

HP BladeSystem tested configuration for ETI-NET

EZX/BackBox[®] solution



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Executive summary

This document describes the tested configuration used to verify that ETI-NET EZX/BackBox® installed and executed successfully on HP ProLiant BL460c blade servers with HP PCI expansion blade, all inside a HP c7000 Blade enclosure.

HP ProLiant BL460c servers' capabilities may be enhanced by the use of recommended HP services – from planning and readiness assessment to solution implementation and lifecycle support. HP Services contact information is provided in the “For more information” section of this document.

ETI-NET EZX/BackBox® overview

EZX/BackBox® is ETI-NET's virtual tape-based product for NonStop systems. While BackBox can be used as a stand-alone virtual tape system with self-contained disk storage, its real strength is in integration with other storage and storage management systems. BackBox can:

- Store virtual tapes on internal disk or SAN-attached storage;
- Utilize “data de-duplication” for up to 20X or more reduction in disks required;
- Store virtual tapes on NFS or CIFS file servers;
- Pass through virtual tapes to Tivoli Storage Manager or Legato NetWorker servers via their native APIs;
- Relay virtual tapes to other ESMs, such as NetBackup or HP Data Protector, via scripted transfers;
- Consolidate many parallel NonStop backup streams onto a few high-speed physical tape drives.

EZX/BackBox® on HP c-class BladeSystem

Multiple BackBox Virtual Tape Controllers (VTCs) can be used independently to linearly increase BackBox throughput. For instance, backup via a 6 VTC configuration has been benchmarked at over 2.75 TB per hour! And in multiple VTC configurations, failure of a VTC can be accommodated by automatic re-routing of backups via the remaining VTCs.

When implemented on HP c-class BladeSystem platforms, up to 8 VTCs can be implemented in a C7000 (10U) enclosure or 4 VTCs in a C3000 (6U) enclosure, each VTC with up to 4 SCSI or Fibre Channel connections to NonStop host systems. This is an unprecedented density for NonStop virtual tape products, providing up to 32 NonStop host connections, with corresponding processing power and storage back-end connectivity to ensure maximum throughput.

Using mezzanine card FC or Ethernet adapters, along with the integrated switches in HP c7000 Blade enclosure, the virtual tape data can be efficiently routed to SAN storage, Data De-duplication equipment or to Enterprise Storage Management servers.

Why Blades for BackBox?

Implementation of BackBox hardware and software in a Blade environment has the advantages:

- Denser packaging cuts rack space requirements significantly. Not only are the servers more compact, but the FC & Ethernet switching infrastructures can be integrated, eliminating even more rack space requirements;
- Compute power can be selected by individual Blade, to tailor it to the BackBox VTC throughput requirements;

- Enables packaging Enterprise Storage Management servers, including clusters, in the same enclosure;
- Reduces significantly the number of interconnect cables required, and thus potential points of failure;
- Higher degree of power supply and cooling redundancy than in conventional servers;
- Intelligent cooling design reduces both power and data center cooling requirements;
- HP Onboard Administrator, together with server and infrastructure management software (HP Systems Insight Manager) simplifies monitoring, management and control of the servers.

HP BladeSystem and management software solutions overview

HP BladeSystem c-Class delivers the best-run IT infrastructure out of the box – unifying server, storage, networking, and power and management capabilities in a time-smart, change-ready, energy-thrifty and cost-savvy system that brings unlimited possibilities to businesses of any size. As such, it is a key stepping stone toward HP's concept of the Next Generation Data Center. It will help IT administrators by enabling tighter, dynamic connections between IT and the business process. When combined with HP StorageWorks products, it further benefits IT administrators by reducing costs and increasing productivity through:

- Unified Infrastructure
- Operational efficiency by simplifying routine tasks, automating administration through tools like HP Systems Insight Manager and HP Storage Essentials
- Flexibility to accommodate future growth and needs by providing a variety of connections and options

Further, the extensive selection of HP BladeSystem management tools, storage and networking products, services and support delivers a robust portfolio that enables you to build solutions to meet your unique and changing infrastructure requirements. Tools such as HP Integrated Lights-Out (iLO) management, HP Systems Insight Manager and HP ProLiant Essentials Rapid Deployment Pack can help optimize data center efficiency and lower Total Cost of Ownership.

HP Integrated Lights-Out 2 (iLO 2)

With iLO 2, you can perform basic system administration tasks remotely, as if you were at the server using its KVM (keyboard, video, and mouse) switch and power button regardless of the server's operating condition. It also enables anytime access to system management information. These remote control capabilities dramatically reduce the need of onsite assistance to support ProLiant servers.

HP Systems Insight Manager (HP SIM)

HP Systems Insight Manager, the HP unified server-storage management tool, helps maximize IT staff efficiency and hardware platform availability for small and large server deployments alike. From a single management console, administrators can manage their complete HP server and storage environment with a feature rich, extensible and secure management tool set.

HP Rapid Deployment Pack (RDP)

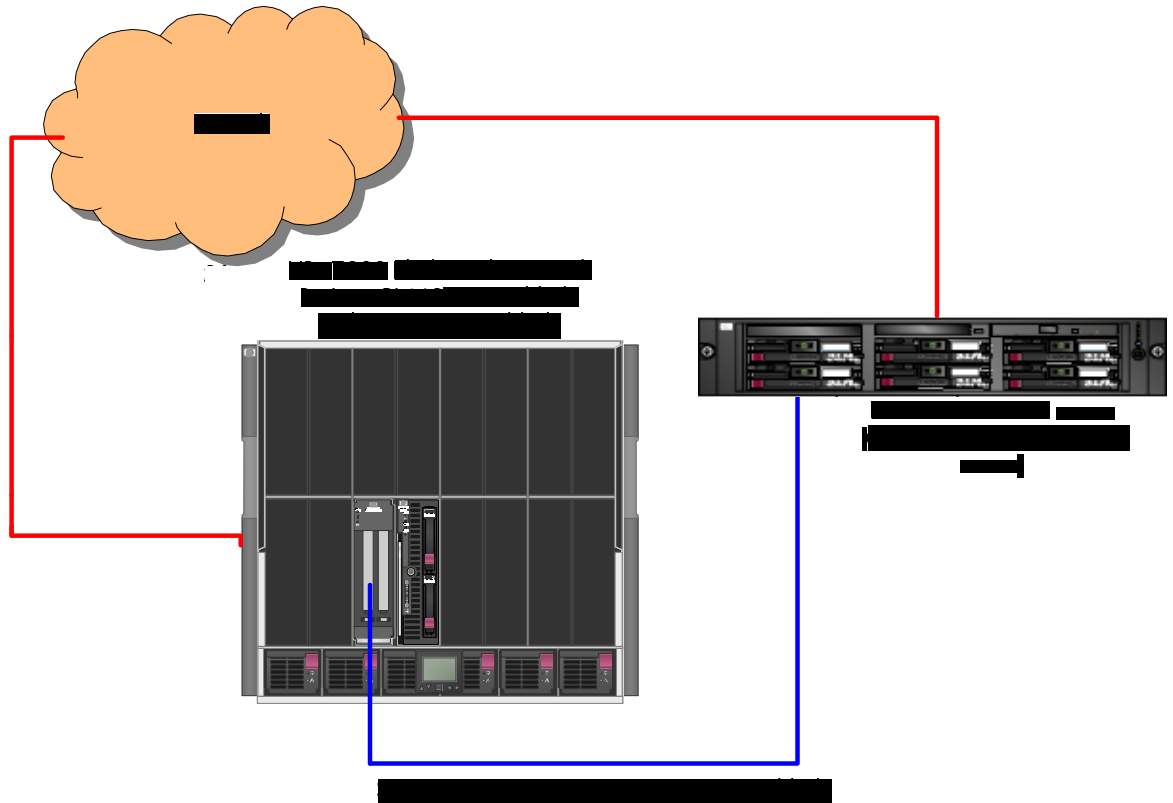
Rapid Deployment Pack (RDP) is a server deployment solution that facilitates the installation, configuration, and deployment of high-volumes of servers through either a GUI-based or a web-based

console, using either scripting or imaging technology. Server configuration time is reduced, making it possible to scale server deployments to high volumes in rapid fashion.

Tightly integrated with HP Systems Insight Manager, RDP is a fast, easy solution for deploying servers using imaging or scripting. Deploying a server is as easy as selecting one, a few or hundreds of target servers, then selecting predefined images or scripts and clicking Run.

Tested configuration based on the HP BladeSystem c-Class

Figure 1. Sample configuration



Software used in this verification

In the tested configuration based on HP ProLiant BL460c servers, the following software was installed:

- Microsoft® Windows® Server 2003 R2 SP2 32-bit Enterprise Edition
 - Current hot fixes and critical updates
 - Microsoft® .NET framework 2.0 and ASP .NET
- HP ProLiant Support Pack for Windows Server 2003 version 7.91
- ETI-NET SCSI Target-mode driver v5.72.0
- ETI-NET FC Target-mode driver v2.60
- ETI-NET EZX/BackBox VTC software v2.02-20071109

Hardware verification environment

The tested configuration was based on the HP ProLiant BL460c server platform with Dual-Core Intel® Xeon® processors.

Table 1. Hardware verification environment

Qty	Description	Configuration	Notes
Server(s)			
1	HP ProLiant BL460c	2 x Dual-Core Intel® Xeon® processors 3.0GHz, 4 GB Memory	
1	HP ProLiant DL380	2 x Dual-Core Intel® Xeon® processors 2.80GHz, 4GB Memory	To emulate a NonStop server
Storage			
2	146GB 10K SAS internal drive		
Other Hardware			
1	HP PCI expansion blade	PCI-X and PCIe	448018-B21
1	HP c7000 Blade enclosure	On-board Administrator firmware v.2.04	
1	ETI-NET HVD 2-channel SCSI PCI-X Target Mode Adapter	PCI-X	
1	ETI-NET 41-XS 4Gbps 1-channel FC PCI-X Target Mode Adapter	PCI-X	
1	ETI-NET 41-XS 4Gbps 1-channel FC PCIe Target Mode Adapter	PCIe	

Test description

ETI-NET EZX/BackBox hardware and software has been tested with HP BL460c server blades at the HP Cupertino Partner Technology Access Center (PTAC), HP Solution Alliances Engineering. Tests conducted also evaluated a seven-point checklist and basic functional testing. The seven-point checklist verified in the specified environment that the application:

- Installed without incurring any resource limitations
- Installed without generating any critical error messages
- Installed without requiring additional driver or software upgrades

- Exhibited normal expected functionality after installation
- Passed specific tests for iLO management functionality
- Passed specific tests for HP SIM and server communication
- Passed specific tests for RDP and server communication

Test results

- Date tested: November 26th – December 7th 2007
- Hardware verification: PASSED
- Software verification: PASSED

Conclusion

HP and ETI-NET have verified that EZX/BackBox[®] installs and runs on the HP BladeSystem c-Class infrastructure and servers as outlined above.

HP recommends a proof-of-concept implementation using this tested configuration as a matter of best practice for all deployments. HP recommends that this configuration be tested and analyzed as similar to the production environments as possible to determine the performance and scalability characteristics of the defined configuration. For help with the proof-of-concept, contact an HP Services representative at <http://www.hp.com/hps/contacts/index.html>.

For more information

HP ProLiant servers home
<http://www.hp.com/go/proliant/>

HP BladeSystem home
<http://www.hp.com/go/blades/>

HP ProLiant Essentials home
<http://www.hp.com/go/proliantessentials/>

HP Systems Insight Manager
<http://www.hp.com/go/hpsim>

HP ActiveAnswers home
<http://www.hp.com/solutions/activeanswers/>

HP Storage
<http://www.hp.com/go/storage>

HP Remote management
<http://www.hp.com/go/ilo>

ETI-NET
<http://www.etinet.com/>

EZX/BackBox datasheet
<http://www.etinet.com/ftpdoc/datasheet/BackBox Data Sheet.pdf>

To help us improve our documents, please provide feedback at www.hp.com/solutions/feedback.

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