



Discover Next-Generation Data Redundancy Services with Centurion Hosted High Availability

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**CENTURION**[™]
DISASTER RECOVERY

Agenda

- Evolution of Data Recovery
- IT Operating Environments
- Regulatory Requirements for the Financial Industry
- Tape Recovery Strategy
- Centurion Hosted High Availability
- Centurion Cloud Based Vaulting Solutions
- Q&A



Disaster Preparedness: Critical Elements of Centurion Business Continuity Planning™

Thursday – May 14, 2015
1:00 – 2:00 Central Time



Data Recovery Evolution

IT Reactive
Business = None

Recovery Time
Days to Weeks

IT Proactive
Business = Reactive

Recovery Time
Minutes to Hours

Disaster Avoidance
Business = Proactive

Recovery Time
Seconds to Always On

Phase One
**Early Computing -
Traditional
Recovery**
Tape Backup
1 – 3 Days to
Recover

Phase Two
**Advanced
Recovery**
Electronic Vaulting
– Tape Backup
Hours to Recover

Phase Three
**High Availability
Disaster Avoidance**
Tapeless Backup
Minutes to Recover

Disaster Recovery

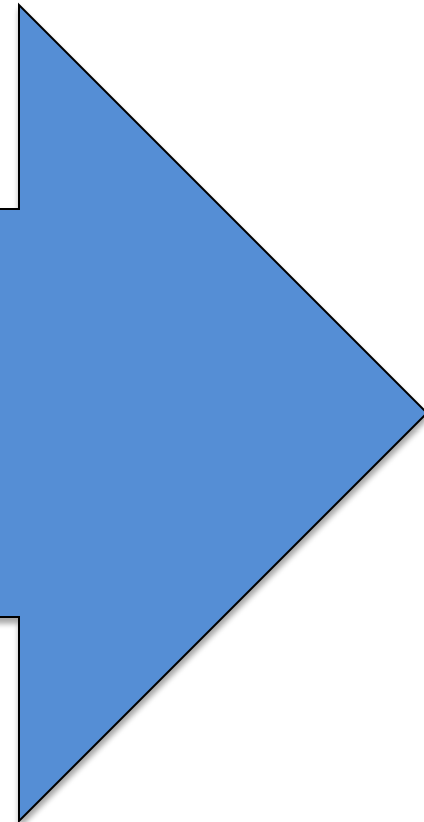
Business Continuity

Business Resiliency

Shared Hardware

Dedicated Hardware

Cloud Computing



Recovery Strategies to Consider

- System Recovery
 - Core System
 - Windows Environment
 - Telecommunications



Four Possible Customer Operating Environments



Scenario 1

- Core: In House
- Servers: In-House

- Core processing done In-house.
- Servers: In-house



Scenario 2

- Core: In House
- Servers: Outsourced

- Core processing done In-house.
- Servers: Outsourced



Scenario 3

- Core: Outsourced
- Servers: In House

- Core processing outsourced to vendor.
- Servers: In-house



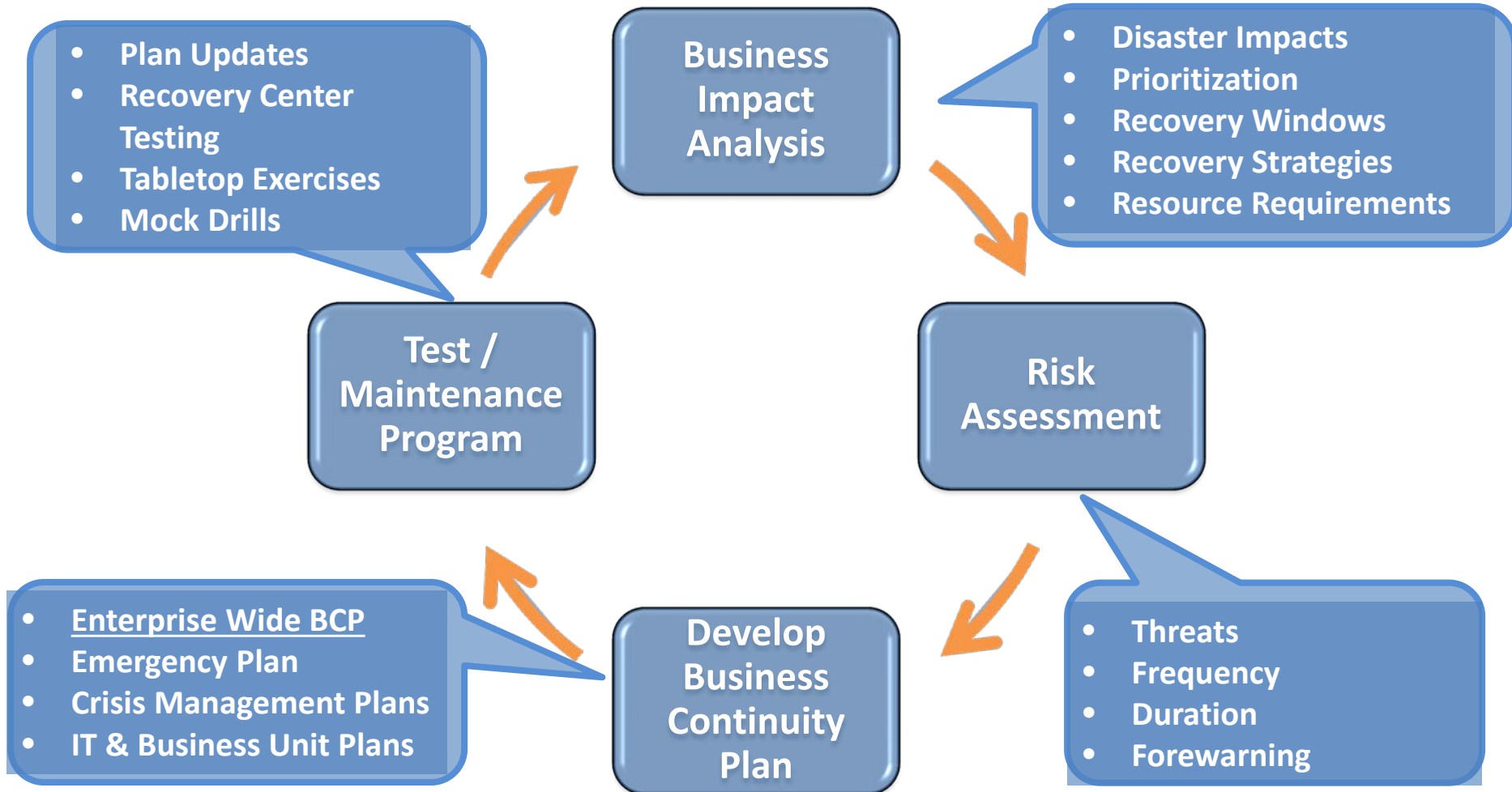
Scenario 4

- Core: Outsourced
- Servers: Outsourced

- Core processing outsourced to vendor.
- Servers: Outsourced



The Business Continuity Program Development Phases



The Business Impact Analysis

Business Impact Analysis

- Disaster Impacts
- Prioritization
- Recovery Windows
- Recovery Strategies
- Resource Requirements

Determining the Risk Level

- Can we recover our technology infrastructure from a disaster?
- What is our Recovery Time Objective (RTO) for our core?
- What is our RTO for our server environment?
- What is our Recovery Point Objective (RPO) for core?
- What is our RPO for our server environment?

Regulatory Expectations

Prioritizing critical business functions

- Nonessential- 30 days
- Normal- 7 days
- Important- 72 hours
- Urgent- 24 hours
- **Critical- minutes to hours**

Each business function and process should be placed in one of these categories so that management can determine applicable solutions to ensure timely recovery of operations. Management should then determine which business functions represent the highest priority for recovery and establish recovery objectives for these critical operations. The Business Continuity Planning Committee or Coordinator should discuss the impact of all

Source: [FFIEC IT Examination Handbook, Business Continuity Planning, March 2008, Appendix F, p. F-3](#)

assessment should be
various threats on the
estimation of maximum
stitution as a result of
following:

these categories so that
recovery of operations.
represent the highest
critical operations. The
discuss the impact of all
that may never occur.
in equipment failure,
e personnel, supplies,
option is determined,

ed by knowledgeable
rue risks and ultimate
ntified, they should be

ocesses, procedures,
d be presented to the
processes, significant
t, and recommended

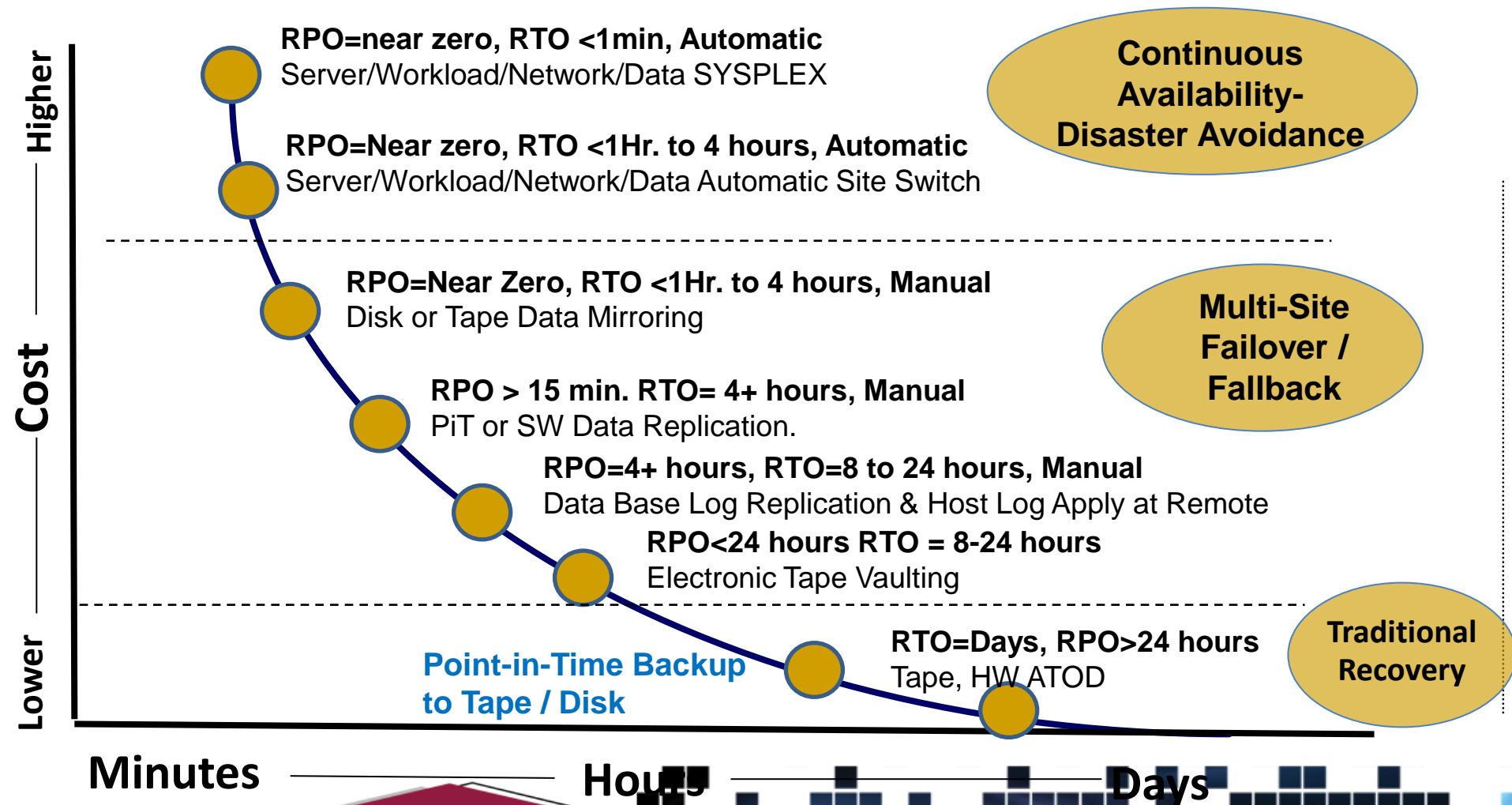


Determine Recovery Strategies based on the BIA

- Core Applications
- Network-Internal – External Connectivity
- Network Files
- Check Imaging
- Report Retrieval
- Document Imaging
- Communications
- Branch Capture
- Statement Printing
- Internet Banking
- Voice Telephone Banking
- ATM / Card Processing
- Fedline
- Voice Response
- Central Capture



Cost Vs. Level of Commitment Technology Infrastructure



Minutes

Hours

Days

Recovery Solutions

Align recovery strategies to the Business Impact Analysis

Critical Business Functions	RTO	Resources	
Function	Max Allowable Downtime	Applications & Systems	OS
Core processing	Critical – Min. to hrs.	SilverLake®, CIF 20/20®	iOS
Item processing	Critical – Min. to hrs.	4 Sight™	Wintel
Document Imaging	Urgent – 24 hrs	Synergy®	Wintel
Online banking	Urgent – 24 hrs	NetTeller®	N/A
Telephone banking	Critical – Min. to hrs.	iTalk™	Wintel
Mobile banking	Urgent – 24 hrs	NetTeller®	N/A
Bill pay	Urgent – 24 hrs	iPay Solutions™	N/A
Check printing	Urgent – 24 hrs	SilverLake®, CIF 20/20®	iOS
Credit card processor	Urgent – 24 hrs	jhaPassPort™	Wintel

In-house Processing Considerations

- Responsible for the restoration of the following:
 - System Recovery of Core System
 - Network Recovery
 - Server Recovery
 - ATM / Debt Cards – Check / Document Imaging
 - Internet Banking – Telephone Banking – Wires, etc.
 - Voice Recovery
 - Equipment setup & Re-configuration



Out-Sourcing Processing Considerations

- Responsible for the restoration of the following:
 - **Connectivity to the Core Processing Site**
 - Network Recovery
 - Server Recovery for services that are in-house
 - Internet Banking – Telephone Banking – Wires, etc.
 - Voice Recovery
 - Equipment setup & Reconfiguration - Facilities
 - Ensuring that the bank has a plan to deal with a disaster that strikes the processing center

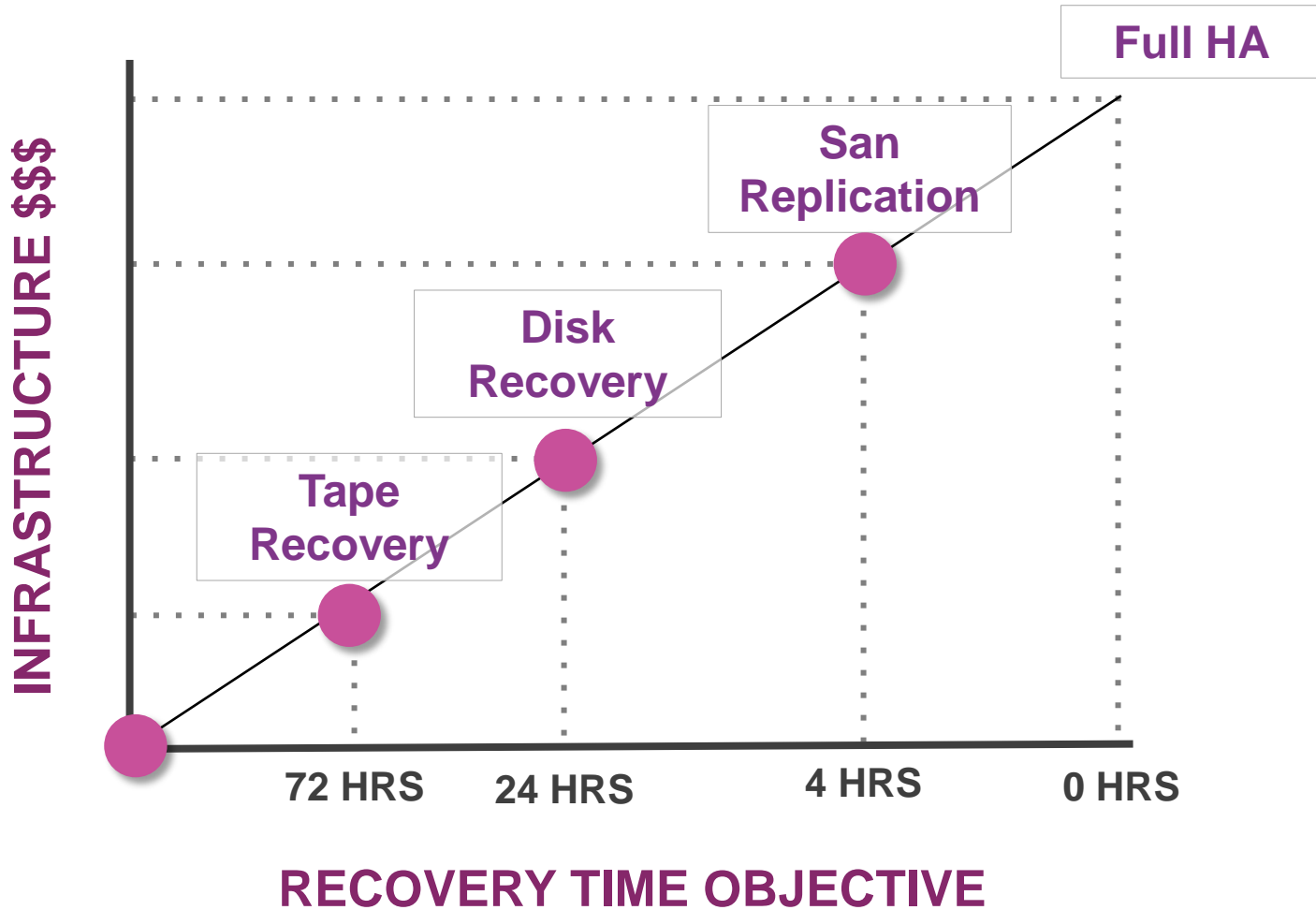


System / Application Recovery Strategies

- Traditional Media Device Backup
 - Tape – USB – Hard Drive – CD
- Virtualization / Replication
- Electronic Vaulting
- Disaster Avoidance / High Availability

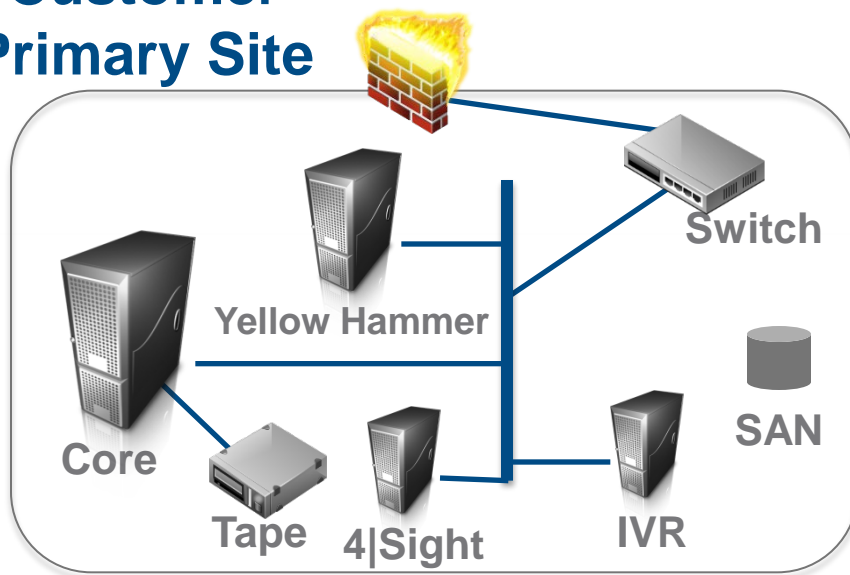


Recovery Strategies



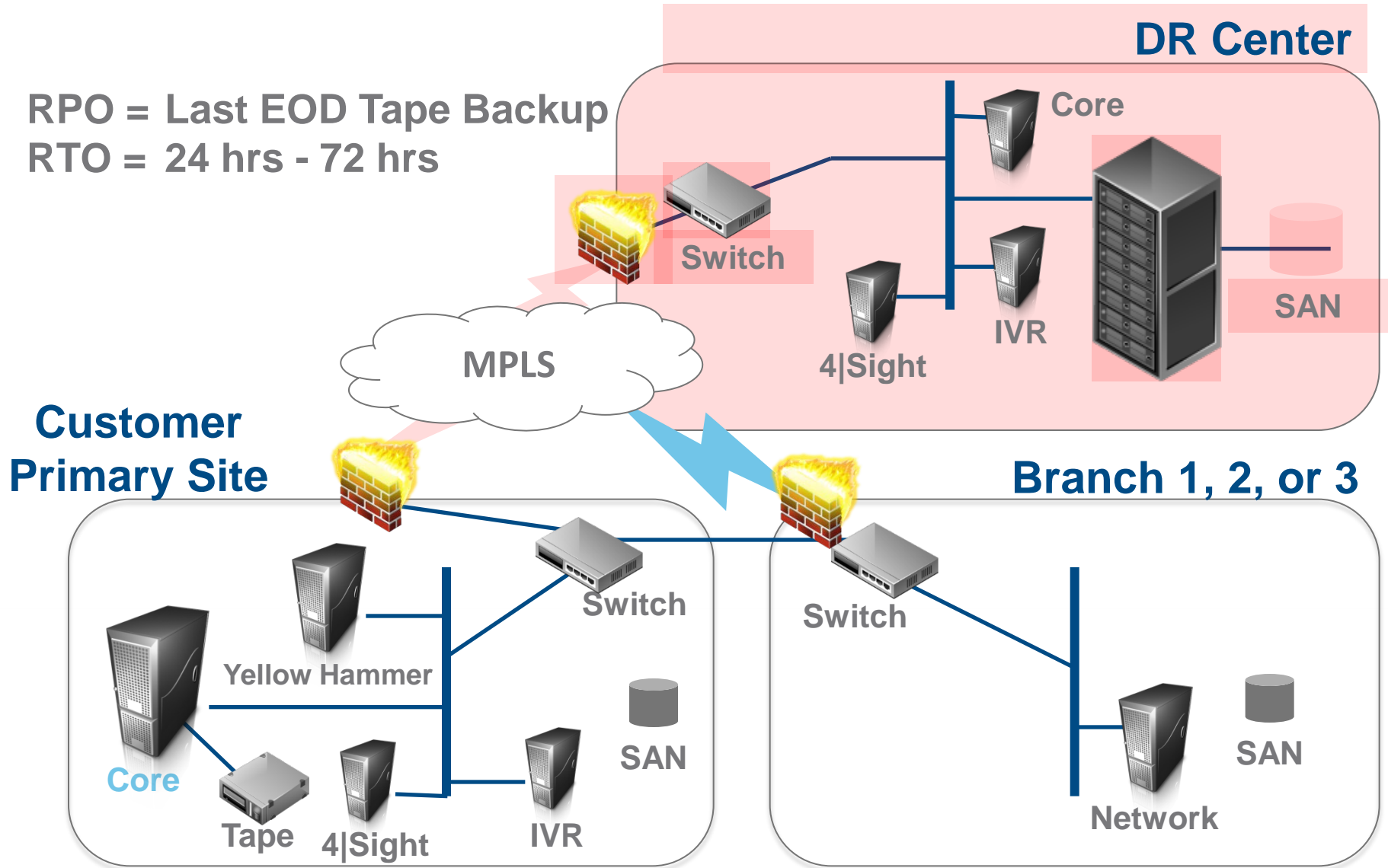
Traditional Recovery Solutions

**Customer
Primary Site**



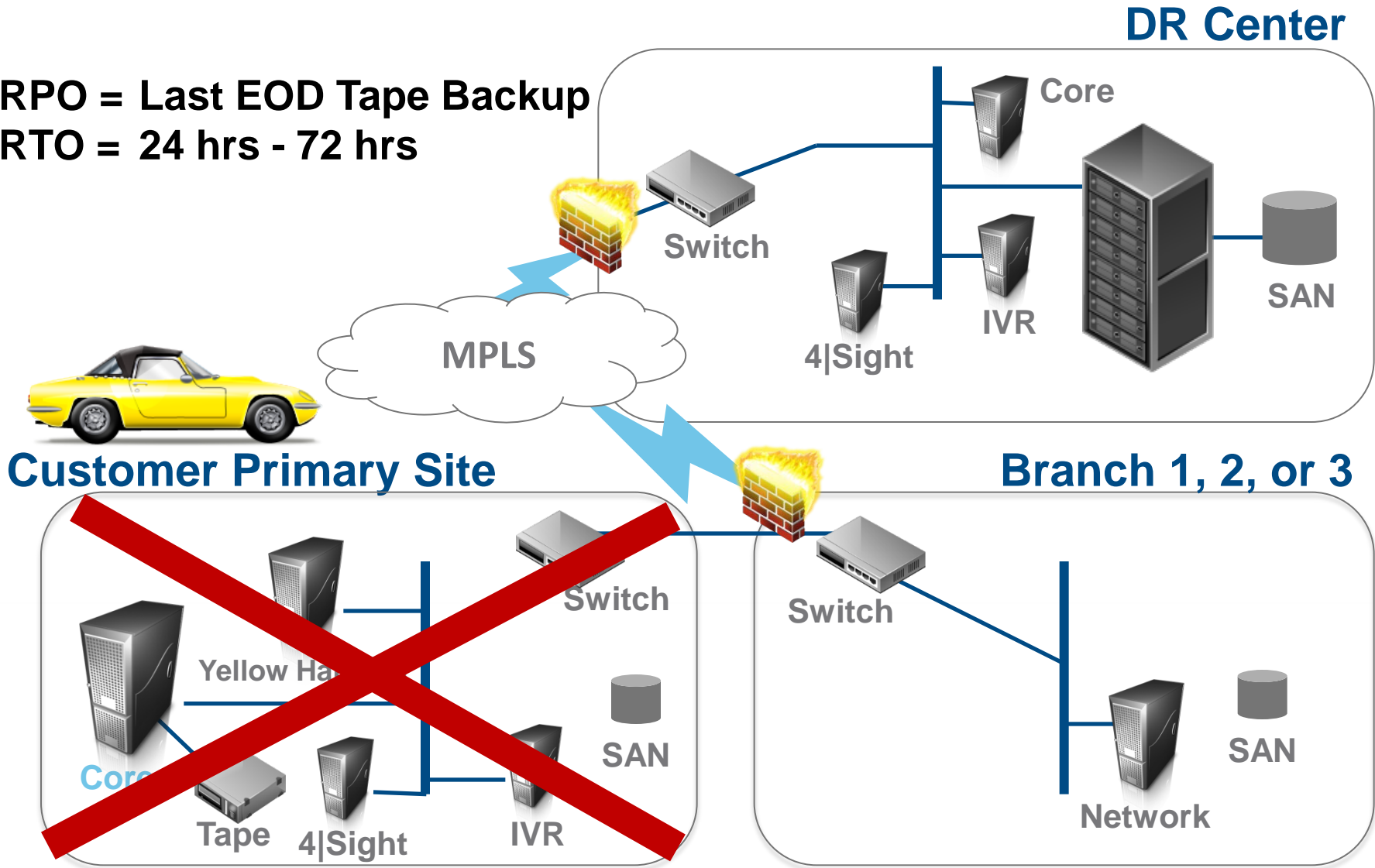
Traditional Tape Recovery Solutions

RPO = Last EOD Tape Backup
RTO = 24 hrs - 72 hrs



Traditional Tape Recovery Solution

RPO = Last EOD Tape Backup
RTO = 24 hrs - 72 hrs

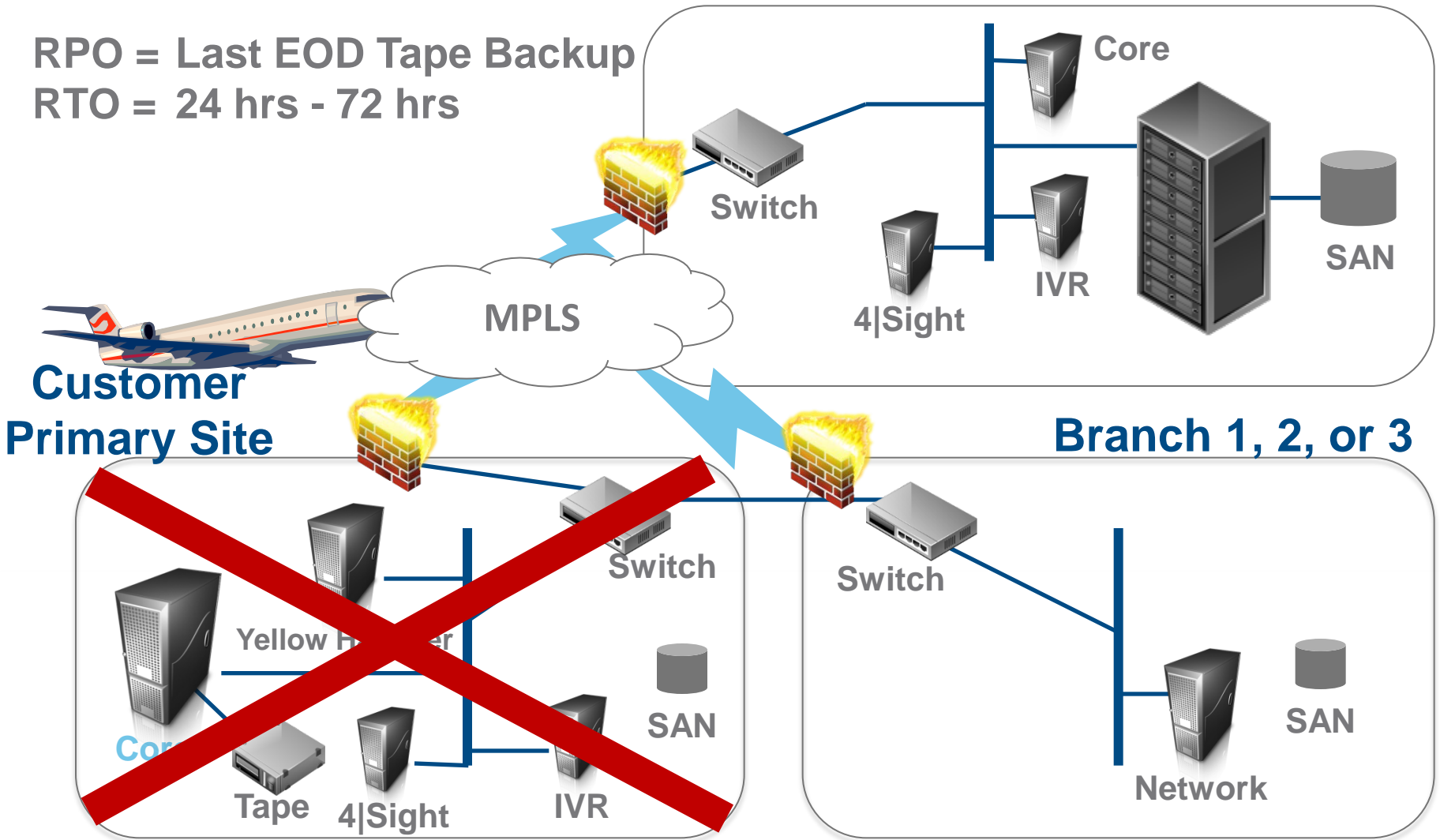


Traditional Tape Recovery Solution



DR Center

RPO = Last EOD Tape Backup
RTO = 24 hrs - 72 hrs



Centurion Hosted High Availability Recovery Strategy



High Availability Recovery Solution

CENTURION HOSTED HIGH AVAILABILITY FOR CORE

DR Center

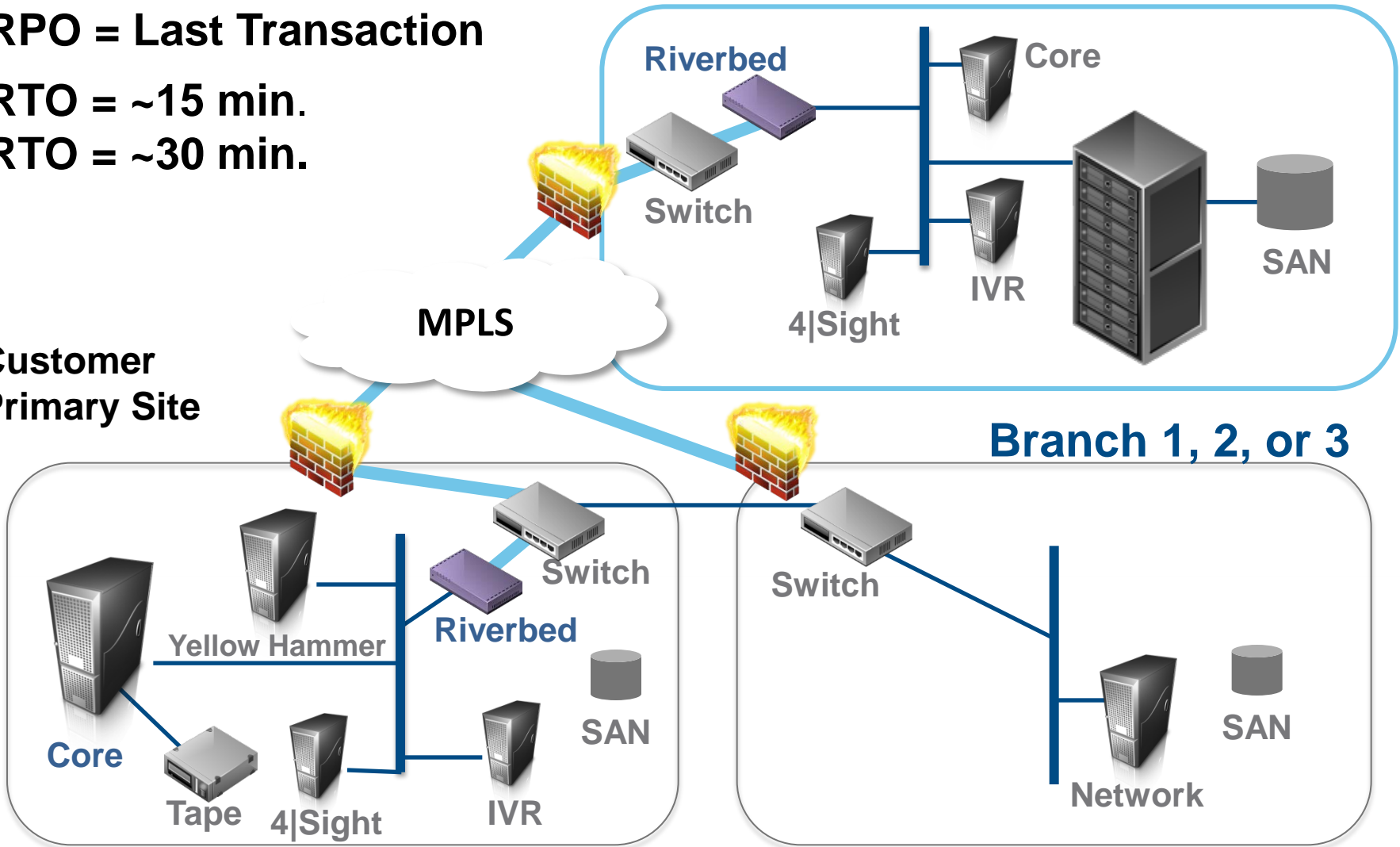
RPO = Last Transaction

RTO = ~15 min.

RTO = ~30 min.

Customer
Primary Site

Branch 1, 2, or 3



High Availability Recovery Solution

HIGHER AVAILABILITY FOR CORE

RPO = Last Transaction

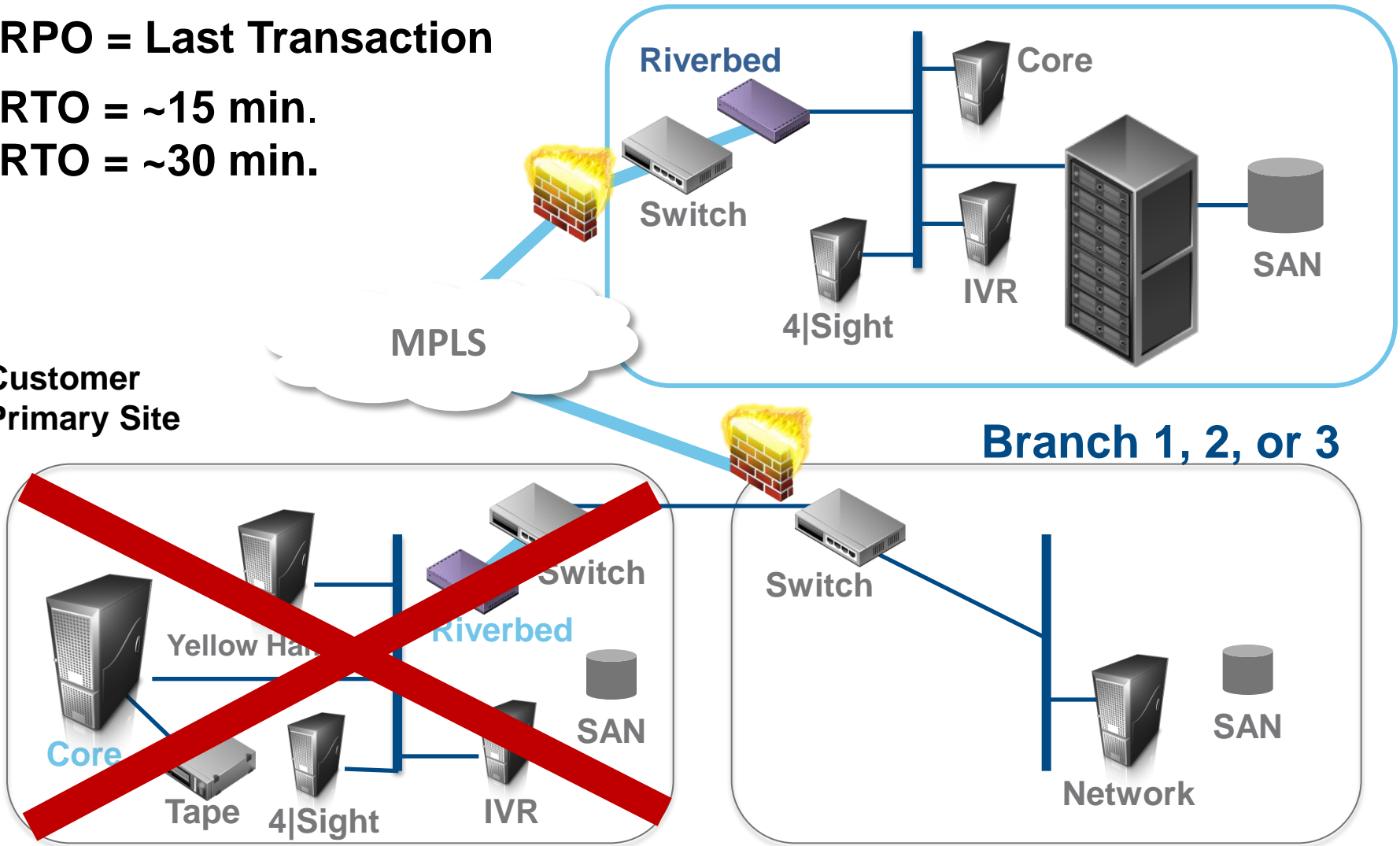
RTO = ~15 min.

RTO = ~30 min.

Customer
Primary Site

DR Site

Branch 1, 2, or 3



Vaulting Defined

- Vaulting is an online data backup solution that enables financial institutions to store critical data at a secure, off-site location.
- Vaulting mitigates inherent risks associated with physically transporting tapes from one location to another.
- Complies with related regulatory requirements, and provides financial institutions with a superior audit trail for all backed-up data.



Benefits of Electronic Vaulting

- Eliminates need for onsite tape.
- Scheduled automatic backups.
- Off-site secured protection.
- Immediate restores.
- Comply with new and impending regulations.
- Gain a competitive advantage.
 - Restores are quick, available and assured.
 - Initial full backup to secure data center.
 - Pro-active monitoring and management.



Cloud Based Recovery Strategy

– Vendor Provided

- Vendor Hosted High Availability
 - Vendor owns hardware.
 - Customer replicates data to hardware in “Real Time” environment using Mimix or other replication software.
 - Customer data located off-site 24/7 in vendor secured facility.
 - In a disaster situation customer eliminates the need to travel to restore system.



Centurion Enterprise Level Recovery Strategy (CELR)



What is CELR

- Electronic backup of Windows, Linux, & Unix servers to an off-site location.



How does CELR Work

- An Agent is installed on each physical server, virtual server, or hypervisor.
- A policy and schedule are setup to transfer the data to an off-site vault.



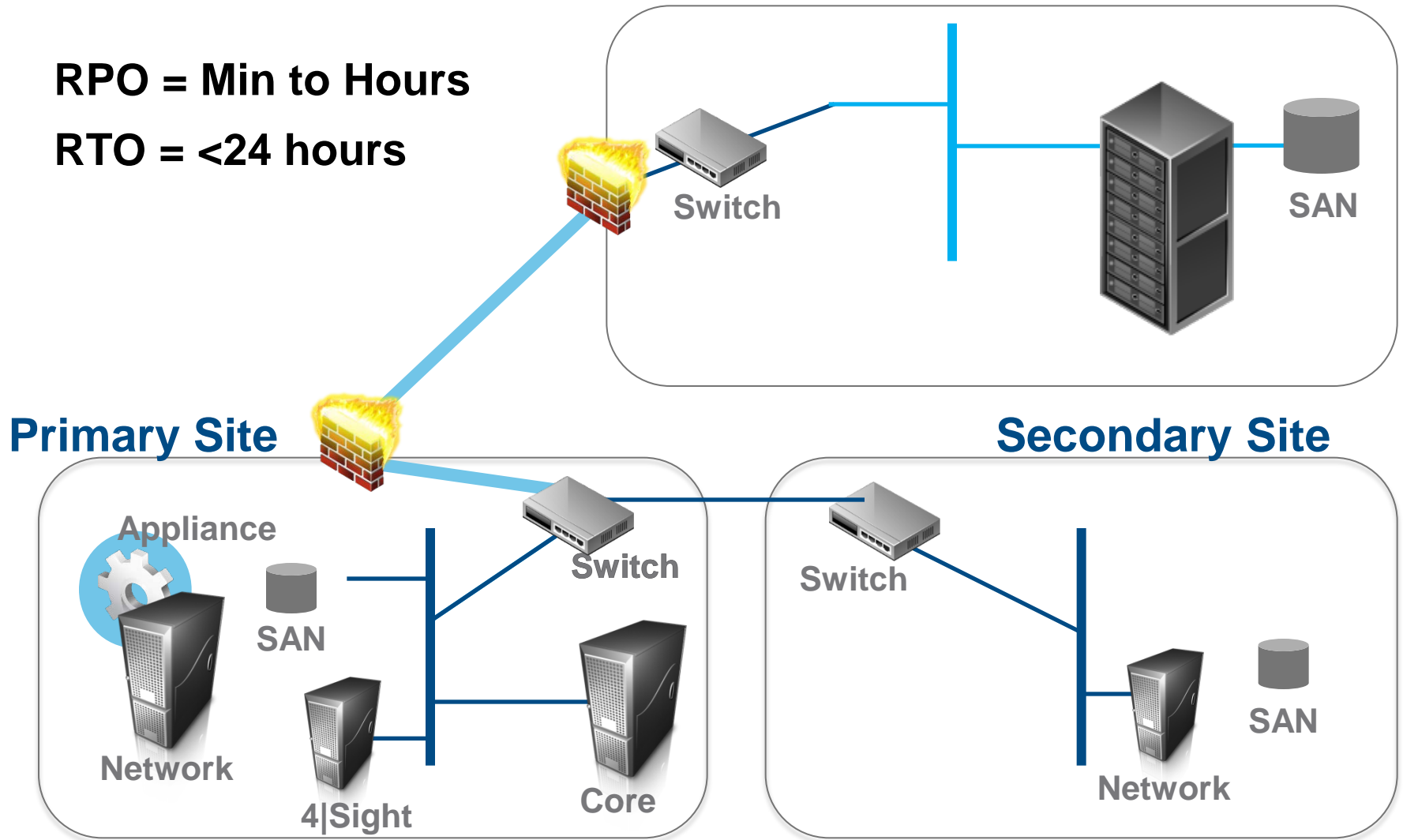
CELR Internet Diagram

Centurion Enterprise-Level Recovery for Network

Centurion

RPO = Min to Hours

RTO = <24 hours



Encryption

- All data is encrypted before it leaves the protected server. It stays encrypted in-transit and on the vault.
- The data transferred is reduced in size to improve the transfer time.



Deduplication & Compression

- The data transferred is reduced in size to improve the transfer time.



Physical vs Virtual Servers

- The agent can protect Physical servers.
- The agent can protect a Virtual server.
- The agent can protect the Hypervisor. (Vmware)



Vault Entire Server vs Select Folders

- Depending on your recovery plan.
 - Core Dir
 - Other jha apps
 - Exchange
 - Domain controller



Bandwidth Requirements

- CELR travels through your standard internet connection.
- Speed required will depend on amount of GBs protected.
- Typically a Minimum of 10mb up.



Recovery Solutions

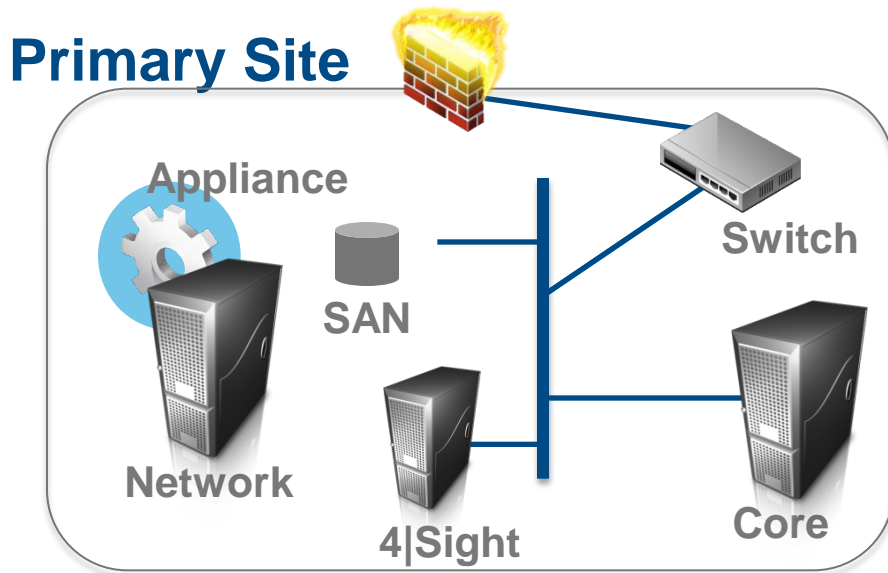
Centurion Enterprise-Level Recovery for Network

On-site Appliance

RPO = Min to Hours

RTO = Min to Hours

Recovery at LAN Speed



On-Site Media Agent

- The OMA will give you fast local recovery.
- Speeds up the backup of data off the server.

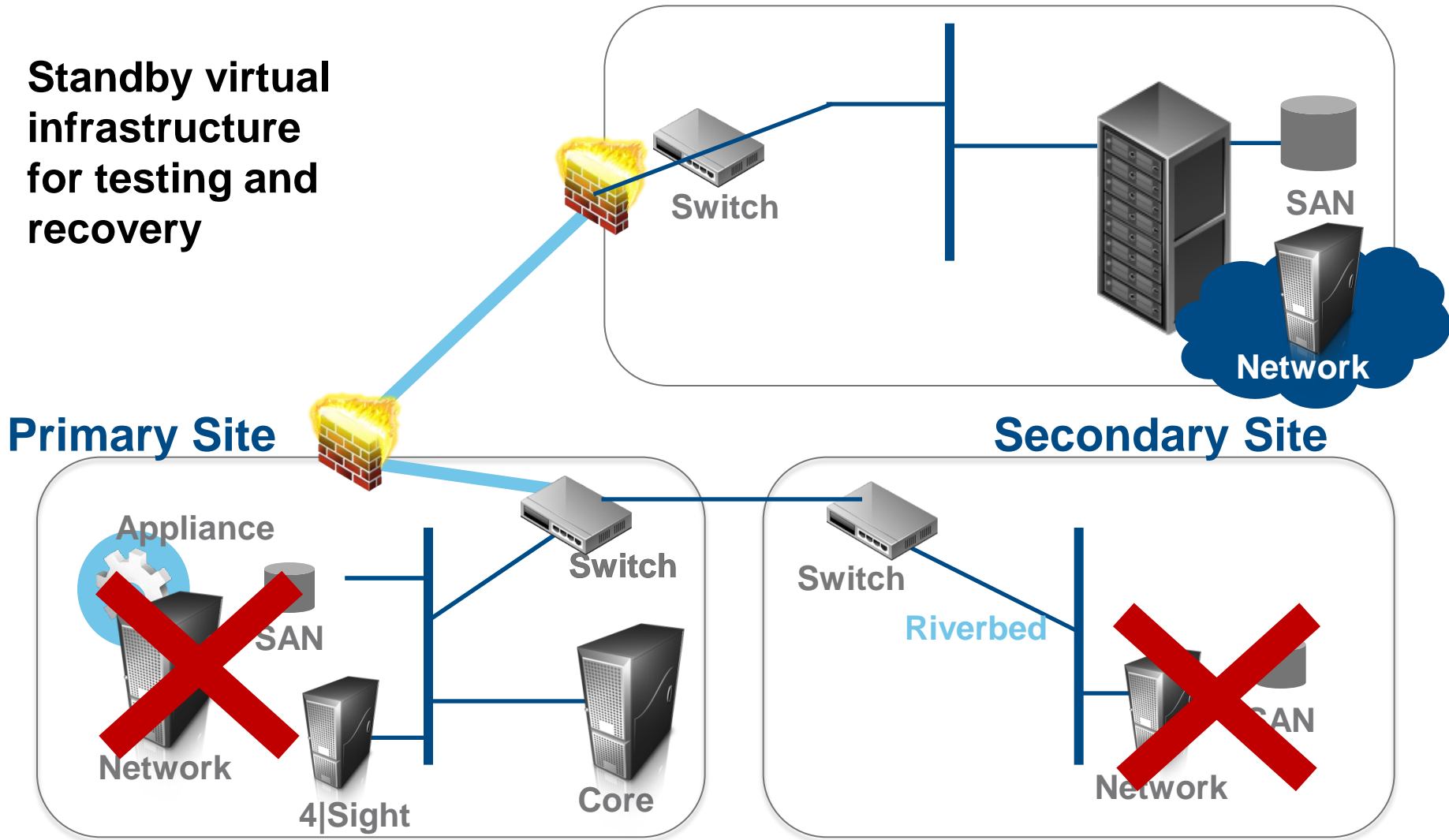


Recovery Solutions

Centurion Enterprise-Level Recovery for Network

Centurion

Standby virtual infrastructure for testing and recovery



Recovery Options

- Recovery options:
 - Back to the original server
 - Centurion
 - A new VM in your environment
 - Virtual Server Recovery environment (VSR)



Virtual Server Recovery (VSR)



What is VSR

A virtual server environment that we can configure to match your needs.



RTO & MAD

- What are your Recovery Time Objectives.
- What is your the Maximum Allowable Downtime.

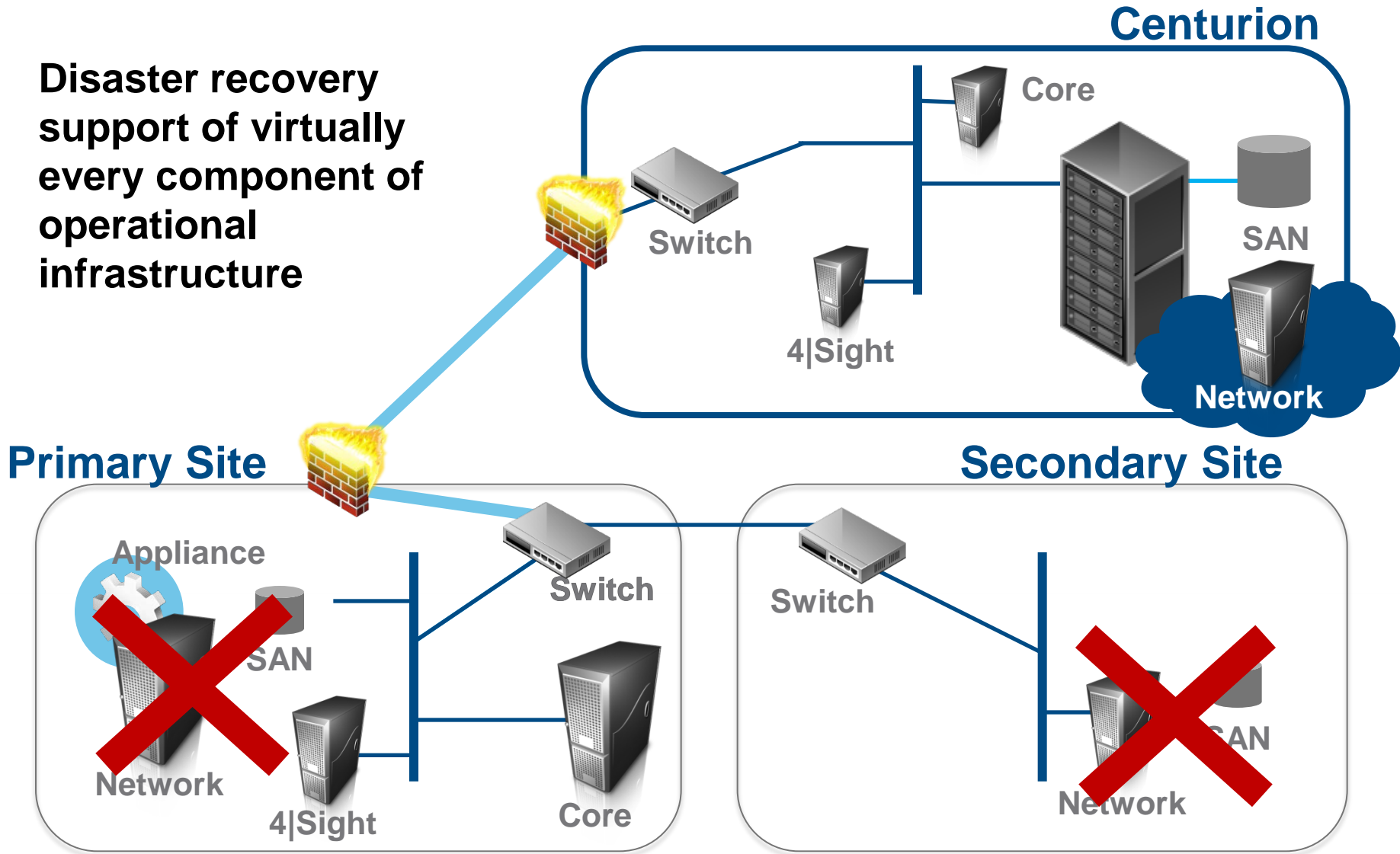


Communications

- The Bank will need to supply a router in Branson.
- At the time of use you will open a VPN tunnel to Branson.
- Centurion will open the VLAN to the servers we have configured for your use.



VSR Recovery Diagram



Network Changes

- Adjustments will probably need to be made to your network to see the Branson servers.



Testing

- Testing is not the typical ‘sand box’.
 - It is on your network.
 - You must be able to isolate the servers.



Branson (The Mountain)

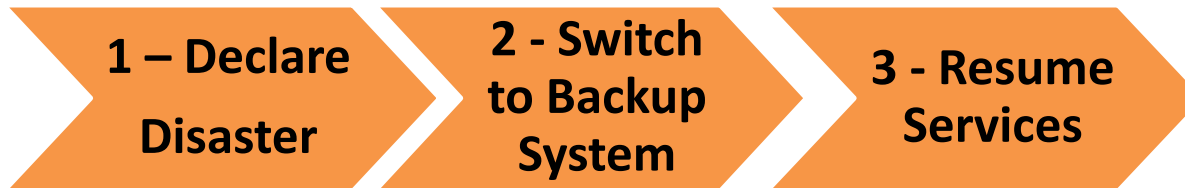


Branson (The Mountain)



Recovery Strategy Comparison

High Availability / Mirroring Recovery Time: **Phase 3 (Minutes - 1 Hour)**



Electronic Vaulting Recovery Time: **Phase 2 (4 - 6 Hours)**



Traditional Recovery Hot Sites: **Phase 1 (1 - 3 Days)**



Four Possible Customer Environments & Centurion Solutions



Scenario 1

- Core: In House
- Servers: In House



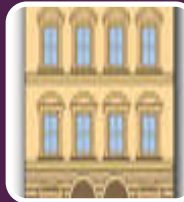
Centurion Solution

- Hosted High Availability (HHA)
- Enterprise Level Recovery (CELR)
- Colocation in Branson Mountain



Scenario 2

- Core: In House
- Servers: Outsourced



Centurion Solution

- Hosted High Availability (HHA)
- Enterprise Level Recovery (CELR)
- Co-location in Branson Mountain



Scenario 3

- Core: Outsourced
- Servers: In House



Centurion Solution

- Remote Data Entry (RDE)
- Enterprise Level Recovery (CELR)
- Colocation in Branson Mountain



Scenario 4

- Core: Outsourced
- Servers: Outsourced



Centurion Solution

- Remote Data Entry (RDE)
- Enterprise Level Recovery (CELR)
- Colocation at Branson Mountain

Note: A BCP is required for each scenario



What is your Bank's Disaster Risk Mitigation Level?



Centurion Suite of Services



Jack Henry Banking®
Centurion Disaster
Recovery® Solutions

Questions



Disaster Preparedness: Critical Elements of Centurion Business Continuity Planning™

Thursday – May 14, 2015
1:00 – 2:00 Central Time



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