

IBM® TotalStorage® 3592 and System Storage TS1120 Enterprise Tape Drive (3592 E05) Supported Servers “Interoperability” Matrix

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IBM System Storage TS1120 Tape Drive Model E05 (3592 E05)

IBM TotalStorage 3592 Enterprise Tape Drive Model J1A (3592 J1A)

The IBM System Storage TS1120 Model E05 (3592 E05) and TotalStorage Enterprise Tape Drive 3592 Model J1A are supported in the environments shown below. The sales representative and/or the customer are responsible for confirming that the specific host system configuration used (i.e. server model, operating system level, host adapter and SAN combination, etc.) is a valid and supported configuration.

Supported Servers / Operating Systems

[Hewlett-Packard Servers / HP-UX](#)

[IBM System i / i5/OS](#)

[IBM System p / AIX / Linux](#)

[IBM System z / Linux](#)

[IBM System z / z/OS ESCON®/FICON™](#)

[IBM System x and Intel™ Based Servers / Linux /Windows](#)

[SGI / Irix Servers](#)

[SUN / Solaris Servers](#)

Hewlett-Packard Servers / HP-UX

TS1120 Tape Drive Model E05 and 3592 Model J1A		
Servers	Operating Systems	Host Adapters/SAN
HP 9000 / Itanium 2: A, L, N, V ² Class or rp2xxx, rp5xxx, rp54xx ² , rp7xxx, rp74xx ² , rp8xxx series HP: ¹ rx1600, rx1620, rx2600, rx2620, rx4640, rx5670	HP-UX 11.0, 11i, 11i v2 (11.23) (PCI, 64-bit)	FC HBA Search Tool
Notes		
<ul style="list-style-type: none">Some restrictions apply. For more details see: HP/UX 11.0 HP/UX 11iFor more details on IBM tape device drivers and drive microcode levels click here <ol style="list-style-type: none">HP Itanium 2 serversTS1120 Tape Drive (3592 E05) supported		

Encryption Support for HP-UX

TS1120 Tape Drive Model E05		
Server	Operating System Minimum Levels	Comments
HP 9000 / Itanium 2: A, L, N, V Class or rp2xxx, rp5xxx, rp54xx, rp7xxx, rp74xx, rp8xxx series HP: ³ rx1600, rx1620, rx2600, rx2620, rx4640, rx5670	HP-UX 11.0, 11i, 11i v2 (11.23) (PCI, 64-bit)	<ul style="list-style-type: none"> HP-UX supports Library Managed Encryption in conjunction with the TS3500 tape library. Library Managed Encryption with HP-UX requires an Encryption Key Manager component available to the TS3500 tape library for encryption support of installed TS1120 tape drives.^{1, 2} Library Managed Encryption for HP-UX is scheduled for availability on September 8, 2006.

Support for Encryption Key Manager (if Key Manager is to run on HP-UX)

IBM/HP-UX Java Runtime Environment (JTE)	Supported HP-UX Operating System Versions	Comments
HP-UX Runtime Environment for J2SE Version 5.0 Service Release 2 (PA-RISC, 64-bit)	HP-UX 11.0, 11i, 11i v2	<ul style="list-style-type: none"> HP-UX Java Runtime Environment (JTE) for 64-bit HP PA-RISC systems required to run Encryption Key Manager on HP-UX systems. Available through the IBM TotalStorage Productivity Center Limited Edition (TPC-LE) Version 3.1 (5608-VC6). For information on TPC-LE, see http://www-03.ibm.com/servers/storage/software/center/limited/index.html
HP-UX Runtime Environment for J2SE Version 5.0 Service Release 2 (Itanium 2)	HP-UX 11i v2 (11.23PI)	<ul style="list-style-type: none"> HP-UX Java Runtime Environment (JTE) for HP Itanium 2 systems required to run Encryption Key Manager on HP-UX systems. Available through the IBM TotalStorage Productivity Center Limited Edition (TPC-LE) Version 3.1 (5608-VC6). For information on TPC-LE, see http://www-03.ibm.com/servers/storage/software/center/limited/index.html

Notes

- ¹ Encryption support for the IBM TS1120 Model E05 Tape Drive (Machine Type 3592) requires Feature Code #9592 (Encryption capable).
- ² IBM® Encryption Key Manager component for the Java™ platform available from <http://www-03.ibm.com/servers/storage/software/center/limited/index.html>

1.ibm.com/support/docview.wss?&uid=ssg1S4000504

- ³ HP Itanium 2 servers

IBM System i

TS1120 Tape Drive Model E05 and 3592 Model J1A

Servers	Operating Systems	Host Adapters/SAN
IBM System i Servers	OS/400® V5R1 and later (3592 J1A) V5R2 and later (3592 E05) WORM Media Support requires the following PTFs: V5R1: MF33985, MF34271 V5R2: MF33986, MF34272 V5R3: MF33989, MF34273 i5/OS V5R3: MF33989, MF34273	FC HBA Search Tool

Notes

- For more details on IBM tape device drivers and drive microcode levels [click here](#)
- More details are also available in the Redbook: [IBM eServer iSeries in Storage Area Networks: A guide to implementing FC disk and tape with iSeries](#)
- **Currently, the TS1120 E05 Tape Drive (3592 E05) running under OS/400 can read but cannot write J1A format.**

IBM System i Encryption Support for i5/OS

TS1120 Tape Drive Model E05

Server	Operating System	Comments
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	Minimum Levels	
System i Servers	i5/OS V5R2 and later	<ul style="list-style-type: none"> • IBM System i supports Library Managed Encryption in conjunction with the TS3500 tape library. • An IBM TS3500 Tape Library is required for Encryption support of installed TS1120 tape drives.¹ • System i5 Library Managed Encryption requires an Encryption Key Manager component available to the TS3500 tape library.²

Support for Encryption Key Manager (if Key Manager is to run on System i - i5/OS)

IBM Developer Kit for Java	Minimum i5/OS Levels	Comments
IBM Developer Kit for Java™ - Java Developer Kit 5.0 (5722/JV1)	i5/OS V5R3 and later	i5/OS support of the TS1120 Tape Drive with encryption and Encryption Key Manager is planned for September 8, 2006.

Notes

- ¹ Encryption support for the IBM TS1120 Model E05 Tape Drive (Machine Type 3592) requires Feature Code #9592 (Encryption capable).
- ² IBM® Encryption Key Manager component for the Java™ platform available from <http://www-1.ibm.com/support/docview.wss?&uid=ssg1S4000504>

IBM System p

TS1120 Tape Drive Model E05 and 3592 Model J1A		
Servers	Operating Systems	Host Adapters/SAN
IBM System p	AIX 5L version 5.1, 5.2, 5.3 or later for POWER-based servers details	FC HBA Search Tool
IBM System p	Red Hat Enterprise Linux 3 details , Red Hat Enterprise Linux 4 details ; SUSE Linux Enterprise Server 8 ¹ details , SUSE Linux Enterprise Server 9 details ; Asianux 2.0 details	FC HBA Search Tool

Notes

- For more details on IBM tape device drivers and drive microcode levels [click here](#)

- ¹ 3592 J1A only

IBM System p Encryption Support for AIX

TS1120 Tape Drive Model E05		
Server	Operating System Minimum Levels	Comments
IBM System p5: 9111 – 520, 9112 – 265, 9113 – 550, 9114 – 275, 9115 – 505, 9116 – 561, 9117 – 570, 9124 – 720, 9131 - 52A, BladeCenter JS20	AIX 5L™ Version 5.1 and later	<ul style="list-style-type: none"> • System p supports both System Managed Encryption and Library Managed Encryption in conjunction with the TS3500 tape library, and Application Managed Encryption with Tivoli Storage Manager (TSM). • AIX 5L™ Version 5.2 required for both System Managed and Library Managed Encryption. • System Managed Encryption with AIX requires an Encryption Key Manager component available to the AIX system. • Library Managed Encryption with AIX requires an Encryption Key Manager component available to the TS3500 tape library for encryption support of installed TS1120 tape drives.^{1, 2} • An updated AIX Enhanced Tape Device Driver (Atape) required for encryption support.³ • AIX 5L™ support of the TS1120 Tape Drive with encryption and Encryption Key Manager is planned for September 8, 2006.
Support for Encryption Key Manager (if Key Manager is to run on System p / AIX)		
IBM Java Software Development Kit (SDK)	Minimum AIX Levels	Comments
IBM 32 bit SDK for AIX, Java 2 Technology Edition Version 5	AIX 5.2 5200-07 (APAR IY67914)	Updated IBM Java SDK for AIX with latest version of the Encryption Key Manager (EKM) required. Available for download at: http://www.ibm.com/developerworks/java/jdk/aix/service.html IBM Registration required for downloads.
IBM 64 bit SDK for AIX, Java 2 Technology Edition Version 5	AIX 5.2 5200-07 (APAR IY67914)	Updated IBM Java SDK for AIX with latest version of the Encryption Key Manager (EKM) required. Available for download at: http://www.ibm.com/developerworks/java/jdk/aix/service.html

		IBM Registration required for downloads.
IBM 32 bit SDK for AIX, Java 2 Technology Edition Version 1.4.2	<p>AIX 5.1 5100-08 (APAR IY70781)</p> <p>AIX 5.2 5200-06 (APAR IY67913)</p>	<p>Updated IBM Java SDK for AIX with latest version of the Encryption Key Manager (EKM) required.</p> <p>Available for download at: http://www.ibm.com/developerworks/java/jdk/aix/service.html</p> <p>IBM Registration required for downloads.</p>
IBM 64 bit SDK for AIX, Java 2 Technology Edition Version 1.4.2	<p>AIX 5.1 5100-08 (APAR IY70781)</p> <p>AIX 5.2 5200-06 (APAR IY67913)</p>	<p>Updated IBM Java SDK for AIX with latest version of the Encryption Key Manager (EKM) required.</p> <p>Available for download at: http://www.ibm.com/developerworks/java/jdk/aix/service.html</p> <p>IBM Registration required for downloads.</p>

Notes

- ¹ Encryption support for the IBM TS1120 Model E05 Tape Drive (Machine Type 3592) requires Feature Code #9592 (Encryption capable).
- ² IBM® Encryption Key Manager component for the Java™ platform available from <http://www-1.ibm.com/support/docview.wss?&uid=s8g1S4000504>
- ³ Updated AIX Enhanced Tape Driver (Atape) must be installed and utilized for Encryption support. The Atape device driver can be downloaded from the following IBM ftp site: <ftp://ftp.software.ibm.com/storage/devdrv/AIX/>

IBM System p Encryption Support for Linux

TS1120 Tape Drive Model E05		
Server	Operating System Minimum Levels	Comments
IBM System p5: 9111 – 520, 9112 – 265, 9113 – 550, 9114 – 275, 9115 – 505, 9116 – 561, 9117 – 570, 9124 – 720, 9131 - 52A,	Linux on System p SUSE Linux Enterprise Server 9 (SLES 9)	<ul style="list-style-type: none"> • Linux on System p supports Library Managed Encryption in conjunction with the TS3500 tape library. • Library Managed Encryption with Linux on System p requires an Encryption Key Manager component available to the TS3500 tape library for encryption support of installed TS1120 tape drives. ^{1, 2} • Scheduled for availability on September 8, 2006.

BladeCenter JS20		
IBM System p5: 9111 – 520, 9112 – 265, 9113 – 550, 9114 – 275, 9115 – 505, 9116 – 561, 9117 – 570, 9124 – 720, 9131 - 52A, BladeCenter JS20	Linux on System p Red Hat Enterprise Linux 4 (RHEL 4)	<ul style="list-style-type: none"> • Linux on System p supports Library Managed Encryption in conjunction with the TS3500 tape library. • Library Managed Encryption with Linux on System p requires an Encryption Key Manager component available to the TS3500 tape library for encryption support of installed TS1120 tape drives.^{1, 2} • Scheduled for availability on September 8, 2006.

Support for Encryption Key Manager (if Key Manager is to run on System p / Linux)

IBM Java Software Development Kit (SDK)	Minimum pLinux Levels	Comments
IBM Developer Kit for Linux®, Java™ 2 Technology Edition Version 5 SR2 (32-bit pSeries)	Linux on System p SUSE Linux Enterprise Server 9 (SLES 9) Red Hat Enterprise Linux 4 (RHEL 4)	<ul style="list-style-type: none"> • Java SDK for pSeries Linux required to run Encryption Key Manager on pSeries Linux. • Available for download at: http://www-128.ibm.com/developerworks/java/jdk/linux/download.html • IBM Registration required for downloads.
IBM Developer Kit for Linux®, Java™ 2 Technology Edition Version 5 SR2 (64-bit pSeries)	Linux on System p SUSE Linux Enterprise Server 9 (SLES 9) Red Hat Enterprise Linux 4 (RHEL 4)	<ul style="list-style-type: none"> • Java SDK for pSeries Linux required to run Encryption Key Manager on pSeries Linux. • Available for download at: http://www-128.ibm.com/developerworks/java/jdk/linux/download.html • IBM Registration required for downloads.
IBM Developer Kit for Linux®, Java™ 2 Technology Edition Version 1.4.2 SR5 (32-bit pSeries)	Linux on System p SUSE Linux Enterprise Server 9 (SLES 9) Red Hat Enterprise Linux 4 (RHEL 4)	<ul style="list-style-type: none"> • Java SDK for pSeries Linux required to run Encryption Key Manager on pSeries Linux. • Available for download at: http://www-128.ibm.com/developerworks/java/jdk/linux/download.html • IBM Registration required for downloads.
IBM Developer Kit for Linux®, Java™ 2	Linux on System p SUSE Linux	<ul style="list-style-type: none"> • Java SDK for pSeries Linux required to run Encryption Key Manager on pSeries Linux. • Available for download at: http://www-128.ibm.com/developerworks/java/jdk/linux/download.html

Technology Edition Version 1.4.2 SR5 (64-bit pSeries)	Enterprise Server 9 (SLES 9) Red Hat Enterprise Linux 4 (RHEL 4)	128.ibm.com/developerworks/java/jdk/linux/download.html <ul style="list-style-type: none"> IBM Registration required for downloads.
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Notes

- ¹ Encryption support for the IBM TS1120 Model E05 Tape Drive (Machine Type 3592) requires Feature Code #9592 (Encryption capable).
- ² IBM® Encryption Key Manager component for the Java™ platform available from <http://www-1.ibm.com/support/docview.wss?&uid=ssg1S4000504>

IBM System z with FCP Channels / Linux

TS1120 Tape Drive Model E05		
Servers	Operating Systems	Host Adapters/SAN
IBM System z Models 890 and 990	SUSE Linux Enterprise Server 8 ¹ , 9 for IBM zSeries 31-bit and 64-bit Servers.	FC HBA Search Tool

Notes

- Requires FCP firmware on FICON Channels.
- For IBMtape device driver details, see: [readme](#)
- For more zSeries specific requirements and supported switches, please see: <http://www.ibm.com/servers/eserver/zseries/connectivity/index.html>

¹ 3592 J1A only

IBM System z Encryption Support for Linux

TS1120 Tape Drive Model E05		
Server	Operating System Minimum Levels	Comments
z9, z9-business class, z990, z890, z900, z800	Linux on IBM System z™ SUSE Linux Enterprise Server 9 (SLES 9)	<ul style="list-style-type: none"> Library Managed Encryption for Linux on System z is supported with the IBM TS3500 tape library via FCP attachment. Library Managed Encryption for Linux on System z requires an Encryption Key Manager component available to the TS3500 tape library for encryption support of installed

		<p>TS1120 tape drives.^{1, 2}</p> <ul style="list-style-type: none"> Library Managed Encryption support for the TS1120 attached via FCP to Linux on System z partition is planned to be available on September 8, 2006.
z9, z9-business class, z990, z890, z900, z800	<p>Linux on IBM System z™</p> <p>Red Hat Enterprise Linux 4 (RHEL 4)</p>	<ul style="list-style-type: none"> Library Managed Encryption for Linux on System z is supported with the IBM TS3500 tape library via FCP attachment. Library Managed Encryption for Linux on System z requires an Encryption Key Manager component available to the TS3500 tape library for encryption support of installed TS1120 tape drives.^{1, 2} Library Managed Encryption support for the TS1120 attached via FCP to Linux on System z partition is planned to be available on September 8, 2006.

Support for Encryption Key Manager (if Key Manager is to run on Linux for System z partition)

IBM Java Software Development Kit (SDK)	Minimum System z Linux Levels	Comments
<p>IBM Developer Kit for Linux®, Java™ 2 Technology Edition Version 5 SR2</p> <p>(31-bit zSeries)</p>	<p>Linux on IBM System z™</p> <p>SUSE Linux Enterprise Server 9 (SLES 9)</p> <p>Red Hat Enterprise Linux 4 (RHEL 4)</p>	<p>Java SDK for zSeries Linux required to run Encryption Key Manager on zSeries Linux.</p> <p>Available for download at: http://www-128.ibm.com/developerworks/java/jdk/linux/download.html</p> <p>IBM Registration required for downloads.</p>
<p>IBM Developer Kit for Linux®, Java™ 2 Technology Edition Version 1.4.2 SR5</p> <p>(31-bit zSeries)</p>	<p>Linux on IBM System z™</p> <p>SUSE Linux Enterprise Server 9 (SLES 9)</p> <p>Red Hat Enterprise Linux 4 (RHEL 4)</p>	<p>Java SDK for zSeries Linux required to run Encryption Key Manager on zSeries Linux.</p> <p>Available for download at: http://www-128.ibm.com/developerworks/java/jdk/linux/download.html</p> <p>IBM Registration required for downloads.</p>

Notes

- ¹ Encryption support for the IBM TS1120 Model E05 Tape Drive (Machine Type 3592) requires Feature Code #9592 (Encryption capable).
- ² IBM® Encryption Key Manager component for the Java™ platform available from <http://www-1.ibm.com/support/docview.wss?&uid=s8g1S4000504>

It is IBM's intent to support Systems Managed Encryption for Linux on System z (source code) for FICON and ESCON connected TS1120 Tape Drives. This is intended to be provided on IBM developerWorks - (<http://www.ibm.com/developerworks/linux/linux390/index.html>) in the first half of 2007.

IBM will work with its Linux distribution partners to provide this function in future Linux on System z distribution releases or service updates.

IBM System z FICON / ESCON Support

TS1120 Tape Controller Model C06 or IBM TotalStorage 3592 Tape Controller Model J70 Attach		
Operating System	Minimum Levels ¹	Comments
OS/390®	Version 2 Release 10 and DFSMS®. Rewritable Media	Refer to APAR OA02208 for details.
	• WORM Media	Above plus APAR OA06490
z/OS®	Version 1 Release 1 and subsequent releases and DFSMS. Rewritable Media	Refer to APAR OA02208 for details.
	• WORM Media	Above plus APAR OA06490
z/VM®	Version 3 Release 1 Rewritable Media	APAR VM63325 is required. In addition, VM62710 is required for FICON attachment and DFSMS/VM® FL221 with APAR VM63353 is required for library attachment.
	• WORM media	Above plus APARs VM63460 and VM63461
	Version 4 Release 3 and subsequent releases. Rewritable media	APAR VM63325 is required. In addition, DFSMS/VM FL221 with APAR VM63353 is required for library attachment
	• WORM media	Above plus APARs VM63460 and VM63461
VSE/ESA™	Version 2 Release 6 and subsequent releases Rewritable Media	Standalone drive support only. APAR DY46071 is required. For EREP APAR DY46080 is required.
	• WORM Media	Above plus APARs DY46120 and DY46123 or DY46222. For DITTO APAR PQ87924 is required.
VSE/ESA with VSE guest server (VGS)	Version 2.6 and subsequent releases Rewritable media	3494 library support. VGS support is provided through z/VM and DFSMS/VM FL221. APARs DY46071 and DY46080 are required.
	• WORM Media	Above plus APARs DY46120 and DY46123 or DY46222.

For DITTO APAR PQ87924 is required. For DFSMS APAR VM63460 is required.

Notes

- Support is for TS1120 Tape Controller Model C06 or IBM 3592 Model J1A with the IBM TotalStorage Enterprise Tape Controller 3592 Model J70 attached to IBM System z
- EREP V3.5 plus PTFs is required. Other PTFs may be required.
- Refer to 3592 and specific processor PSP buckets for details.
- The “Fast Access + Capacity” cartridge format, which has a “Fast Access” segment in the first 60GB of a 300GB cartridge, is not currently supported in the System z environment.
- Support for IBM TS1120 Model E05 Tape Drive (3592 E05) with the IBM TotalStorage Enterprise Tape Controller 3592 J70 attached to IBM eServer zSeries or S/390 Servers
 - z/OS V1R4 and above
 - z/VSE 3.1.1
 - Z/VM 4.4.0 and higher with CP APAR VM 3812. In addition, tape library support requires DFSMS/VM FL 1221 with RMS APAR.
- Matrix of Supported J70 Microcode and FICON Switches at: <http://www.ibm.com/support/techdocs/atmastr.nsf/WebIndex/FQ109793>

IBM System z Encryption Support for z/OS

TS1120 Tape Controller Model C06 or IBM TotalStorage 3592 Tape Controller Model J70 Attach		
Server	Operating System Minimum Levels	Comments
z9, z9-business class, z990, z890, z900, z800	z/OS® and z/OS.e V1R6, V1R7	<ul style="list-style-type: none"> • For z/OS V1R6 and V1R7 support of System Managed Encryption, refer to enabling APAR OA15685. • Requires an Encryption Key Manager component available to the z/OS or z/OS.e system. ^{1, 2} • Scheduled for availability – October 27, 2006.
z9, z9-business class, z990, z890, z900, z800	z/OS® and z/OS.e V1R8	<ul style="list-style-type: none"> • For z/OS V1R8 support of System Managed Encryption, refer to enabling APAR OA17562. • Requires an Encryption Key Manager component available to the z/OS or z/OS.e system. ^{1, 2} • Scheduled for availability – November 17, 2006.
z9, z9-business class, z990, z890, z900, z800	z/OS® and z/OS.e V1R5	<ul style="list-style-type: none"> • z/OS V1R5 support of System Managed Encryption is scheduled for 1Q 2007, APAR to be available. • Requires an Encryption Key Manager component available to the z/OS or z/OS.e system. ^{1, 2} • Scheduled for availability – February, 2007.
z9, z9-business class, z990, z890, z900, z800	z/OS® and z/OS.e V1R4	<ul style="list-style-type: none"> • z/OS V1R4 support of System Managed Encryption requires z/OS V1R4 z990 Exploitation Support Feature. • z/OS.e support of System Managed Encryption requires

		<p>z/OS.e V1R4 z990 Coexistence Update Feature.</p> <ul style="list-style-type: none"> Requires an Encryption Key Manager component available to the z/OS or z/OS.e system. ^{1, 2} Scheduled for availability – February, 2007, APAR to be available.
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Support for Encryption Key Manager (if Key Manager is to run on zOS)

IBM Java Software Development Kit (SDK)	PID # / Minimum Levels	Comments
IBM SDK for z/OS Java 2 Technology Edition, V1.4	5655-I56 (SDK 1.4.2 Service Refresh Level 6 – SR6)	<ul style="list-style-type: none"> Supported on z/OS and z/OS.e (zSeries 890 and z800) V1R4 and above. For information on the IBM SDK for zOS Java 2 Technology Edition, V1.4, see: http://www-03.ibm.com/servers/eserver/zseries/software/java/newj14pcont.html Scheduled for availability in September, 2006.
IBM 31-bit SDK for z/OS Java 2 Technology Edition, V5.0	5655-N98 (SDK 5 Service Refresh Level 3 – SR3)	<ul style="list-style-type: none"> Supported on z/OS and z/OS.e (zSeries 890 and z800) V1R6 and above. For information on the IBM 31-bit SDK for zOS Java 2 Technology Edition, V5.0, see: http://www-03.ibm.com/servers/eserver/zseries/software/java/j5pcont31.html Scheduled for availability in September, 2006.

Enterprise Key Manager – zOS Key Stores

Keystore	Minimum Java SDK Levels	Comments
JCE4758RACFKS	Java 1.4 and above	Secure-key hardware key store with integration with z/OS security products for audit compliance / access control.
JCECCARACFKS	Java 1.5 and above	<p>Secure-key hardware key store with integration with z/OS security products for audit compliance / access control.</p> <p>Hardware key store provider required. The Hardware key store provider will require an ICSF level that is compatible with the cryptographic hardware. Existing ordering system should be used to order the appropriate ICSF deliverable. Customer will also require a hardware cryptographic card as follows:</p> <ul style="list-style-type: none"> For z800/z900 CCF (Hardware Feature Code 0800) must be enabled for 1024 bit KEK wrapping. For z800/z900, an additional PCICC card (Hardware Feature Code 0861) will allow 2040 2048 bit KEK wrapping.

		<ul style="list-style-type: none"> For z800/z900, a PCIXCC card (Hardware Feature Code 0868) or a CXE2C card (Hardware Feature Code 0863) is required. For z9, a CXE2C card (Hardware Feature Code 0863) is required.
JCE4758KS	Java 1.4 and above	Secure-key hardware key store without z/OS security software integration.
JCECCAJS	Java 1.5 and above	<p>Secure-key hardware key store without z/OS security software integration.</p> <p>Hardware key store provider required. The Hardware key store provider will require an ICSF level that is compatible with the cryptographic hardware. Existing ordering system should be used to order the appropriate ICSF deliverable. Customer will also require a hardware cryptographic card as follows:</p> <ul style="list-style-type: none"> For z800/z900 CCF (Hardware Feature Code 0800) must be enabled for 1024 bit KEK wrapping. For z800/z900, an additional PCICC card (Hardware Feature Code 0861) will allow 2040 2048 bit KEK wrapping. For z800/z900, a PCIXCC card (Hardware Feature Code 0868) or a CXE2C card (Hardware Feature Code 0863) is required. For z9, a CXE2C card (Hardware Feature Code 0863) is required.
JCERACFKS	Clear key software keystore, RACF or equivalent product supported.	
JKS or JCEKS	Clear key software keystore, without z/OS security software integration.	
Notes		
<ul style="list-style-type: none"> ¹ Encryption support for the IBM TS1120 Model E05 Tape Drive (Machine Type 3592) requires Feature Code #9592 (Encryption capable). ² IBM® Encryption Key Manager component for the Java™ platform available from http://www-1.ibm.com/support/docview.wss?&uid=ssg1S4000504 <p>In addition, it is IBM's intent to support the following Systems Managed Encryption with the TS1120:</p> <ul style="list-style-type: none"> z/VM V5.1 and V5.2 support of the TS1120 Tape Drive with encryption is planned for 4Q2006. This includes transparent support for VM guests. The z/VM support will require the Encryption Key Manager component running on another operating system other than z/VM using an out-of-band connection. z/TPF V1.1 support of the TS1120 Tape Drive with encryption is planned for 1H2007. The z/TPF support will require the Encryption Key Manager component running on another operating system other than z/TPF using an out-of-band connection. 		

- z/VSE V3.1 support of the TS1120 Tape Drive with encryption is planned for 1H2007. It is also IBM's intent to support z/VSE V4.1 (when made available) using Systems Managed Encryption with the TS1120. The z/VSE support will require the Encryption Key Manager component running on another operating system other than z/VSE using an out-of-band connection.

IBM System x and Intel Based Servers

TS1120 Tape Drive Model E05 and 3592 Model J1A		
Servers	Operating Systems	Host Adapters/SAN
Linux Based Servers	Red Hat Enterprise Linux 3¹ details Red Hat Enterprise Linux 4 details SUSE Linux Enterprise Server 8¹ details SUSE Linux Enterprise Server 9 details Asianux 2.0 details	FC HBA Search Tool
Microsoft Windows Servers	Windows Server 2003 details Build 3790 or later Windows 2000 Server details Build 2195 or later Windows NT™ Server 4¹ details Service Pack 6A or later	FC HBA Search Tool
Notes		
<ul style="list-style-type: none"> • For more details on IBM tape device drivers and drive microcode levels click here • ¹ 3592 J1A only 		

IBM System x Encryption Support for Linux

TS1120 Tape Drive Model E05		
Server	Operating System Minimum Levels	Comments
IBM System x,	Linux on System x	<ul style="list-style-type: none"> • Linux on System x supports Library Managed Encryption

Intel compatible, AMD, Opteron, EMT64	SUSE Linux Enterprise Server 9 (SLES 9)	<p>in conjunction with the TS3500 tape library.</p> <ul style="list-style-type: none"> Library Managed Encryption with Linux on System x requires an Encryption Key Manager component available to the TS3500 tape library for encryption support of installed TS1120 tape drives.^{1, 2} Scheduled for availability on September 8, 2006.
IBM System x, Intel compatible, AMD, Opteron, EMT64	Linux on System x Red Hat Enterprise Linux 4 (RHEL 4)	<ul style="list-style-type: none"> Linux on System x supports Library Managed Encryption in conjunction with the TS3500 tape library. Library Managed Encryption with Linux on System x requires an Encryption Key Manager component available to the TS3500 tape library for encryption support of installed TS1120 tape drives.^{1, 2} Scheduled for availability on September 8, 2006.
Support for Encryption Key Manager (if Key Manager is to run on System x / Linux)		
IBM Java Software Development Kit (SDK)	Minimum System x Linux Levels	Comments
IBM Developer Kit for Linux®, Java™ 2 Technology Edition Version 5 SR2 (32-bit xSeries / Intel compatible)	Linux on System x SUSE Linux Enterprise Server 9 (SLES 9) Red Hat Enterprise Linux 4 (RHEL 4)	<ul style="list-style-type: none"> Java SDK for xSeries/Intel compatible Linux required to run Encryption Key Manager on xSeries/Intel compatible Linux. Available for download at: http://www-128.ibm.com/developerworks/java/jdk/linux/download.html IBM Registration required for downloads.
IBM Developer Kit for Linux®, Java™ 2 Technology Edition Version 1.4.2 SR5 (32-bit xSeries / Intel compatible)	Linux on System x SUSE Linux Enterprise Server 9 (SLES 9) Red Hat Enterprise Linux 4 (RHEL 4)	<ul style="list-style-type: none"> Java SDK for xSeries/Intel compatible Linux required to run Encryption Key Manager on xSeries/Intel compatible Linux. Available for download at: http://www-128.ibm.com/developerworks/java/jdk/linux/download.html IBM Registration required for downloads.
IBM Developer Kit for Linux®, Java™ 2 Technology Edition Version 5 SR2 (64-bit AMD / Opteron / EMT64)	Linux on System x SUSE Linux Enterprise Server 9 (SLES 9) Red Hat Enterprise Linux 4 (RHEL 4)	<ul style="list-style-type: none"> Java SDK for AMD / Opteron / EMT64 Linux required to run Encryption Key Manager on AMD / Opteron / EMT64 Linux. Available for download at: http://www-128.ibm.com/developerworks/java/jdk/linux/download.html IBM Registration required for downloads.
IBM Developer	Linux on System x	<ul style="list-style-type: none"> Java SDK for AMD / Opteron / EMT64 Linux required to

Kit for Linux®, Java™ 2 Technology Edition Version 1.4.2 SR5 (64-bit AMD / Opteron / EMT64)	SUSE Linux Enterprise Server 9 (SLES 9) Red Hat Enterprise Linux 4 (RHEL 4)	run Encryption Key Manager on AMD / Opteron / EMT64 Linux. <ul style="list-style-type: none"> Available for download at: http://www-128.ibm.com/developerworks/java/jdk/linux/download.html IBM Registration required for downloads.
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Notes

- ¹ Encryption support for the IBM TS1120 Model E05 Tape Drive (Machine Type 3592) requires Feature Code #9592 (Encryption capable).
- ² IBM® Encryption Key Manager component for the Java™ platform available from <http://www-1.ibm.com/support/docview.wss?&uid=ssg1S4000504>

IBM System x Encryption Support for Windows

TS1120 Tape Drive Model E05		
Server	Operating System Minimum Levels	Comments
IBM System x, Intel compatible, AMD, Opteron, EMT64	Windows 2000 Server SP4	<ul style="list-style-type: none"> Windows 2000 Server supports Library Managed Encryption in conjunction with the TS3500 tape library and Application Managed Encryption with Tivoli Storage Manager (TSM). Library Managed Encryption with Windows 2000 Server requires an Encryption Key Manager component available to the TS3500 tape library for encryption support of installed TS1120 tape drives.^{1, 2} Library Managed Encryption for Windows is scheduled for availability on September 8, 2006. Tivoli Storage Manager (TSM) will support Application Managed Encryption on September 29, 2006.
IBM System x, Intel compatible, AMD, Opteron, EMT64	Windows Server 2003 SP1/ R2	<ul style="list-style-type: none"> Windows Server 2003 supports Library Managed Encryption in conjunction with the TS3500 tape library and Application Managed Encryption with Tivoli Storage Manager (TSM). Library Managed Encryption with Windows 2000 Server requires an Encryption Key Manager component available to the TS3500 tape library for encryption support of installed TS1120 tape drives.^{1, 2} Library Managed Encryption for Windows is scheduled for availability on September 8, 2006. Tivoli Storage Manager (TSM) will support Application Managed Encryption on September 29, 2006.

Support for Encryption Key Manager (if Key Manager is to run on xSeries / Intel compatible Windows)

IBM Java Software Development Kit (SDK)	Minimum System x Linux Levels	Comments
<p>IBM Java™ 2 SDK Windows / IA32 5.0 Service Release 2</p> <p>(IA32 xSeries / Intel compatible)</p>	<p>Windows on System x</p> <p>Windows 2000 Server</p> <p>Windows Server 2003</p>	<ul style="list-style-type: none"> • Java SDK for xSeries/Intel compatible Windows (IA32) required to run Encryption Key Manager on xSeries/Intel compatible Windows 2000 Server and Windows Server 2003.³ • Available through the IBM TotalStorage Productivity Center Limited Edition (TPC-LE) Version 3.1 (5608-VC6). • For information on TPC-LE, see http://www-03.ibm.com/servers/storage/software/center/limited/index.html
<p>IBM Java™ 2 SDK Windows / AMD64 / EM64T 5.0 Service Release 2</p> <p>(AMD64 / EM64T xSeries / Intel compatible)</p>	<p>Windows on System x</p> <p>Windows 2000 Server</p> <p>Windows Server 2003</p>	<ul style="list-style-type: none"> • Java SDK for Windows AMD64 / EM64T required to run Encryption Key Manager on AMD64 / EM64T Windows 2000 Server and Windows Server 2003.³ • Available through the IBM TotalStorage Productivity Center Limited Edition (TPC-LE) Version 3.1 (5608-VC6). • For information on TPC-LE, see http://www-03.ibm.com/servers/storage/software/center/limited/index.html
<p>IBM Java™ 2 SDK Windows / IA64 1.4.2 Service Release 5</p> <p>(IA64 xSeries / Intel compatible)</p>	<p>Windows on System x</p> <p>Windows 2000 Server</p> <p>Windows Server 2003</p>	<ul style="list-style-type: none"> • Java SDK for xSeries/Intel compatible Windows (IA64) required to run Encryption Key Manager on xSeries/Intel compatible Windows 2000 Server and Windows Server 2003.³ • Available through the IBM TotalStorage Productivity Center Limited Edition (TPC-LE) Version 3.1 (5608-VC6). • For information on TPC-LE, see http://www-03.ibm.com/servers/storage/software/center/limited/index.html

Notes

- ¹ Encryption support for the IBM TS1120 Model E05 Tape Drive (Machine Type 3592) requires Feature Code #9592 (Encryption capable).
- ² IBM® Encryption Key Manager component for the Java™ platform available from <http://www-1.ibm.com/support/docview.wss?&uid=ssg1S4000504>
- ³ Encryption Key Manager component on Windows, the IBM TotalStorage Productive Center - LimitedEdition (TPC-LE), licensed program product 5608-VC6 is required and is planned for December 1, 2006.

SGI / Irix Servers

3592 Model J1A		
Servers	Operating Systems	Host Adapters
SGI® Servers	SGI IRIX, SGI® Altix® Linux	Qlogic QLA2200, QLA2310, QLA2340 and QLA2342
Notes		
<ul style="list-style-type: none"> • Correct firmware levels for the Qlogic HBAs are loaded into the HBAs at boot time for Pro-Pack3 and IRIX • Tape Device Driver APD version 2.8 will support all SGI IRIX versions that SGI currently supports and 4 previous releases. • The present SCSI driver version is 1.64, tpsc is 3.45, and ts is 1.2. 		

SUN / Solaris Servers

TS1120 Tape Drive Model E05 and 3592 Model J1A		
Servers	Operating Systems	Host Adapters/SAN
SUN SPARC, UltraSPARC, and Ultra/Enterprise Servers	Solaris 7 ¹ , 8, 9 and 10	FC HBA Search Tool
Notes		
<ul style="list-style-type: none"> • ¹ 3592 J1A only 		

Encryption Support for Sun / Solaris

TS1120 Tape Drive Model E05		
Server	Supported Operating System	Comments

	Versions	
SUN SPARC, UltraSPARC, and Ultra/Enterprise Servers	Solaris 8, 9, 10	<ul style="list-style-type: none"> • Sun/Solaris supports Library Managed Encryption in conjunction with the TS3500 tape library. • Library Managed Encryption with Sun/Solaris requires an Encryption Key Manager component available to the TS3500 tape library for encryption support of installed TS1120 tape drives.^{1, 2} • Library Managed Encryption for Sun/Solaris is scheduled for availability on September 8, 2006.

Support for Encryption Key Manager (if Key Manager is to run on Sun/Solaris)

IBM/Sun Java Runtime Environment (JRE)	Supported Solaris Operating System Versions	Comments
IBM® Runtime Environment for Solaris Java™ 2 Technology Edition Version 5.0 Service Release 2 (Solaris SPARC, 64-bit)	Solaris 8, 9, 10	<ul style="list-style-type: none"> • IBM® Runtime Environment for Solaris required to run Encryption Key Manager on Sun/Solaris systems. • Available through the IBM TotalStorage Productivity Center Limited Edition (TPC-LE) Version 3.1 (5608-VC6). • For information on TPC-LE, see http://www-03.ibm.com/servers/storage/software/center/limited/index.html

Notes

- ¹ Encryption support for the IBM TS1120 Model E05 Tape Drive (Machine Type 3592) requires Feature Code #9592 (Encryption capable).
- ² IBM® Encryption Key Manager component for the Java™ platform available from <http://www-1.ibm.com/support/docview.wss?&uid=ssg1S4000504>
- ³ Encryption Key Manager component on Windows, the IBM TotalStorage Productive Center - LimitedEdition (TPC-LE), licensed program product 5608-VC6 is required and is planned for December 1, 2006.

Related Links:

IBM System Storage TS1120 Tape Drive Model E05 (3592 E05) and TotalStorage 3592 Tape Drive Model J1A

[Home Page – TS1120](#)

[Home Page – 3592](#)

[Technical Support – TS1120](#)

[Technical Support – 3592](#)

[Device Drivers](#)

[Firmware](#)

[Publications](#)

[Independent Software Vendor \(ISV\) Matrix](#)

[Fibre Channel HBA Search Tool](#)

[Fibre Channel Switches](#)

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