and transaction complete during outages

Why ZeroDown Software for HPE ProLiant for Microsoft® Azure® Stack

- Azure Stack operations with no downtime
- Full business continuity and assurance, before an outage actually happens
- Recovery to immediate transaction states (versus RTO or RPO)
- No inevitable delay and disruption from executing disaster recovery plans

“There could be no ZenVault Medical without ZeroDown Software. The cloud gives us flexibility, expandability, and low cost, and ZeroDown adds application uptime and data security. As a business, ZenVault Medical can’t survive without that reliability.”


Microsoft Azure in the data center

HPE ProLiant for Microsoft Azure Stack is a factory-integrated, hybrid cloud solution that delivers Azure-consistent services from on-premises data centers. Azure Stack is co-engineered by Hewlett Packard Enterprise and Microsoft incorporating compute, storage, and networking. This solution delivers the performance, agility, and simplicity comparable to that of a public cloud, but with the business model, flexibility, and data sovereignty characteristics of an on-premises cloud.

Availability and disaster recovery challenges on Microsoft Azure Stack

HPE ProLiant for Microsoft Azure Stack has proven itself in the enterprise, leading users to make it the platform for their ambitious, mission-critical workloads. Availability of these workloads is an essential requirement for their organizations. Natively, Azure Stack offers disaster recovery (DR) functions, such as Azure Site Recovery (ASR). ASR’s capabilities may not always be adequate for organizations with high service-level agreements (SLAs), compliance and data sovereignty requirements, and other high availability (HA) requirements. ASR also may not function for customers who use it to fail over their virtual machines (VMs) to public Azure instances due to compliance issues and data sovereignty regulations.
The ZeroDown solution for HPE ProLiant for Microsoft Azure Stack

The ZeroDown solution offers ultra HA for HPE ProLiant for Microsoft Azure Stack. It utilizes a transaction journal synchronizer and software switch to ensure an instant, transaction-accurate recovery in the event of an outage. Architecturally, the solution is based on an active/active model. Both the primary and secondary instances covered by ZeroDown are actively engaged in mirroring. This is in contrast to the common master/slave architecture favored by most failover solutions. All servers are “hot” and all are “active.” There is no server hierarchy, and consequently no single point of failure. If one instance goes down, the others continue to function with no visible customer impacts.

The advantage of moving transactions, not blocks of data

With ZeroDown, instead of moving blocks of data or replicating data across instances, the software just moves transactions, which are far smaller in terms of data. The solution integrates with several popular backup solutions, which are able to move heavy data loads.

The ZeroDown solution matches transactions across the on-premises Azure Stack instance and any number of parallel systems. For example, ZeroDown can mirror applications, data and transactions from one Azure Stack instance to another Azure Stack instance, or to Azure in the cloud, and so forth. If there’s an outage, it is invisible to the user. The user’s session simply moves directly to the recovery instance with full transaction integrity.

Overcoming the limitations of traditional failover, backup, and DR

The ZeroDown solution for HPE ProLiant for Microsoft Azure Stack outpaces the recovery speed of the standard failover model of HA. With failover, the assumption is that there will be a delay in recovering system functionality. Even if the failover causes a delay of just a minute or two, transactions will be lost in the process.

Similarly, there is a difference between the kind of ultra HA made possible by ZeroDown and traditional DR. While backup and DR are essential elements of business continuity, they are comparatively slow. If there is a major disaster—like a hurricane—the DR team will have to initiate the DR plan. Affected data and applications may not be available for a significant length of time.

The long remediation process, inclusive of the recovery time objective (RTO), could be a matter of days and the company only gets data from the most recent backup. ZeroDown avoids this problem—recovery is instant and there is no transaction data loss.

Why spend cycles on DR, a plan for failure, when you can implement an always-available solution with built-in failback and failover capabilities?

Customer benefits

Deploying ZeroDown Software on HPE ProLiant for Microsoft Azure Stack offers a number of benefits to the enterprise. These include:

- No downtime—ultra HA
- Continuity of business operations with no loss of transactions during an outage
- Flexibility in HA deployment, with the ability to mirror Azure Stacks in the cloud
- Eliminates downtime risks typically associated with the shift to hybrid cloud environments
- No loss of in-flight transactions during migration

To learn more about ZeroDown for HPE ProLiant for Microsoft Azure Stack, contact us at sales@zerodownsoftware.com or visit zerodownsoftware.com.

Learn more at hpe.com/cloud/azure-stack