IBM eServer xSeries Hot-Swap SCSI Disk Drive Comparison
Positioning Information (withdrawn product)

Main

There are three 3.5" hot-swap drive trays used with drives currently available for the xSeries family, as shown in Figure 1.
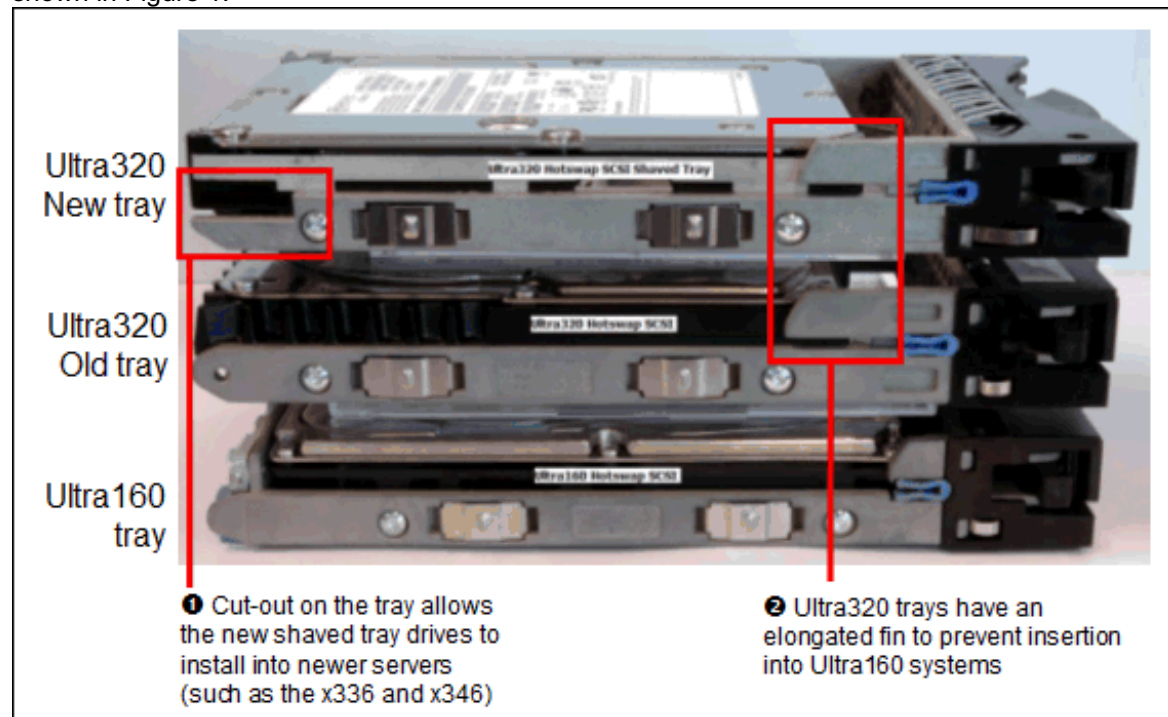

Figure 1: The differences between the three 3.5" hot-swap SCSI drive trays

These three 3.5" trays are shown top to bottom in Figure 1:

- A new "shaved" tray that supports Ultra320 SCSI drives. This tray is designed to prevent being inserted in systems that only support Ultra160 drives. These are the only drives that fit into the x336 and x346.

- An older Ultra320 tray. This tray is also designed to prevent being inserted into systems that only support Ultra160 drives. These fit into any xSeries servers with Ultra320 bays except the x336 and x346.

- A tray that supports Ultra160 drives. These fit into any xSeries servers with Ultra160 or Ultra320 bays except the x336 and x346. If installed in an Ultra320 system, the SCSI bus slows down to 160 MBps.

The differences, as shown in Figure 1, are as follows:

Œ Near the connectors, the new Ultra320 "shaved" tray has a cutout on the rail. This cutout is to prevent the older Ultra320 tray and the Ultra160 tray from being inserted into servers that only support the new tray design (such as the x336 and x346).

? Near the front of the drive, the Ultra320 drives have an elongated stub that prevents them from being inserted into the older Ultra160 bays. This is more of a support and testing statement than a technology statement because Ultra320 drives are technically able to run at Ultra160 speeds.

The new Ultra320 "shaved" tray is also slightly shorter in height than the older Ultra320 tray, as shown in Figure 2. This tray is designed to fit into the newer servers when the drive bays are shorter. The reason for the new design is so that three hot swap drives can be installed in a stack in a 2U server chassis. The older Ultra320 trays are too tall by a few millimeters to achieve this.
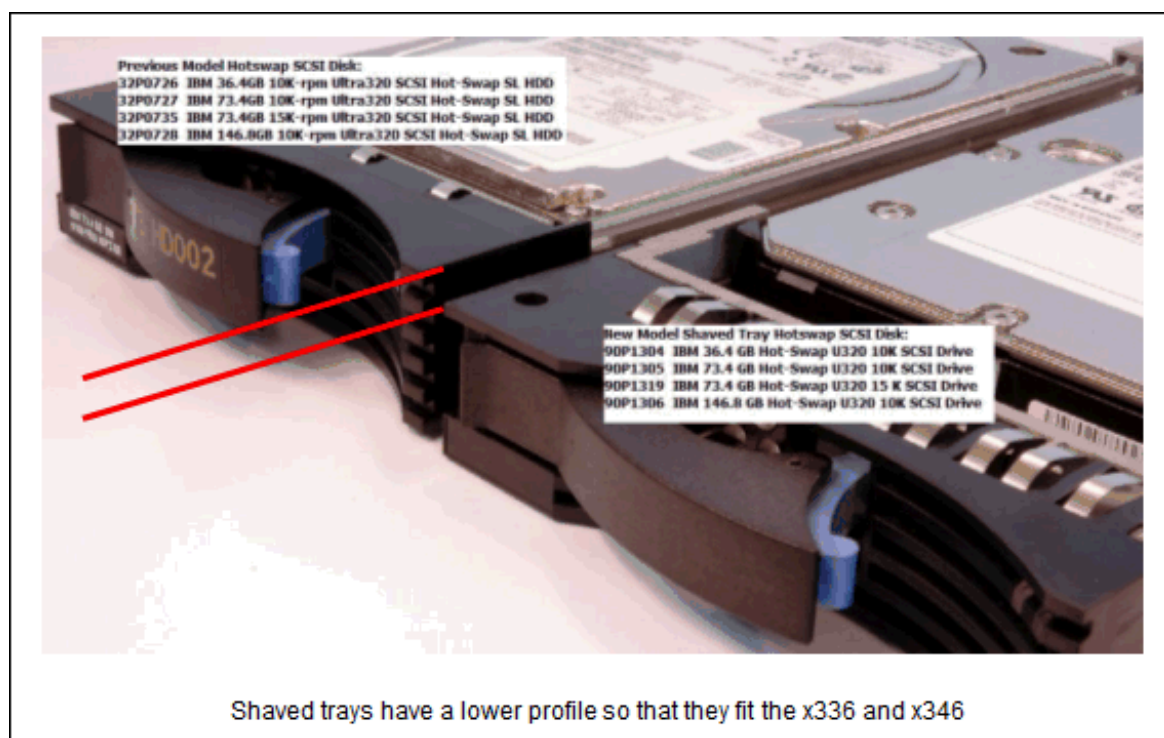

Previous Model Hotswap SCSI Disk:
32P0726 IBM 36.4GB 10K-rpm Ultra320 SCSI Hot-Swap SL HDD
32P0727 IBM 73.4GB 10K-rpm Ultra320 SCSI Hot-Swap SL HDD
32P0735 IBM 73.4GB 15K-rpm Ultra320 SCSI Hot-Swap SL HDD
32P0728 IBM 146.8GB 10K-rpm Ultra320 SCSI Hot-Swap SL HDD

New Model Shaved Tray Hotswap SCSI Disk:
90P1304 IBM 36.4 GB Hot-Swap U320 10K SCSI Drive
90P1305 IBM 73.4 GB Hot-Swap U320 10K SCSI Drive
90P1319 IBM 73.4 GB Hot-Swap U320 15 K SCSI Drive
90P1306 IBM 146.8 GB Hot-Swap U320 10K SCSI Drive

Shaved trays have a lower profile so that they fit the x336 and x346

Figure 2: Comparing the heights of the two Ultra320 drives

The fourth type of tray is the new 2.5" small form factor (SFF) drive tray. Figure 3 compares the size of the 2.5" and 3.5" drive trays. This smaller size means that the drives occupy a much smaller space in the server, so either more can be housed internally or the size of the server chassis can be smaller.
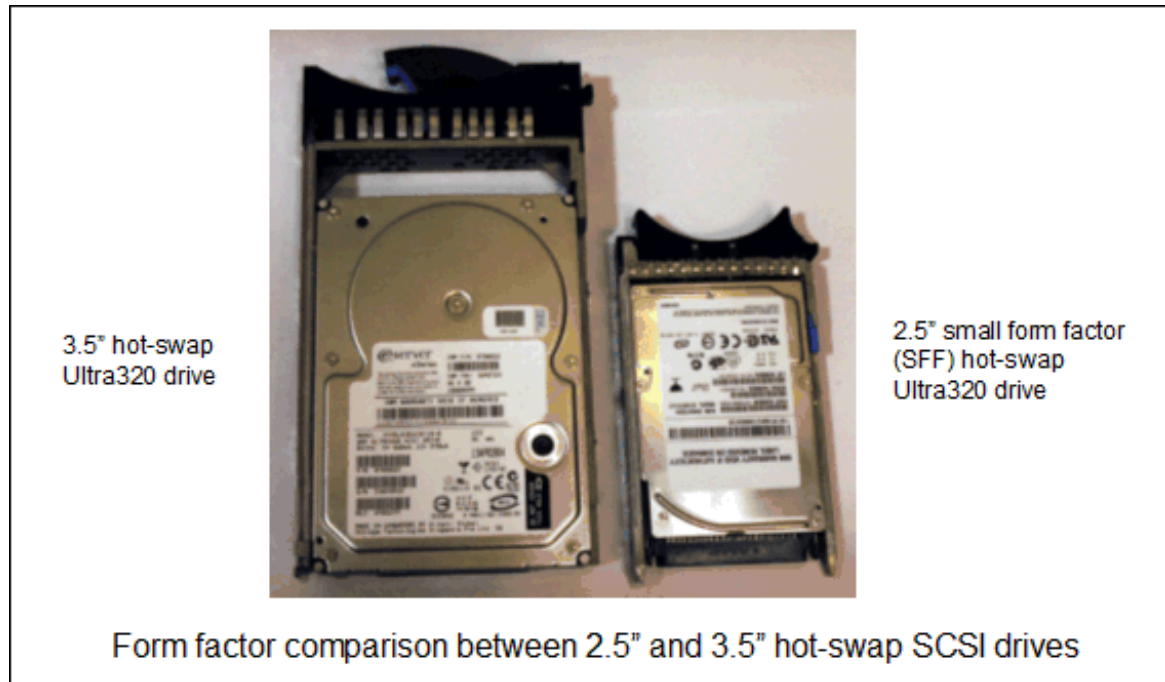
Form factor comparison between 2.5" and 3.5" hot-swap SCSI drives

Figure 3: Comparing the 2.5" and 3.5" drive trays

Server matrix

The following table shows where each of the tray types can be used. Note that only a subset of drives available with each particular tray type are normally supported in each server. Consult ServerProven for details: http://www.pc.ibm.com/us/compat/xseries/storage/hsmatrix.html

Table legend:
Fits: The tray will physically fit into the server. However, the specific drive may not be supported by that server. Check ServerProven at http://www.pc.ibm.com/us/compat/xseries/storage/hsmatrix.html
Does not fit: The tray will not physically fit into the hot-swap drive bay of this server.

	SCSI controller	3.5" Ultra160 tray	Old 3.5" Ultra320 tray	New 3.5" Ultra320 tray	2.5" Ultra320 tray
x206 (some models)	Ultra320	Fits	Fits	Fits	Does not fit
x225	Ultra320	Fits	Fits	Fits	Does not fit
x226	Ultra320	Fits	Fits	Fits	Does not fit
x235	Ultra320	Fits	Fits	Fits	Does not fit
x236	Ultra320	Fits	Fits	Fits	Does not fit
x255	Ultra160 with Ultra320 backplane	Fits	Fits	Fits	Does not fit
x335	Ultra320	Fits	Fits	Fits	Does not fit
x336 (new tray only)	Ultra320	Does not fit	Does not fit	Fits (some models)	Fits (some models)
x345	Ultra320	Fits	Fits	Fits	Does not fit
x346 (new tray only)	Ultra320	Does not fit	Does not fit	Fits	Does not fit
x360 (Ultra160 only)	Ultra160	Fits	Does not fit	Does not fit	Does not fit
x365	Ultra320	Fits	Fits	Fits	Does not fit
x366 (SAS drives only)	SAS	Does not fit	Does not fit	Does not fit	Does not fit
x440	Ultra320	Fits	Fits	Fits	Does not fit
x445	Ultra320	Fits	Fits	Fits	Does not fit
x450	Ultra320	Fits	Fits	Fits	Does not fit
x455	Ultra320	Fits	Fits	Fits	Does not fit
x460 (SAS drives only)	SAS	Does not fit	Does not fit	Does not fit	Does not fit
EXP300 (Ultra160 only)	Ultra160 backplace	Fits	Does not fit	Does not fit	Does not fit
EXP400	Ultra320 backplane	Fits	Fits	Fits	Does not fit
DS300	Ultra320 backplane	Fits	Fits	Fits	Does not fit
DS400	Ultra320 backplane	Fits	Fits	Fits	Does not fit

Related product families

Product families related to this document are the following:

- Drives

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This document, TIPS0569, was created or updated on June 10, 2005.

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