TeraStation NAS Serves as Reliable Storage Target for Private Cloud Backup Service

Company Profile

The ITCE Systemhaus GmbH has been providing tailor-made IT systems, IT support, maintenance, and corporate cloud services for SMBs since 1999. Located in Norderstedt near Hamburg, the full-service IT provider and IT system house caters to a growing number of customers. ITCE's company philosophy includes providing personal service and direct contact to their highly-qualified staff, as well as a high bar of responsibility for the performance of their customers' IT infrastructure and data security.

The Challenge

ITCE needed a very reliable network-attached storage (NAS) solution for their private cloud backup service, which they offer to their customers as part of their managed services.
The main challenge was making the service attractive to customers in terms of price and proving that the business model is economically viable, all the while procuring high-capacity NAS hardware that is powerful enough to complete numerous backup jobs simultaneously overnight.
In addition to their strict requirements regarding the reliability of the storage device, the system house also wants to have peace of mind that in the rare case that problems do occur they can reach the vendor directly and get immediate professional help.

he Solution

The customers' backup data is stored on two Buffalo TeraStation 51210RH devices, which are located at ITCE's data center. The two 12-bay rackmount NAS units offer a total of 216-terabyte storage capacity, as well as a comprehensive palette of features that ITCE considers essential for a highly-reliable backup service and assures the profitability of their managed service business model. The TeraStation is the ideal confluence of good performance, high reliability, and affordability. In addition, the 5-year warranty and Simple Logical Data Recovery Service that come with the TS51210RH provide the desired reassurance that any issues that may arise with the device will be resolved quickly with no additional costs.

ITCE's Private Cloud Backup Solution

ITCE offers their customers a wide range of managed services, such as data center services with a fully-automated private cloud backup. The system house uses a backup software solution for this purpose, and was in need of a highly-reliable and cost-effective network storage solution. Instead of looking at storage area networks (SAN), which offered higher performance at a steep cost, ITCE decided on using network-attached storage (NAS) systems as the backup target in their data center, as NAS offers significant price savings.

In this case ITCE has to carefully balance cost, storage capacity, performance, and reliability of the storage device in order to make the "Backup-as-a-Business" model viable. The storage device needs to be powerful enough to perform several backup jobs simultaneously within a set amount of time, as backups are typically performed overnight to prevent disrupting the customers' IT operations during the day.

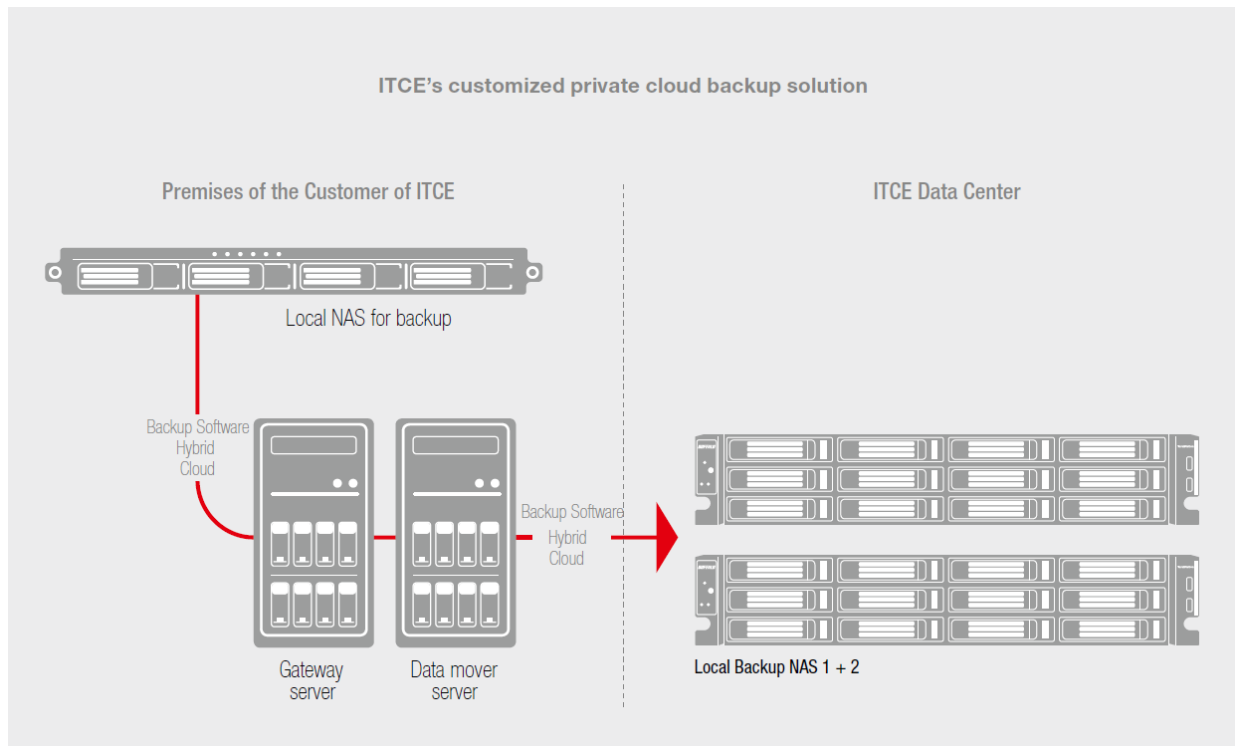ITCE's unique, customized private cloud backup solution consists of:

- A **local NAS** on the premises of the customer which performs the backup
- A **gateway and a data mover server** which transfers the backup data from the customer to the data center using backup software
- A 12-Bay **rackmount NAS** located in the data center - **the TeraStation 51210RH**
- A high-speed 10GbE connection

ITCE sets up the NAS solution that is used for local backup themselves to make sure the solution is optimized for their needs. This NAS is usually a 4-bay rackmount system, with 4 to 20 TB capacity and configured in RAID 5. The system uses Windows 10 as the operating system runs backup software. The backup software accesses the hypervisor that creates and runs virtual machines (VMs) and saves a data copy of these on the local NAS. Subsequently, the backup software transfers data from the local NAS via a gateway and a data mover server to the TeraStation 51210RH. This way, ITCE's customers have a local backup and a second backup stored in a German high-security data center. The whole process is automated so it doesn't affect the customer's daily IT operations.

The customer does not need to buy the backup software license and only pays a fee per virtual machine that is backed up (not for the actual storage space they need).

Another benefit for ITCE's customers is a very short restore time in case the local hypervisor server fails, as the backup server is not affected by the main server's crash.

Currently ITCE provides about 60 customers with their private cloud backup service, backing up 140 virtual machines (VM) every day. Fourteen VMs can be backed up at the same time onto the TS51210RH without negatively affecting performance.

ITCE's customized private cloud backup solution

Premises of the Customer of ITCE

Local NAS for backup

Backup Software Hybrid Cloud

Gateway server

Data mover server

Backup Software Hybrid Cloud

ITCE Data Center

Local Backup NAS 1 + 2

Benefits for the Company

ITCE chose Buffalo's TeraStation 51210RH first and foremost for the device's high reliability. When offering a private cloud backup solution to customers, the storage solution should be trusted to run smoothly for many years. And in the rare case of a failure, the system house should expect direct and rapid support to get the system back up without delays. ITCE exchanges storage devices every five years according to its internal policies—which is why the TS51210RH's 5-year warranty and Simple Logical Data Recovery Service, including a 24-hour hard drive replacement service, gave ITCE such peace of mind. Buffalo also provides all TeraStation customers award-winning customer service for instant assistance and guidance to resolve quickly issues, further assuring ITCE to expect the TS51210RH to be kept running without issues.

ITCE chose the Buffalo solution also because of the fantastic experience that they have had with Buffalo NAS devices in the past. 15 years ago, the system house purchased their first Buffalo NAS devices, and ended up using some of these NAS for up to 7 years without any major issues. ITCE is deeply impressed with the reliability of Buffalo devices and have great trust in Buffalo technology. Due to the growing popularity of their cloud backup service amongst their customers, ITCE is already planning to purchase a third TS51210RH with 144 TB capacity.
ITCE did look at NAS solutions from other vendors, but Buffalo's products, warranty, and VIP support and service convinced them once again. On top of that, the price-performance ratio integrates seamlessly with ITCE's business model of offering unlimited storage space per virtual machine backed up.

TeraStation 51210RH

- 12-Bay Rackmount NAS
- Available partially or fully equipped with Enterprise Nearline hard drives and capacities of up to 144 TB
- Annapurna Labs Quad-Core Processor with 8GB DDR3 ECC Memory
- 2 Integrated 10GbE ports
- Works simultaneously as NAS and iSCSI server expansion target
- 5-year warranty

> " Buffalo's service and support are unrivalled. We have been using Buffalo NAS for many years now and absolutely trust in the reliability of their products as well as of their technical support staff.
>
> The TS51210RH is the ideal network storage solution for our private cloud backup service. Of course there are many other options out there, but no other device or vendor offers this ideal mix of reliability, greate price-performinance ratio and exceptional service.
>
> **Fritjof Eichhöfer, Shareholder and Managing Director, ITCE**