Surveon Triple Data Protection

Powerful Data Backup Solutions

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Content

- Surveon Triple Data Protection
- Technology Behind
- Support Products

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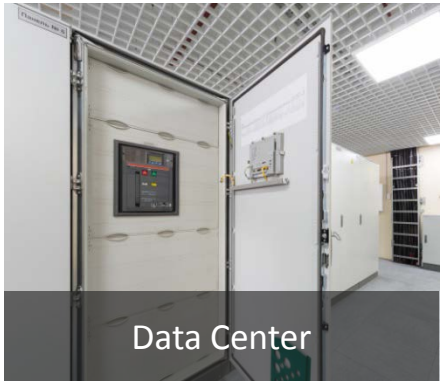
When It Comes to Critical Applications



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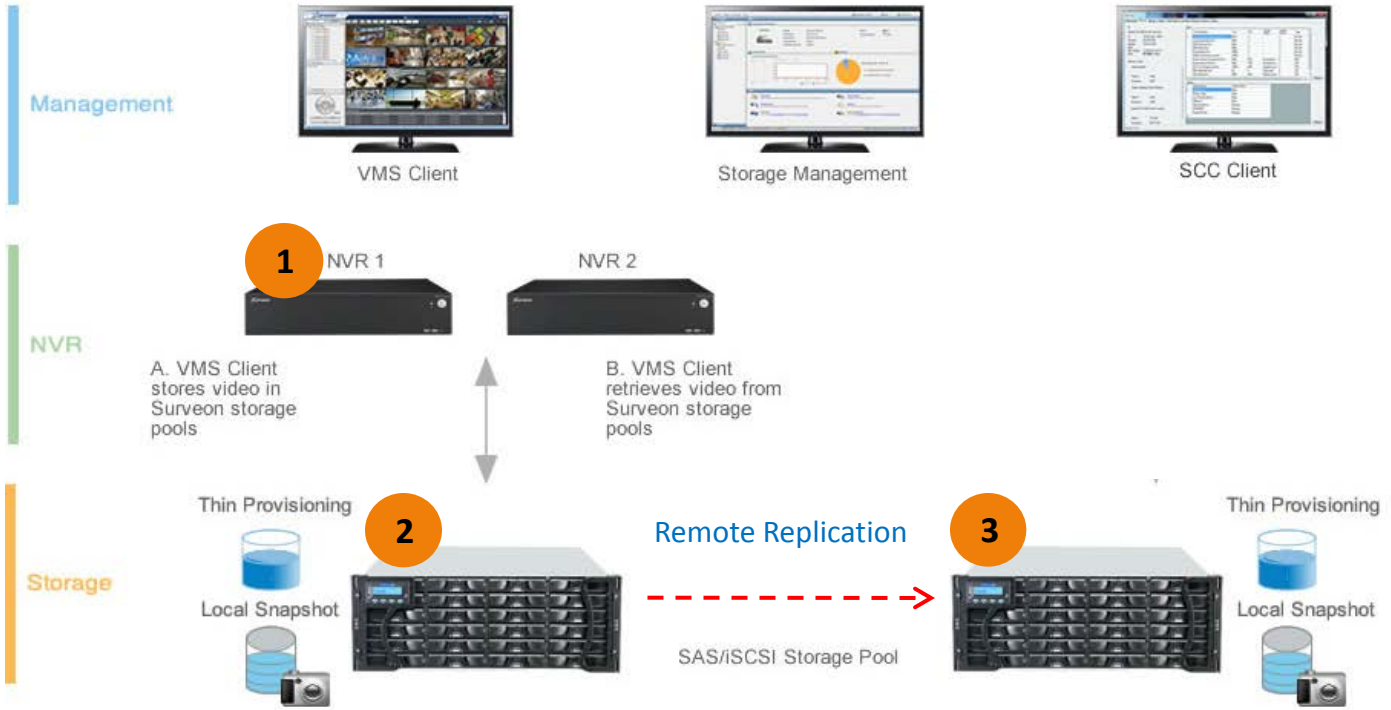
Surveillance System Architecture



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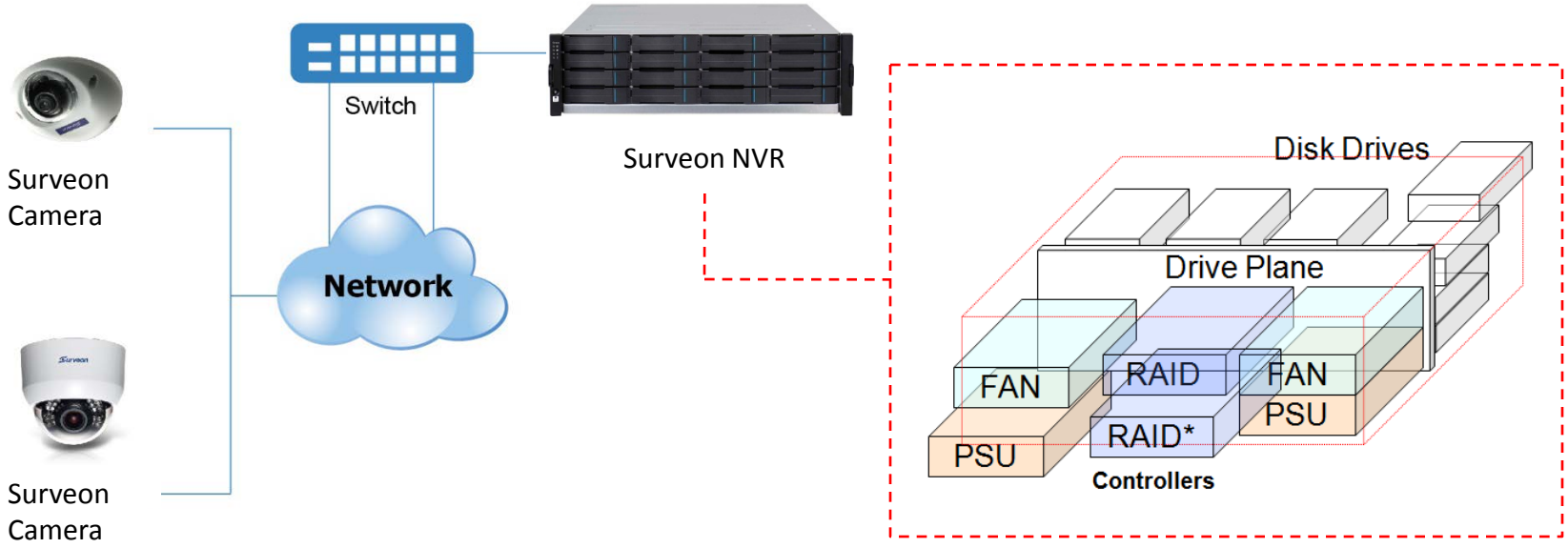
1st Protection

Surveon NVR RAID



High Data Protection

- **Built-in RAID 1, 5, 6, 1+Spare, 5+Spare, 6+Spare** to provide volume mirror and storage capacity for data integrity and long retention period

RAID Level Comparison Table

RAID Level	Min. HDD	Storage Capacity*	Data Protection
RAID 1	2	½ N HDD	Middle-high
RAID 5	3	N-1 HDD	General
RAID 6	4	N-2 HDD	Middle
RAID 1 + Spare	3	½ N-1 HDD	Highest
RAID 5 + Spare	4	N-2 HDD	Middle-general
RAID 6 + Spare	5	N-3 HDD	High

*N is the HDD installed in Surveon NVR

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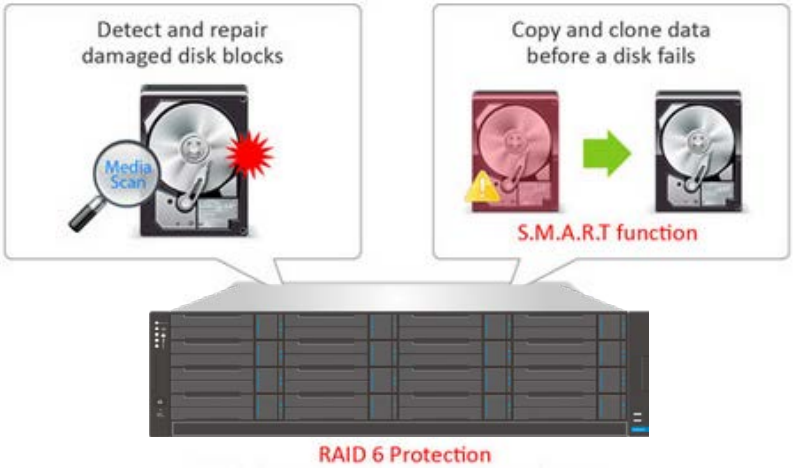
Intelligent Driver Integrity (IDR)

- **Data corruption prevention**
  - Smart data recovery mechanism: Detect and recover bad blocks
- **Drive rebuild prevention**
  - Failing drive prediction: Copy and Clone data before a disk fails



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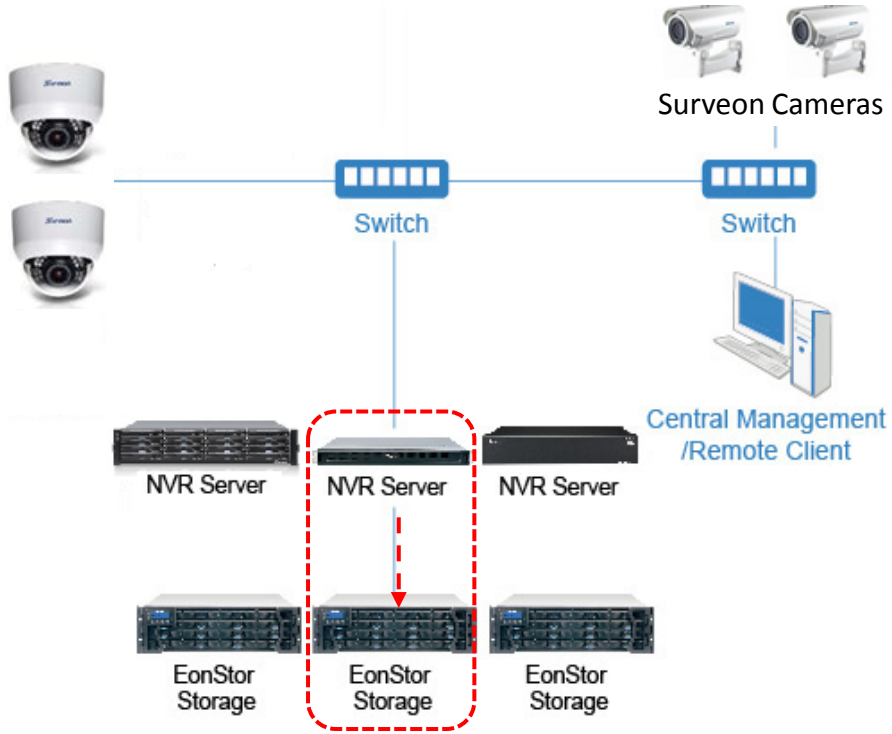
Backup to iSCSI Storage



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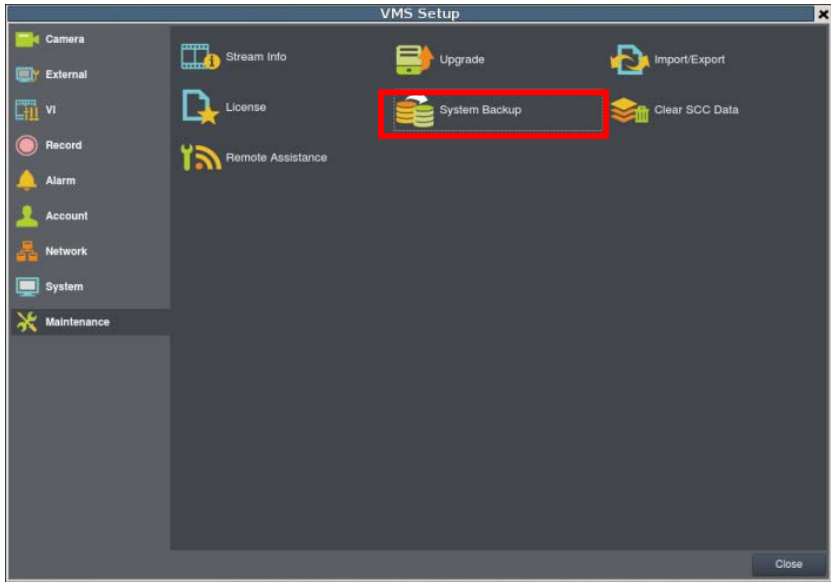
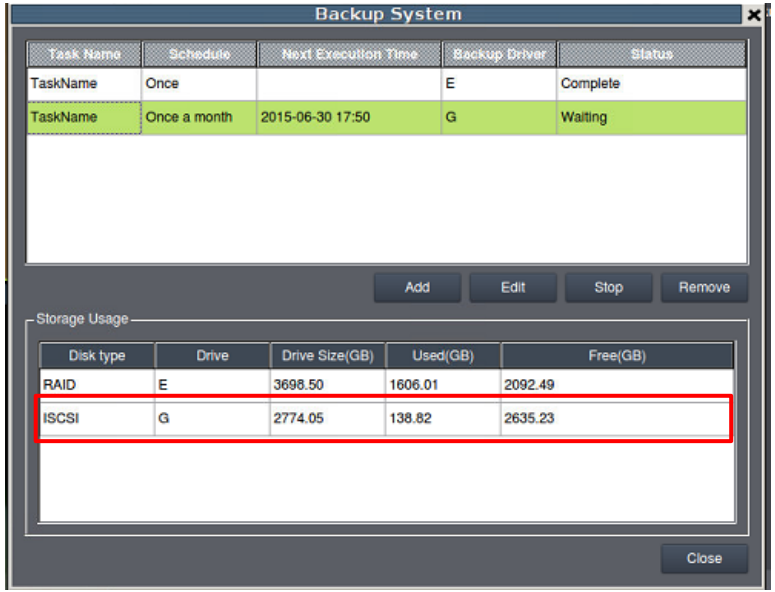
Archiving to Storage

- The video recordings can be backed up to **USB HDD devices and iSCSI Storage.** But it is not allowed to use the ones for recording to backup.





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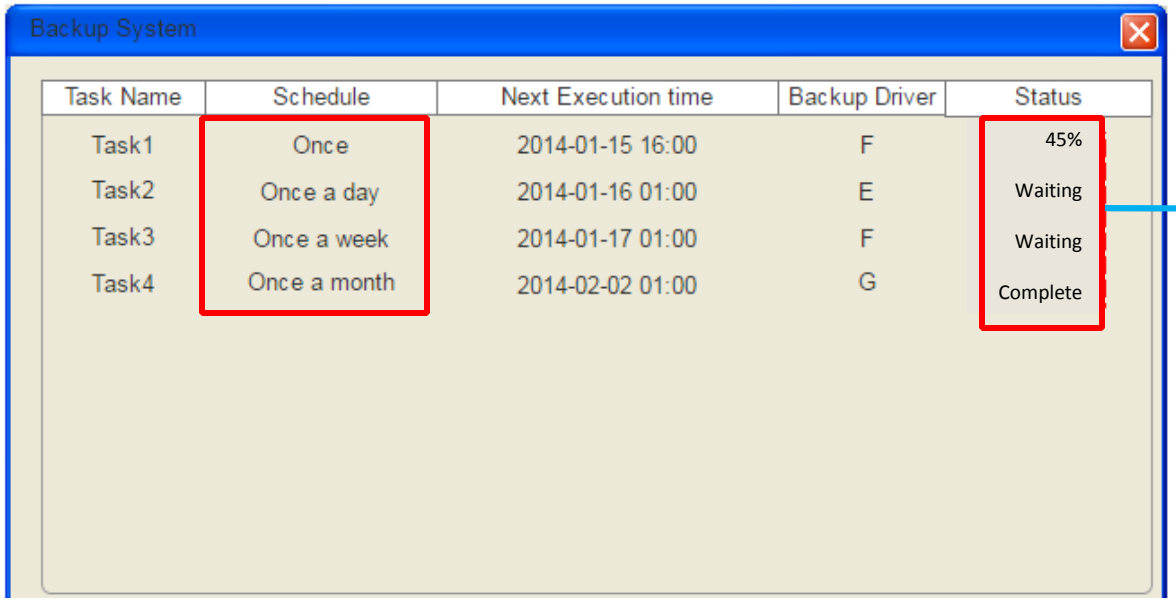
Easy Setting

- Users can set the frequency of backup schedule **by day, week or month**.



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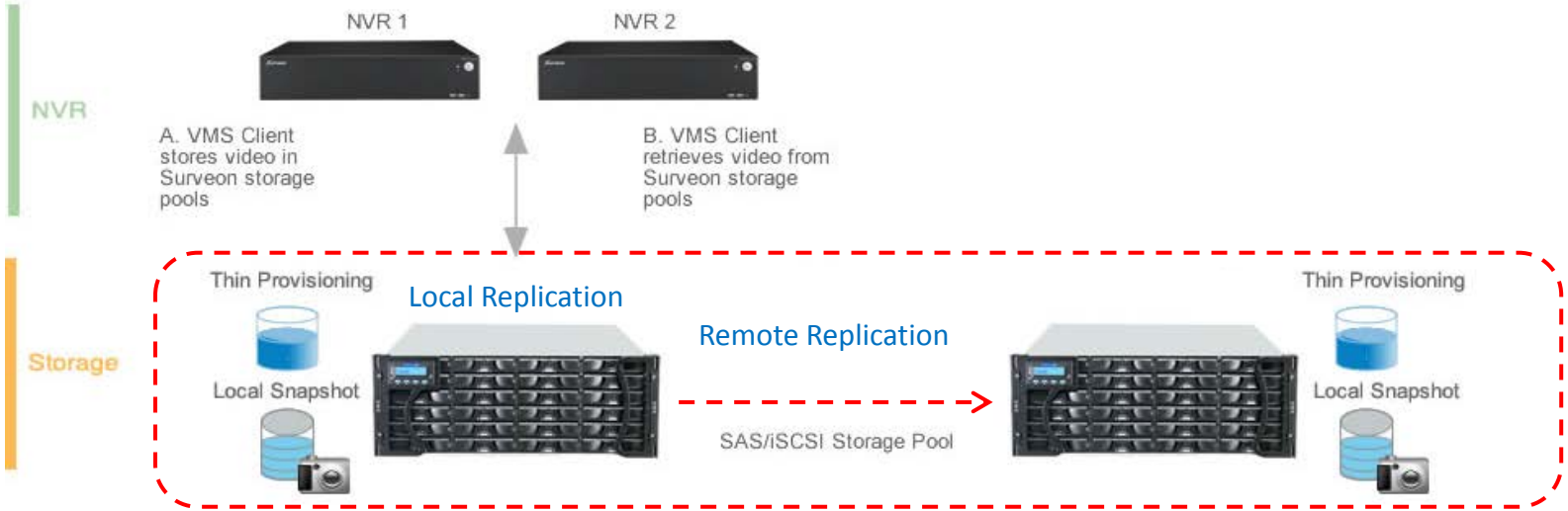
iSCSI Local/Remote Replication



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iSCSI Storage Backup Functions

Local Replication

- **Snapshot**
- **Volume Copy/Mirror**

Remote Replication

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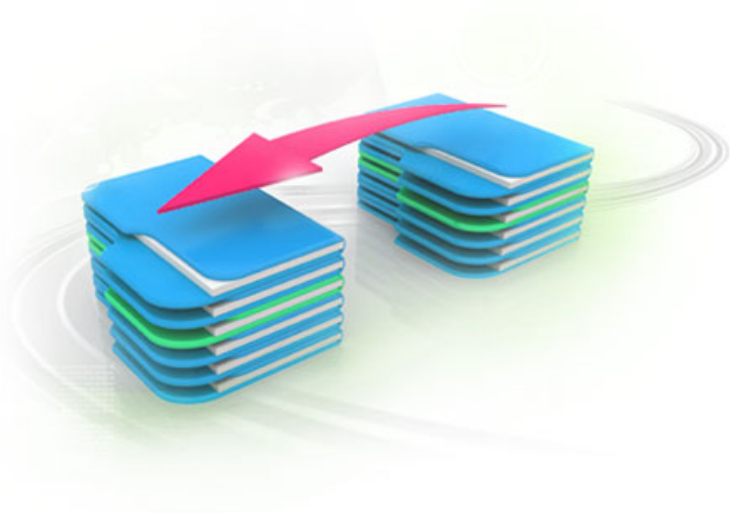
Local Replication - Snapshot

- **Increased availability**
  - Restore files and roll back data in seconds
- **Space-efficient, low-impact data protection**
  - Create immediate, differential copies
- **Simplified management**
  - Take advantage of scheduling and capacity control mechanisms
- **Deployment flexibility**
  - Allow flexible configuration of snapshot frequency



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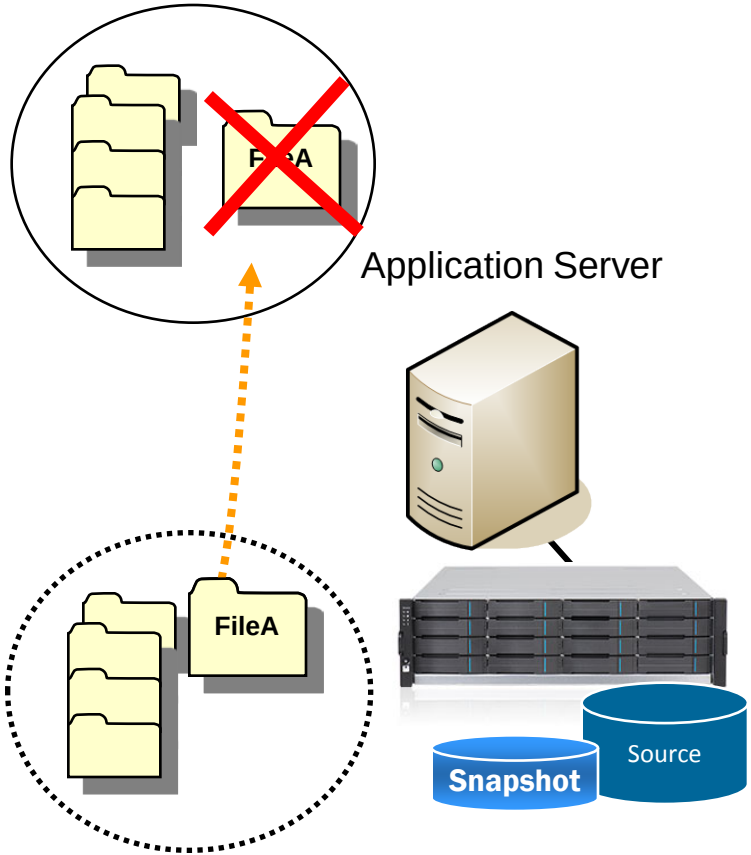
Snapshot Technology



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

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Local Replication - Volume Copy/Mirror

- **Quick recovery from data volume failure**
  - Immediately use disk-based full data copies to support applications when the source data volume fails
- **Flexible data copy deployment**
  - Split and re-sync mirroring between source and copy as business needs require
- **Close integration with applications**
  - Ensure close integration with leading operating systems and common applications

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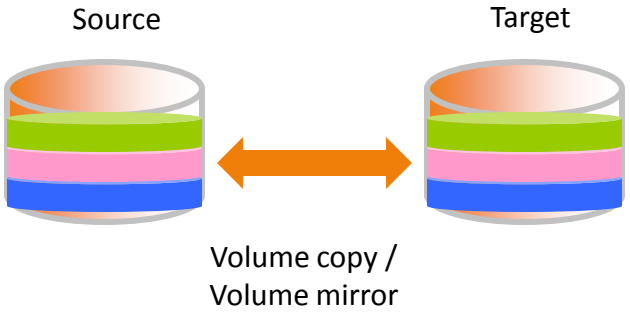
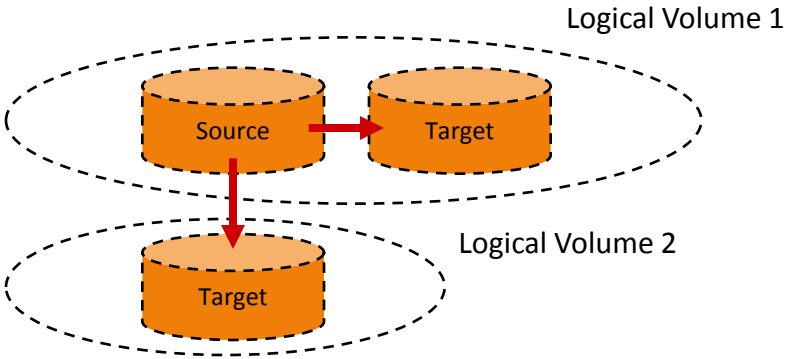
Volume Copy/Mirror Technology

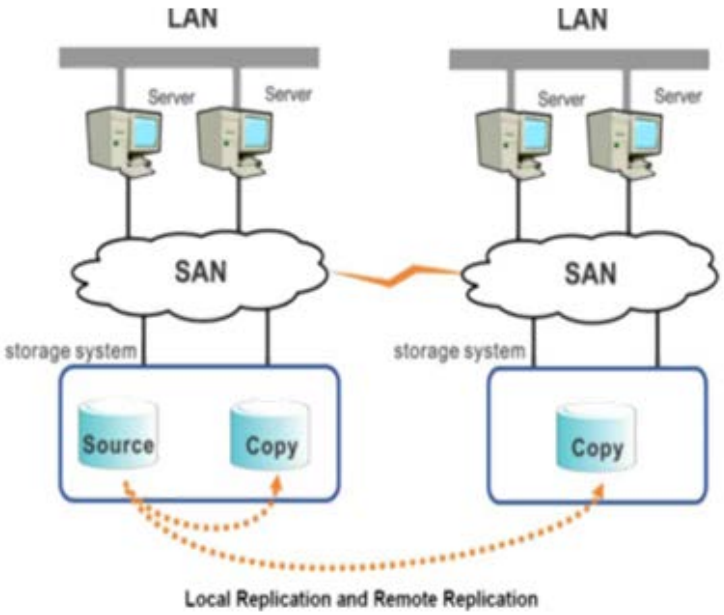
- Prepare two partitions: one for the source and another for the target
  - Source: Data partition (mapped or unmapped), Snapshot source partition, or Snapshot Image (for volume copy only)
  - Target: Empty & unused partition (equal to or larger than the source)





Remote Replication

- **Minimize unplanned downtime**
  - Reduce recovery time after system failures
- **Flexible data copy deployment**
  - Synchronous and asynchronous options
- **Affordable data protection**
  - Achieve enterprise-class protection at affordable price points
- **Data compression**
  - Leverage data compression for asynchronous remote replication for increased efficiency



Local Replication and Remote Replication

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Asynchronous and Synchronous

- **Asynchronous**
  - Suitable for **archived data**
  - Periodic update: **preset schedule** setting enabled
  - Minimal backup time is 5 minutes
  - Recommend to use **WAN (T1, T3, OC3) or SAN (FC, iSCSI)** for asynchronous mirror
- **Synchronous**
  - Suitable for **critical data**
  - Requires **higher network bandwidth (SAN)** to ensure system performance quality
  - Ensures low RPO and provides better data integrity
  - Recommend to use **SAN (FC, iSCSI)** for synchronous mirror

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Support Products

Image	Quick Summary		Current Product
	12 Bay	SAS	ESDS 1012GS2
		iSCSI	ESDS 1012G
		JBOD ext.	JB 2012G-1
	16 Bay	SAS	ESDS 1016GS2
		iSCSI	ESDS 1016G
		JBOD ext.	JB 2016G-1

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