What's New - VSP5000 Solutions Update

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HITACHI VANTARA

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Session 7AY

GSE UK Conference 2021 Charity Raffle

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Supporting

AGENDA

New VSP 5000 Series

Hitachi Modern Storage Assurance

New Hitachi Vantara features for Mainframe

z/OS Synergy

Partnership

New VSP 5000 Series

VSP 5000 - New design to takes advantage of NVMe's massively parallel IO capabilities with very high availability (**8 9's**)
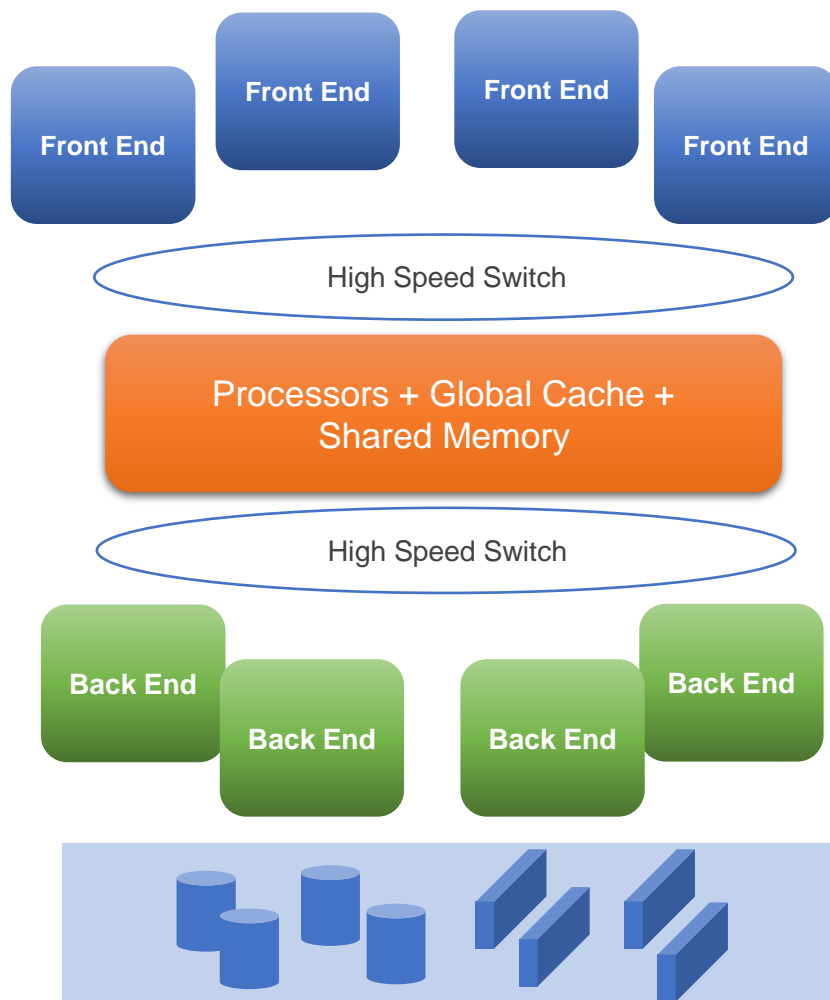
- Open System and Mainframe support

- Flexible scale-out and/or scale-up architecture

- Flash-optimized with NVMe and SAS intermix capability

VSP 5000 SERIES
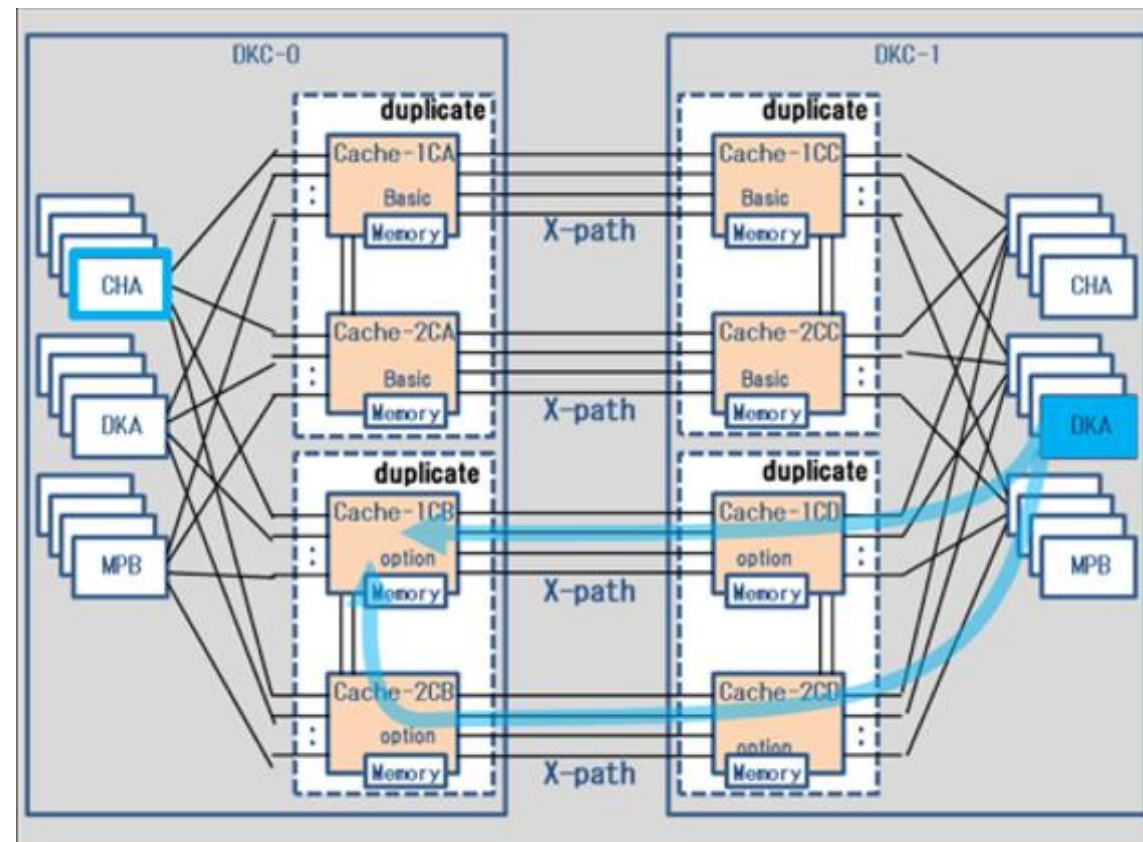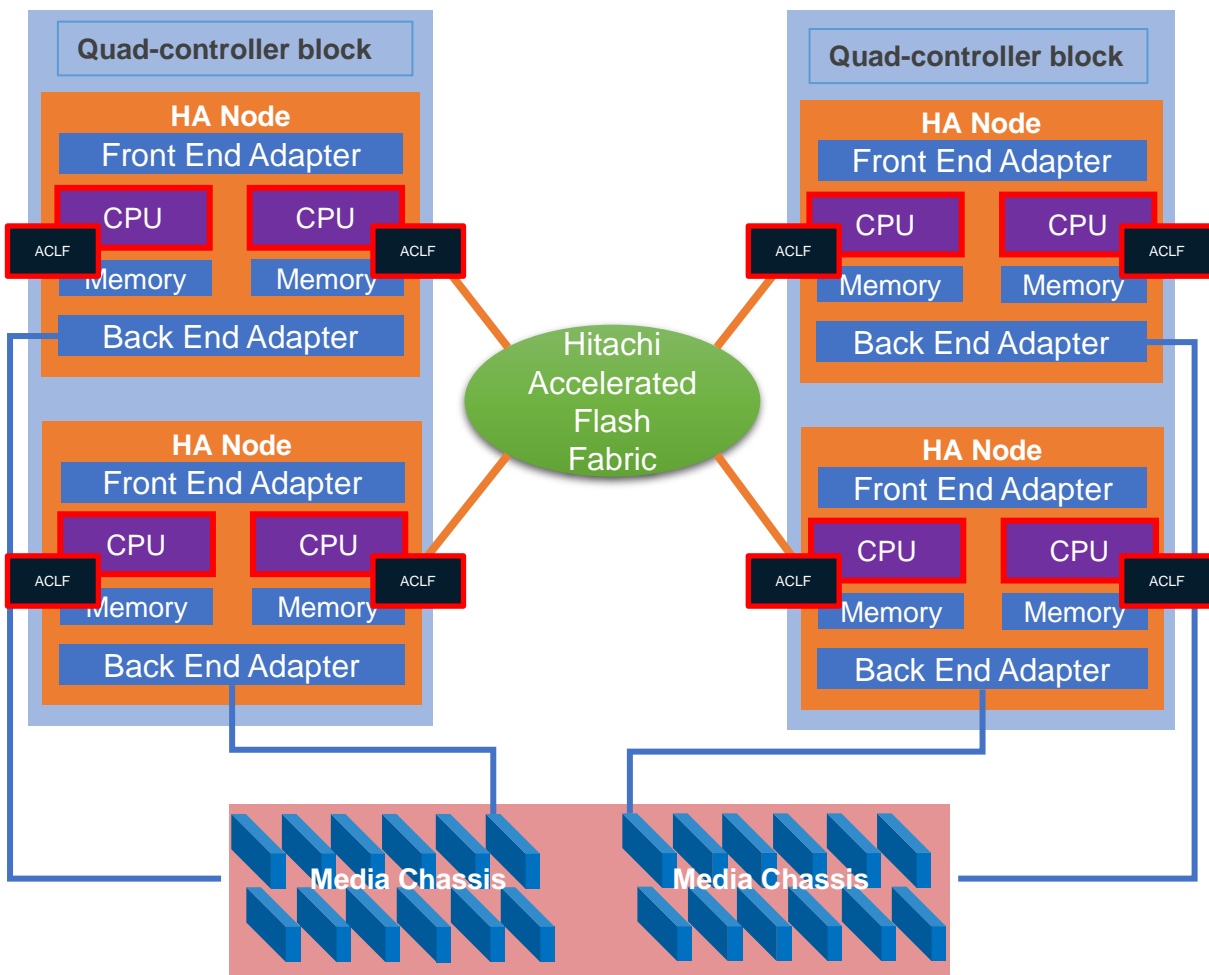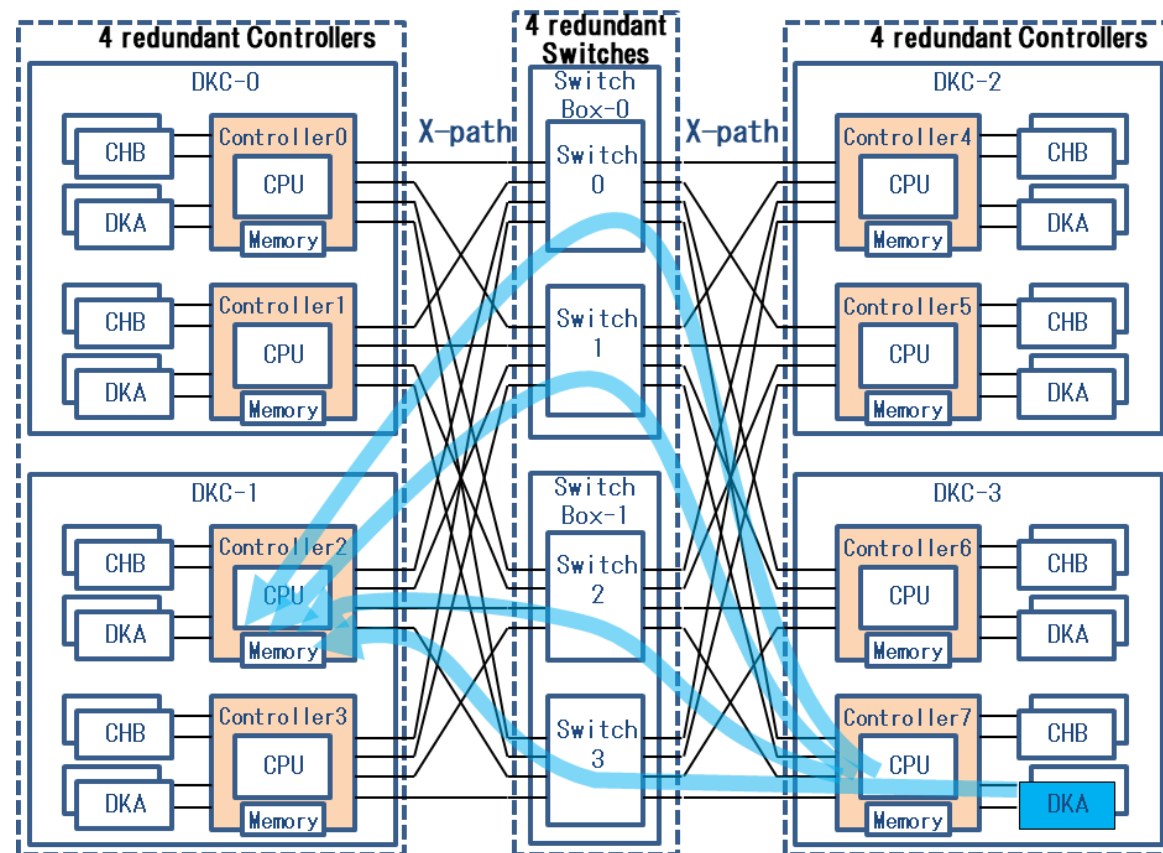Enterprise class all flash family

VSP 5100

VSP 5500

VSP 5200

VSP 5600

VSP G/F1x00 – Previous High-End Storage

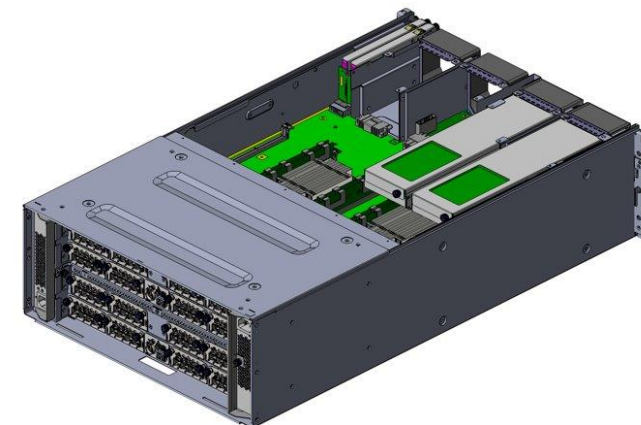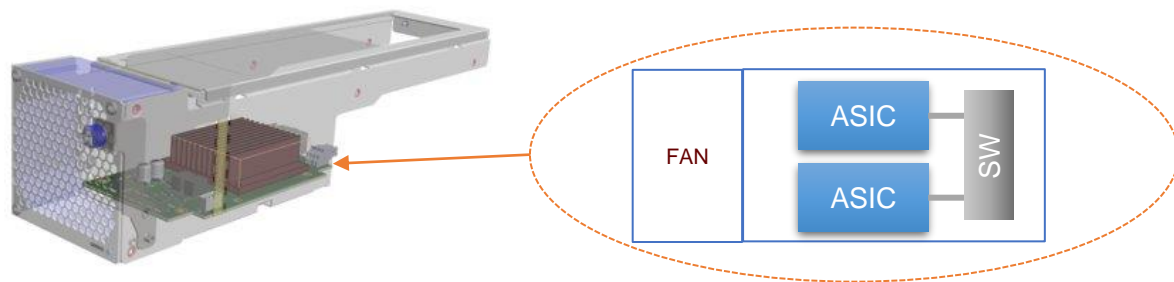**G/F1x00 – 99.9999%**

VSP 5000 Next-Gen High-End Storage

(Controller-level "by 4" (x4) independent switching)
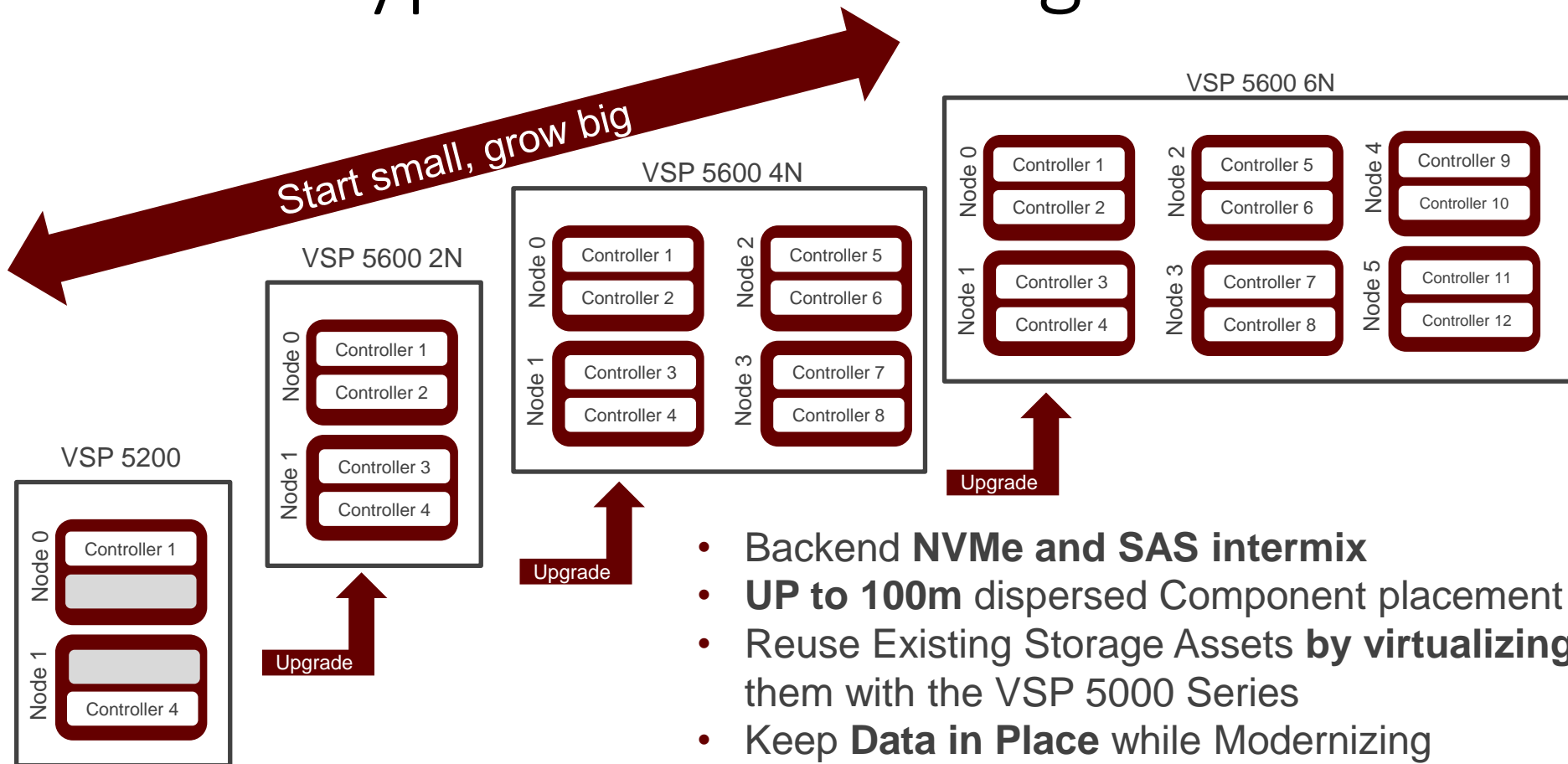
VSP 5200 / 5600 Parts

Several part improvements / differences:

- Improved controller with Intel Cascade Lake CPU instead of Broadwell

- Improved higher power & more efficient Platinum rated power supply

- Newer battery & Cache Flash Module (CFM)

- **Completely New Compression Accelerator Module (Open only)**

VSP 5000 Hyper Elastic Storage Infrastructure

Start small, grow big

VSP 5600 6N

Node 0	Controller 1	Node 2	Controller 5	Node 4	Controller 9
Node 0	Controller 2	Node 2	Controller 6	Node 4	Controller 10
Node 1	Controller 3	Node 3	Controller 7	Node 5	Controller 11
Node 1	Controller 4	Node 3	Controller 8	Node 5	Controller 12

VSP 5600 4N

Node 0	Controller 1	Node 2	Controller 5
Node 0	Controller 2	Node 2	Controller 6
Node 1	Controller 3	Node 3	Controller 7
Node 1	Controller 4	Node 3	Controller 8

VSP 5600 2N

Node 0	Controller 1
Node 0	Controller 2
Node 1	Controller 3
Node 1	Controller 4

VSP 5200

Node 0	Controller 1
Node 0	
Node 1	
Node 1	Controller 4

Upgrade
Upgrade
Upgrade

- Backend **NVMe and SAS intermix**
- **UP to 100m** dispersed Component placement
- Reuse Existing Storage Assets **by virtualizing** them with the VSP 5000 Series
- Keep **Data in Place** while Modernizing
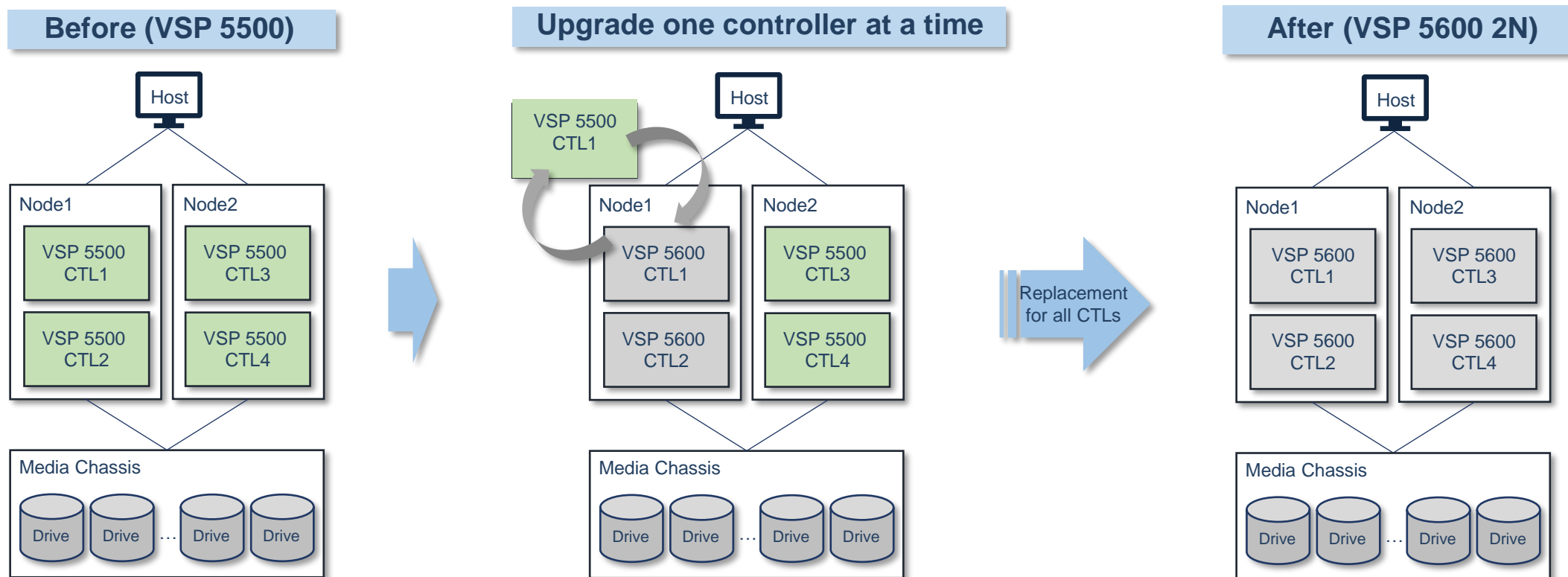- **Open and Mainframe** support

VSP 5000 – Media Support
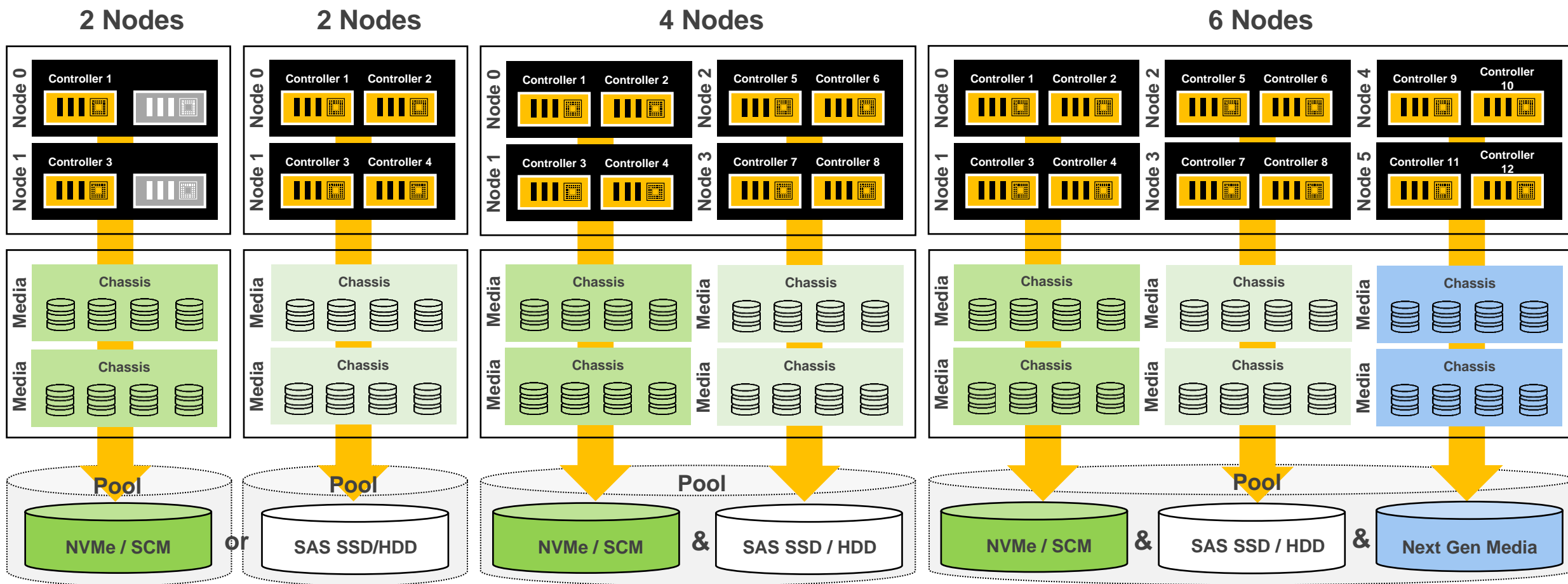
Non-Disruptive Upgrades
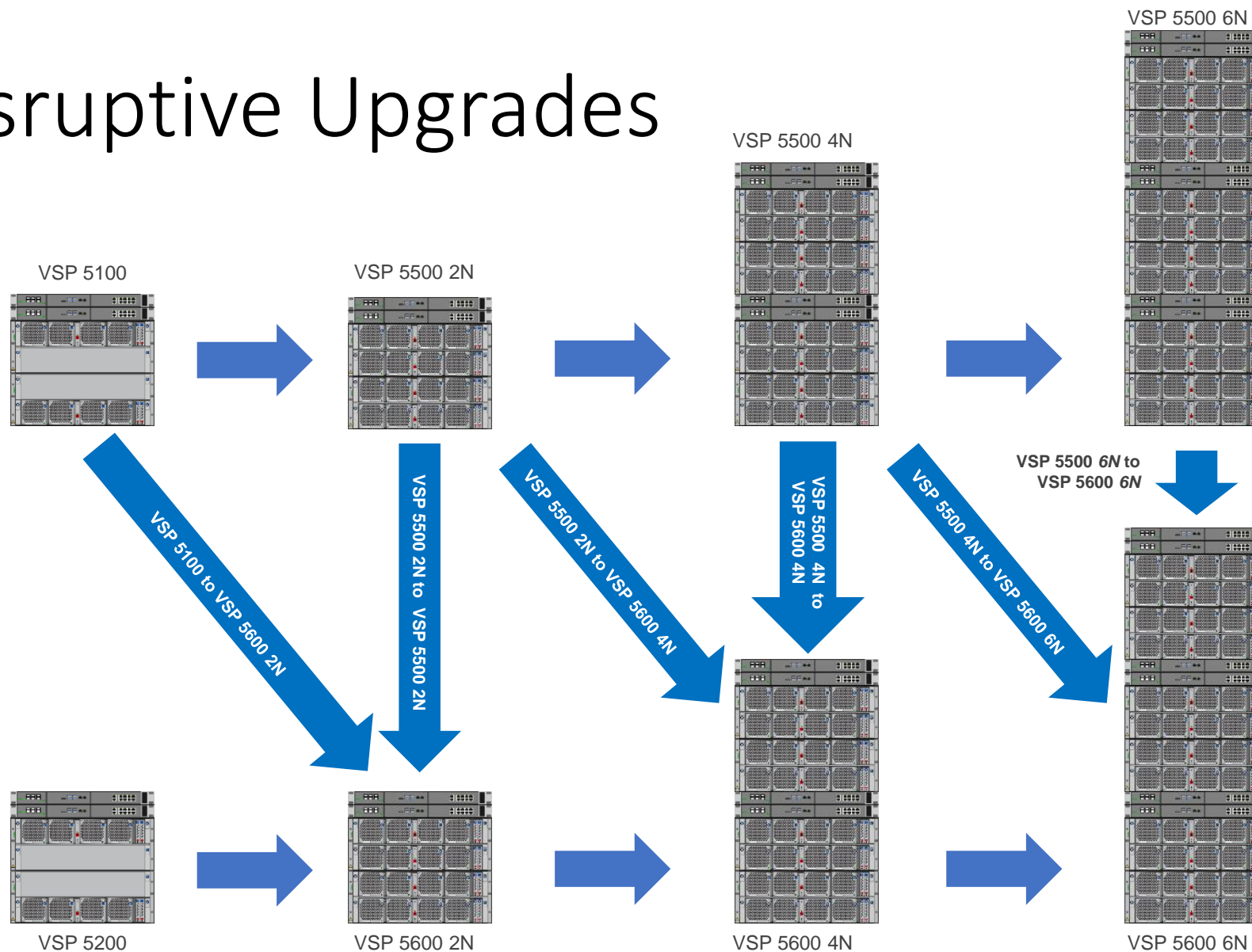
Upgrade From VSP 5500 2N to VSP 5600 2N

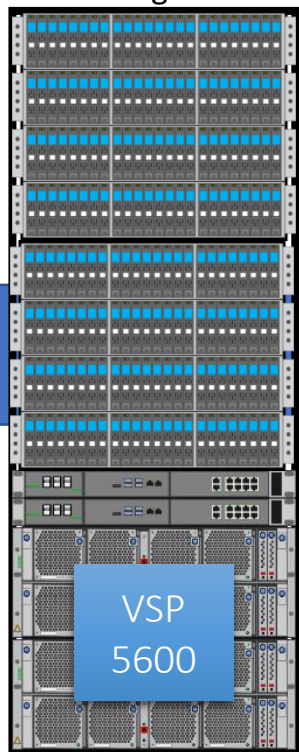# Hitachi Modern Storage Assurance

What is Hitachi Modern Storage Assurance?

- It is an **optional offering** at time of acquiring a **net new** storage system, starting with VSP 5200/5600

- It ensures an upgrade to the next generation at a fixed cost

- Controller upgrades can be initiated, **min. 12 months** after purchase or lease and with a **support contract** in place of min. 3 and max. 5 years.

- **Any** support contract will work, premium support is not a requirement.

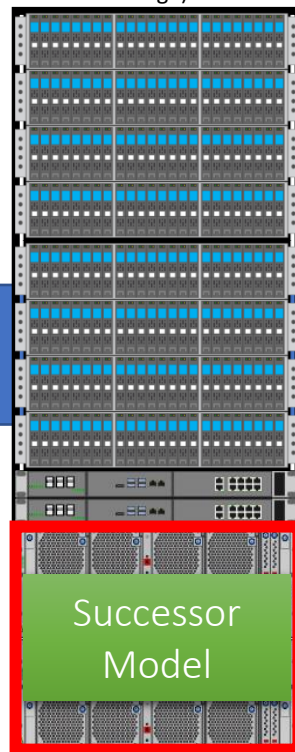# Modern Storage Assurance Lifecycle (5 Year Example)

Customer Purchases New
VSP 5600 System with 5
years Maintenance &
Modern Storage Assurance

Customer Decide to
upgrade to
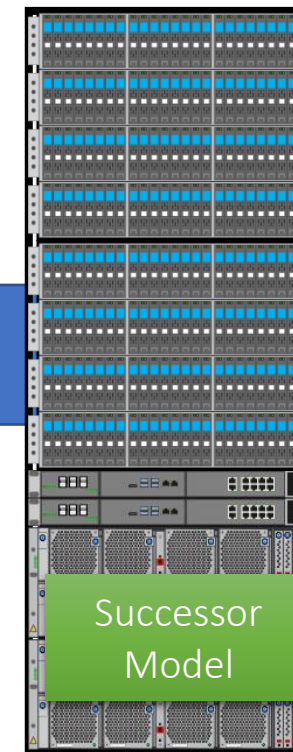successor model
(No additional Maintenance
charge)

Original
Maintenance Term
Ends

5 Year Maintenance &

Modern Storage Assurance

VSP
5600

Successor
Model

Successor
Model

Year 0

Year 3

Year 5

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Virtually the best way to learn about Z

⏻ Controller Power - OFF
⏻ Controller Power - ON
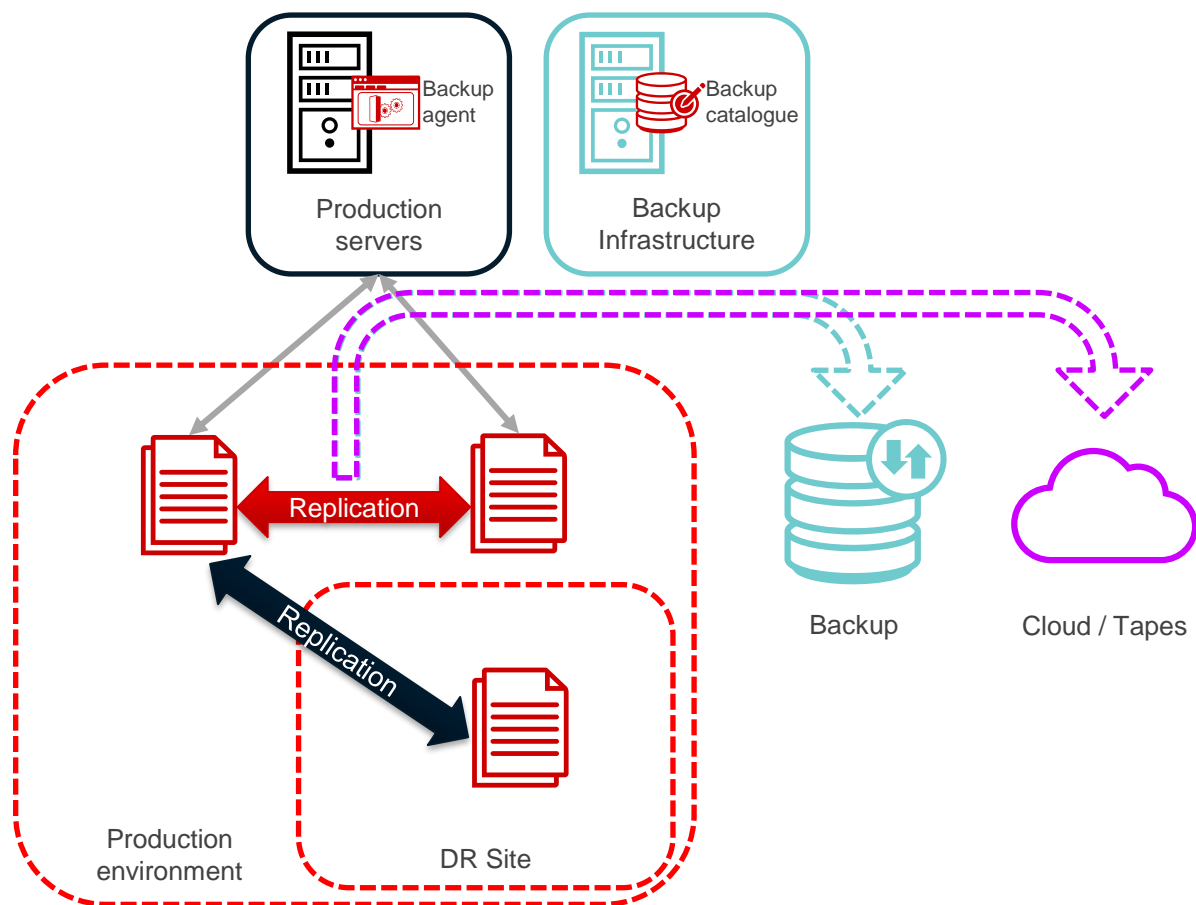
WE CREATE THE
FUTURE OF IT

Data In place Upgrade Process (node roll out)
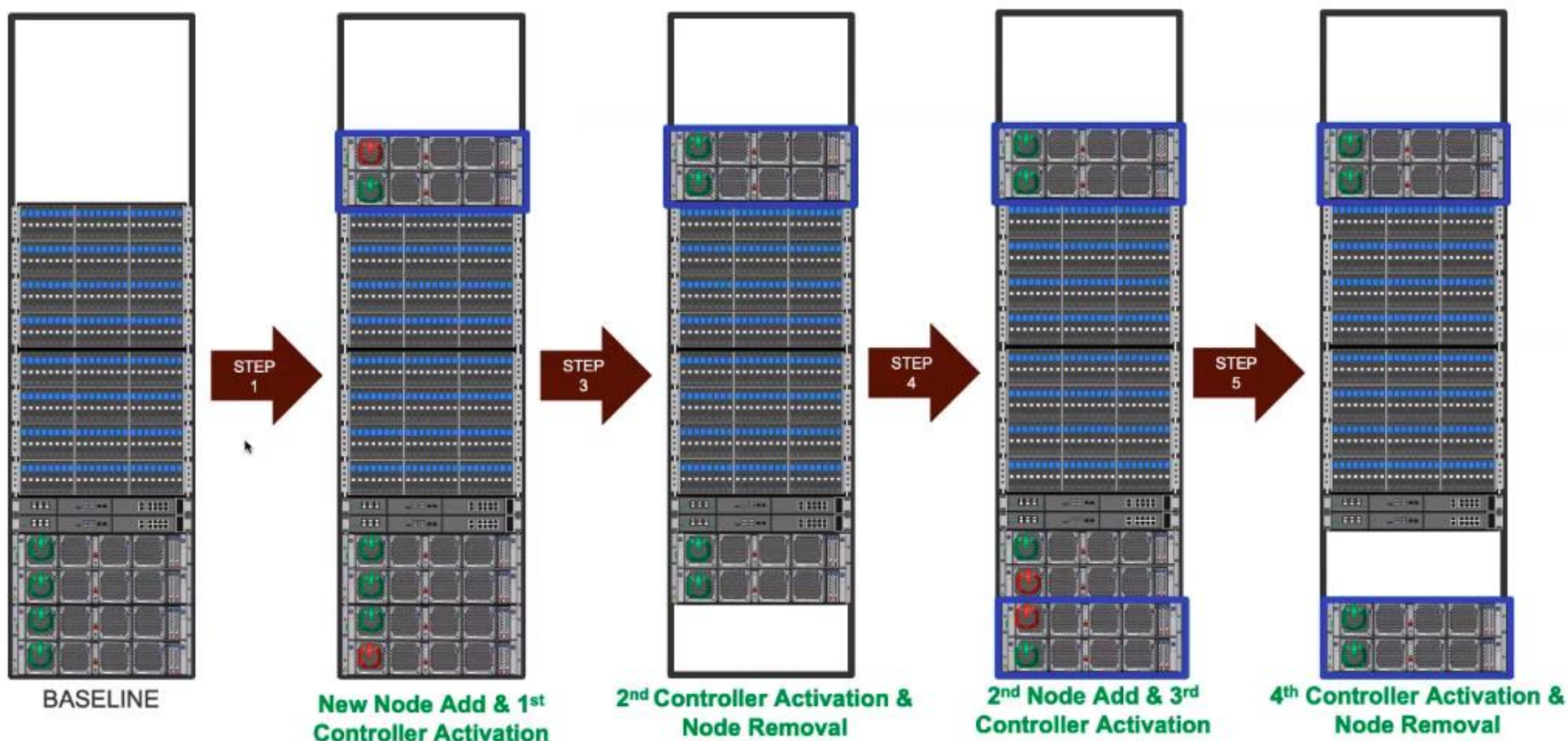
Hitachi Mainframe Cyber Resiliency

Data protection - Traditional Approach

Backup applications usually copy data to cheaper '**secondary storage**'. Sometimes backup data is tiered to even cheaper long-term storage / tape / cloud for **long-term protection**

A **backup agent** is used to gather the data and sometimes quiesce applications to ensure data consistency

The **catalog** is necessary to understand the backup data. It stores metadata such as when the backup was taken, from which host, and metadata about the files themselves

Cyber attack example
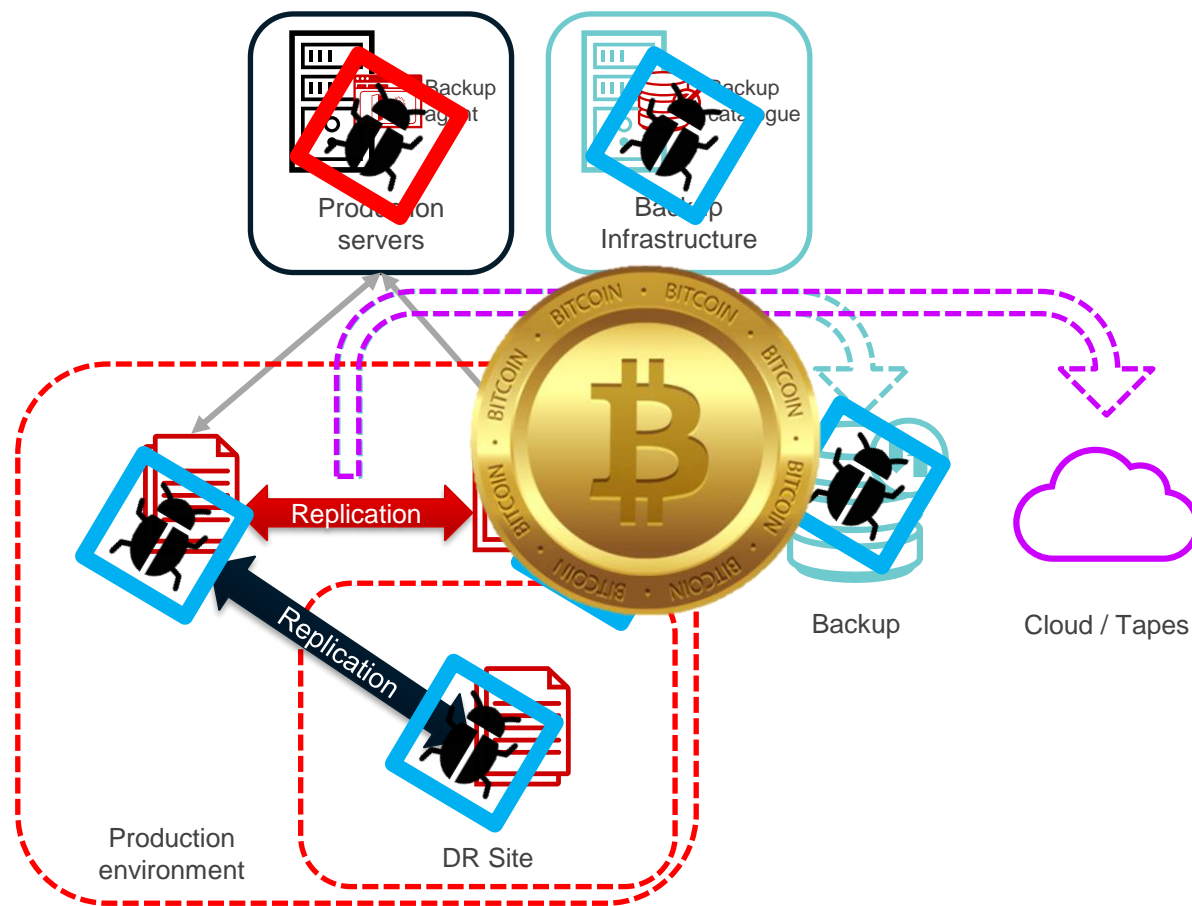
Example of a ransomware attack

1. **Campaign**
   Reconnaissance and information gathering
2. **Infection / penetration**
   Gain access to the target
3. **Analysis and discovery**
   Deep comprehension of target's architecture, protections etc.
4. **Spoliation and encryption**
   Alter restore mechanisms
   Encrypt target data
   Wipe archives
5. **Ransom**
   Issue ransom demands

Data protection - Modern Approach
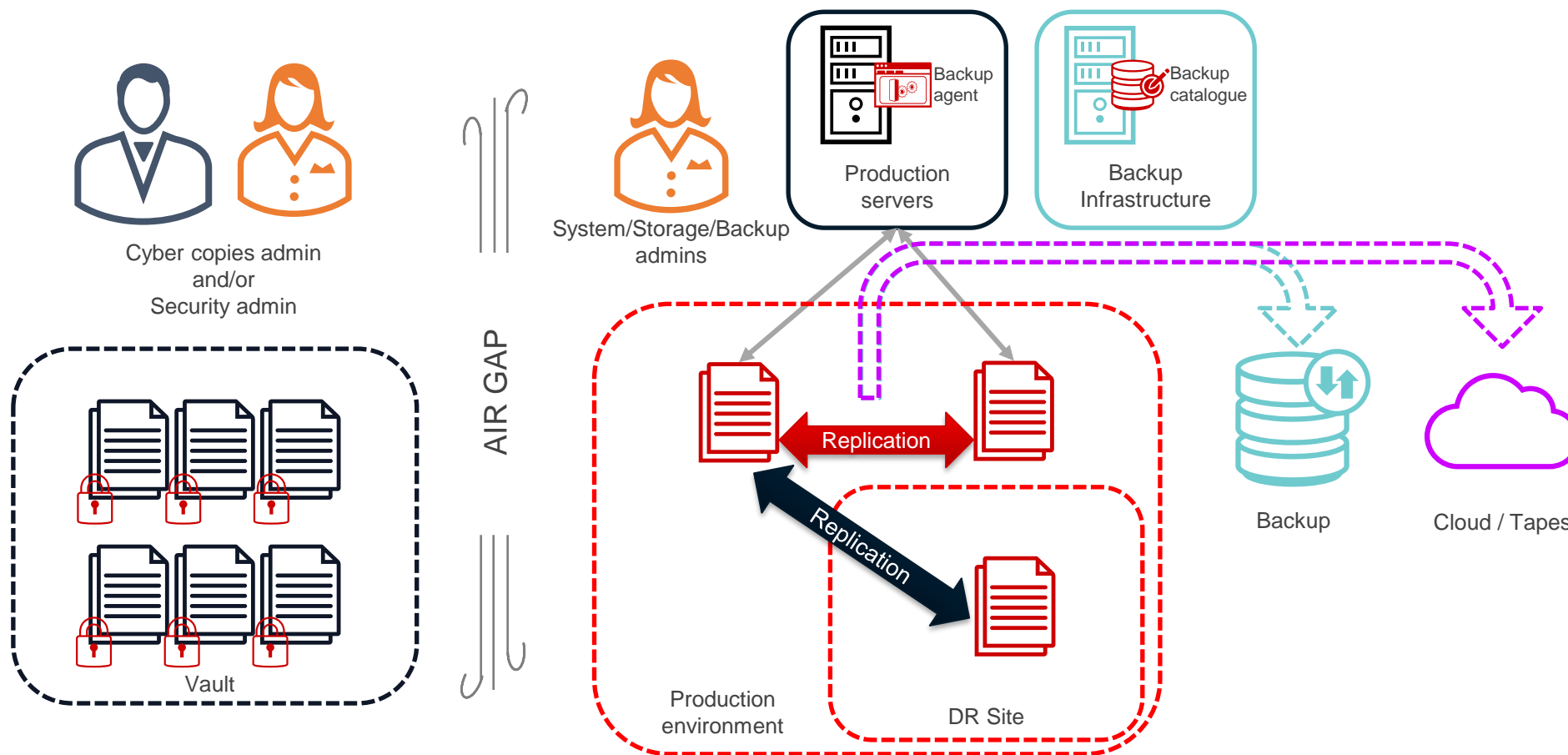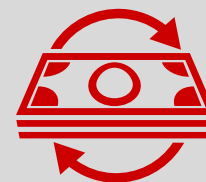
Hitachi Mainframe Cyber Resiliency

Mainframe data replicated to Open environment
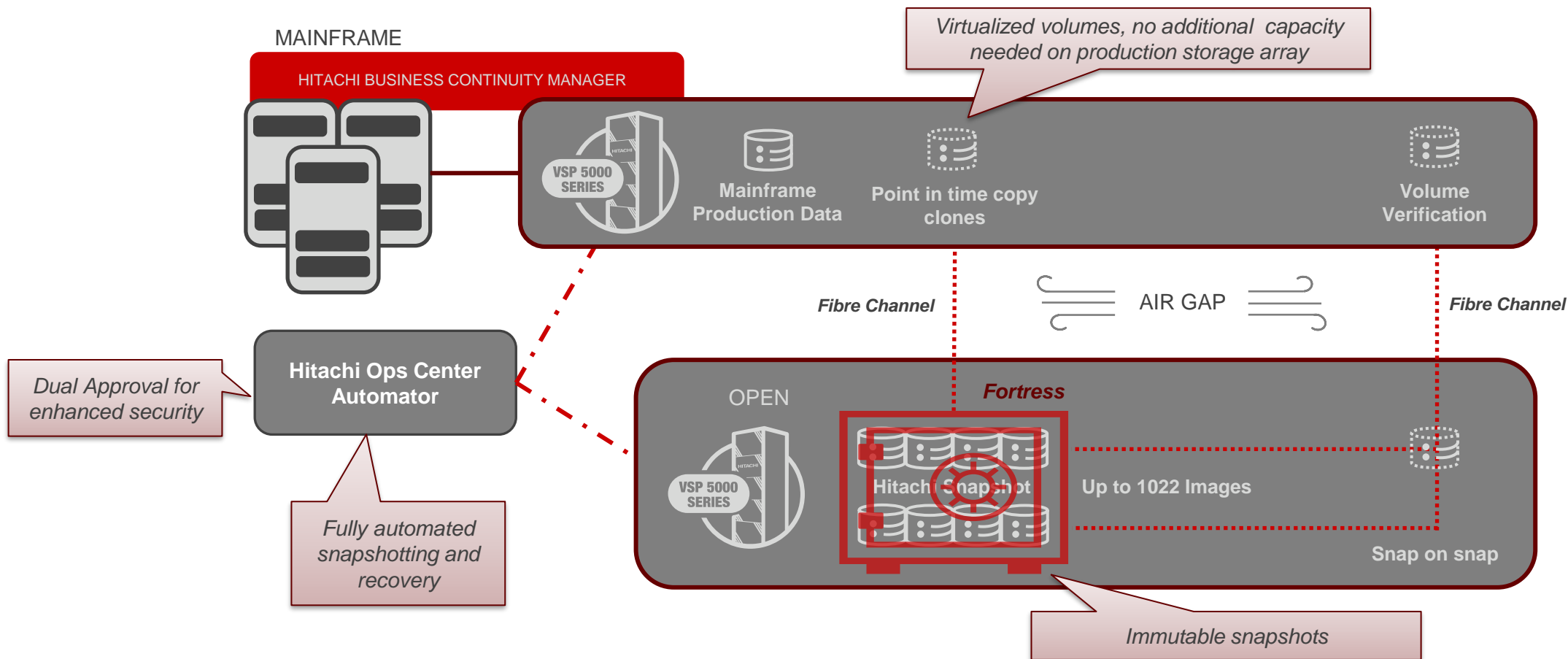
No impact to Mainframe never halt host access

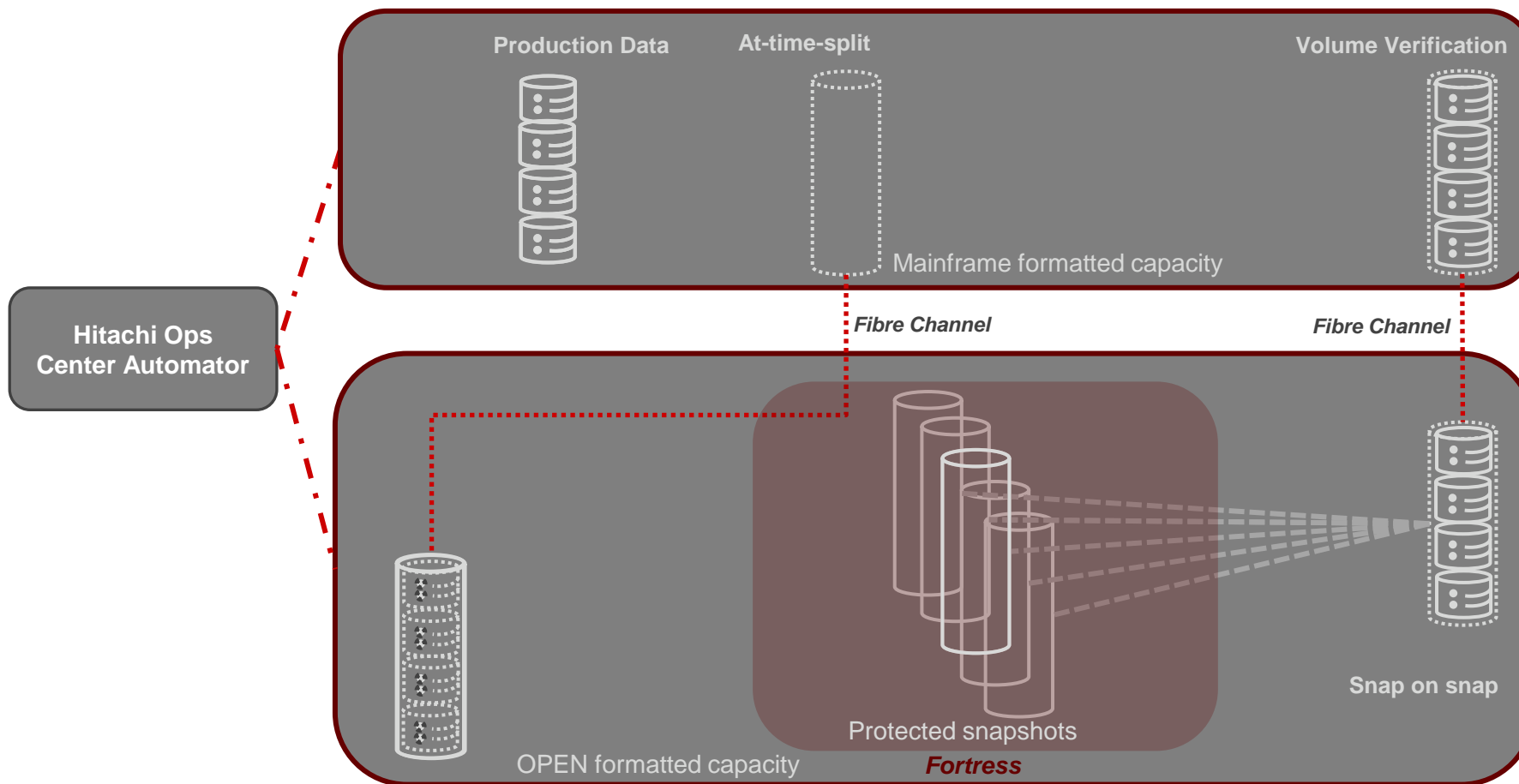Automated by Ops Center Automator to eliminate manual tasks

Ops Center Analyzer to optimize service level

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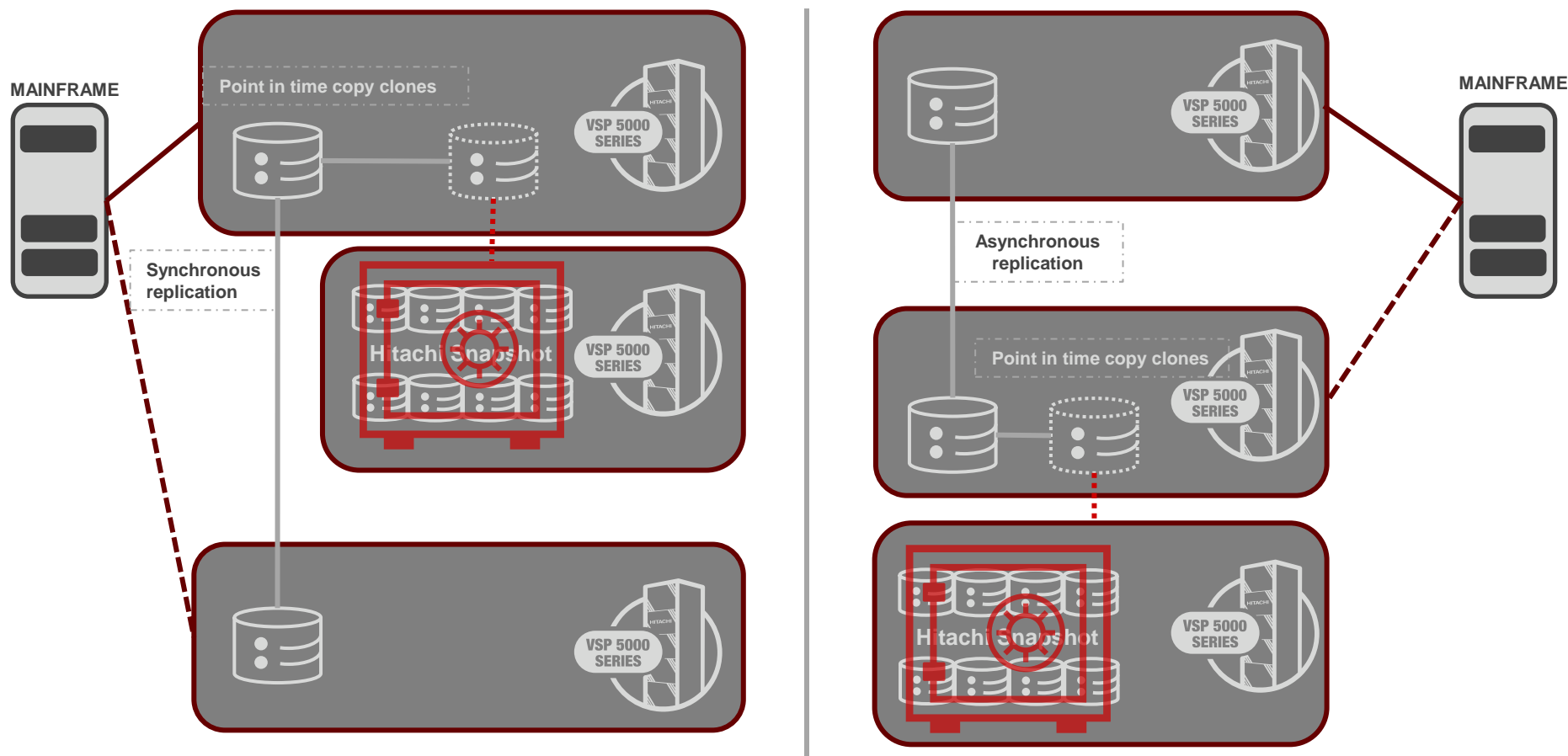
Hitachi Mainframe Cyber Resiliency

Hitachi Mainframe Cyber Resiliency - Details

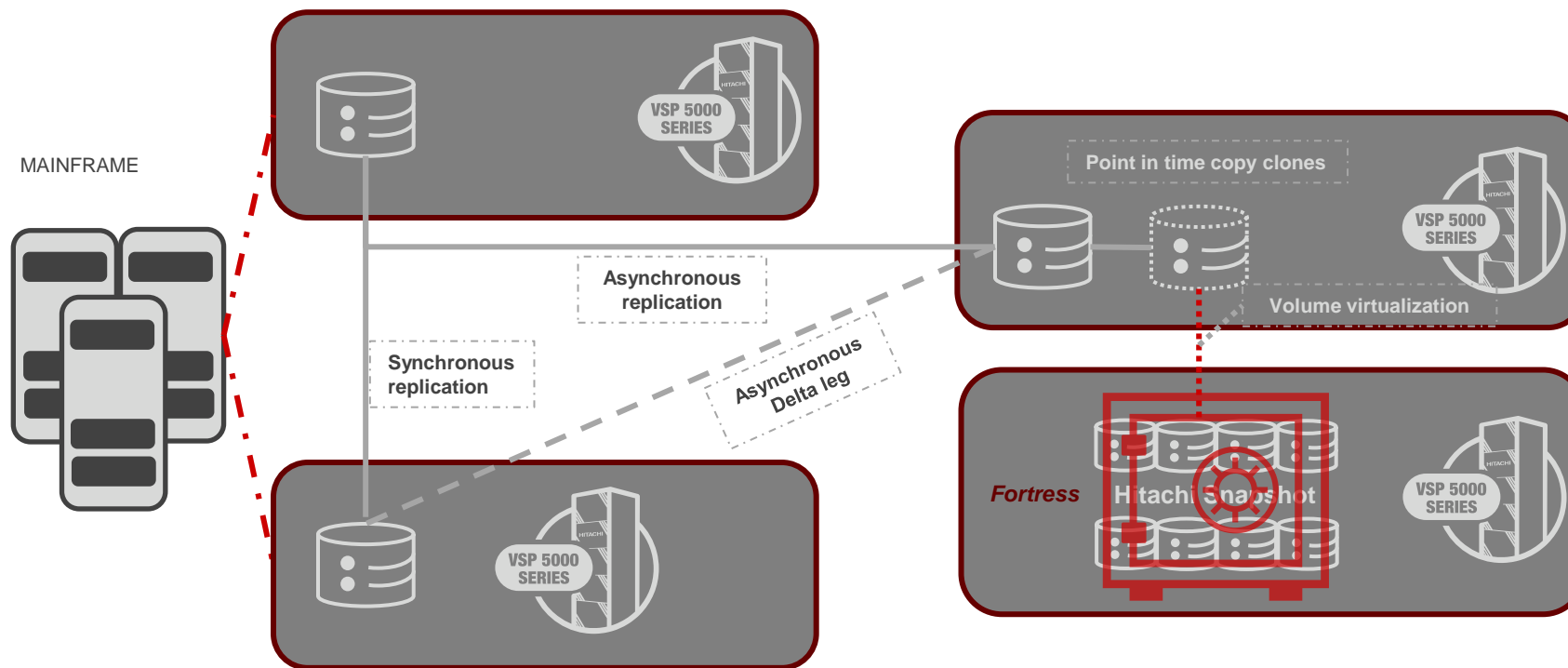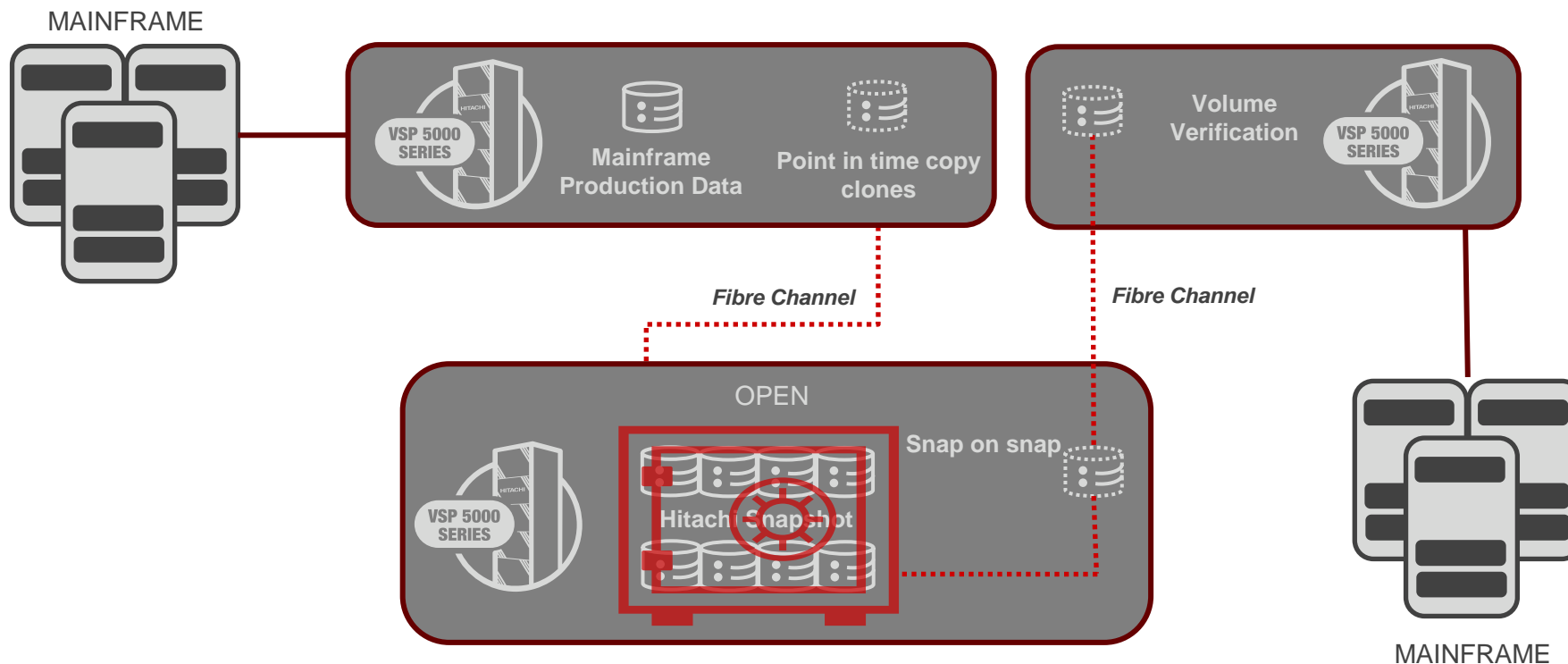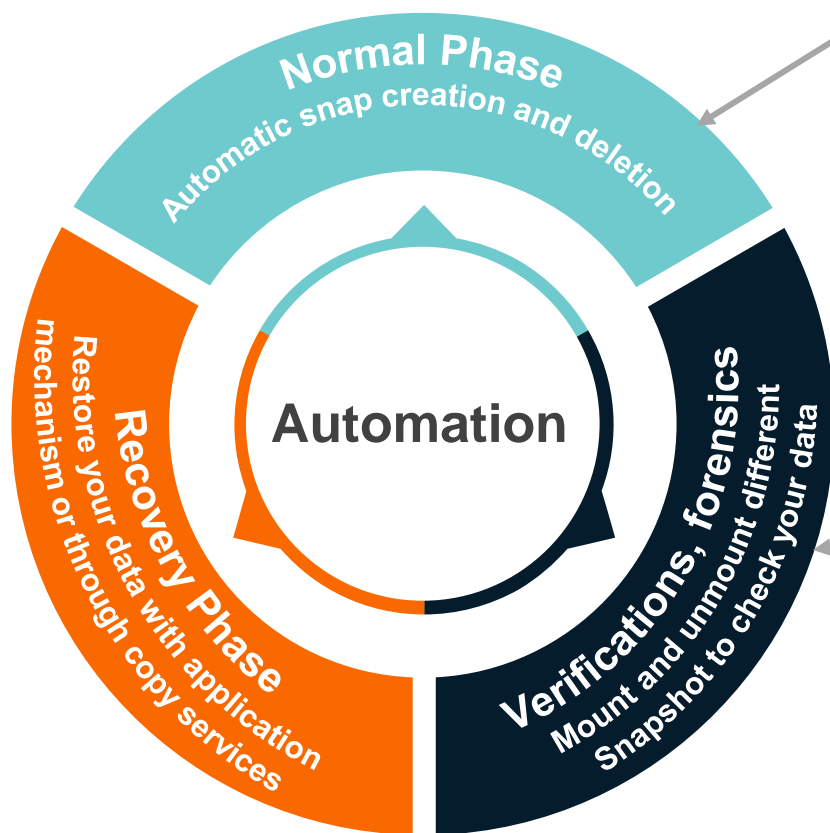# Hitachi Mainframe Cyber Resiliency Inter-Site Isolation

Hitachi Mainframe Cyber Resiliency 3DC Delta configuration example

Hitachi Mainframe Cyber Resiliency
Tailor fitted flexible solution

Hitachi Mainframe Cyber Resiliency Life cycle

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HITACHI Mainframe Replication Extension

HITACHI Mainframe Replication Extension

- Monitors and records the BCM Consistency Time Delta value for a specified BCM Universal Replicator copy group.

- Real-time monitoring and alerting, with user defined threshold

- Provide reports for historical data
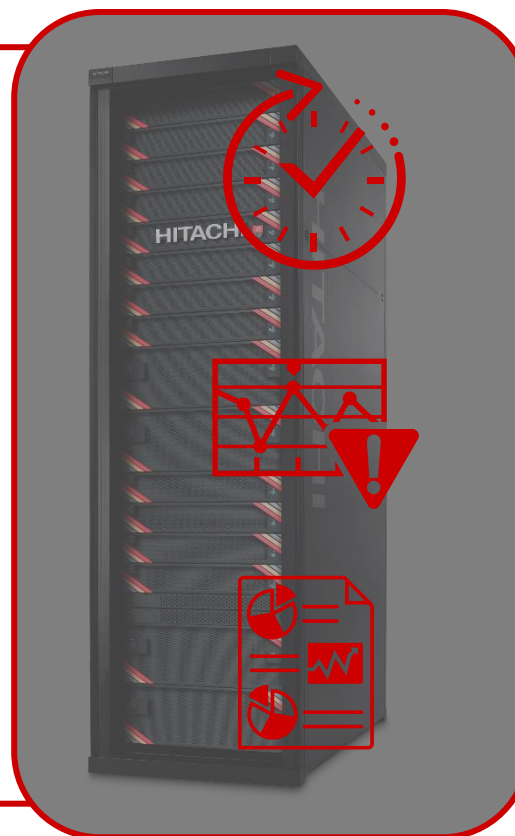
Customer set trigger:

- **HMREYELL**: a number of minutes at which the CTDelta time triggers a "Yellow" alert.
  - HMREYELL: any integer value between 1 minute and 720 minutes (12 hours).
  - The default is 420 minutes (7 hours).
  - At start-up this value is validated and, if necessary, set to appropriate values.
    - If the HMREYELL value is below 1 minute HMREYELL will be set to 1 minute.
    - If the HMREYELL value is above 720 minutes HMREYELL will be set to 720 minutes.

- **HMRERED**: a number of minutes at which the CTDelta time triggers a "Red" alert.
  - HMRERED: any integer value between 31 minutes and 1440 minutes (24 hours).
  - The default is 720 minutes (12 hours).
  - The value must also be at least 30 minutes (1/2 hour) greater than the value of HMREYELL.
    - Let's give the storage administrator time to look at what's happening and involve other groups if needed before escalating to a "RED" alert.

Hitachi Mainframe Analytics Interpreter

SVOS Mainframe Analytics Recorder

- Maximizing results from mainframe systems requires detailed performance information

- SVOS mainframe analytics recorder provides detailed time-coherent VSP5000 performance information in a standard SMF record format for use by mainframe analytics tools

- Now mainframe users have the ability to efficiently analyze the performance of their Hitachi storage subsystems

Hitachi Mainframe Analytics Interpreter – Conceptual Architecture
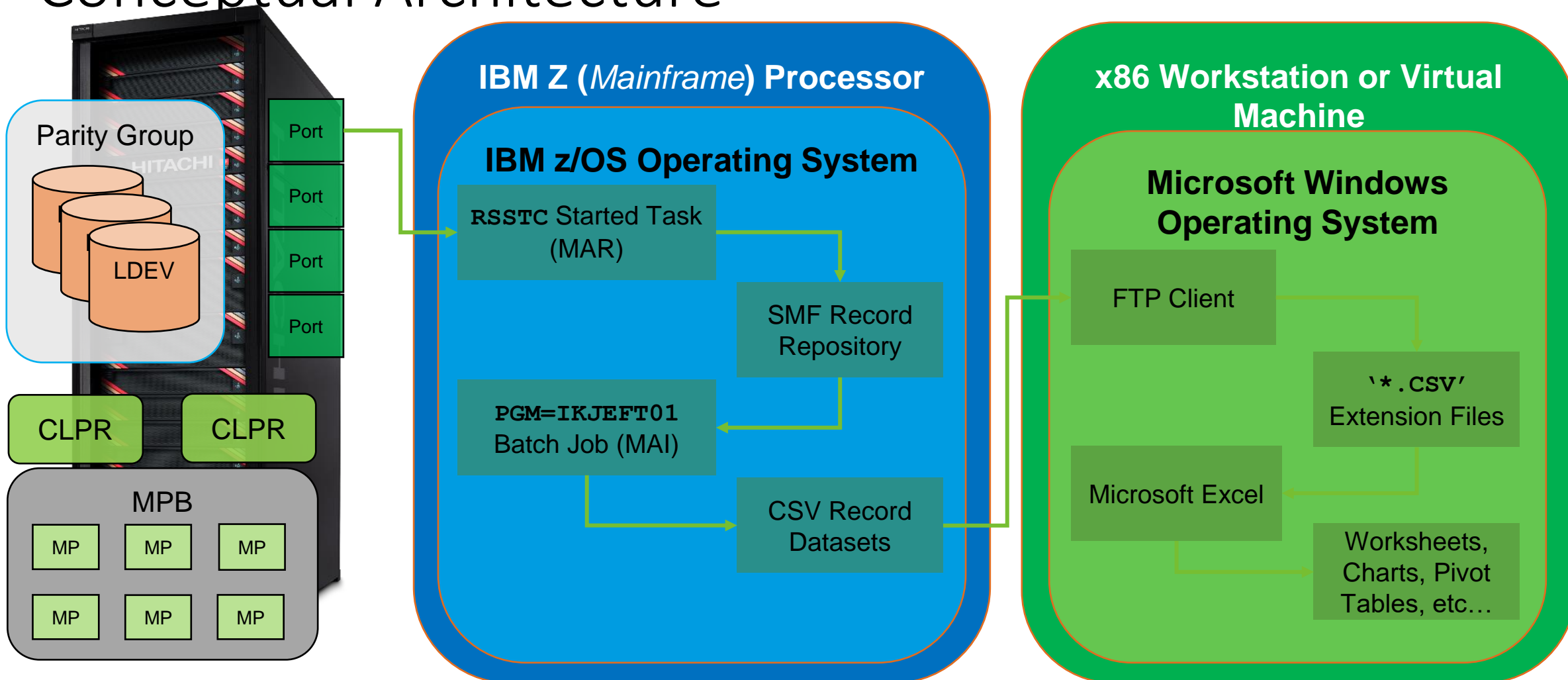
z/OS Synergy

Hitachi Vantara & IBM GDPS® Qualification

- Hitachi Vantara is the most active and qualified IBM GDPS® partner
  - Unique partner with FlashCopy and 3DC GDPS® qualification (GDPS Metro with HUR Delta Resync managed by BCM)

Hitachi VSP qualifications

PDF   VSP G1500/F1500 & 5000 Series Qualification Test Paper (5.5 MB)

PDF   VSP G1500 Dual Leg qualifications (402 KB)

PDF   VSP 5000 qualifications (796 KB)

PDF   VSP 5000 basic qualification (190 KB)

PDF   VSP G1500 qualifications (459 KB)

https://www.ibm.com/it-infrastructure/z/technologies/gdps#2302128

MTMM Multi Target Metro Mirror

PPRC multi-target function is a compatible function with Multiple Target PPRC function that is supported by IBM DS series storage.

By using the function, VSP G1x00 and F1500 are enable to create TCz* -TCz 3DC multi-target pairs.
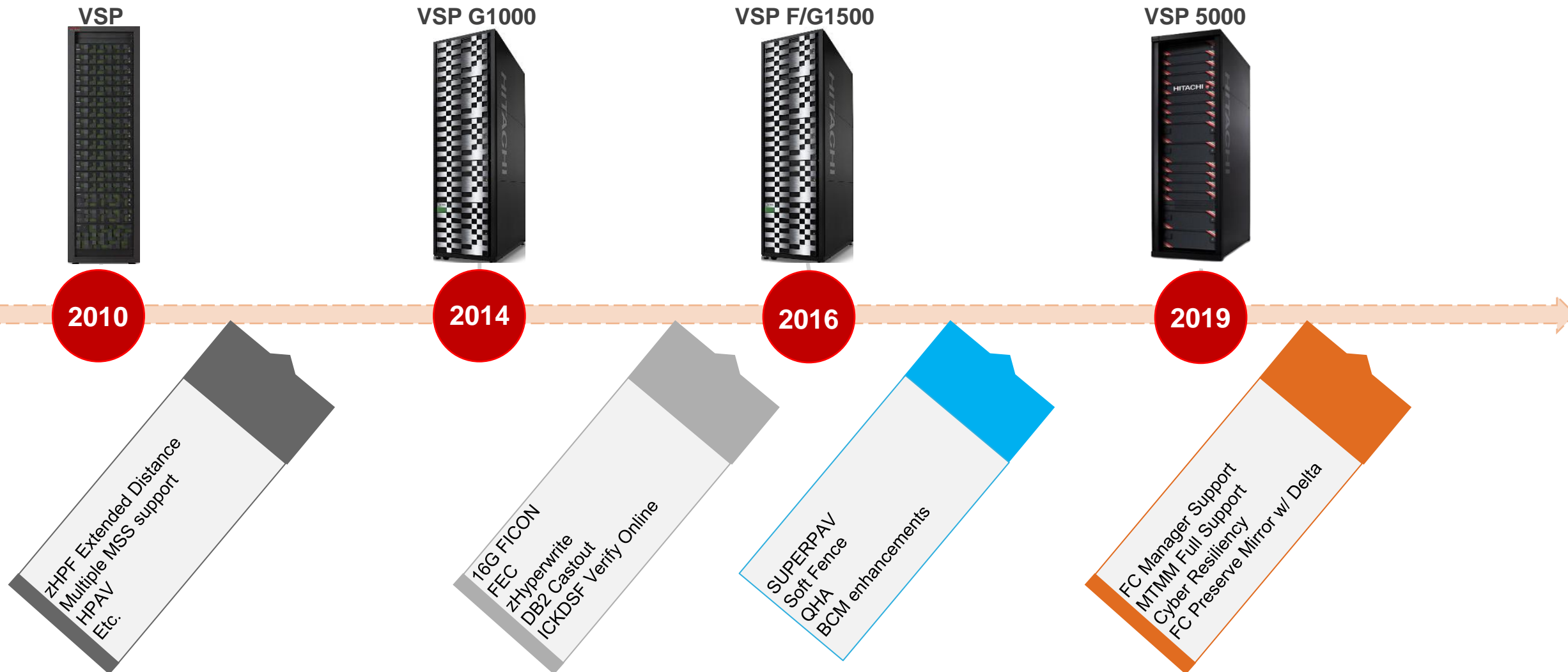In the 3DC configuration, P-VOL data is copied to two S-VOLs.

- VSP 5000 (future) :
    - MTMM
    - MTIR Full compatible

TCz* (Duplex)

TCz* (Duplex)

MTIR Pair* (suspended)
For VSP 5000 – future
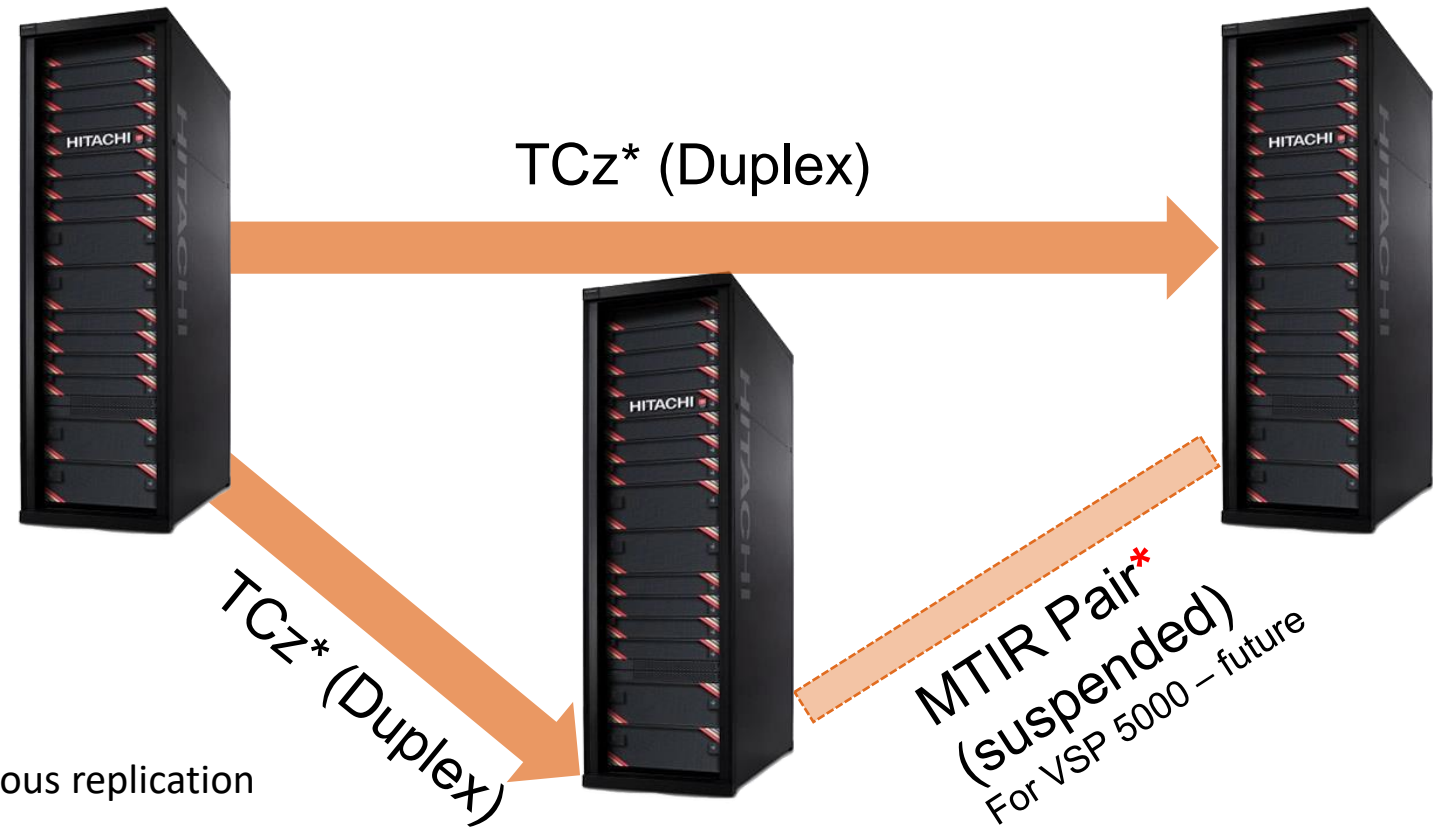
*TCz = True Copy for Mainframe, PPRC compatible synchronous replication

We are strongly committed into Mainframe

VSP

VSP G1000

VSP F/G1500

VSP 5000

2010

2014

2016

2019

zHPF Extended Distance
Multiple MSS support
HPAV
Etc.

16G FICON
FEC
zHyperwrite
DB2 Castout
ICKDSF Verify Online

SUPERPAV
Soft Fence
QHA
BCM enhancements

FC Manager Support
MTMM Full Support
Cyber Resiliency
FC Preserve Mirror w/ Delta

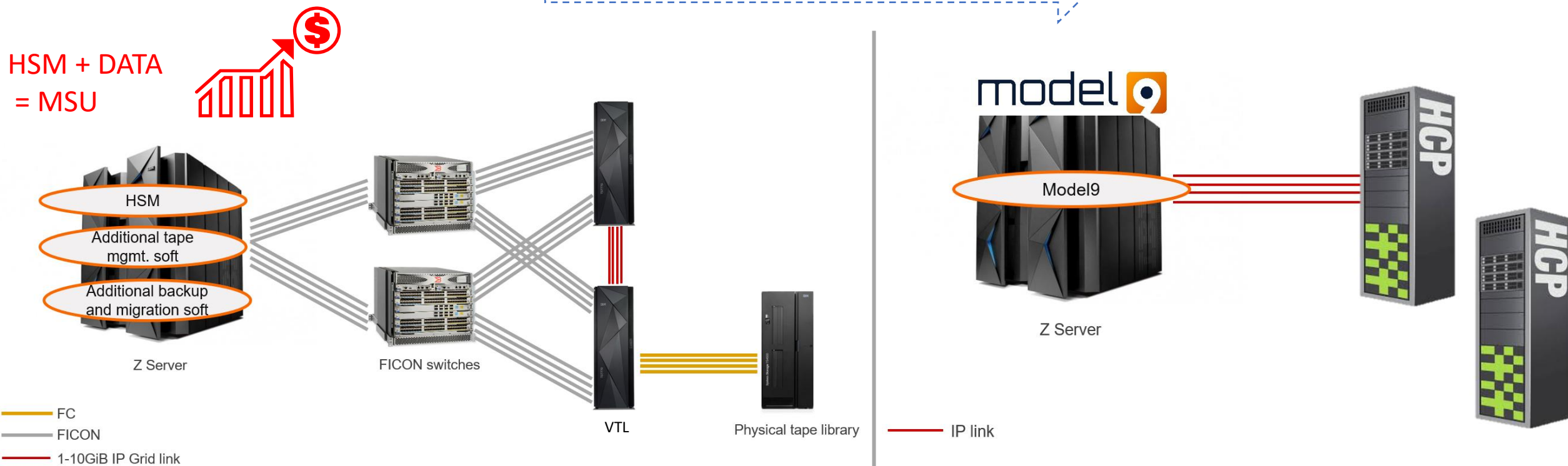# Model9 &
Hitachi Content Platform
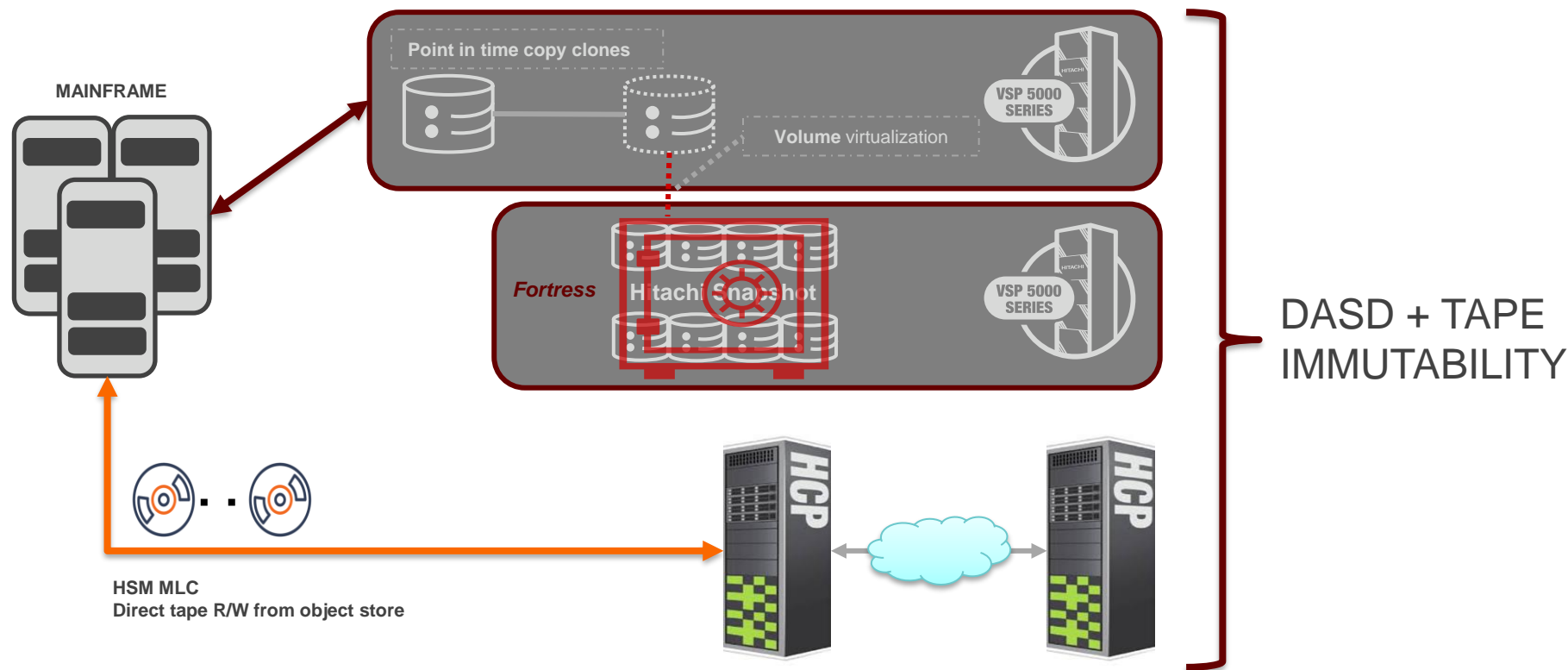
Simplify your Mainframe environment and save MSU with a unique and real tapeless solution

Hitachi Mainframe Cyber Resiliency and Tape Cyber Resiliency

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- This session is 7AY

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2. Was the length of this presentation correct?

💡 **1 to 4 = "Too Short" 5 = "OK" 6-9 = "Too Long"**

1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

3. Did this presentation meet your requirements?

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1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

4. Was the session content what you expected?

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1	2	3	4	5	6	7	8	9
○	○	○	○	○	○	○	○	○

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