Datto Cloud Virtualization

Cloud-based disaster recovery has fundamentally transformed data protection for small to medium sized businesses. It wasn't long ago that many SMBs relied on basic cloud backup or even tape for disaster recovery (if they had offsite backups at all). As such, restore times were slow and the associated downtime could have significant financial impact. Thankfully, today there are alternatives. Datto solutions use innovative backup technology, virtualization, and the secure Datto Cloud to nearly eliminate business downtime. They are purpose built for IT service providers to deliver cloud-based disaster recovery to SMBs.

Datto devices take local, image-based backups of an entire system at regular intervals, creating a series of independent recovery points. A backup image includes a protected system's OS, software and files, stored locally on the Datto device and automatically replicated to the Datto Cloud. In the event of an outage, Datto's Instant Virtualization technology enables businesses to resume operations locally on the device or in the Datto Cloud while primary systems are restored.

Performing Cloud Virtualization

Cloud Virtualization can be enacted quickly and easily. Here is a overview of the process:

1. An administrator logs into Datto's Partner Portal, selects the device to be restored, and clicks Start Virtualization.
2. Next, the admin selects the recovery point from which to virtualize.
3. Then, RAM, networking, storage, and security settings for the virtualization are selected.
4. Last, the admin clicks Save and Start VM.

During setup, the admin can create a secure VPN connection to the VM running in the Datto Cloud. This allows users to access the VM as if it were on site without the need to create VPN keys for each client computer. As a result, business operations can be back online in minutes.

Failback From Cloud Virtualization

Following the event, operations must be failed back to a local production server, yet the virtualized copy is the most current version of the content. Therefore, once the original (failed) server is back online or replaced, it needs to receive the most current version of the data. Depending on how long the machine was down, this could be a great deal of changed content. The failback process also depends on the circumstances of the event and whether the local Datto device is operational following it. First, lets look at failback options if the local Datto device is still working, for example, after a power outage:

ZFS differential: If the local device has the same recovery point that was virtualized offsite, an admin can use a ZFS differential to fail back. In this scenario, Datto Tech Support takes ZFS snapshot of the cloud VM and sends the deltas (data changed since the recovery point) to the local Datto device. Then, operations can run locally on the Datto device while a new or existing production server is restored. When the restore is complete, deltas (changes to the VM while running on the local Datto device) are transferred to the production server to complete the failback.

Reverse RoundTrip: If the outage is prolonged or data change is too large for the available bandwidth, a Reverse RoundTrip will likely be necessary. In this scenario, Datto Tech Support takes a backup or ZFS snapshot of the cloud VM, populates it to a RoundTrip device, and the device is shipped to the admin overnight. Then, the dataset is transferred from the RoundTrip device to the Datto device. When the update is complete, Datto Tech Support transfers deltas (changes to the data since the RoundTrip device was seeded) from the Datto Cloud to bring the local device up to date. Operations can run locally on the Datto device while the new or existing production server is restored. Once the restore is complete, deltas (changes to the VM while running on the local Datto device) are transferred to the production server to complete the failback.

Now let's take a look at the options available if a local Datto device is not working, for example following a flood:

Virtual or Imaged Devices: Datto offers two options that allow users to convert existing hardware (that meets the necessary specifications) into a fully functioning Datto device—SIRIS Virtual and SIRIS Imaged. SIRIS Virtual appliances can be hosted in VMware vSphere, Microsoft Hyper-V, or Citrix XenServer environments. SIRIS Imaged, on the other hand, allows users to repurpose existing backup and disaster recovery (BDR) appliances or other server hardware into a Datto device. In this scenario, the admin downloads the Virtual or Imaged source code from the Partner Portal and follows the respective setup process. When the new device is running, Datto Tech Support transfers the deltas (changes since the data was seeded to the new Datto device) to bring it up to date. Then, the admin can follow the local restore process outlined in the Reverse RoundTrip section above.

Device Replacement: Finally, device replacement is also an option. In this scenario, a Datto Device is first shipped overnight from our build facility in Connecticut to the Datto Cloud data center where the business' data resides. There, data is populated to device and then shipped overnight to the admin. When the new device is on site and running, Datto Tech Support transfers the deltas (changes since the data was seeded to the new Datto device) to it up to date. Then, the admin can follow the local restore process outlined in the Reverse RoundTrip section above.

As noted above, Datto solutions are designed specifically for IT service providers to deliver cloud-based disaster recovery to SMBs with a wide variety of needs. They allow users to tailor restores to the nature of the disaster and the needs of their customers, while remaining simple and straightforward to manage.