

Protect More. Store Less.



Faster, more reliable and cost-effective disk-based backup and recovery with IBM ProtecTIER deduplication solutions



ProtecTIER's revolutionary and patented inline deduplication technology enables you to easily harness the power of deduplication to retain data longer, protect data more efficiently and reliably and save money by reducing energy, floor space and maintenance requirements.

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Design factors to consider when evaluating deduplication solutions

When evaluating deduplication solutions, there are five important design factors to consider. Understanding these factors can help ensure that the deduplication solution you select today will meet your needs well into the future.

Performance

With data growing at an exponential rate and backup windows shrinking, the deduplication solution you choose needs to be able to process data as fast as possible.

Some deduplication products take a post-processing approach because their technology is too slow to deduplicate inline. Other products tout impressive performance using numbers that reflect the speed of the initial ingest only, not the true aggregate performance. IBM System Storage ProtecTIER solutions provide inline deduplication that eliminates redundant data in real time as it is being received from backup servers. A single ProtecTIER solution can provide up to 1000 MB/sec or more inline deduplication performance.

Capacity

Business requirements are driving the need to retain large and ever-growing amounts of data on-site and to be able to restore that data quickly when needed.

ProtecTIER was designed to easily scale and handle growing data requirements for organisations of all sizes. ProtecTIER's revolutionary deduplication technology enables the disk repository of a single ProtecTIER server to scale to as large as 1 PetaByte (PB) without negatively affecting performance. And unlike hash-based deduplication products whose hash table grows linearly with the amount of data stored, ProtecTIER's patented technology can manage a petabyte repository with only a 4 GB index file.

Data integrity

Information is your company's lifeblood and data integrity is essential. The deduplication solution you choose must ensure that your data is secure.

Most deduplication products on the market today use a hashing algorithm to determine if data is a duplicate. With these products, there is the possibility that unique data will be discarded, resulting in data corruption. ProtecTIER's unique deduplication technology takes a non-hash-based approach that performs a bit-for-bit comparison of data before deduplication. With this approach, there is no risk of unique data being discarded.

Non-Disruption

With increasing pressure to improve service levels, the deduplication solution you choose must perform without disrupting daily production operations.

With post-processing products, backup administrators already struggling to stay within backup windows also have to deal with an additional 'deduplication window' that can take four times as long to complete, bringing production operations to a halt. ProtecTIER's high-performance inline deduplication approach helps ensure that backup windows are met and that data is available for restore operations immediately.

Production proven

Although deduplication is not a new technology, many vendors failed to recognise its importance and are late to provide proven offerings.

Since ProtecTIER's introduction in 2005, more than 25 PBs of physical capacity have been deployed behind ProtecTIER servers into production environments in various industries around the world – more than any other vendor on the market today. Make sure that the deduplication solution you choose has been tested and proven in production environments with performance and capacity requirements similar to your own. Verify that the solution you choose is backed by quality and timely vendor support that will protect your investment for the long term.



IBM System Storage TS7600 ProtecTIER family at a glance

	7 TB Appliance	18 TB Appliance	36 TB Appliance	Gateway
Solution Capabilities				
Deduplication Method	Inline	Inline	Inline	Inline
Deduplication Technology	HyperFactor	HyperFactor	HyperFactor	HyperFactor
Performance (per Node)	100 MB/sec	250 MB/sec	500 MB/sec	500 MB/sec
Performance (Two Node Cluster)			500 MB/sec	1000 MB/sec
Useable Physical Capacity	7 TB	18 TB	36 TB	Up to 1 PB
Nominal Capacity ¹	175 TB	450 TB	900 TB	Up to 25 PB
Virtual Libraries per Repository	12	12	12	16
Virtual Drives (per Node)	256	256	256	256
Virtual Drives (Two Node Cluster)	512	512	512	512
Virtual Cartridges	128K	128K	128K	512K
Technical Specifications				
Processor Model	System x3850M2	System x3850M2	System x3850M2	System x3850M2
Number of Processor Cores	18 (3 hex core)	18 (3 hex core)	18 (3 hex core)	24 (4 hex core)
Processor Speed	2.6 GHz	2.6 GHz	2.6 GHz	2.6 GHz
Memory	24 GB Random Access Memory (RAM)	24 GB RAM	24 GB RAM	32 GB RAM
Host Bus Adaptors (HBAs)	4 GB Fibre Channel (FC) Dual-Port	4 GB FC Dual-Port	4 GB FC Dual-Port	4 GB FC Dual-Port



For more information

To learn more about how IBM ProtecTIER deduplication solutions can help you protect data more efficiently and reliably, contact your IBM representative or IBM Business Partner, or visit ibm.com/systems/storage/tape/protectier

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¹ Assuming a 25:1 deduplication ratio

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