

SUPPORT MATRIX

Version 5.0 Service Pack 1

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English:

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Overview

Sun StorageTek™ Business Analytics (Business Analytics) supports a broad range of storage devices, fabric switches, host operating systems, host bus adapters, backup and recovery software, logical volume managers, and databases. This document contains a listing of supported storage components and their associated support prerequisites.

Storage Subsystems

Vendor	System	Support Prerequisites
EMC	<ul style="list-style-type: none"> Symmetrix 3xxx Symmetrix 5xxx Symmetrix 8xxx Symmetrix DMX-series 	<ul style="list-style-type: none"> EMC-supported Fibre or SCSI connection to Gatekeeper Volumes – OR – Network connectivity to SYMAPI server Solutions Enabler 5.3 or later on Solaris 7/8/9 or Windows 2000/2003 SMI-S 1.0.2 provider qualified with Business Analytics by Sun Windows 2000/2003, HP/UX V11 or Solaris 8/9
	<ul style="list-style-type: none"> CLARiiON FC 4500 CLARiiON FC 4700 CLARiiON CX-series 	<ul style="list-style-type: none"> EMC-supported Fibre connection (4500) Network connectivity to controller (4700, CX-series) Navisphere 5.x or 6.x Agent and CLI on Windows 2000/2003 or Solaris 7/8/9 Access Logix (on array) SMI-S 1.0.2 provider qualified with Business Analytics by Sun Windows 2000/2003 or Solaris 8/9

Vendor	System	Support Prerequisites
HP/Compaq	<ul style="list-style-type: none"> Any HSG-80 based array StorageWorks MA/RA 8000 StorageWorks ESA/EMA 8000, 12000 	<ul style="list-style-type: none"> Serial connectivity to both array controller serial console ports Solaris 8/9 – OR - Cygwin on Windows 2000/2003 (installed as part of Business Analytics install process)
	<ul style="list-style-type: none"> StorageWorks EVA 	<ul style="list-style-type: none"> Network connectivity to SANWorks Management Appliance 1.x or 2.0 Virtual Controller Software (VCS) 1.x or 2.0 SSSU 1.x or 2.0 Included in Host Specific Platform Kit from HP
	<ul style="list-style-type: none"> XP 48 XP 128 XP 512 XP 1024 	<ul style="list-style-type: none"> CommandView CLI version 1.8 Network connectivity to CommandView server Read-only CommandView account
Hitachi Data Systems	<ul style="list-style-type: none"> 58xx 9570 	<ul style="list-style-type: none"> Network connectivity to array Disk Array Management Program (DAMP) CLI LUN Security Option (on array) Password Protection Option (recommended)
	<ul style="list-style-type: none"> 92xx 	<ul style="list-style-type: none"> Network connectivity to array Disk Array Management Program (DAMP) CLI (recommended) or HiCommand 3.5 or 4.0 – 4.2 LUN Security Option (on array) Password Protection Option (recommended)
	<ul style="list-style-type: none"> 99xx 	<ul style="list-style-type: none"> Network connectivity to HiCommand server HiCommand 3.5 or 4.0 – 4.2 LUN Security Option (on array)
	<ul style="list-style-type: none"> Tagmastore USP, All Models 	<ul style="list-style-type: none"> Windows 2000/2003 or Solaris 7/8/9 Network connectivity to HiCommand server HiCommand 4.0 – 4.2 LUN Security Option (on array) Virtualization blade is not supported
IBM	<ul style="list-style-type: none"> Enterprise Storage Server (ESS) <ul style="list-style-type: none"> 800, F10, F20, E10, E20 	<ul style="list-style-type: none"> Network connectivity to ESS array ESS CLI 2.1.1.8 on the ESS array ESS CLI and LIC version should be consistent ESS Specialist Software Account with read-only access
	<ul style="list-style-type: none"> IBM DS 300, DS400, DS4000 (FastT arrays) 	<ul style="list-style-type: none"> See Engenio (LSI Logic) section SMI-S 1.0.2 provider qualified with Business Analytics by Sun Windows 2000/2003 or Solaris 8/9

Vendor	System	Support Prerequisites
	<ul style="list-style-type: none"> IBM DS6000/DS8000 – Not Generally Available 	<ul style="list-style-type: none"> Email “Esm Pre-Sales Support” for more information
Engenio (LSI Logic)	<ul style="list-style-type: none"> LSI Controller-based Disk Arrays <ul style="list-style-type: none"> – LSI 5884, 4884, 2882 Arrays – FlexLine FLX2xx Disk Arrays – FlexLine FLX3xx Disk Arrays – IBM Ds300/400/4000 Arrays 	<ul style="list-style-type: none"> Network connectivity to array Controller firmware versions: <ul style="list-style-type: none"> • 06.10.xx.xx, 05.40.xx.xx, 05.36.xx.xx, 05.33.xx.xx, 05.30.xx.xx Windows 2000/2003 or Solaris 8/9 SMI-S 1.0.2 provider qualified with Business Analytics by Sun Windows 2000/2003 or Solaris 8/9
Sun StorageTek	<ul style="list-style-type: none"> FlexLine FLX2xx Disk Arrays FlexLine FLX3xx Disk Arrays 	<ul style="list-style-type: none"> See Engenio (LSI Logic) section SMI-S 1.0.2 provider qualified with Business Analytics by Sun Windows 2000/2003 or Solaris 8/9
	<ul style="list-style-type: none"> StorEdge 99xx 	<ul style="list-style-type: none"> Network connectivity to StorEdge HiCommand server Sun StorEdge HiCommand 3.5 or 4.0 – 4.2 LUN Security Option (on array) Windows 2000/2003 or Solaris 8/9 <p>NOTE: StorEdge 9990 requires HiCommand 4.0 – 4.2</p>

Network Attached Storage

Vendor	System	Support Prerequisites
Network Appliance	<ul style="list-style-type: none"> F7xx, F8xx, F8x, F9xx NearStore R200 	<ul style="list-style-type: none"> Network connectivity to Filer Data OnTAP 6.5.x, 7.0 and 7.1 SNMP enabled RSH or SSH access enabled Windows 2000/2003 or Solaris 8/9
EMC	<ul style="list-style-type: none"> Celerra 	<ul style="list-style-type: none"> RSH, SSH, or telnet access to Primary Control Station Windows 2000/2003 or Solaris 8/9 NAS versions 5.0-5.4

SAN / Fabric Switches

Vendor	SAN Device	Support Prerequisites
Brocade	<ul style="list-style-type: none"> Silkworm 2x00 Silkworm 3x00 Silkworm 6400 Silkworm 12000 Silkworm 24000 Silkworm 48000 	<ul style="list-style-type: none"> Network connectivity to switch management port Fabric Operating System 2.2 through 4.02 (on switch) Webtools License (on switch) Windows 2000/2003 or Solaris 8/9/10 SMI-S 1.0.2 provider qualified with Business Analytics by Sun <p>NOTE: For questions on Secure Fabric OS support, please send an email to „ESM Pre-Sales Support“</p>
EMC	<ul style="list-style-type: none"> EMC Connectrix Family 	<ul style="list-style-type: none"> See Cisco, Brocade, or McData Pre-requisites as appropriate.
McData	<ul style="list-style-type: none"> Intrepid 6064, 6140, 3032, 3016 Sphereon 4500, 3232, 3216 	<ul style="list-style-type: none"> For switches managed by an Enterprise Fabric Connectivity Manager (EFCM) service processor: <ul style="list-style-type: none"> EFCM 2.x – 7.x Network connectivity to service processor SNMP services enabled (read access) Windows 2000/2003 or Solaris 8/9/10
	<ul style="list-style-type: none"> Intrepid 6064, 6140, 3032, 3016 Sphereon 4500, 3232, 3216 	<ul style="list-style-type: none"> For switches not managed by an Enterprise Fabric Connectivity Manager (EFCM) service processor (SWAPI): <ul style="list-style-type: none"> Network connectivity to each switch management port E/OS version 4.01 or higher Windows 2000/2003 or Solaris 8/9/10
Cisco	<ul style="list-style-type: none"> 91xx, 92xx, and 95xx 	<ul style="list-style-type: none"> Network connectivity to switch management port SNMP v2 enabled on switch (read-only community string) Windows 2000/2003 or Solaris 8/9/10 NOTE: For questions on InterVSAN routing support, please send an email to “ESM Pre-Sales Support”.
Qlogic	<ul style="list-style-type: none"> SANbox2-64 SANbox 5200/5600 	<ul style="list-style-type: none"> Firmware version 4.0.0.11-4 or 5.0.0.17. SMI-S 1.0.2 enabled SMI-S 1.0.2 provider qualified with Business Analytics by Sun Windows 2000/2003 or Solaris 8/9/10
SMI-S Client	<ul style="list-style-type: none"> Switches with an SMI-S Provider 	<ul style="list-style-type: none"> Firmware revision that supports SMI-S 1.0.2 Specific vendor providers qualified with Business Analytics by Sun are listed in the SAN/Fabric Switch entries for those vendors Windows 2000/2003 or Solaris 8/9/10
FA-MIB Compatible	<ul style="list-style-type: none"> Note: Does not collect zoning or performance information 	<ul style="list-style-type: none"> Switch firmware that supports FA-MIB Network connectivity to each switch management port SNMP services enabled (read access) Windows 2000/2003 or Solaris 7/8/9

Server Host Bus Adapters

Vendor	Solaris*	Windows* 2000/2003	Windows* NT 4.0	AIX*	HP-UX 11	Linux
Adaptec		√	√			
Agilent		√	√			
ATTO	√	√	√			
Emulex	√	√	√	5.1 with Common HBA API Support Patch, 5.2, 5.3	√	
	For latest drivers visit: http://www.emulex.com/ts/dds.html					
Hewlett-Packard	√	√	√	√	√	
	SNIA support is available for all Tachyon HBAs rev. B.11.00.10 or higher (except A3591B, A3404A, A3636A, A3740A)					
AMCC (JNI)	√	√	√	√	√	
	For latest drivers, visit http://www.amcc.com/drivers/notice.html					
LSI	√	√	√			
	For latest drivers, visit http://www.lsillogic.com/support/index.html					
Qlogic	√	√	√			√

Host Agents for Novell NetWare and Tru64 do not support HBAs.

*** Note:** Business Analytics Host Agents for Solaris, Windows, and AIX support any HBA that implements the Common HBA (SNIA) API. Common HBA API support relies on a combination of adapter, firmware/driver revision, and operating system, and is constantly evolving. For these platforms, the table above is a summary of vendors' support for the API. Check the manufacturer's website for the latest compliance information.

Server Operating System (Host Agent) Support

Operating System Prerequisites	Version(s)	Prerequisites
Solaris	7/8/9/10	<ul style="list-style-type: none"> Sun UltraSPARC CPU (Sun4u architecture)
Solaris (Agent-less via CIM)	9/10 Note: Does not collect HBA, LVM, or end-to-end mapping data	<ul style="list-style-type: none"> WBEM enabled on target machine Windows 2000, Service Pack 2 or Windows 2003 (The Remote Host Agent runs on a Windows machine but can collect data from a Solaris host.)
Windows	2000/2003/2003 R2 Tested in virtual machines under VMWare and Microsoft Virtual Server	<ul style="list-style-type: none"> Service Pack 2 (on Windows 2000) Microsoft Disk Manager Diagnostics (DMdiag) (for native Volume Manager Support) Available for Windows 2000 at: http://www.microsoft.com/windows2000/techinfo/reskit/tools/existing/dmdiag-o.asp Included in Windows 2003's Support Tools package

Operating System Prerequisites	Version(s)	Prerequisites
Windows NT	4.0	<ul style="list-style-type: none"> • Service Pack 6a • Windows Management Instrumentation Core (WMI) • Microsoft Disk Manager Diagnostics (DMDiag) (for native Volume Manager Support) • Available at: http://msdn.microsoft.com/downloads/default.asp?URL=/code/sample.asp?url=/msdn-files/027/001/566/msdncompositedoc.xml
Windows (Agent-less via CIM)	NT/2000/2003 Note: Does not collect HBA, LVM, or end-to-end mapping data	<ul style="list-style-type: none"> • Windows Management Instrumentation (WMI) Core
AIX	4.3, 5.1, 5.2, 5.3	<ul style="list-style-type: none"> • On version 5.1, the bos.rte.libpthreads files set must be version 5.1.0.28 or later
HP-UX	11.00, 11.11	<ul style="list-style-type: none"> • HP-UX 11.00 Patch <ul style="list-style-type: none"> – The HP aC++ runtime libraries (aCC A.03.33) or later included in patch PHSS_24627 or later • HP-UX 11.11 Patch <ul style="list-style-type: none"> – The HP aC++ runtime libraries (aCC A.03.33) or later included in patch PHSS_24638 or later
RedHat Linux	7.2	None
Red Hat Enterprise Linux	3.0, 4.0	<ul style="list-style-type: none"> • Update 2, 3 and 4 for RHEL 3.0 • Update 1 for RHEL 4.0 • Updates are required for HBA support.
Suse Linux	8.0	None
Novell NetWare	6.5 Note: Does not collect LVM data and does not support HBAs	<ul style="list-style-type: none"> • Support Pack 1 required.
Tru64	OSF1 V5.1 1885 alpha Note: Does not collect LVM data and does not support HBAs	<ul style="list-style-type: none"> • Agent not packaged with product. Please send an email to ESM Pre-Sales Support to obtain the agent.

Global Storage Manager v3.8 Host Agents Supported

These agents will be supported with Global Storage Manager V.3.8 agents until Global Storage Manager V.3.8 is no longer supported.

Operating System Prerequisites	Version(s)	Prerequisites
Solaris	2.6	Sun UltraSPARC CPU (Sun4u architecture)
RedHat Linux	6.2	None

Volume Manager Support

Solaris	Windows 2000/2003	Windows NT 4.0	AIX	HP-UX
Veritas Volume Manager Solstice Disk Suite	Native Logical Volume Manager	Native Logical Volume Manager	Native Logical Volume Manager	Native Logical Volume Manager
Linux	Novell	Tru64		
Native Logical Volume Manager	None	None		

End-to-End Mapping Support

Operating System Prerequisites	Array(s)	Multipath Software	Prerequisites/Limitations
Solaris 7/8/9	<ul style="list-style-type: none"> EMC Symmetrix DMX EMC CLARiiON CX Engenio/LSI HDS 99xx 	None	<ul style="list-style-type: none"> Symmetrix Volume IDs are limited to 3 significant digits iostat output should show devices in format c#t#d#s#
Solaris 7/8/9	<ul style="list-style-type: none"> EMC Symmetrix DMX EMC CLARiiON CX Engenio/LSI HDS 99xx 	EMC PowerPath 3.x and v4.4	<ul style="list-style-type: none"> iostat output should show devices in format c#t#d#s#
Windows 2000/2003	<ul style="list-style-type: none"> EMC Symmetrix DMX EMC CLARiiON CX Engenio/LSI HDS 99xx 	None	<ul style="list-style-type: none"> Symmetrix Volume IDs are limited to 3 significant digits
Windows 2000/2003	<ul style="list-style-type: none"> EMC Symmetrix DMX EMC CLARiiON CX Engenio/LSI HDS 99xx 	EMC PowerPath 3.x and v4.4	<ul style="list-style-type: none"> None

Operating System Prerequisites	Array(s)	Multipath Software	Prerequisites/Limitations
AIX 5.2	<ul style="list-style-type: none"> Engenio/LSI 	None	<ul style="list-style-type: none"> iostat output should show devices in format c#t#d#s#

File-Level Reporting Support

Operating System Prerequisites	Version(s)	Prerequisites
Solaris	7/8/9/10	<ul style="list-style-type: none"> Sun UltraSPARC CPU (Sun4u architecture) Allows optional scanning of network-mounted file-systems
Windows 2000/2003	Server or Professional	<ul style="list-style-type: none"> Service Pack 2 (on Windows 2000) Does not run on Domain Servers or Data Center Server Allows optional scanning of network-mounted file-systems
Windows NT	4.0	<ul style="list-style-type: none"> Service Pack 6a Does not run on Domain Servers Allows optional scanning of network-mounted file-systems
AIX	5.1, 5.2, 5.3	<ul style="list-style-type: none"> On version 5.1, the bos.rte.libpthreads filesset must be version 5.1.0.28 or later
VMWare ESX	2.5.1	All Windows Host and SRM Agents work properly in VMWare 4.0 virtual machines
Microsoft Virtual Server	2005	Windows 2000 and Windows 2003 Host and SRM agents work properly in Microsoft virtual machines
HP-UX	11.00,11.11	<ul style="list-style-type: none"> HP-UX 11.00 Patch <ul style="list-style-type: none"> The HP aC++ runtime libraries (aCC A.03.33) or later included in patch PHSS_24627 or later HP-UX 11.11 Patch <ul style="list-style-type: none"> The HP aC++ runtime libraries (aCC A.03.33) or later included in patch PHSS_24638 or later
Red Hat Enterprise Linux	3.0, 4.0	<ul style="list-style-type: none"> Update 2, 3 and 4 for RHEL 3.0 Update 1 for RHEL 4.0

Database Support

Database	Version(s)	Supported Database Client Library Platforms (all 32-bit)					
		Solaris 7/8/9	Windows 2000/2003	Windows NT 4.0	AIX 5.1, 5.2	HP-UX 11	Redhat Linux 7.2
Oracle	9i, 10g	√	√	Note 1	Note 2	√	Note 1
Sybase	12.x	√	√	√	n/a	√	Note 1
MS SQL	2000, 2005	n/a	√	√	n/a	n/a	n/a
DB2	8.0	Note 1	√	√	Note 2	Note 1	Note 1

Note 1: Database Agents can be installed on Windows or Solaris and collect data from other database server platforms using the database's client interface

Note 2: Database Agents on AIX 5.1 require bos.rte.libpthread fileset version 5.1.0.28 or later

Prerequisites

Database	Version(s)	Prerequisites
Oracle	9i, 10g	Oracle Database Client
Sybase	12.x	Sybase OpenClient
MS SQL	2000, 2005	MS SQL Database Client
DB2	8.0	DB2 Database Client

Back-Up Software

Vendor	Backup Application	Backup Server Platforms	Support Prerequisites
Veritas	NetBackup 4.5, 5.0, 5.1, ;6.0	<ul style="list-style-type: none"> Solaris 8/9 Windows 2000/2003 HPUX 11 	<ul style="list-style-type: none"> Network connectivity to Master Server(s) Event Notification / SNMP Extension (Optional) required for Real-time Events Report <p>NOTE: For questions on NetBackup V5.1 on IBM AIX 5.1 support, please send an email to ESM Pre-Sales Support.</p>
Legato	NetWorker 6.1, or 7.0-7.2	<ul style="list-style-type: none"> Solaris 7/8/9 Windows 2000/2003 	<ul style="list-style-type: none"> Network connectivity to Backup Server(s)
IBM	TSM 5.2, 5.3	<ul style="list-style-type: none"> AIX Windows Solaris Mainframe (provided ODBC access exists) 	<ul style="list-style-type: none"> Windows 2000 server for Business Analytics agent, running TSM version 5.1.5 or higher ODBC Client software Configured ODBC Data Source Name (DSN) on Windows server Login/password with analyst (query) privileges or higher for each TSM database connection Network connectivity to TSM server

Tape Libraries

Vendor	Model	Support Prerequisites
Sun StorageTek	<ul style="list-style-type: none"> L20, L40, L80 L180 L700, L700e 	<ul style="list-style-type: none"> Version 2.0 of the StorageTek SNMP MIB Requires version 2.11.01 or higher firmware on L20/L40/L80 libraries Requires version 3.01.02 or higher firmware on L180/L700 libraries SNMP enabled on the Library Network connectivity to the Library Windows 2000/2003, or Solaris 8/9
	<ul style="list-style-type: none"> L5500 PowderHorn 9310 SL500 (requires ACSLS 7.1) SL8500 (requires ACSLS 7.1) 	<ul style="list-style-type: none"> Solaris: ACSLs Version 6.1/7.0/7.1 on Solaris 8/9 Network connectivity to ACSLS server Business Analytics Smart Agent cannot be installed on ACSLS server or backup application server AIX: AIX 5.1 (Contact Support for latest information on this platform) The bos.rte.libpthreads fileset must be version 5.1.0.28 or later Business Analytics Smart Agent cannot be installed on ACSLS server or backup application server Network connectivity to ACSLS server
IBM	<ul style="list-style-type: none"> 3494 	<ul style="list-style-type: none"> SNMP enabled on the Library IBM ATL Driver 3.5.9 Windows 2000/2003, Solaris 7/8/9, AIX 5.x, or HP-UX 11
	<ul style="list-style-type: none"> 3584 	<ul style="list-style-type: none"> SMI-S 1.1 provider qualified with Business Analytics by Sun Windows 2000/2003 or Solaris 8/9/10
ADIC	<ul style="list-style-type: none"> Scalar i2000 	<ul style="list-style-type: none"> SMI-S 1.1 provider qualified with Business Analytics by Sun Windows 2000/2003 or Solaris 8/9/10

Sun StorageTek Business Analytics Installation Requirements

All Sun StorageTek Business Analytics infrastructure components, including Central Manager, Management Console and many of the Smart Agents, are typically deployed on the Sun StorageTek Business Analytics Server. Collecting data from additional sites requires the deployment of Local Managers. The following configuration is recommended for the Sun StorageTek Business Analytics Server.

Sun StorageTek Business Analytics Server	
Operating System	<u>Software</u> <ul style="list-style-type: none"> Windows 2000 Server, with Service Pack 2 – or – Windows 2003 Standard or Enterprise Edition (recommended) w/ SP1 (optional) Can run in an instance of VMWare ESX Server 2.5.1. The instance should have the resources indicated below and a dedicated Ethernet port.
Web Server	<ul style="list-style-type: none"> Internet Information Server (IIS) 5.0 or 6.0 (recommended) An accessible SMTP server – or – install and configure SMTP services on IIS <p>Note: Video Display Color Set to 32 Bit Resolution or Above</p>
Database Server	<ul style="list-style-type: none"> Microsoft SQL Server 2000 Standard or Enterprise Edition, with SP3 or SP4
Third Party Software	As required by individual Smart Agents described in this matrix.
Note: Enterprise server hardware, IIS and MS-SQL Server must be dedicated to running the GSM infrastructure.	<u>Hardware</u> Base configuration <ul style="list-style-type: none"> 4 x CPU (2 GHz or higher) 4 GB RAM 15 GB available disk space, expandable to about 40 GB over a 3 year period

Sun StorageTek Business Analytics Client

In order to view Sun StorageTek Business Analytics reports the following is required.

Sun StorageTek Business Analytics Client	
Web Client	<u>Software</u> <ul style="list-style-type: none"> Microsoft Internet Explorer or Mozilla FireFox Java 2 Runtime Environment Standard Edition v1.3.x or v1.4.x, for the Topology report

Sun StorageTek Business Analytics Local Manager Server:

Local Managers are deployed to collect data from remote sites. Local Managers can be deployed on Windows 2000 / 2003 or Solaris 7 / 8 / 9.

Local Manager Server	
Operating System	<u>Software</u> <ul style="list-style-type: none"> Windows 2000 Server, with Service Pack 2 – or – Windows 2003 Standard or Enterprise Edition (recommended) w/ SP1 (optional) Can run in an instance of VMWare ESX Server 2.5.1. The instance should have the resources indicated below and a dedicated Ethernet port. Solaris 7, 8, or 9
Third Party Software	As required by individual agents. Refer to Support Matrix for details
Note: Local Managers should be expandable to allow for growth of the Sun StorageTek Business Analytics deployment.	<u>Hardware</u> <u>Dedicated</u> Local Manager (recommended) <ul style="list-style-type: none"> 500 MB available disk space 1 CPU (1 GHz or higher) & 1 GB RAM (per 250 device agents)
	<u>Non Dedicated</u> Local Manager <ul style="list-style-type: none"> 500 MB available disk space 1 CPU (1 GHz or higher) & 1 GB RAM (per 125 device agents)

Sun StorageTek Business Analytics Dedicated Database Server:

To separate the Sun StorageTek Business Analytics Database Server from the Sun StorageTek Business Analytics Server and run it on dedicated hardware, the following configuration is recommended.

Sun StorageTek Business Analytics Dedicated Database Server	
Operating System	<u>Software</u> <ul style="list-style-type: none"> Windows 2000 Server, with Service Pack 2 – or – Windows 2003 Standard or Enterprise Edition (recommended) w/ SP1 (optional) Can run in an instance of VMWare ESX Server 2.5.1. The instance should have the resources indicated below and a dedicated Ethernet port.
Database Server	Microsoft SQL Server 2000 Standard or Enterprise Edition, with SP3 or SP4
Note: MS-SQL Server must be dedicated to running Sun StorageTek Business Analytics database.	<u>Hardware</u> Base configuration
	<ul style="list-style-type: none"> 4 x CPU (2 GHz or higher) 2 GB RAM, expandable to 4 GB RAM 15 GB available disk space, expandable to about 40 GB over a 3 year period