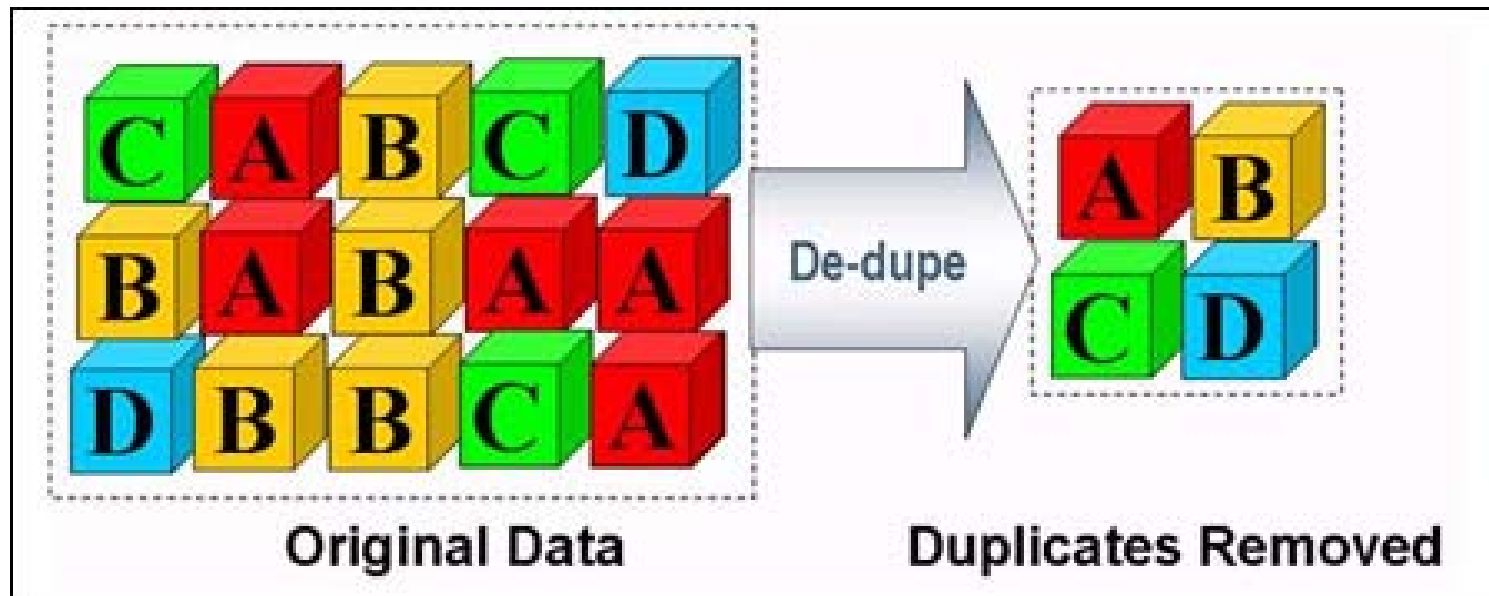


Data Domain Deduplication Overview

Joe Zimm- Senior Technical Consultant
EMC Backup Recovery Systems, Federal Division

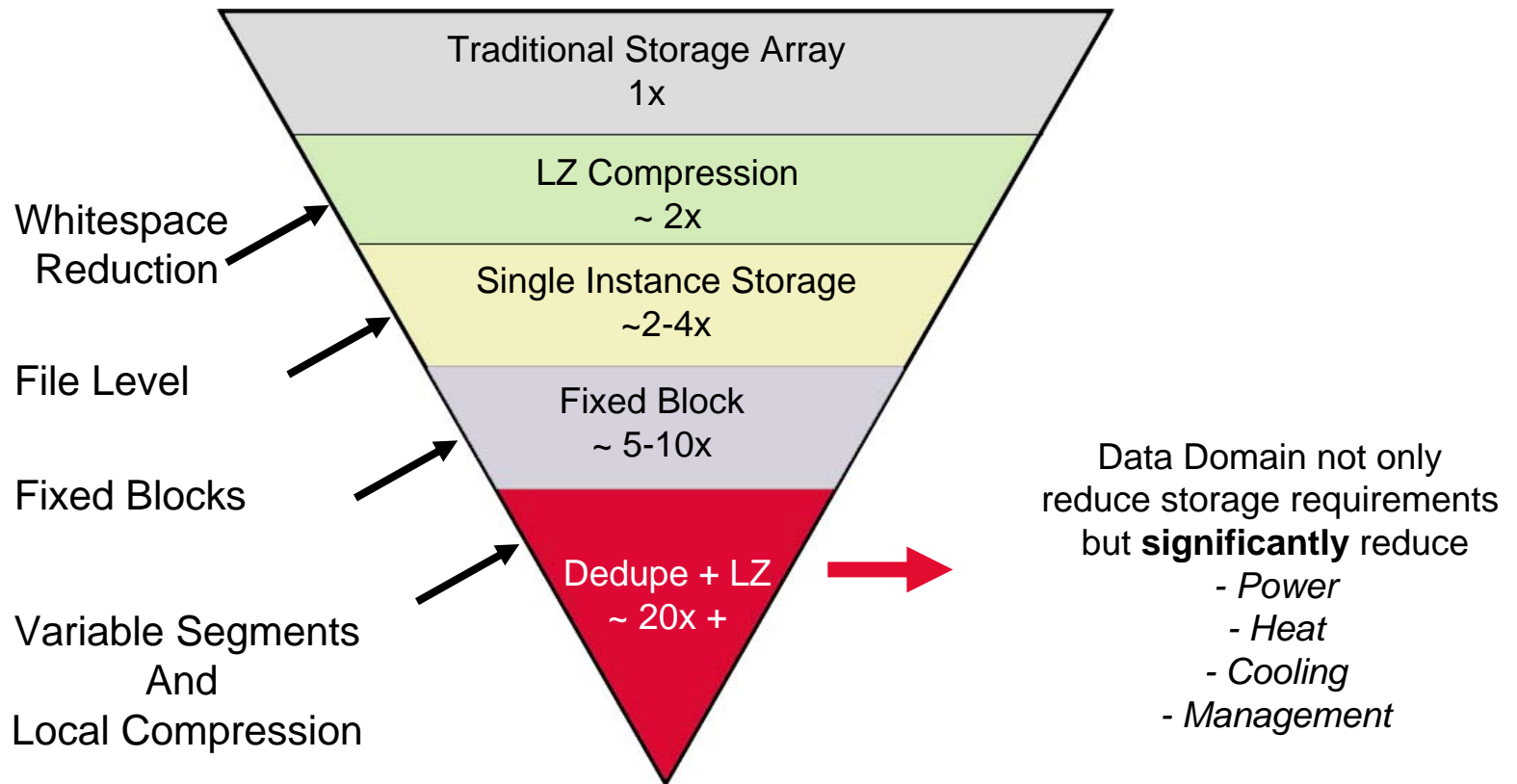
Deduplication refers generally to eliminating duplicate or redundant information.

Source: Wikipedia



Levels of Deduplication/Compression

Dedupe Methods



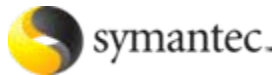
Data Domain Basics

Easy integration with existing environment



Control Tier

Backup & Archive Applications



CIFS, NFS,
NDMP, OpenStorage

Ethernet

VTL over FC

Target Tier



DD880 Appliance

- 2U- 4U Controller
- 2 - 6 ports
- 10 and 1 Gb Ethernet; 4 Gb Fibre Channel
- RAID-6
- 850Gb to 242 TB usable capacity with shelves
- 1 TB or 500 GB 7.2k rpm SATA HDD in shelf
- File system
- NVRAM
- N+1 fans and redundant, hot-plug power supplies

DR Tier

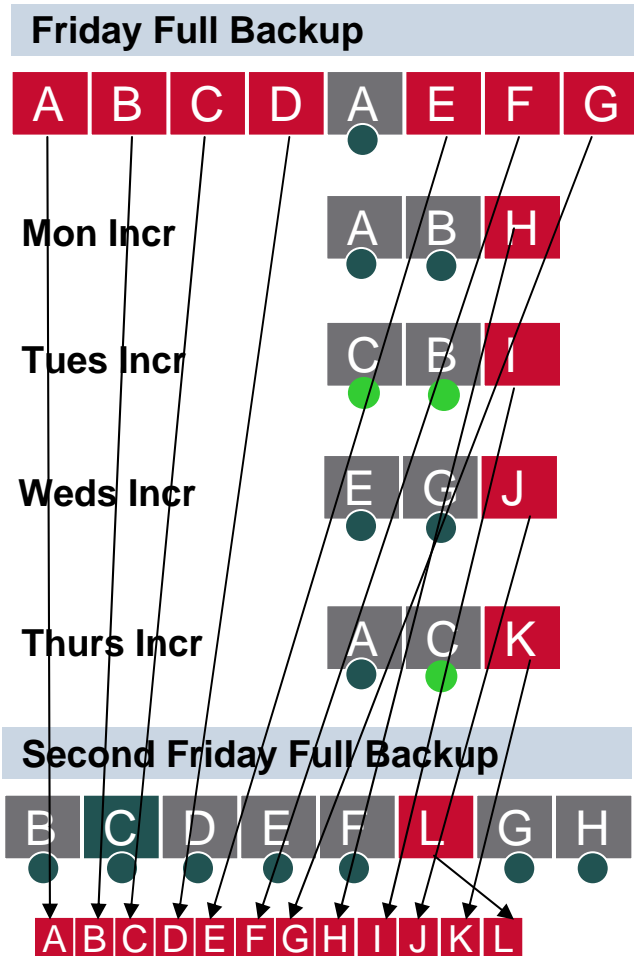


DD880 Appliance

Replication

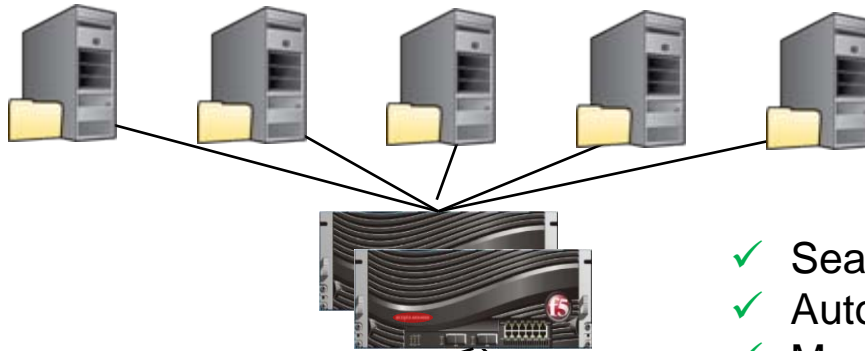
Data Deduplication: Under the Hood

Store more backups in a smaller footprint

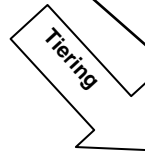


Backup Data	Logical	Estimated Reduction	Physical
FRIDAY FULL	1 TB	2-4x	250 GB
Monday Incr	100 GB	7-10x	10 GB
Tuesday Incr	100 GB	7-10x	10 GB
Wednesday Incr	100 GB	7-10x	10 GB
Thursday Incr	100 GB	7-10x	10 GB
Second FRIDAY FULL	1 TB	50-60x	18 GB
TOTAL	2.4 TB	7.8x	308 GB

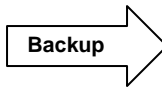
Use Case: Automated File Tiering



Primary Storage – Tier 1



Data Domain



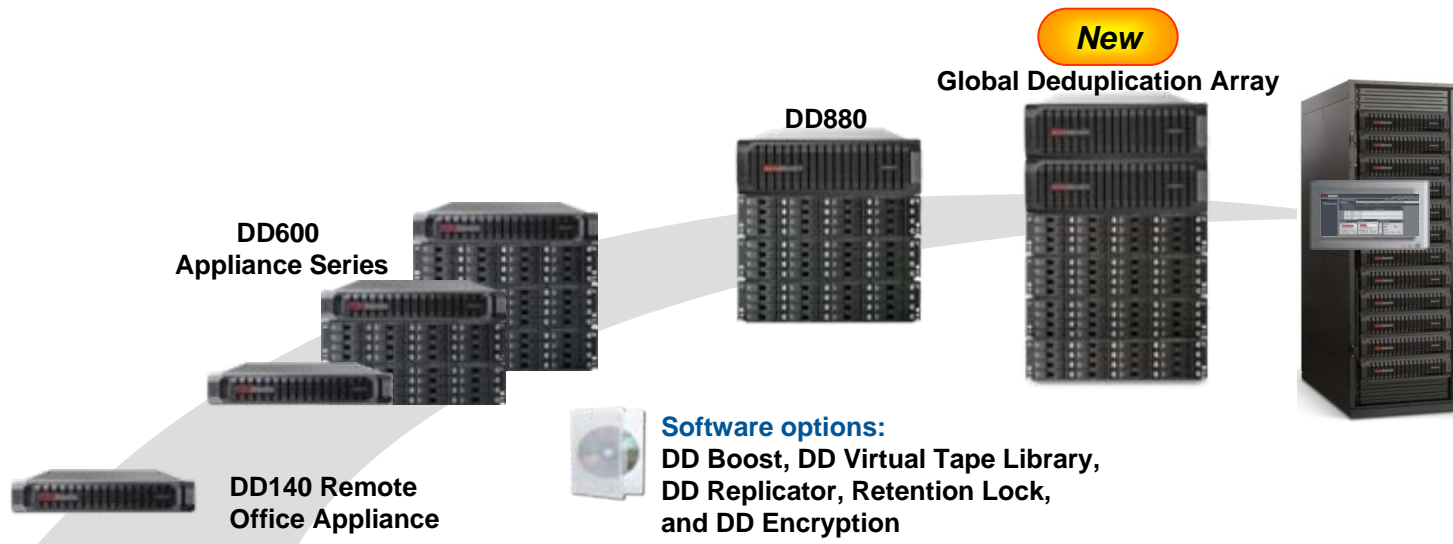
- ✓ Seamless integration with no disruption
- ✓ Automatic enforcement of policies
- ✓ Move older data from Tier 1 to Archive Tier
- ✓ Improve cost and performance in Tier 1
- ✓ Backup reduced Tier 1 to Data Domain

Combining backups with archive data results in enhanced deduplication across both datasets.

Technology Benefits



- Footprint Reduction
- Reduced Power and Cooling
- Reduced Bandwidth for replication
- Continuous fault detection for data integrity
- Easy integration with Backup and Archive applications



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