

- Data encryption keys (one for each encrypted object):
 - Data encryption keys are used to encrypt data. When an encrypted object (such as an array, pool, or child pool) is created, a new data encryption key is generated for this object.
 - Managed disks (MDisk) that are not self-encrypting are automatically encrypted by using the data encryption key of the pool or child pool to which they belong.
 - MDisk that are self-encrypting are not reencrypted by using the data encryption key of the pool or child pool they belong to by default. You can override this default by manually configuring the MDisk as not self-encrypting.
 - Data encryption keys are stored in secure memory.
 - During cluster internal communication data encryption keys are encrypted with the master access key.
 - Data encryption keys cannot be viewed or changed.
 - When an encrypted object is deleted, its data encryption key is discarded (secure erase).

Note: If all master access key copies are lost and the system must cold restart, all encrypted data is gone. No method exists, even for IBM, to decrypt the data without the keys. If encryption is enabled and the system cannot access the master access key, all SAS hardware is offline, including unencrypted arrays.

The TS7700 can use external key management with 3956-CSA and 3956-CSB cache types. With 3956-CSA. Feature codes 5276 and 5277 are required to enable the external management. The 3956-CSB cache requires FC 5276 to enable external management. Systems that are set up with Local encryption key management can be converted to external key management.

Back-end drive 16 Gbps fibre switch

Note: Only the distributed IBM Security Key Lifecycle Manager (SKLM) supports both external disk encryption and TS1140 and TS1150 tape drives. The settings for Encryption Server are shared for both tape and external disk encryption.

The IBM Security Key Lifecycle Manager for z/OS (SKLM) external key manager supports TS7700 physical tape, but does not support TS7700 disk encryption.

Release 5.0 includes support for TS7770T/TS7760T to attach to a TS3500 and TS4500 tape library. R5.0 supports the 16 Gbps fibre switch that is used to communicate with the back-end tape drives. The TS7700 16 Gbps fibre switch can be housed in a 3584-LXX or 3584-DXX frame. The switches can be in a frame that contains some of the associated back-end drives, or can be in a frame that does not contain any of the associated drives. The switches are placed at the bottom of the tape library frame. The fibre patch panel must be removed from the frame if it has one.