

The NAS that's more than a NAS

When is a NAS (Network Accessible Storage) device more than a NAS?

When it's a Western Digital [DS5100](#).



I've just finished an evaluation of the WD Sentinel [DS5100](#), courtesy of our colleagues at Western Digital and I'm blown away.

At a Western Digital presentation just prior to Christmas 2013, I got to see a number of WD devices in action.

Initially, I was just interested in the Linux based [My Cloud EX4](#) units. Great for backup and storage and some very clever applications.

Normally, a software developer doesn't have a strong interest in NAS devices. However, on this occasion as I read through the specifications of the Windows Server 2012 [DS5100](#) and [DS6100](#) it occurred to me that these NAS devices were much more than storage devices.

After some email discussions with Simon Whitford from Western Digital about the possibilities, Simon sent a [DS5100](#) for us (my colleagues at [Brother](#) and myself) to evaluate.

The specifications

The unit tested was the WD Sentinel DS5100 (code : WDBYVE0040KBK). I'd class this unit as an entry level machine. For greater capacity take a look at the WD Sentinel DS6100.

Operating System	Windows Server 2012 R2 Essentials
CPU	Intel® Xeon™ E3-1220LV2 2.3 GHz Dual Core Processor
RAM	8 GB (Upgradable to 32gb)
Disk/s - AV HDD	320gb - for operating system
Disk/s - iSCSI	2 x 2TB (upgradeable to 4 x 2TB)

The DS5100 has the capacity for 2 AV hard disk drives and 4 iSCSI Drives. More information is available on the Western Digital website about the expansion capabilities of the device.

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Set-up/Installation

Installation was fairly easy. Using a spare monitor (VGA connection) and a usb keyboard and mouse I set-up the DS5100 with the 2 x 2tb drives configured as [RAID 1](#) (mirrored disks). The Windows Operating System is loaded on the AV HDD drive.

Purpose

The purpose of the evaluation was to see which software packages would work, test that it was possible to install the Brother printer drivers and ascertain as to whether the DS5100 could act as a terminal server.

Obviously not everyone will want to run the programmes tested within this environment. All of the installed programmes ran and performed with no issues.

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Installation Sequence

Software	Version	Type	Notes
Microsoft	SQL Server 2012	Database Engine	Installed the full suite of (except Local DB) including SQL Management tools. Requires some patience as a number of downloads occur
Thinsoft Inc	WinConnect Server ES (64-bit)	TS Software 5 user trial version	Installation was straight forward and works as expected. Transforms the DS5100 into a full blown Terminal Server
Oracle	Virtual Box	Virtual Machine (Windows 8.1 pro 64 bit)	Installed and tested using a Virtual Box copied from Ubuntu 13.10.
etouch Retail	etouch Retail POS	Single User Version	No Issues - runs as expected
etouch Retail	etouch Retail POS	Network Version	No Issues - runs as expected
Soft Velocity	IP Data Server	IP Data Server	When installing make sure that all of your DLLs are provided
Soft Velocity	Clarion Application Broker SE	The Application Broker features a hi-performance multi-threaded socket engine, built-in SSL support, runs as a Windows Service, and has a remote administration interface. The appbroker allows Clarion Developers to enable and run applications over the web. see www.softvelocity.com for more details	In this evaluation the drive I used for applications was the D: drive - the drive letter may vary in other installations To install and configure this service you need to undertake the following. 1. Install to the Raid enabled Drive 2. If using secure login search and edit the registry setting where the drive letter is incorrect. 3. Server Firewall a) Allow the port/s b) Allow the executable (as at writing c60aps.exe in the D:\ClarionAppBroker\ folder). Under 64 bit Windows systems you need to locate and run c60aps.cpl as an administrator to configure the port
Printers	Details	Device Type	Notes
Brother	HL2250DN	Network	Recognised and installed via Windows Update
Brother	J6910 MFC	Network	Recognised and installed via Windows Update
Brother	TD-4000	USB	Downloaded Windows 8 64 bit driver then installed using the manual printer installation process
Other	PDF CREATOR	Software Printer	Downloaded and installed - no issues

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Summary

This is a fantastic device. The performance is superb and the footprint is extremely small. Beyond its use as a NAS, the DS5100 would make a great server for any business requiring a low profile, reliable, quiet and very fast data server.

If your data and business activity doesn't need to rely on reliable, responsive and fast response times then the DS5100 is not a cheap machine.

However, if your data is valuable to you and you see your investment in IT infrastructure as an investment, then you will find the DS5100 gives value for money performance.

We'll be offering the WD DS5100 (and DS6100) as a server to our clients.

The performance using Microsoft's SQL Server (I'm thinking very useful for CRM and large accounting systems), was extremely fast for connection and data retrieval. In addition the server software (IP Data Server & Application Broker) from Softvelocity performed extremely well. Although the Clarion Application Broker is relatively old technology the response times from the DS5100 were the fastest I've seen for some time.

Installation on the Thinsoft WinConnect product was very easy and performed exceptionally well.

Virtual Box: I use Virtualbox for development. I can't envisage anyone wanting to use this in a business environment (I'm open to being corrected on this). Needless to say, performance was brilliant.

I know that Western Digital designed the DS5100 to be a high performance NAS. As a NAS it shares files and performs as expected. To be honest, if I was only interested in a NAS I'd look at some of the other Western Digital devices such as the [My Cloud EX4](#). In fact you could actually have a number of WD devices on the network to meet all of your needs.

I really like the idea of "My Cloud". I've written before on the cloud and its over-hyping. Western Digital have come up with a solution that allows you to build your own cloud. The advantage is that you know where your data is and how it's being managed.

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Possibilities

Okay, here's a list of where I think the DS5100 as a server may be suitable (you may see additional possibilities).

Business/Industry	Notes
Retail Point Of Sale	Because of its small footprint and low profile, the DS5100 would be ideal in a retail situation as a discrete server. Add in the Thinsoft WinConnect software and you've got a server that's accessible in-house and from off-site. With our etouch Retail Point of Sale you can have Tablet ordering as well as our standard POS approach.
Database Server	The insane performance of the DS5100 means that where you need to add a new SQL Database server you'll get real bang for buck out of this device.
Wholesalers	Most wholesalers have limited office space, need another server for your inventory system? The DS5100 is ideal due to its robust design and small profile.
Supermakets	Reliable, fast and small profile. Add in Thinsoft WinConnect and the manager can log in any time to see how the business is performing
Terminal Server	Need a small departmental terminal server? Then the DS5100 becomes a very low cost device. With Thinsoft's WinConnect you can attach any device that supports RDP.