



Data Service Technology Brief

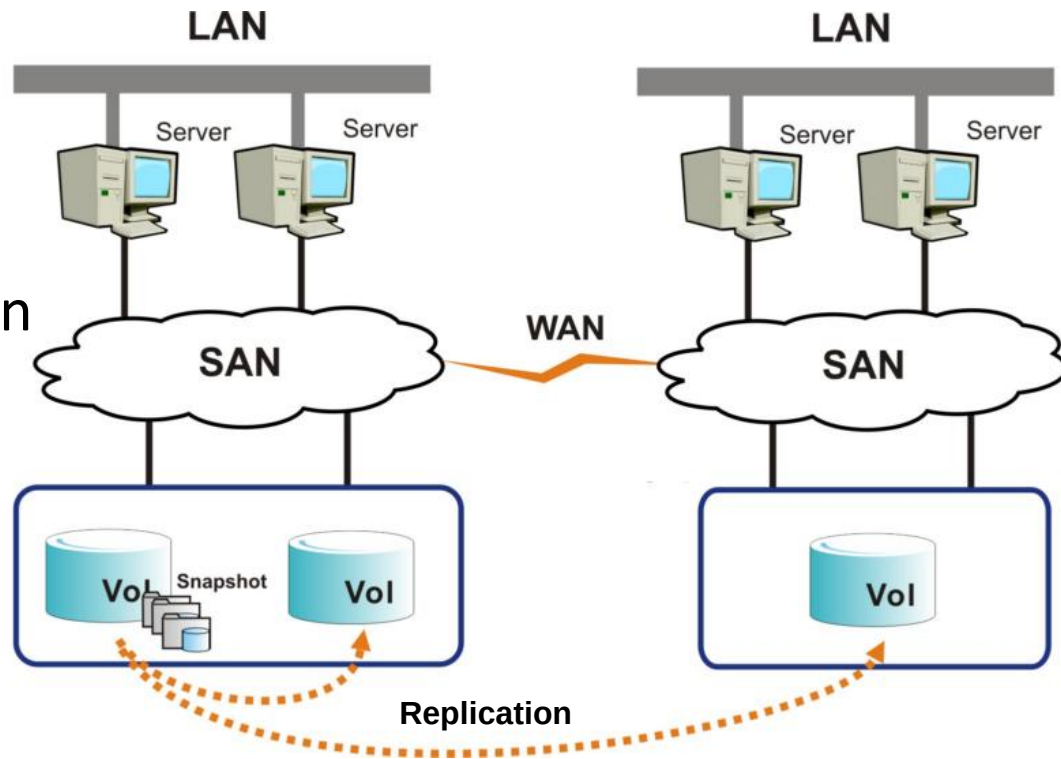


Features at a Glance

- **Array-based Snapshot and Data Replication**
- **Thin provisioning**

Array-based Snapshot and Data Replication

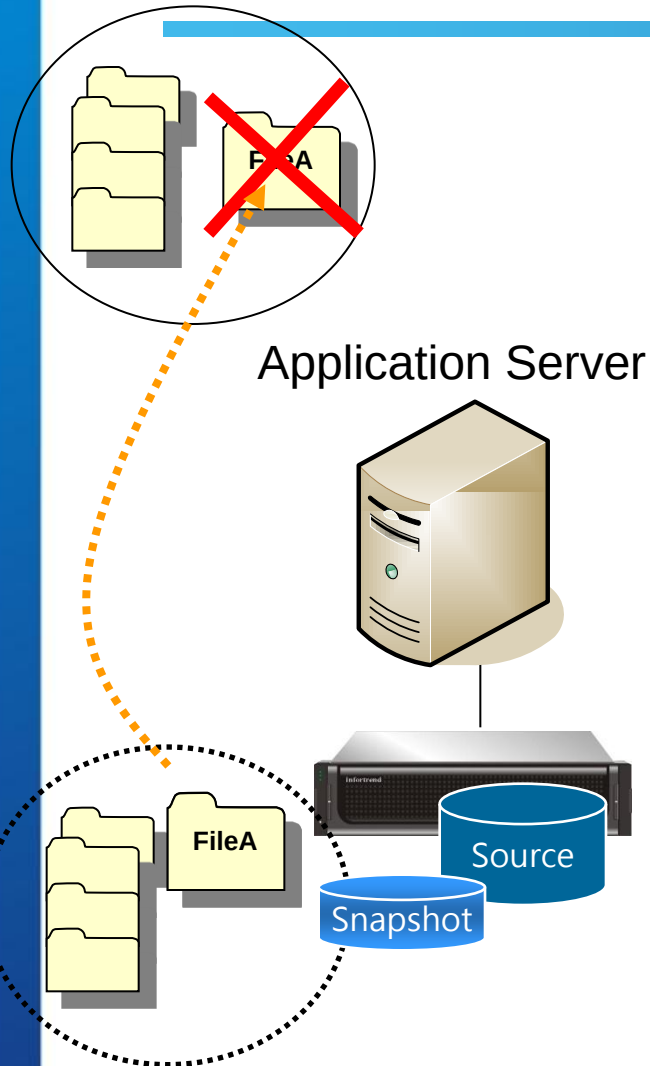
- Snapshot
- Replication
 - Local Replication
 - Remote Replication





Snapshot

Snapshot Technology



Scenario

8:56AM : A file is created

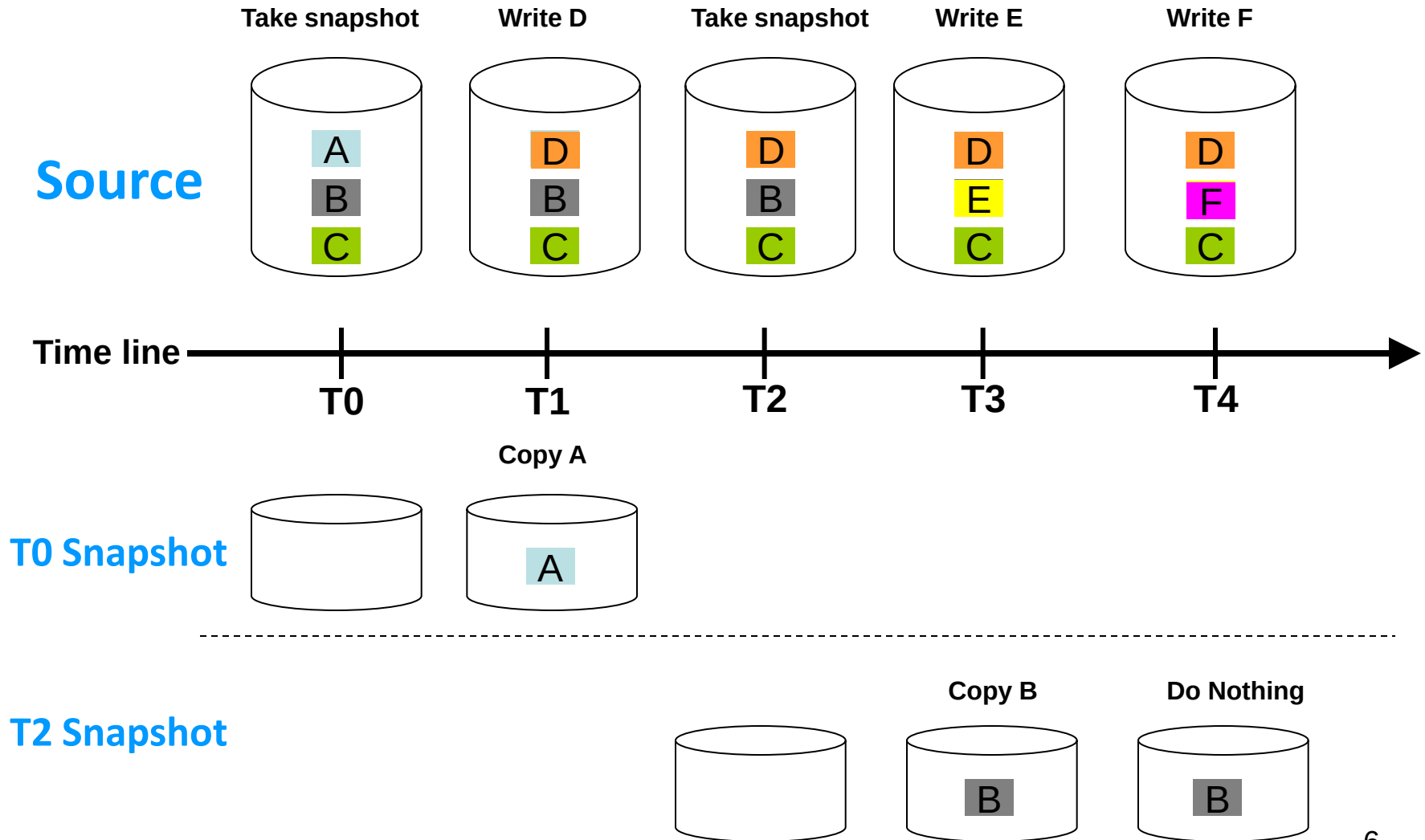
9:00AM : A snapshot is taken

9:05AM : The file is accidentally deleted

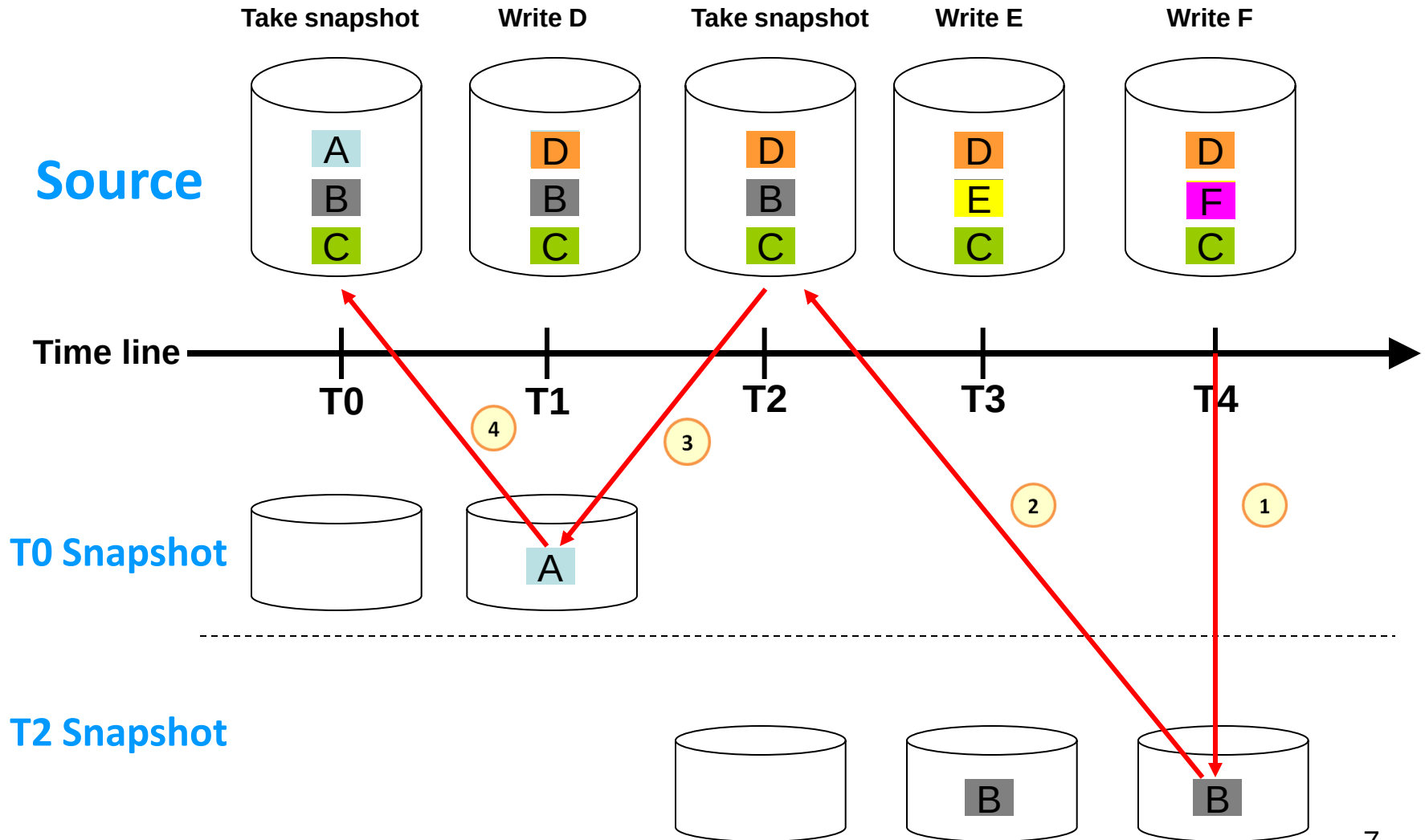
Solution

9:06AM : Restore the file from the snapshot image taken at 9:00AM

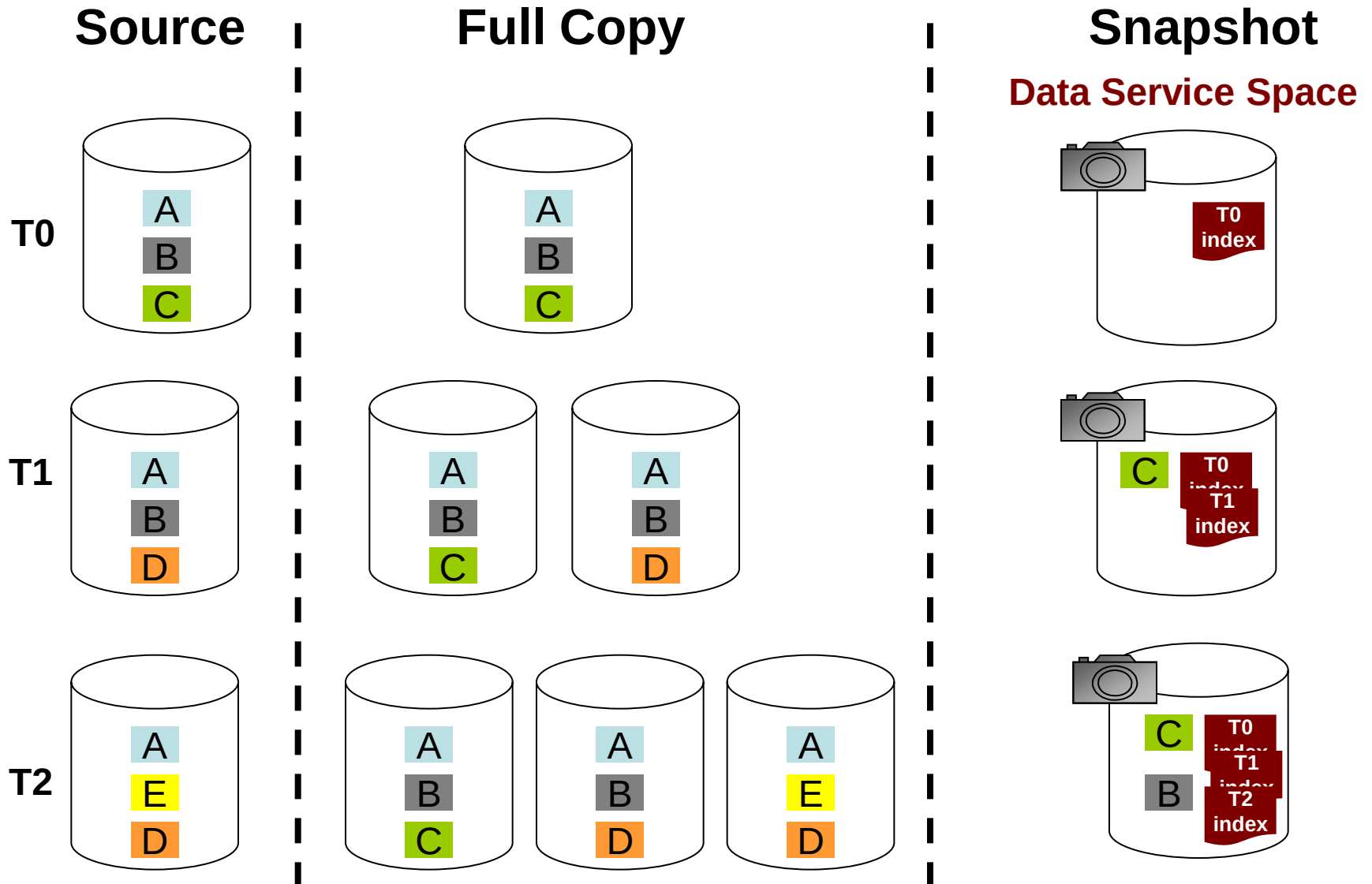
Copy-on-Write Technology



Copy-on-Write Data Recovery



Copy on Write Snapshot





Local Replication

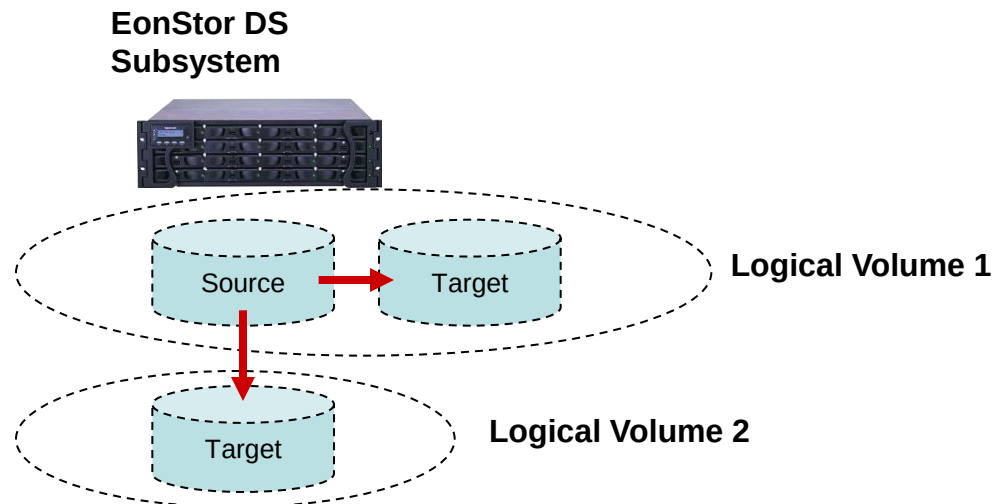


Local Replication

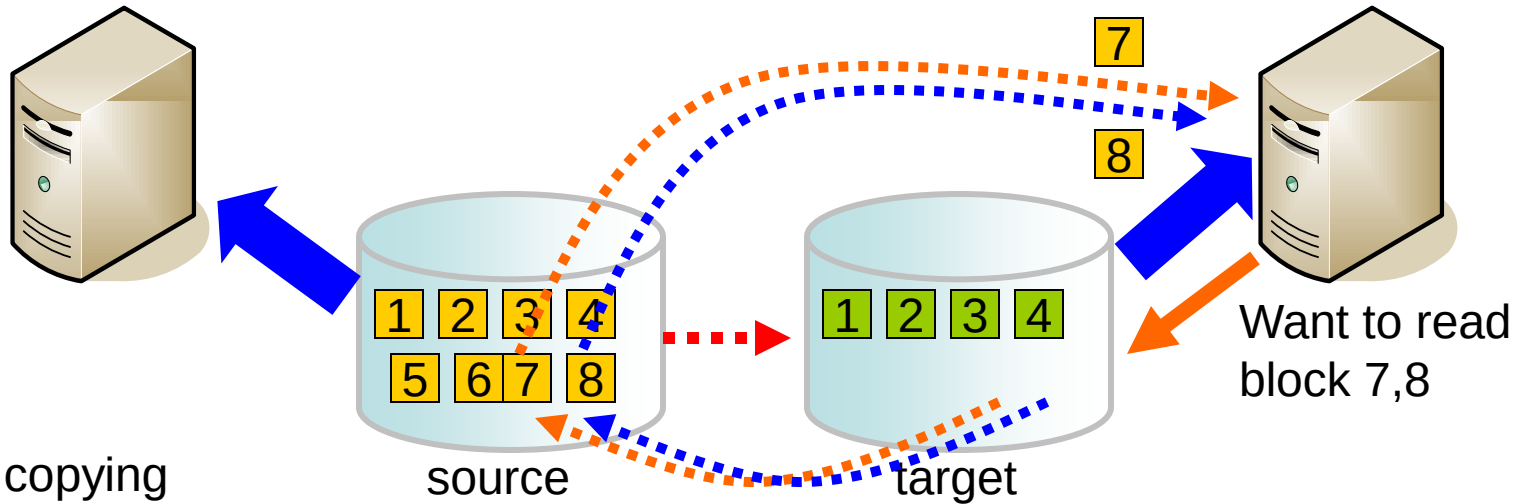
- **Local Volume Copy**
- **Local Volume Mirror**

Volume Copy/Mirror

- **Prepare two partitions: one for the source and another for the target**
 - Source: Data partition (mapped or unmapped), Snapshot source partition, or Snapshot Image (for volume copy only)
 - Target: Empty & unused partition (equal to or larger than the source)



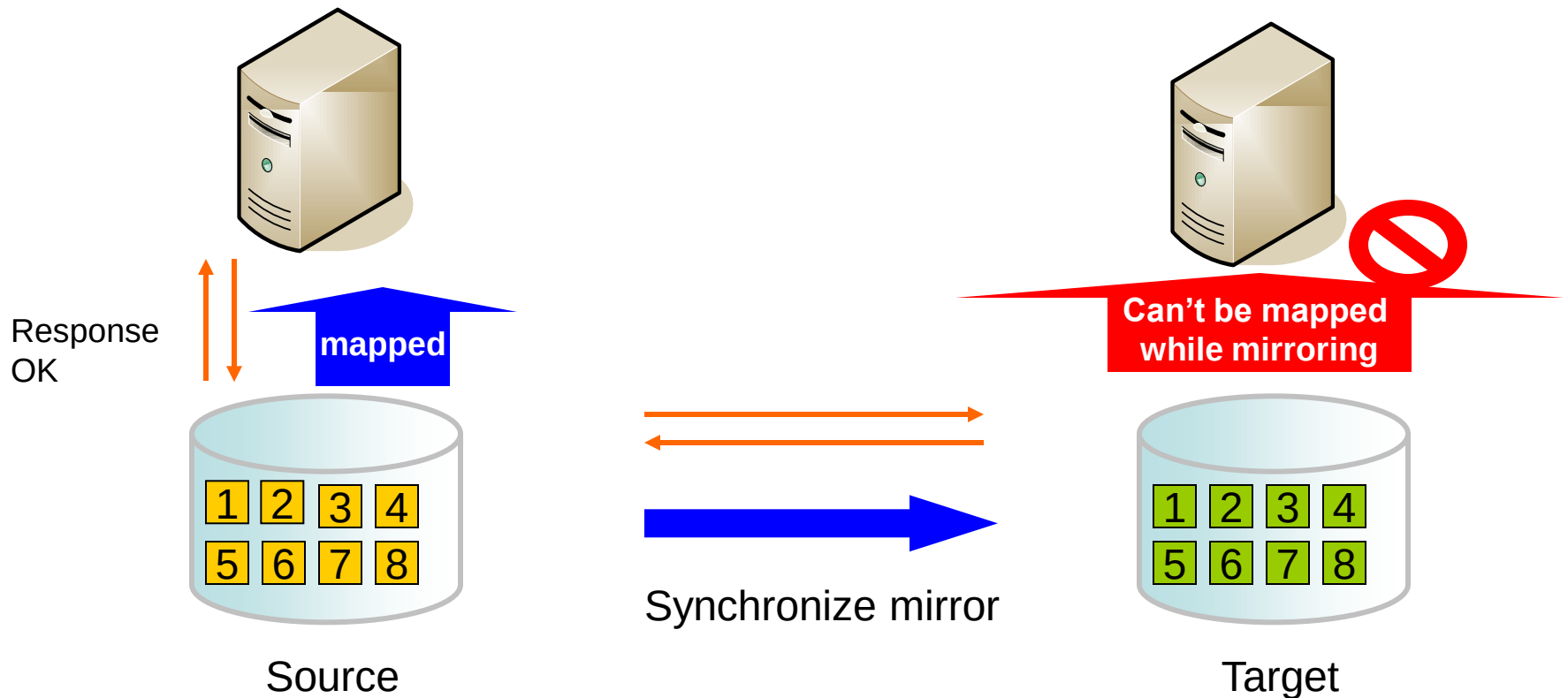
In-System Immediate Copy



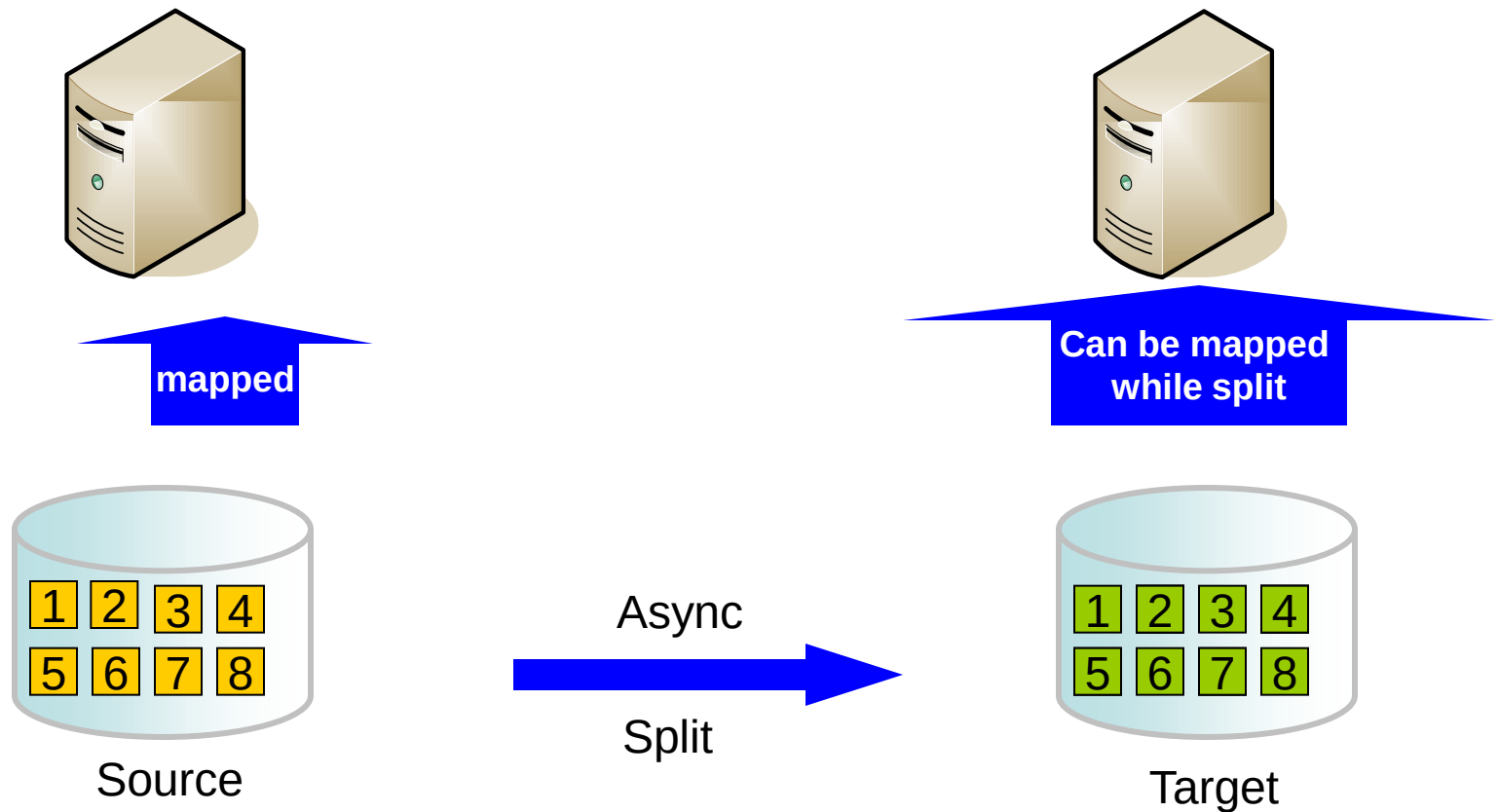
1. Start copying
2. While copy is in progress, the target can be mapped to the host
3. If the target host wants to read block 7 & 8, it will refer to the source volume. The copy continues without interruption.



Synchronous Mirror



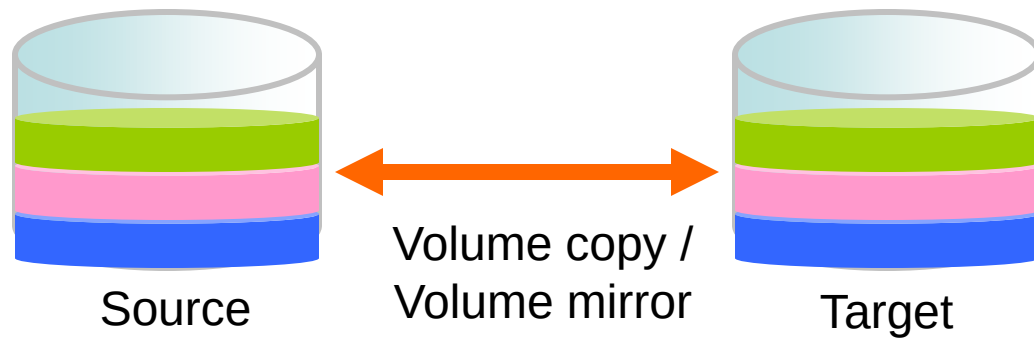
Asynchronous Mirror



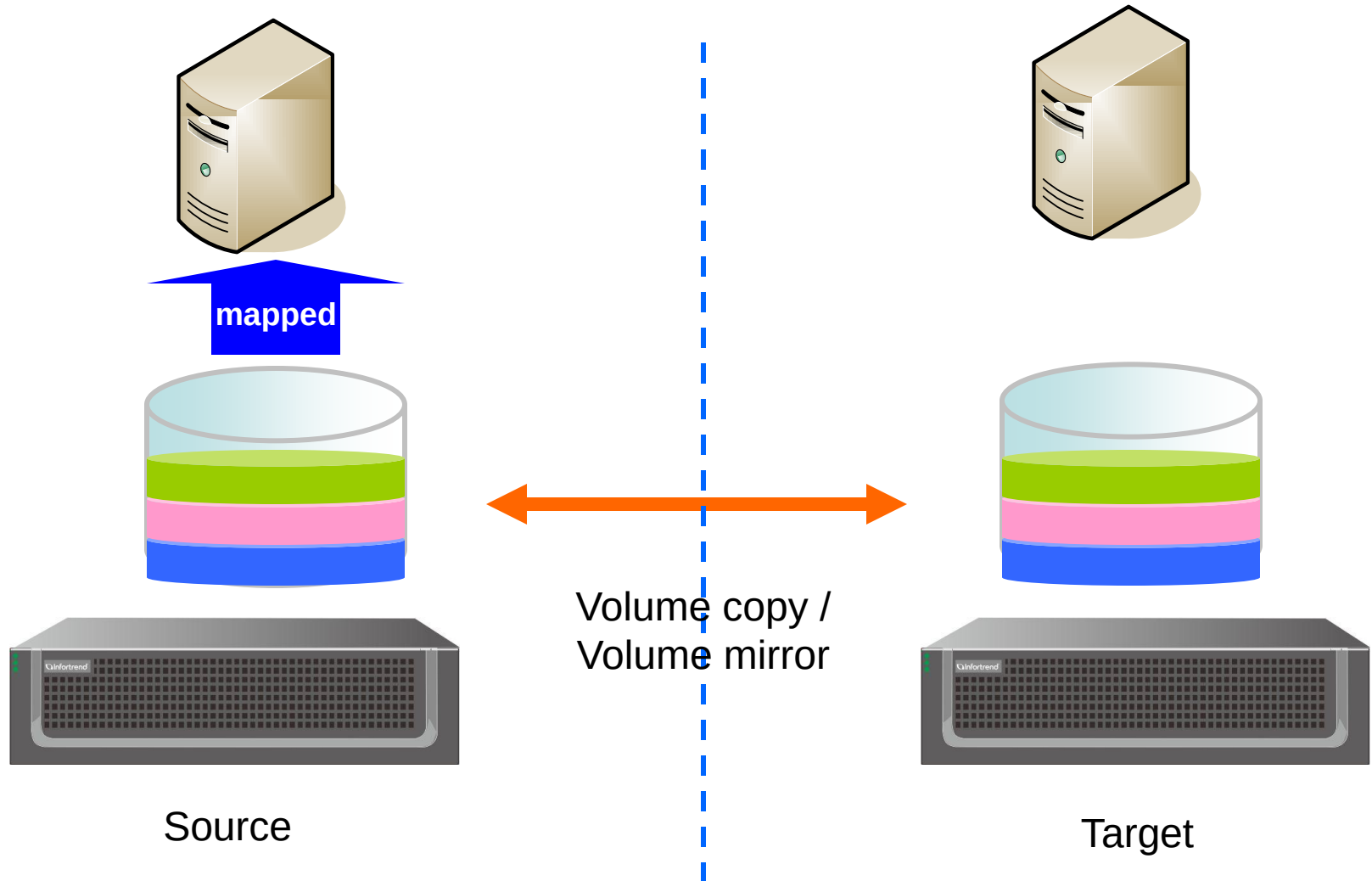


Remote Replication

Local Replication



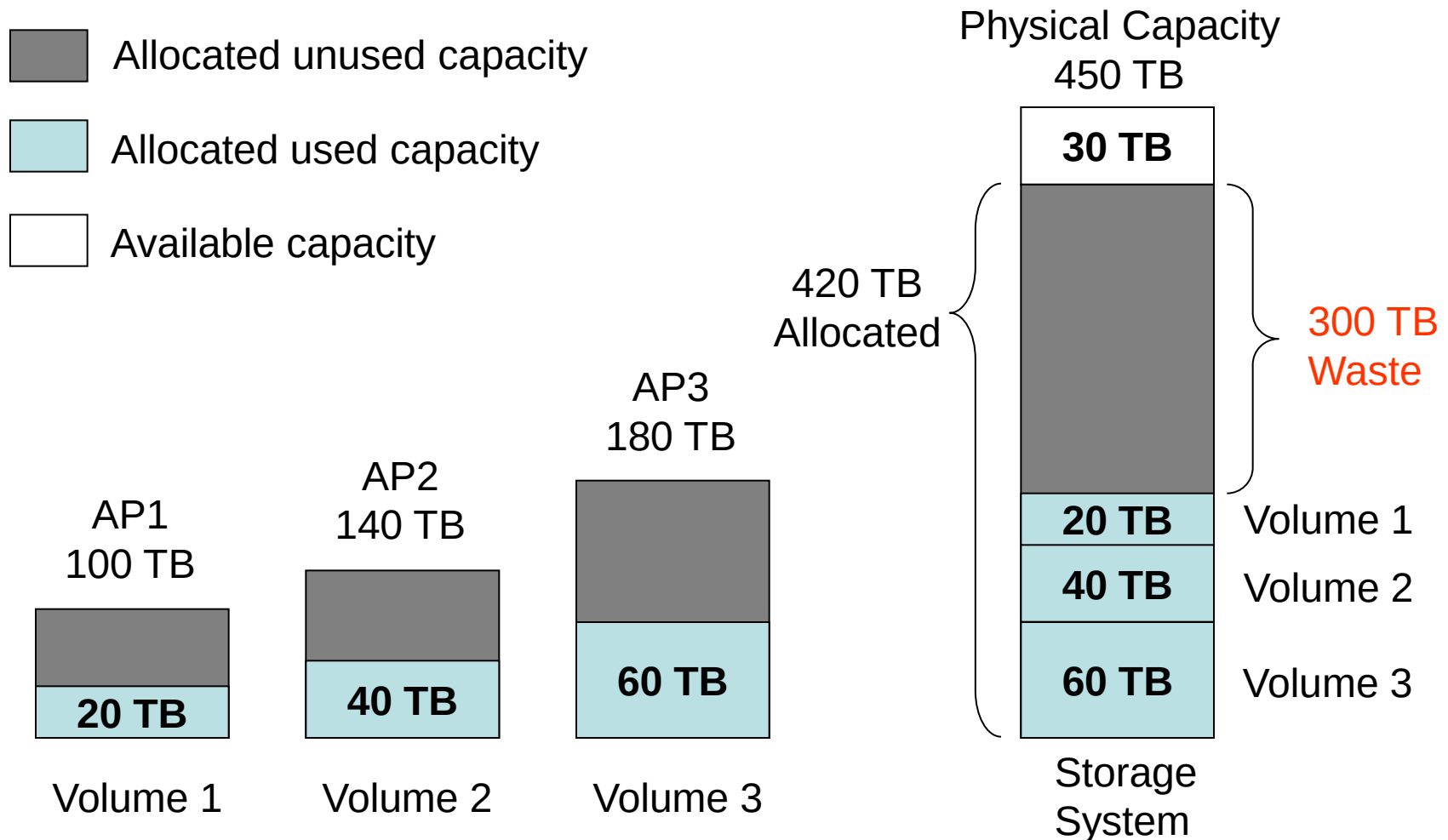
Remote Replication



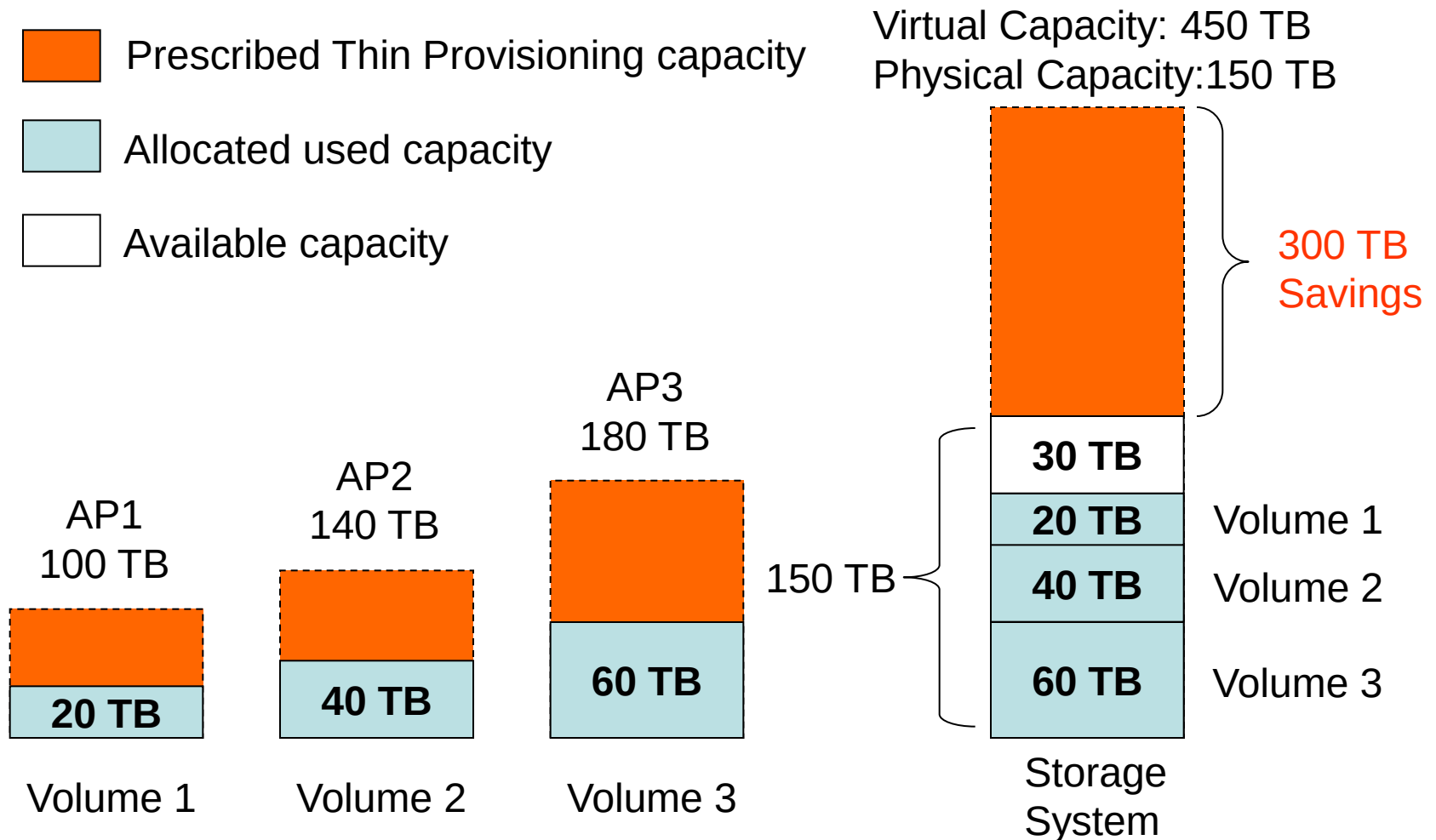


Thin Provisioning

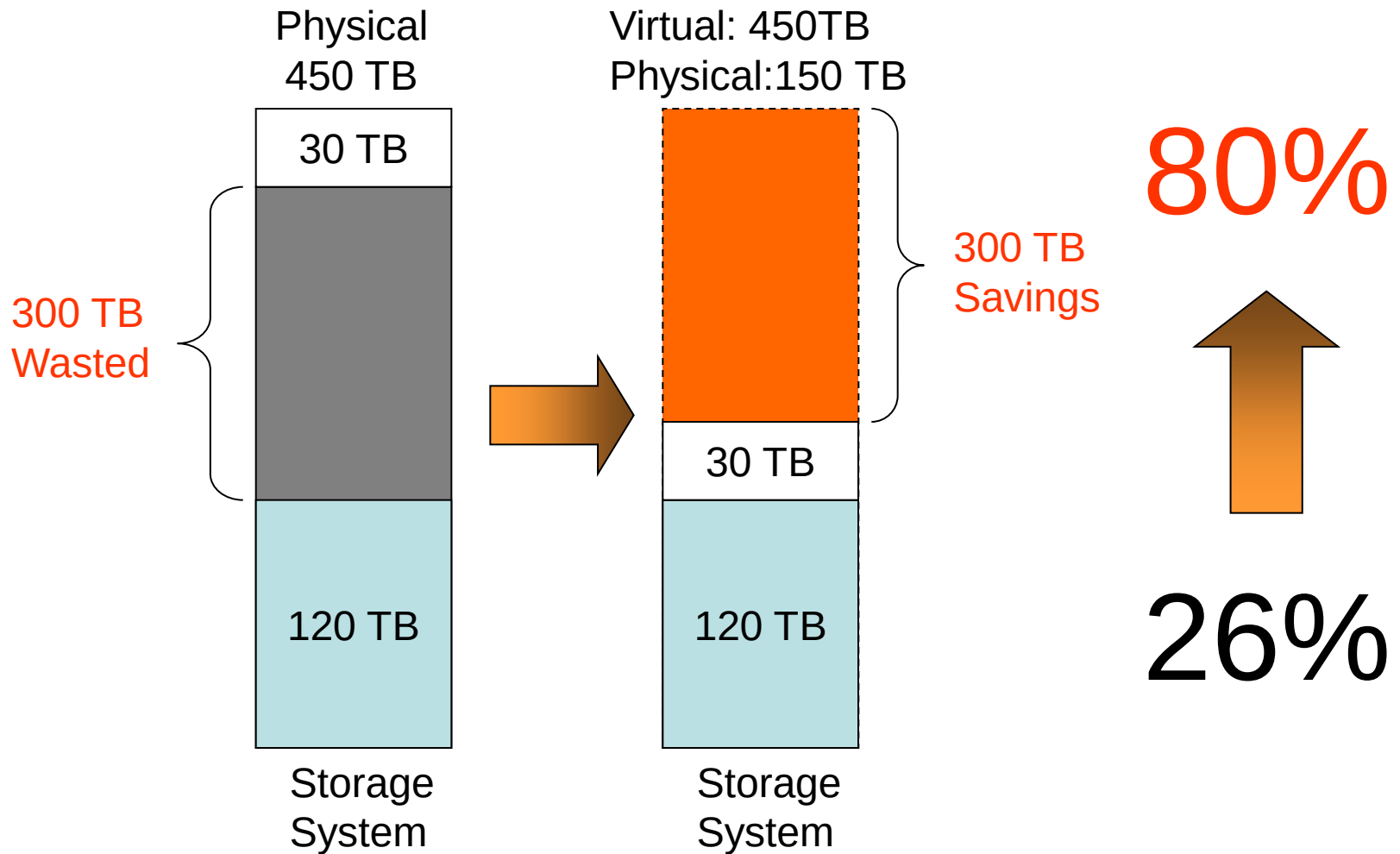
Traditional Provisioning Problem



Thin Provisioning Solution 2/2



Full Provisioning vs. Thin Provisioning





High Availability

High Availability Hardware Design

- Hardware redundancy

Redundant
Controllers

Redundant Power Supplies & Fans





Thank you