



P A R T N E R S

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# **Storage Strategies for Disaster Recovery**

## **Presentation**

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***Optimizing IT Infrastructure For Business<sup>SM</sup>***



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## Overview

**The need for storage DR protection**

**Storage DR defined**

**The networks are critical**

**GTP: Helping customers protect storage**

**GTP: Other activities effecting Storage DR**

**GTP Approach and differentiators**

**GTP Solution partners**

**GTP: ROI Customer case study**

## The need for storage DR protection

- Today's business environment demands predictable, reliable, guaranteed data availability
- Downtime disrupts business
- Recovery time has to be minimized & well understood
- A single outage may ruin a corporation

## The cost of an outage

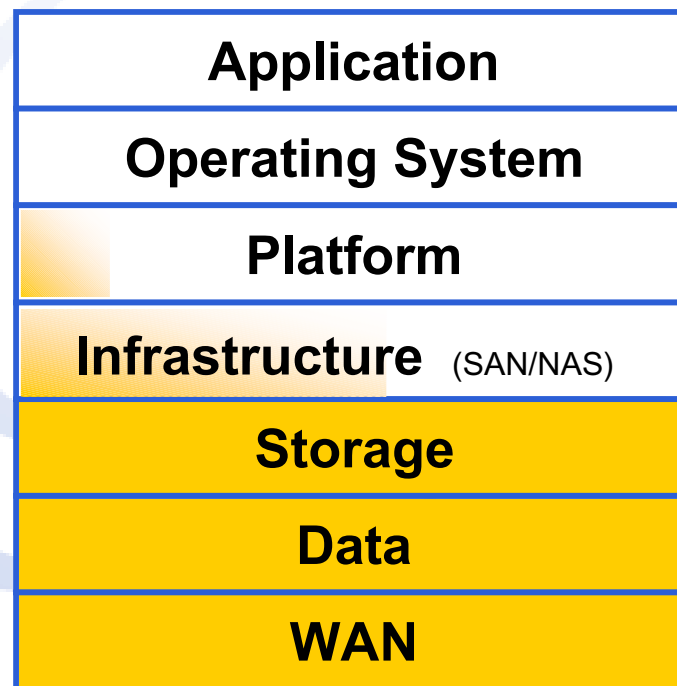
Publicly known cases

Loss of access to storage/data/applications

- **ATT**
  - 13th April 1998 (26 hour outage)
  - Cost: \$40M in rebates
- **EBAY**
  - 12th June 1999 (22 hour outage)
  - Cost: \$3M-5M +
  - 26% drop in stock price
- **Charles Schwab**
  - 24th February - 21st April 1999 (Four x 4 hour outages)
  - Cost: \$???M, \$70M infrastructure investment to prevent

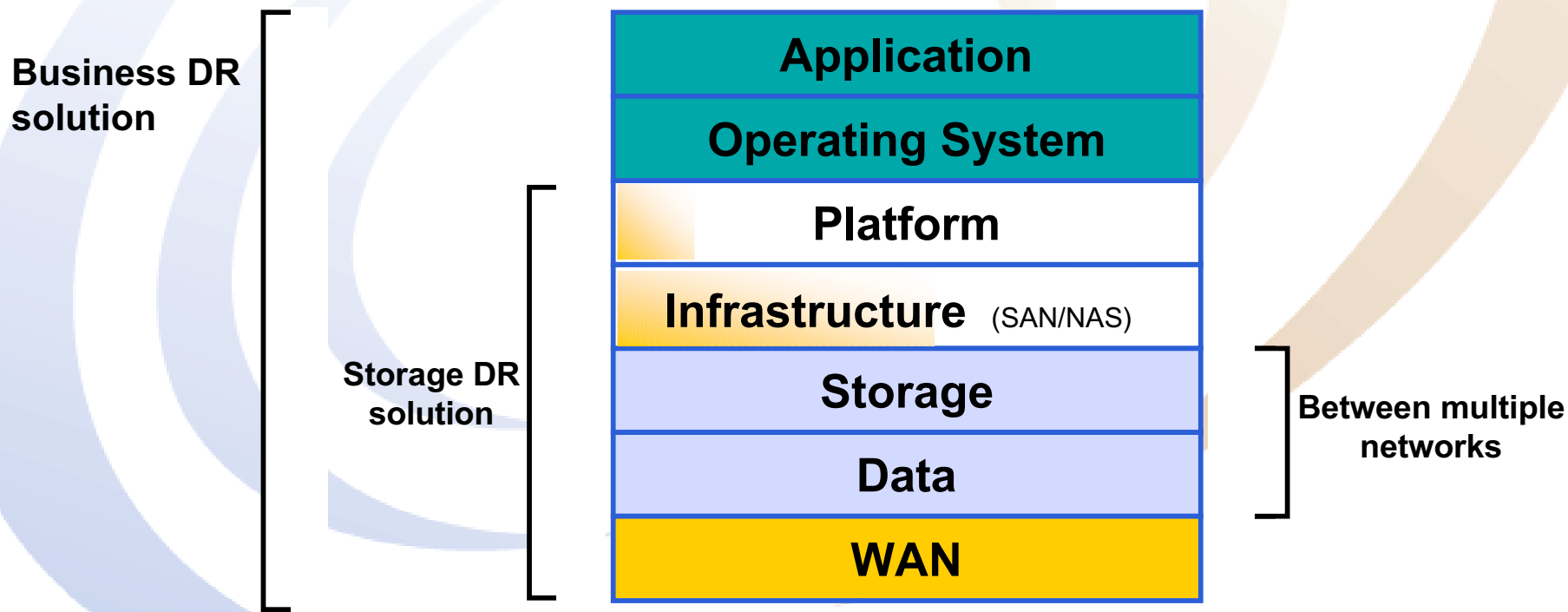
## Storage DR : Defined

- **High-availability 99.999% access to business critical data**
- **Fully replicated**
- **Anytime, Anywhere, Any event access**
- **An architecture that is 100% fault tolerant**
- **Fully controllable and manageable in “any type any event”**



## The network is “critical”

- If it isn't networked, it can't be...
- Replicated, managed, controlled, exercised, tested
- Failed-over, failed-back, recovered, accessed
- Integrated into the overall Business DR solution !



## The technology choices

### The complex Storage DR industry

#### Pros...

- Storage array processing, interconnects and functionality
- Better SAN options and functionality
- Better Storage optimized WAN options
- Better replication hardware and software
- More intelligent, manageable and configurable O/S components
- Flexible and functional tool sets

#### Cons...

- Still no “single-box, off the shelf Storage DR solution available”
- Requires complex architectures
- 1-off solutions are still common
- Lack of implementation standards

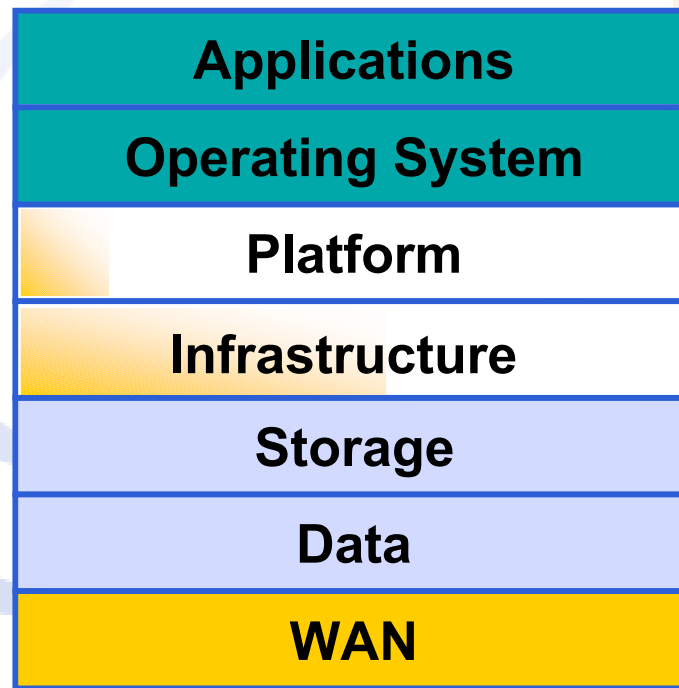
## GTP is helping customers

Customers need assistance understanding that  
Storage DR is *“Very complex and highly cross-functional”*

Database, email, custom apps  
Backups, messaging, file server  
Webservers

Logical vols, devices, files  
filesystems, services

SONET, IP, ATM, DWDM  
Extnd-FC, ESCON...



IBM, HPQ, DELL, SUN  
Mainframe, Opensystems  
LINUX

SAN, NAS, DAS  
FC, IP, FiCON, SCSI

Small, Large, RAID/Array  
SAN, NAS, DAS, Mainframe  
Open systems

DSS, DW, OLTP, Web  
Small, Large, Massive  
Static, Active

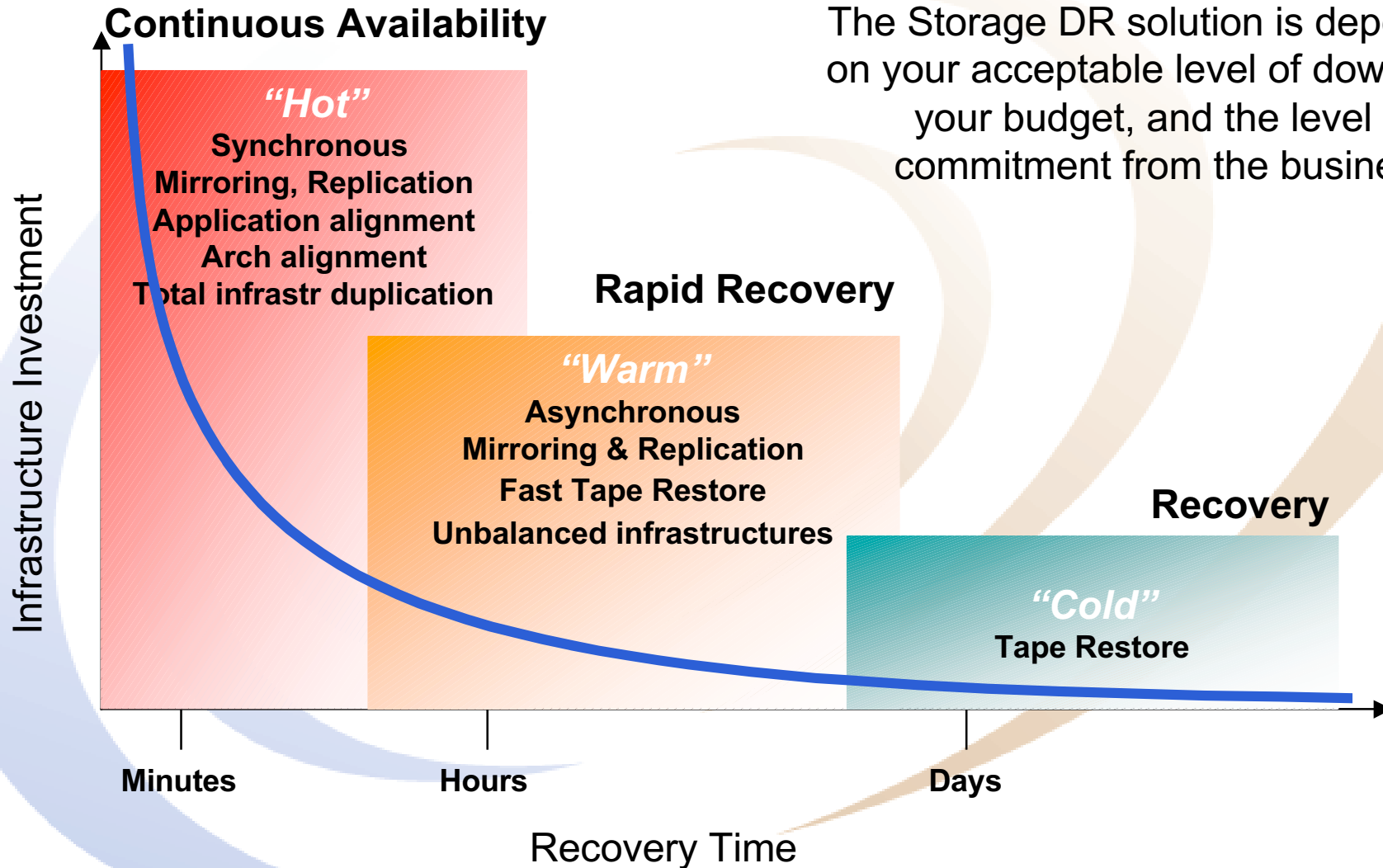


## **GTP is protecting customers storage**

### **Deploying Storage DR solutions requires an intelligent partner**

- **Understand the complex layers**
- **Set expectations correctly**
- **Identify common Miss-conceptions**
  - **Storage DR can be expensive and complex**
  - **You are duplicating and replicating everything**
  - **Cutting corners endangers your business**
- **A partner driven, cross-functional co-operative solution**
  - **No single vendor, no off-the-shelf solution**
- **ROI and TCO is demonstrable**
- **An optimal and well managed implementation methodology**
  - **Outsourcing vs. Internal, Good solution partners**
- **Prove to the business the solution it works and has a proven life-cycle**
  - **Architecture, infrastructure, Software, Hardware**
- **Best and most experienced professionals, resources**
- **Integrated 24x7x365 Operations, Methodologies, Best practices**

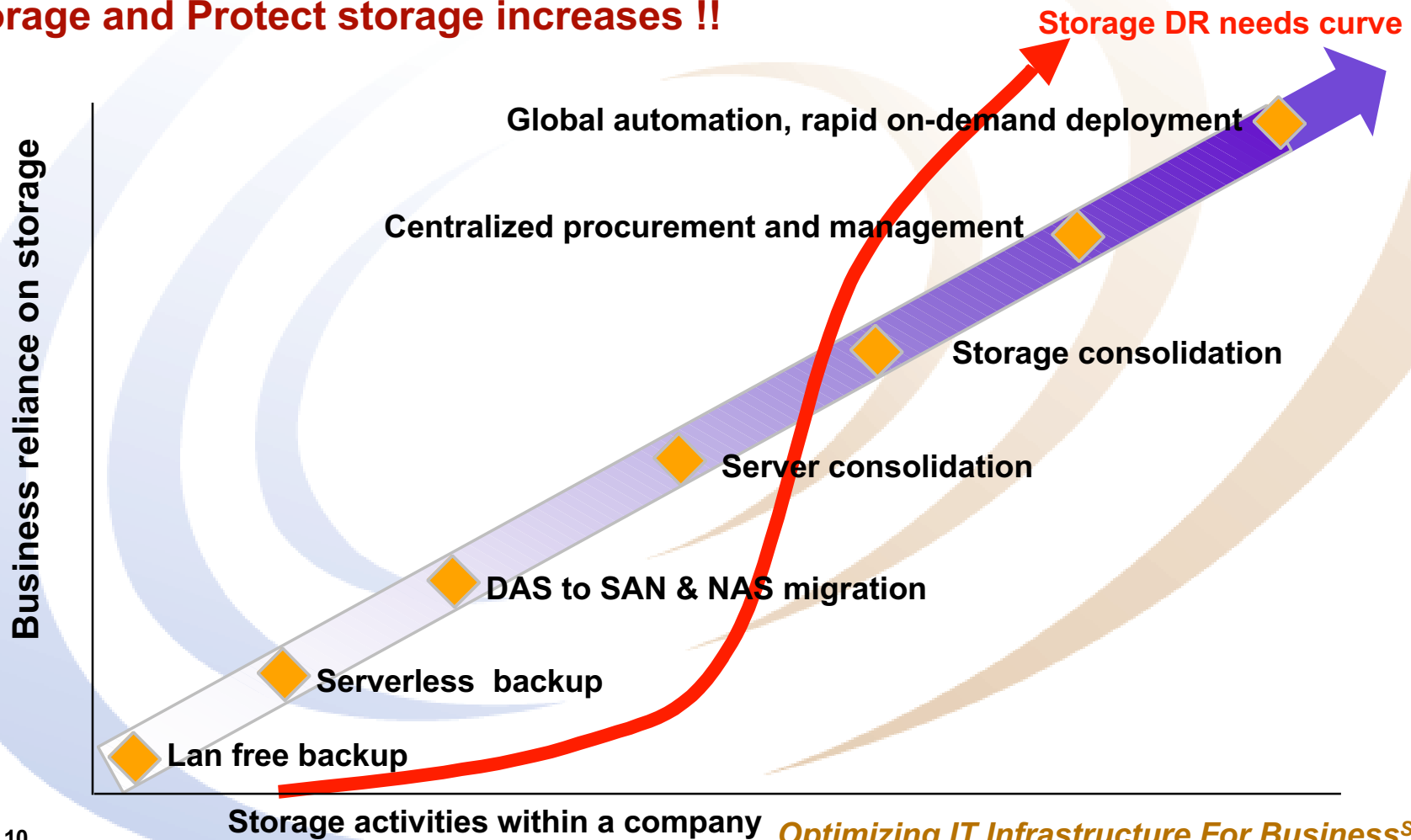
# Choosing the business solution



The Storage DR solution is dependant on your acceptable level of down time, your budget, and the level of commitment from the business

## Other activities effecting Storage DR

As storage activities increase within a company...  
The need to guarantee information access, Replicate  
Storage and Protect storage increases !!



## **GTP approach**

### **Surround your storage with networks**

- **Reliable**
- **Manageable**
- **Appropriate level of High-Availability**

### **Integrate robust and flexible WAN technologies**

- **IP, FC, iSCSI, FC-IP, Extended-FC, DWDM, Sonet, ATM**
- **WANs must be manageable and understood by storage staff**

### **Leverage cutting edge software options**

- **Internal to the storage arrays**
- **Within the applications**
- **Within the Operating System components**

### **Cross-functional ownership with top down business support**