White Paper

STORAGE SOLUTIONS

AIMED AT ALL OWNERS, DECISION-MAKERS AND MANAGEMENT STAFF OF SMALL AND MEDIUM-SIZED ENTERPRISES

Fast IP technology, flexible data access, perfect security

TeraStation 5000 SMB customer programme

Introduction

Today's small and mid-sized businesses operate in the same mission-critical environment as their enterprise competitors. And like big businesses, SMBs also have to handle large volumes of data, and maintain the highest levels of uptime - every day and around the clock.

An independent survey into IT managers' practices, carried out by Growing Business, found that a quarter of the 500 respondents interviewed (24%) had experienced a loss of data, and that 90% realised they would suffer serious impacts to their business in the event of data loss. But despite this high level of awareness, the survey also found less than four in ten respondents (37%) backed up their data daily, while a mere one in 14 respondents (7%) ensured their vital corporate data was backed up every hour.

Consequently, it has become essential for SMBs to adopt enterprise-class processes and technologies, and this applies to the data storage and management systems that underpin their business. Buffalo Technology's TeraStation 5000 family of products – which features the TeraStation 5200, 5400, 5600 and 5800 – provide exactly what SMBs need to compete with the larger players. The enterprise-class solution is designed to help them centralise their storage and backup activities, seamlessly and cost-effectively. It does this by providing SMBs with a host of powerful business features and a level of reliability and performance normally only associated with an enterprise environment.

TeraStation 5000 Overview

The TeraStation 5000 family of devices are either rack-mounted or freestanding and come with a compact design, which offers a business class/professional-grade NAS operating system. The devices simplify the process of managing data, backups and data sharing in a production environment, and brings a range of advanced features such as: NAS and iSCSI support; multiple levels of RAID technology; support for cloud storage; and IP video surveillance integration.

Features such as these make the TeraStation 5000 range of products an ideal data storage and management platform for SMBs. From a business perspective, they are a cost-effective network storage solution for companies that require enterprise-level performance and functionality.
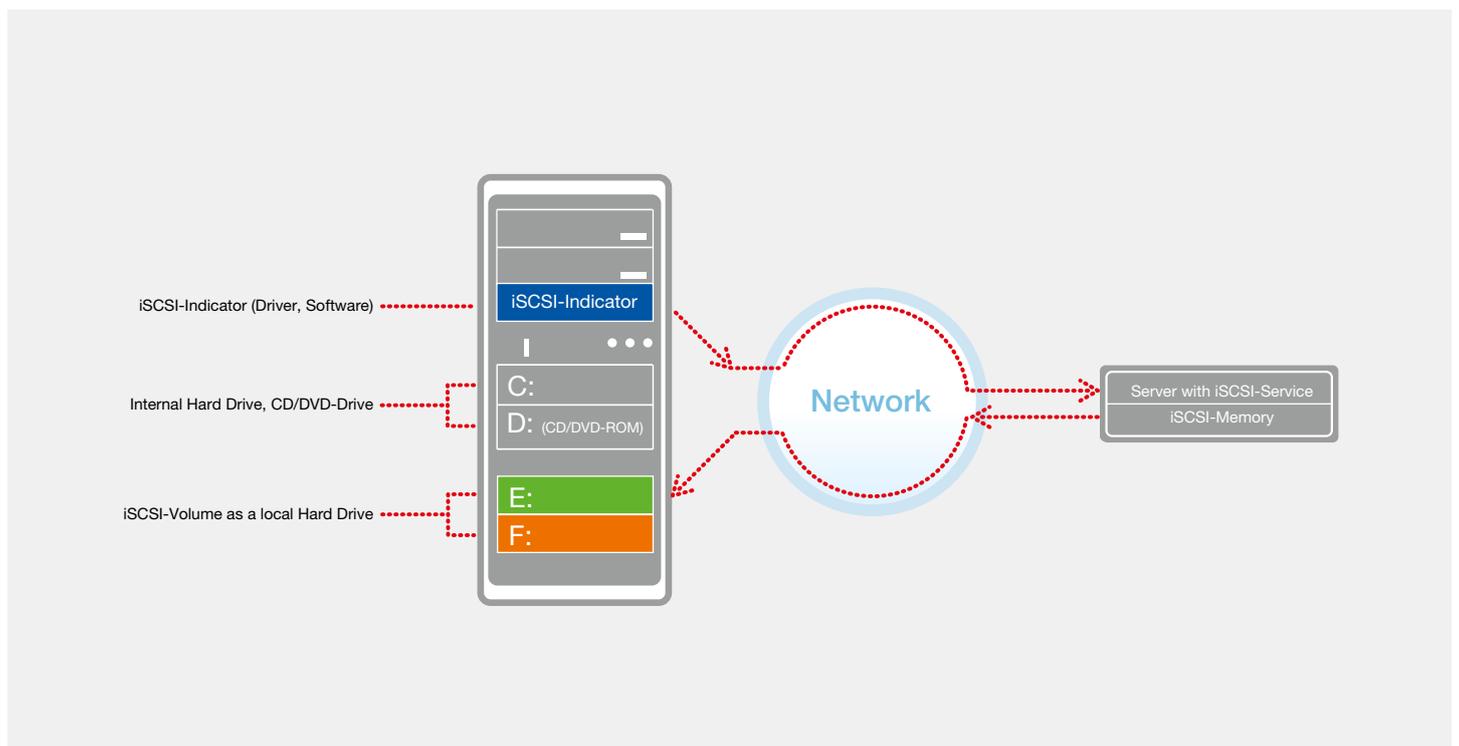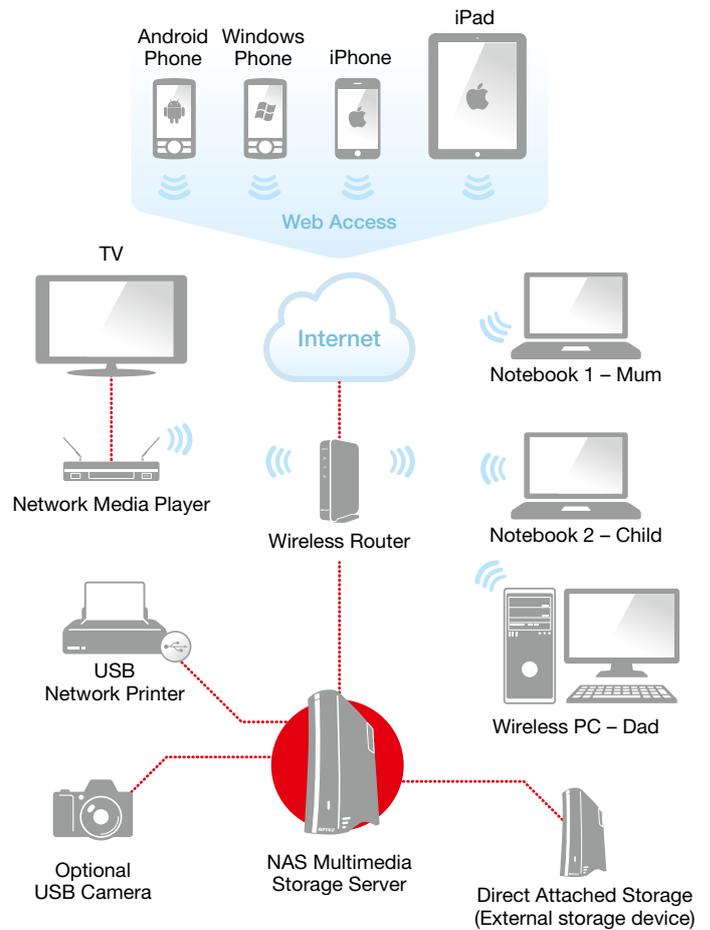
Combined iSCSI & NAS

Amongst the TeraStation 5000 series' enterprise features is support for both NAS and iSCSI-attached storage, making the range the first Buffalo products to combine the two connectivity technologies.

The system provides an advanced level of data transfer performance, security and network flexibility and exceptional file transfer performance.

Furthermore, the TeraStation 5000 series gives SMBs flexibility in their storage architecture by offering IP-based iSCSI connections to LAN and WAN storage resources, as well as direct peer-to-peer (P2P) and web-based NAS devices, such as LinkStation and TeraStation.

This enables them to choose the best combination of technologies for their business, with NAS generally recognised as a better option for file storage, and iSCSI for block storage.

Regarding iSCSI support, product test guides are available, and the platform has VMware certification, which means it can be used with VMWare's virtualisation environment, broadening the options for SMBs to gain from cost-efficient storage virtualisation.

Multi-function devices for the SMB

The feature-set of the TeraStation 5000 has been constructed with the needs of SMBs in mind. As a result, it combines numerous enterprise-class technologies and features designed to make life easier when it comes to storing and managing data.

- One of these features is support for a wide range of operating environments, allowing the full spectrum of OS users to access files and folders on the TeraStation 5000 using the relevant protocols. Environments include Windows and Windows Server, connecting through SMB/CIFS; NFS; Mac OS, using AFP or SMB/CIFS; VMware, connecting through NFS; and Linux, through SMB/CIFS.

- Data security is another issue that SMBs and enterprises both have to address, and with this in mind, the TeraStation 5000 NAS family offers multiple levels of security to protect content and privacy. In terms of user security, individuals are assigned username and password credentials, and the administrator is able to control folder and file-level access. There is also group security with the ability to create user groups and control folder and file level access. The system enables individuals to access data through the web as well, and in these instances, HTTPS-access is available for individuals who need a secure, encrypted connection between their client device and the TeraStation 5000.

- Thirdly, a feature designed specifically to make life easier for SMBs is TeraSearch. Traditionally, searching for files on different NAS devices is a difficult affair, and Windows and Mac search tools have to search every file over the network, which can be a lengthy process. To combat this, TeraSearch indexes all of its stored content and provides a web-based search portal to find data quickly.

Buffalo Surveillance Video Manager

Used in conjunction with the TeraStation 5000 series, Buffalo Surveillance Video Manager for TeraStation is purpose-built to help SMBs manage and protect their video assets, and provides advanced forensics-based video lifecycle management.

It features a scalable video surveillance asset management platform, which facilitates high-quality video recording and management for easy access and playback. An ideal solution for SMBs, including retailers, manufacturers, and finance firms, Buffalo Surveillance Video Manager supports up to 10 Real Time Streaming Protocol (RTSP) IP-based video surveillance cameras, and supports up to 30 FPS recording.

The system enables direct capture, management, camera feed storage and simultaneous viewing of live as well as stored video, and is a scalable solution that can be expanded cost-effectively to meet the needs of a growing business.

Used in conjunction with the TeraStation 5000, it delivers long-term retention, and video file indexing and export, automatically migrating and replicating video assets as required.

One business that has benefited greatly from Buffalo's IP video surveillance solution is Cold Stone Creamery, a retail ice cream franchise business with over 1,400 stores worldwide. The business has a sizeable retail storefront operation to watch over, and introduced the system to improve its round-the-clock premises security and surveillance, across customer areas, cash registers and the employee back room.

The business now benefits from having a scalable, professional-grade video surveillance solution that gives it peace of mind, due to its powerful search and review function, which can provide video evidence to the authorities quickly and easily.

Cloud storage support

The TeraStation 5000 NAS family supports Amazon S3 backup, a fee-based online storage service from Amazon, broadening the options for SMBs to store and back up their data offsite.

What's more, the platform provides easy-to-use support from the TeraStation Web Admin console, so administrators can select a share for backup simply and efficiently.

The unique technology behind this is Buffalo's WebAccess, which gives businesses the flexibility to share and access their files anywhere and anytime, in a secure fashion.

Buffalo's WebAccess provides remote access to data and files held on the TeraStation or Buffalo LinkStation products. For employees working flexibly and remotely, this means they have access to the files they want whether they are at home, on a desktop computer in an internet cafe, or travelling with a mobile device.

The technology works with all devices that have Internet access via a web browser, and there is optional SSL support for increased security. In essence, this provides a secure link to the data resource, whether it's a picture or a document, via a web browser. Files can be shared by multiple users through a secure logon.

In terms of mobile access, Buffalo WebAccess can be used with a free application that runs on smartphone and tablet platforms including Android, iOS and Windows 7.5 Mobile and Windows.

Streaming HD video, music and gaming capabilities

For businesses that are heavy users of multimedia files, the TeraStation 5000 series is particularly suited to streaming high-definition video and music, and also high quality gaming.

The systems are equipped with multiple integrated multimedia servers for seamless streaming and playback of movies and music. For example, there is a DLNA Certified Media Server, which makes interconnecting digital devices easy to do. Digital content can be streamed to any DLNA or UPnP media player on the network, including PlayStation 3, Xbox 360, and DLNA-compatible TVs and media streaming devices such as WDTV.

In addition, the TeraStation NAS systems pack an integrated iTunes server, so users can set up their TeraStation as a content source to stream content easily from the device directly to any network device running iTunes. The TeraStation Pro series also includes a Squeezebox server for integration with Logitech Squeezebox.

As for Buffalo's WebAccess cloud storage and access system, this has a slideshow function for image files; and for MP3 music files there is a built-in player that generates a playlist with all songs in the folder once a file begins to be played. For video streaming, the popular mpeg4 format is supported and will play files seamlessly.

All of these integrated multimedia capabilities save IT administrators valuable time and resources, and offer creative professionals, home office workers and employees high levels of functionality and usability.

Advanced Storage Management

A particular strength of the TeraStation 5000 family is its advanced storage management features and functions, which have been created specifically to make storage management tasks straightforward for SMBs. The TeraStation systems offer several tools and technologies to help businesses manage their data storage the way that best suits the needs of the company.

The systems support multiple levels of RAID technology, from RAID 0 up to RAID 61, utilising multiple hard drives and delivering enterprise-class capacity and redundancy. This means businesses can customise their RAID storage in a way that suits them best.

Secure backup to another TeraStation or USB device can be achieved quickly, using the convenient plug and play USB accessory, and the TeraStation 5000 series also provides full support for Amazon S3 cloud storage.

Access to TeraStation data can be granted anytime and anywhere with Buffalo WebAccess, with the technology also enabling data to be transferred to online backup or cloud-based storage in a straightforward and efficient way.

Another key storage management feature is the ability to backup the device using Nova BACKUP Business Essentials, Mac OS X Time Machine, or Direct Copy Function, discussed in more detail below.

Simple Notification System

Businesses can schedule regular notification emails, daily reports and updates on the performance of their TeraStation devices using the simple notification system provided – with the goal being ease-of-use, and ease of management.

For example, IT managers can set up email alerts that will give them HDD capacity reports, notifications on component failures, such as fans and disks, as well as quota reports and TeraStation backup job reports.

There is also a clear LCD panel on the device that provides real-time status updates, displaying the current status of the TeraStation including its Hostname, IP addresses, capacity used, and date and time.

With features such as these, the intention is to make storage management as pain-free as possible for SMBs.

BitTorrent Downloader

The TeraStation NAS systems incorporate technology that allows businesses to manage P2P BitTorrent file transfers directly from the TeraStation without the use of a dedicated PC, using a powerful torrent file management client called µTorrent.

Using this tool, files can be downloaded and shared directly from the TeraStation. In addition, downloads can be managed from anywhere using the simple Web-based download manager. In practice, this means copy and pasting BitTorrent URLs directly into the download manager from a computer or mobile device. µTorrent can be accessed from outside the home or office, although firewall configuration is required for this.

Backup

With data being the lifeblood of all businesses, whether SMBs or enterprises, backup procedures are essential, which is why the TeraStation 5000 devices come with extensive backup facilities.

For starters, all TeraStation devices come with Novastor backup software, and include 10 licenses. NovaBACKUP Business Essentials is an easy-to-use backup solution that automatically backs up documents along with photos, music and email files, safely and securely. The software can be used to backup Windows-based PCs, notebooks and workstations.

And for Apple OS environments, TeraStation supports Time Machine for Mac users, including Mac OS X Lion; enabling administrators to schedule backups from one or multiple Mac computers on the network.

For the first time, Buffalo has added a feature that allows the user to create up to 10 backup versions of their data, which means they could set up to 10 consecutive days of backups, which can be easily retrieved from their directory. This would be in addition to their 'usual' backup actions.

The TeraStation NAS system can be configured in a variety of ways to backup and protect important data, and compression and encryption are available to secure the information. One option is backing up to a USB hard drive, flash drive or digital camera, and this is a simple plug and play process. Alternatively, it's possible to backup to another TeraStation on the home or office network, or backup remotely over the Internet to a private cloud or Amazon S3 managed cloud service.

Replication and Failover

In addition to these backup features, the TeraStation 5000 family of products also incorporate a failover facility that ensures files or folders are automatically backed up to another TeraStation when they are created. The second TeraStation steps in to automatically take the place of the first in the event of it failing, preventing the interruption of business operations.

Buffalo's replication technology provides scheduled or real-time replication to an additional TeraStation. This provides simple, high performance data replication between NAS devices, either through the user's network or over the Internet – offering businesses continuous data protection in the event of data loss. Configuring the system to include data replication from one TeraStation to another enables the business to setup automatic failover to the redundant device should the main unit ever become inaccessible. The backup device automatically assumes the role of the main TeraStation, minimising disruption and preventing intervention by allowing continual access to corporate data.

Conclusion

In this white paper, we have outlined some of the features of the TeraStation 5000 series, such as its advanced storage management, extensive backup options, cloud integration, and IP video extensions, all designed with SMBs in mind. In fact, Buffalo has a long history of working with SMBs, and providing them with enterprise-class technologies at an affordable price.

One customer, Computer Market Research (CMR), is currently benefiting from the TeraStation's robust backup and recovery, and many other features. CMR uses TeraStation products for daily backups and server images, and to provide long-term archival storage for its production environment. Several TeraStations are used to backup the company's databases, which contain CMR's client data, as well as images of its 32 Windows-based servers, enabling quick recovery in the event of a server crash.

As well as using the TeraStation as a storage array, the business is also using it as an FTP service utility, which allows it to manage its files. The business estimates the cost saving from this to be around the cost of the TeraStation itself.

> The Buffalo TeraStation allows us to back up our entire network for a fraction of the cost of higher end systems while still providing higher end business functionality like hot swap, rack designs. Rather than just adding drives as your back-up solution, it provides a multi-faceted turnkey device that enables you to stream data more efficiently. That's a win for everybody."
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> **Mark Bryson,**
> Director of information technology at CMR

With the Buffalo TeraStation 5000 series of products, SMBs are gaining enterprise-class storage management technologies and tools at a cost-effective price, giving them the power to compete with larger competitors.

After all, in today's business environment, SMBs need every competitive advantage available to stay ahead.

For more information on the TeraStation 5000 devices and Buffalo Technology's wider range of business-focused products please visit the Buffalo UK Business Blog at:
http://buffaloukbusiness.wordpress.com