
Applying Disaster Tolerance in the
Open System Environment

HP World — September, 2000

Presentation Flow

- Customer Needs & Problems
- HP's Approach
- Solutions: Product & Services
- Case Studies

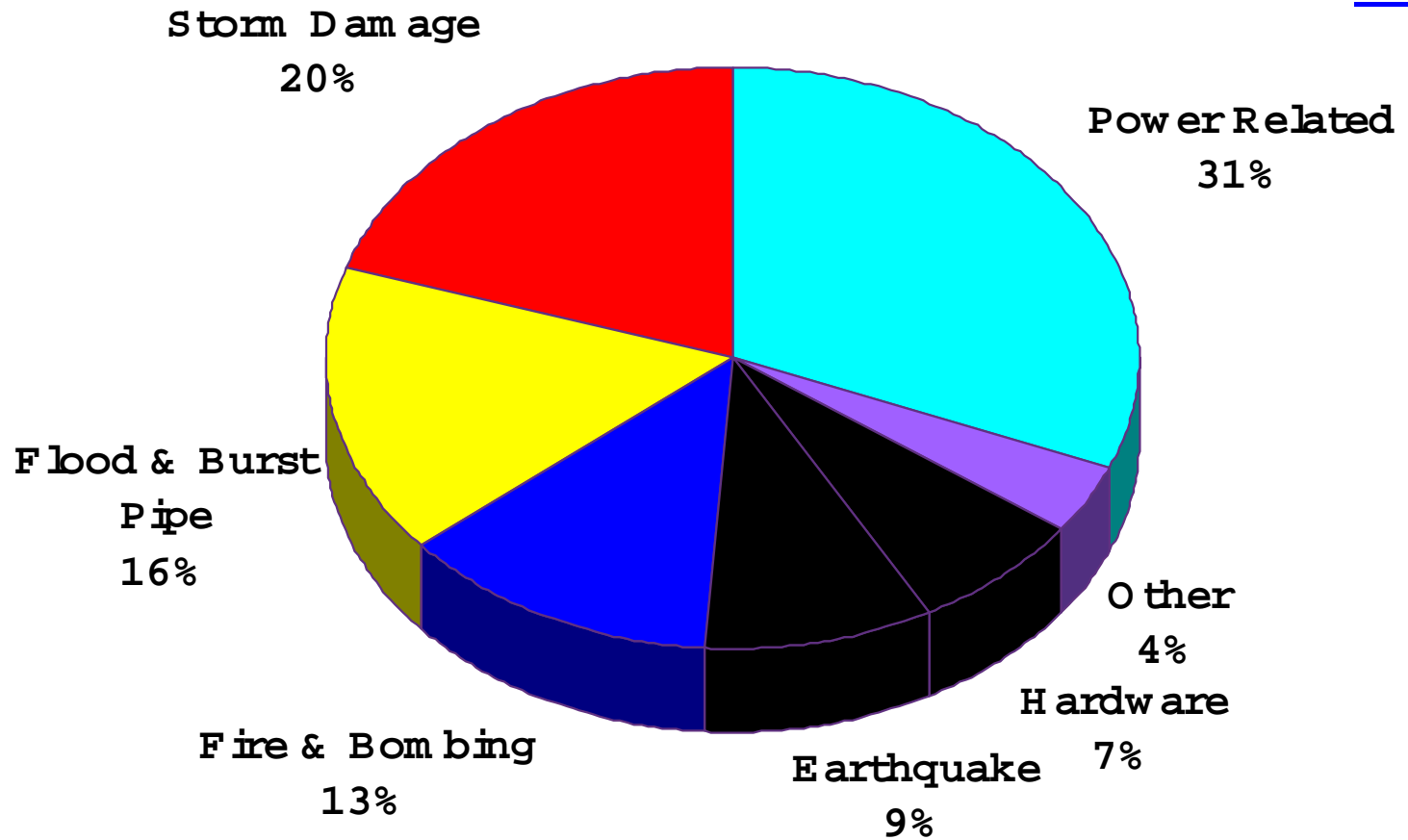
Customer Needs & Problems

Why worry about business continuity?

- Legal implications
- Audit requirements
- Regulatory requirements
- Competitive advantage
- Public image
- Reduced market share
- Decreased customer loyalty
- Damaged branding
- Company survival

Almost 80% of businesses that suffer a serious disruption and have not planned appropriately, will cease trading within 18 months of the event.

Leading Causes of Computer Downtime Over 12 Hours



What else could happen?

TERRORIST BOMB AT WORLD TRADE CENTRE KILLS SIX

POLICE AND FBI agents are investigating terrorist links to an explosion which ripped through the World Trade Centre yesterday morning killing at least six and injuring hundreds of people. The explosion is estimated to have caused \$500m of damage.

NEW YORK CORRESPONDENT

The explosion is believed to have happened in an underground car park which links the two towers of the 110-storey building. The explosion is the most lethal terrorist attack in New York's history.

"43% of the companies affected by the bomb at the World Trade Centre in New York in 1993 went out of business."



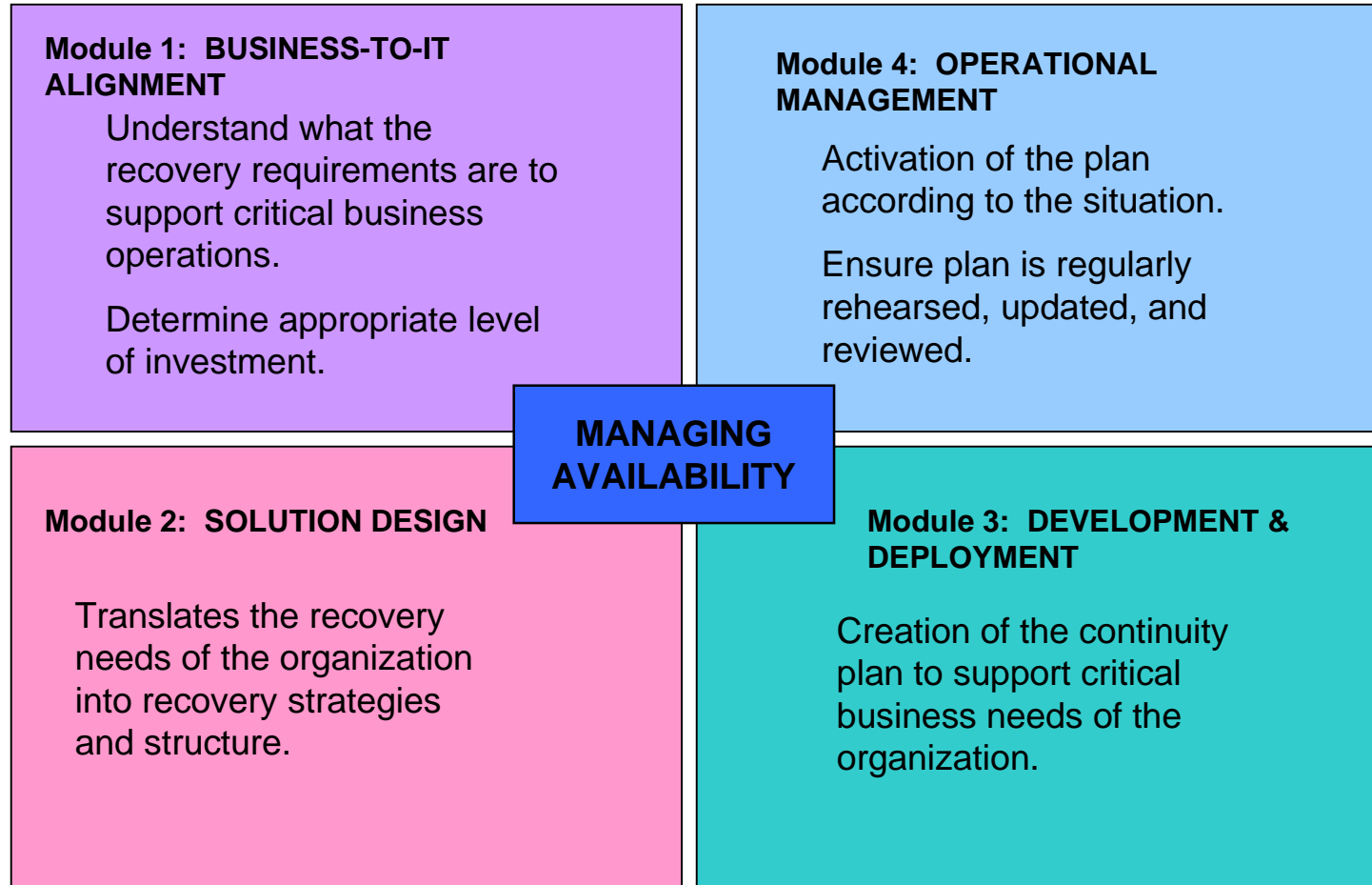
Nevertheless...

- Only 45% of all Fortune 500 enterprises have formal business contingency plans.
- Of these only 12% are considered effective enterprise-wide.
- 55% have experienced disruptions resulting in loss of systems for >1 hour, 11% for >24 hours or more.

Source: Contingency Planning & Research

HP's Approach

HP's Approach



Solutions: Products & Services

Business-to-IT Alignment

- Determining implications, tangible and intangible, to business if an outage or disaster was to occur.
- Identifying risks and exposures.
- Defining maximum amount of tolerable downtime.
- Determining critical business units.
- Defining the appropriate level of investment for protection.

HP Consulting: Business Impact Analysis

HP Consulting: Risk Analysis

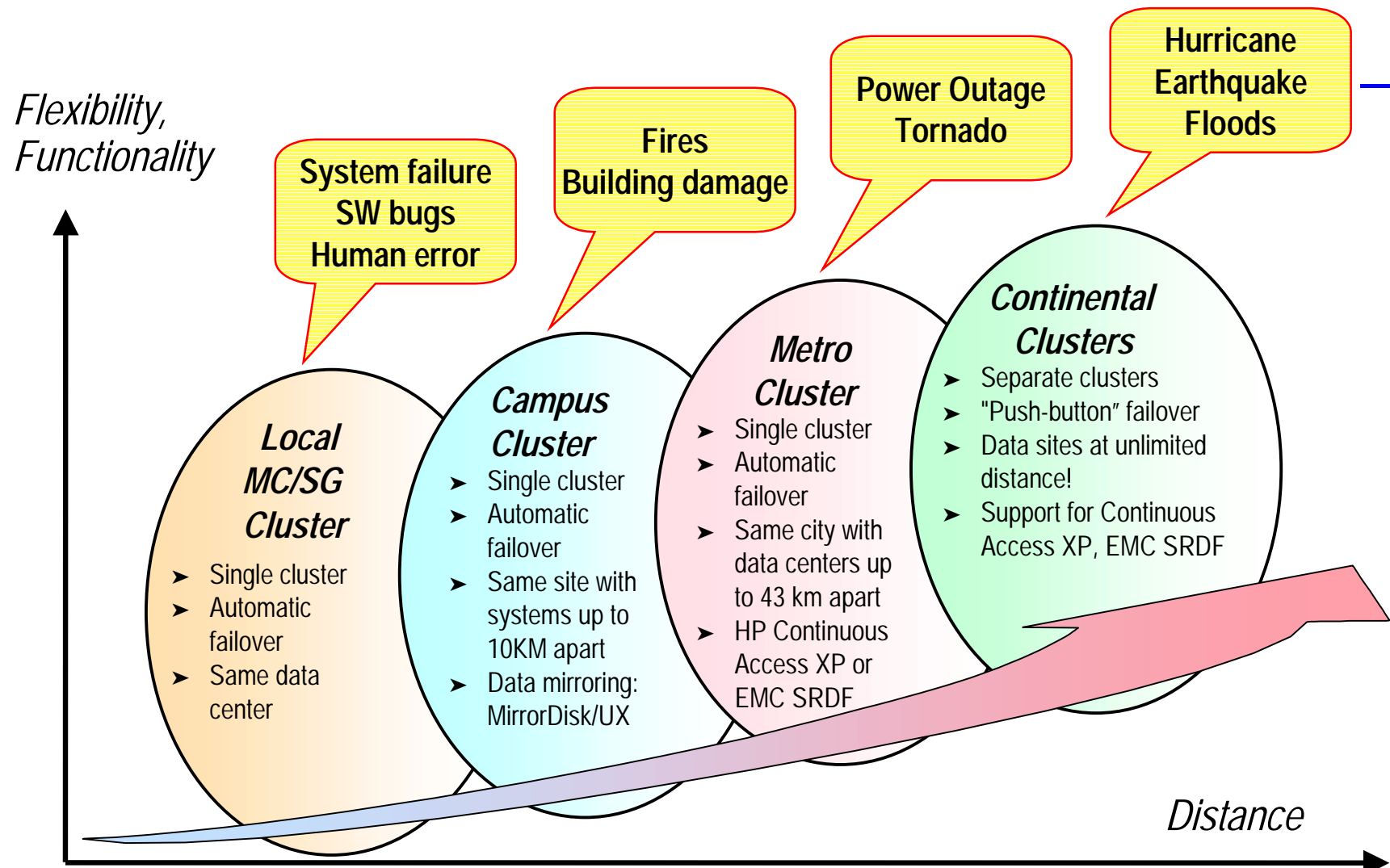
Solution Design

- Translates business needs into recovery strategies and plans.
- Provides infrastructure to support defined business goals.
- Identifies the processes, plans, technology, and services required to minimize downtime and loss.

HP Consulting: Recovery Strategy Definition

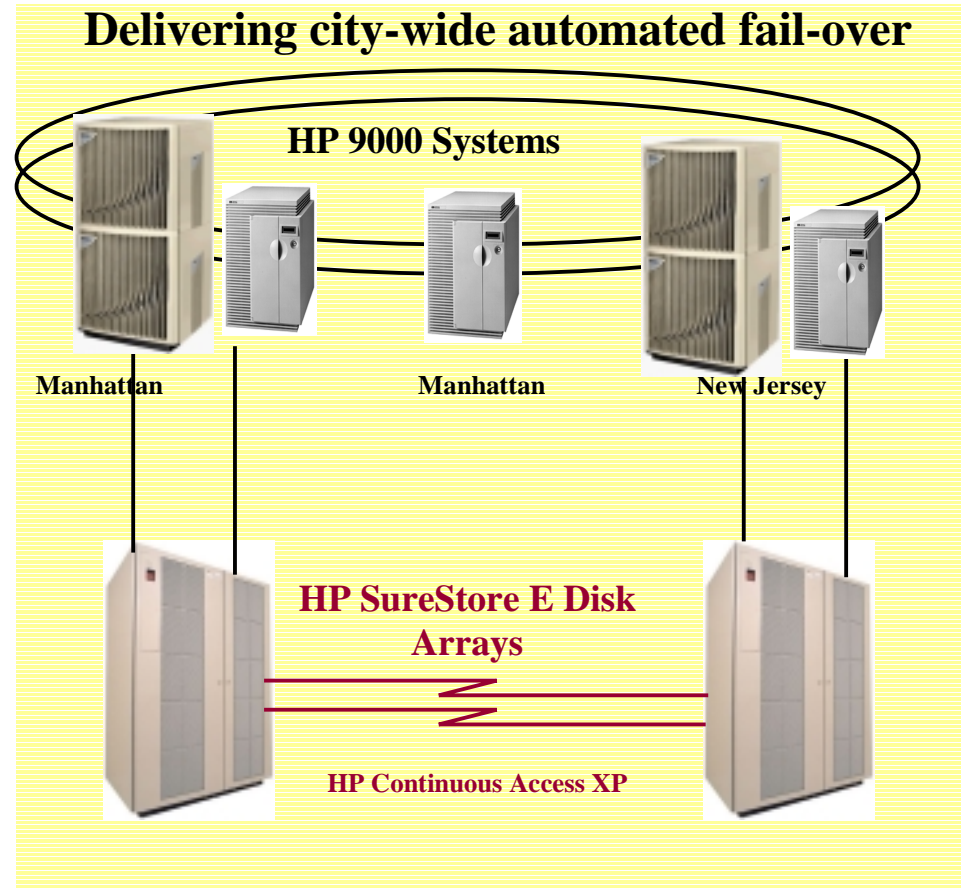
HP Consulting: Technical Infrastructure Design

HP's Full Range Disaster Tolerant Solutions

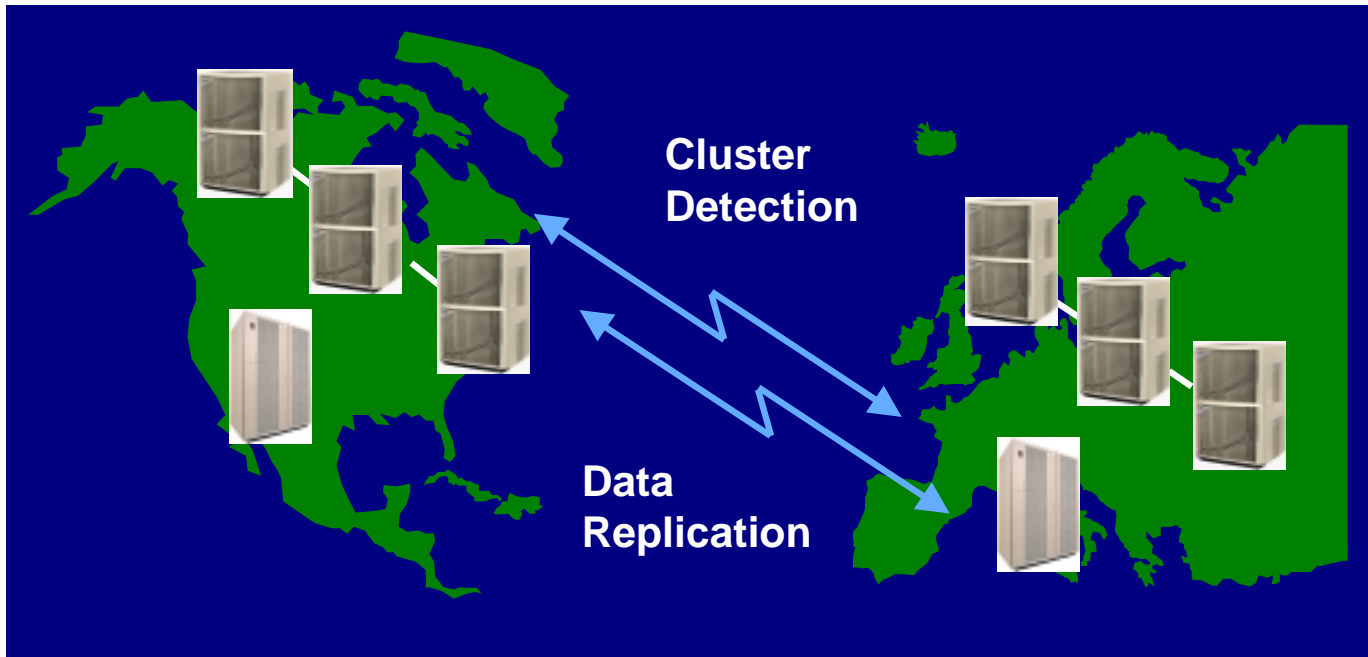


MetroCluster with Continuous Access XP

- ▲ Protect against Tornadoes, Fires, Floods
- ▲ Rapid, automatic site recovery without human intervention
- ▲ Effective between systems that are up to 43km apart
- ▲ Provides very high cluster performance
- ▲ Backed by collaborative implementation, training and support services from HP
- ▲ Also available: MetroCluster with EMC SRDF, using EMC Symmetrix Disk Arrays



World-Wide Data Protection with HP Continental Clusters



- Highest levels of availability & disaster tolerance
- Reduces downtime from days to minutes
- Locate data centers at economically and/or strategically best locations
- Transfer applications and data



- Push button failover across 1000s of km
- Supports numerous wide area data replication tools for complete data protection
- Comprehensive Support and Consulting Services as well as Business Recovery Services for planning, design, support, and rehearsal

Development & Deployment

- Implement the infrastructure
- Contingency and workaround plans
- Recovery procedures
- Interim processing procedures
- "Return-to-Normal" criteria and procedures

HP Consulting: Plan Design & Development

HP Business Recovery Services

Flexible Recovery Service Offerings

- Recovery Centers
- Ship-to-Site Hardware
- Mobile Data Centers
- Office Recovery Facilities
- BRS Net



Coverage

- Hewlett-Packard is one of only two global recovery vendors

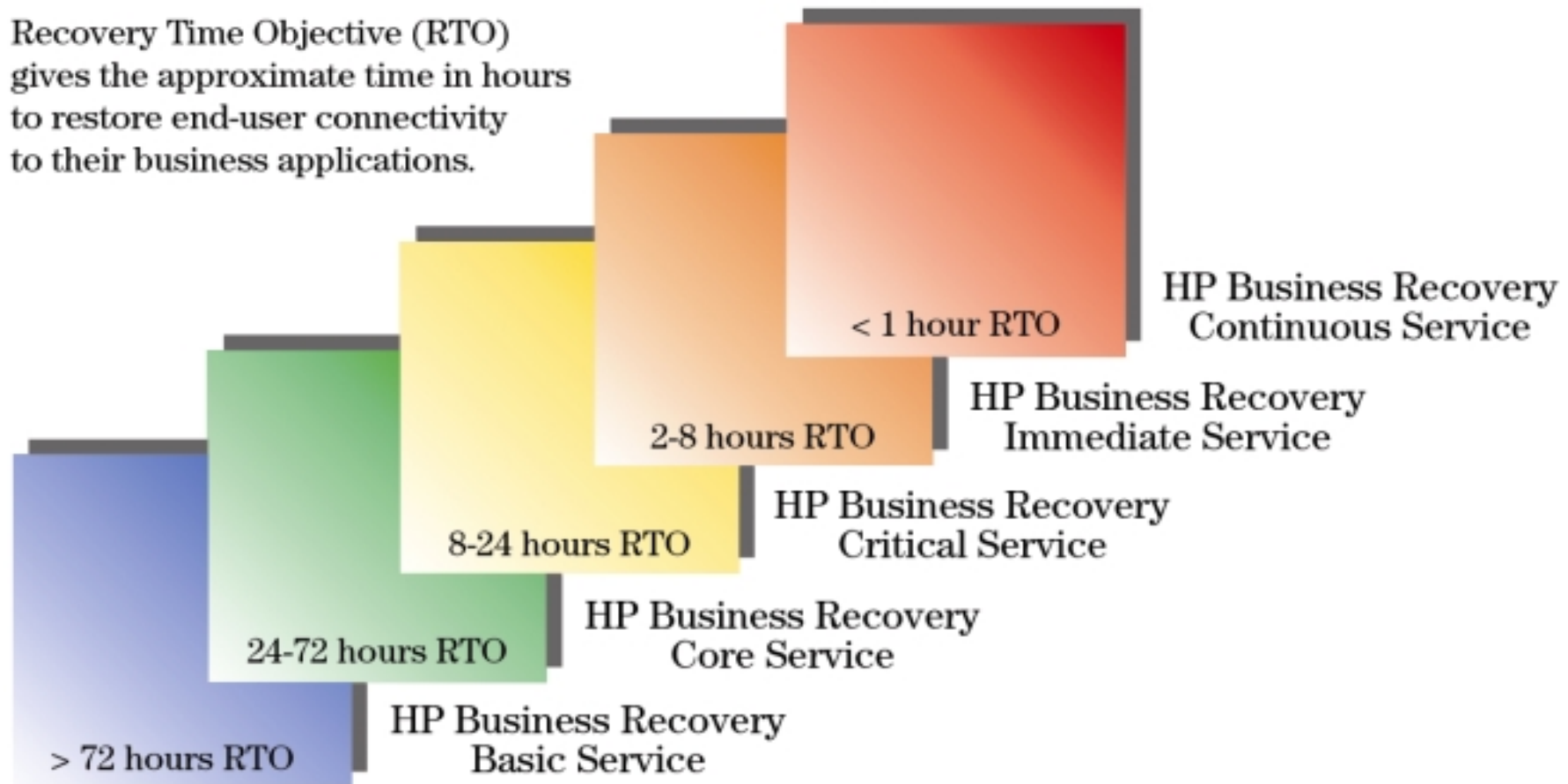
Facilities

- 28 Data Recovery Centers
- 10 Satellite Recovery Facilities
- 8 Office Recovery Centers (plus Mobile Offices)



HP's Spectrum of Business Recovery Services

Recovery Time Objective (RTO) gives the approximate time in hours to restore end-user connectivity to their business applications.



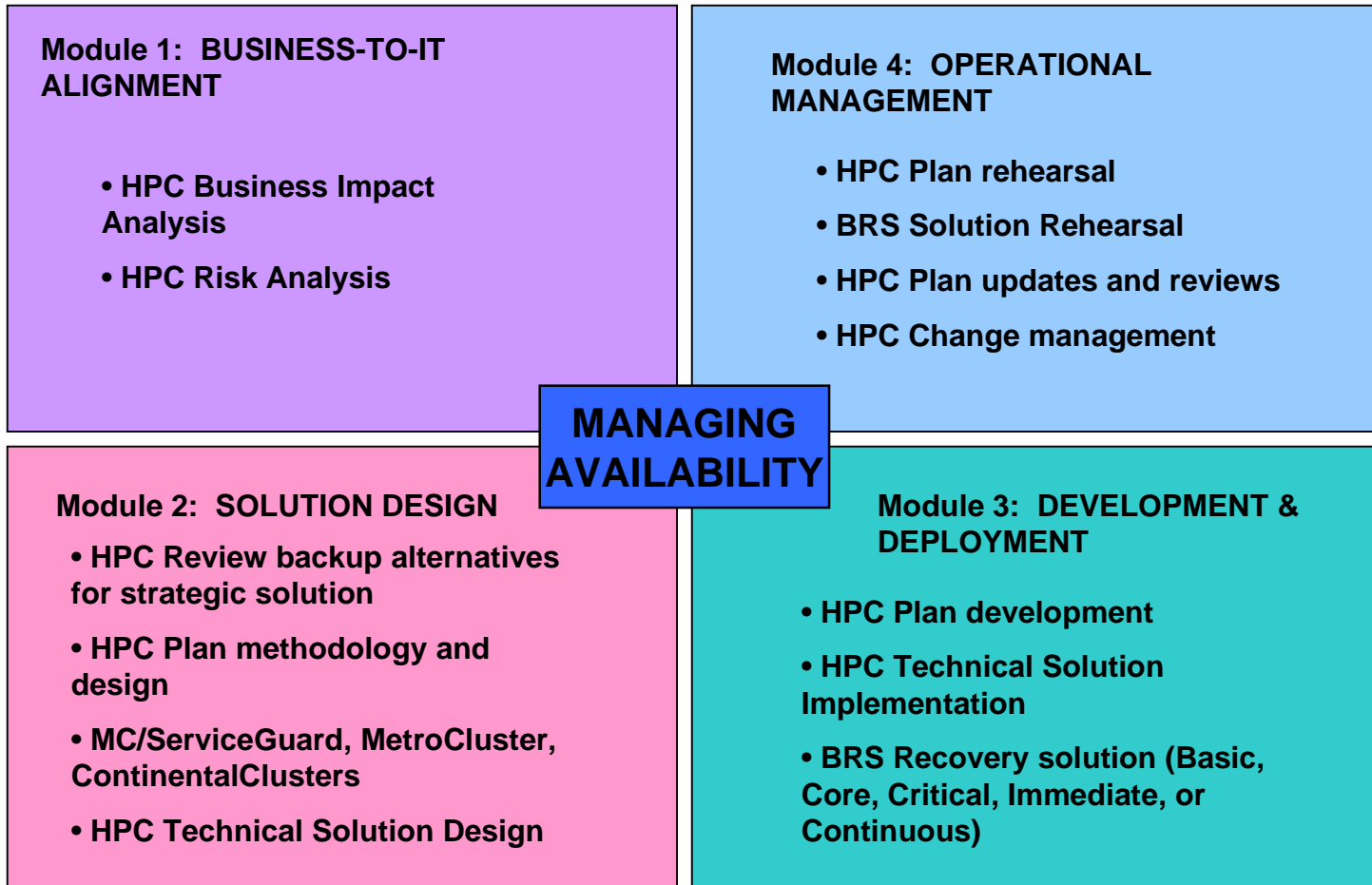
Operational Management

- Rehearsals
- Plan invocation
- Plan updates
- Post-disaster management procedures
- Change management process
- On-going training

HP Consulting & BRS: Plan Rehearsals

HP Consulting: Plan Audit

HP Products & Services



Why HP?

- 14 years experience in providing Disaster Recovery and Business Continuity solutions to our clients.
- We combine our comprehensive set of worldwide capabilities, service and products to best meet your specific needs.
- We use a proven methodology – the same one we use internally!
- <to receive IDC quote from George>

Case Studies

Case Study: E-Commerce

Environment: high visibility, high volume, high impact.

Problem : Cannot sustain longer than 1-2 hours of maximum downtime.

HP Solution: HP Consulting Business Impact Analysis
HP Consulting Plan Design & Development
BRS Continuous using Continental Clusters
Data Replication
HP Consulting Training & Rehearsal

Case Study: Manufacturing Site

Environment: Using SAP, customer can sustain a maximum of 12 hours of downtime.

Problem: Must minimize downtime and interruption.

HP Solution: HP Consulting Business Impact Analysis
HP Consulting Plan Design & Development
BRS Critical (12 hours)
MC/ServiceGuard
HP Consulting Rehearsal

Case Study: Telco (IP Billing)

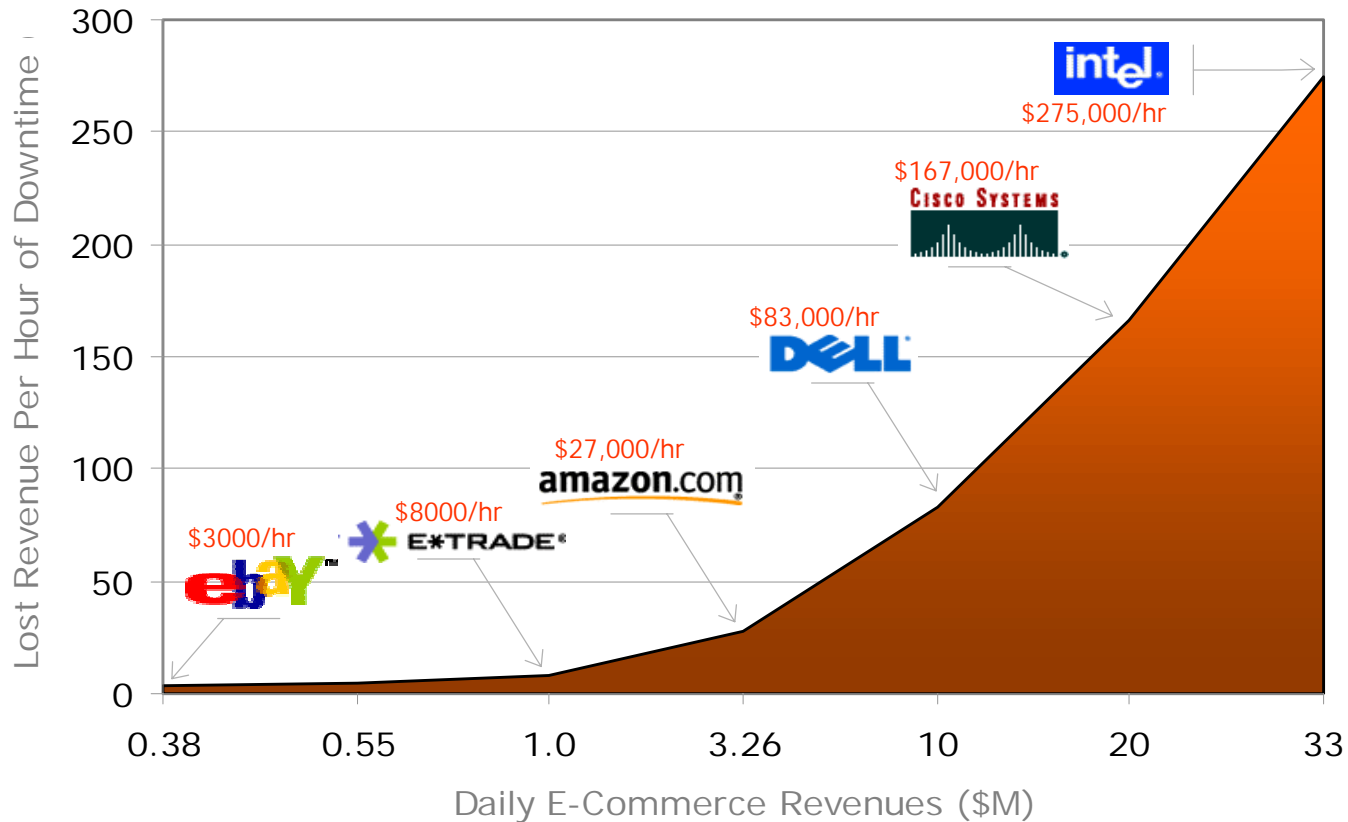
Environment: Client can sustain a maximum of 48-72 hours of downtime; low probability of regional disasters.

Problem: Regulation requires a backup and recovery plan be in place.

HP Solution: HP Consulting Business Impact Analysis
MCM MetroCluster
BRS Basic

BACKUP SLIDES

What's the cost of E-commerce downtime?



Sources: Forrester Research and company 10-Q reports (March 1999)

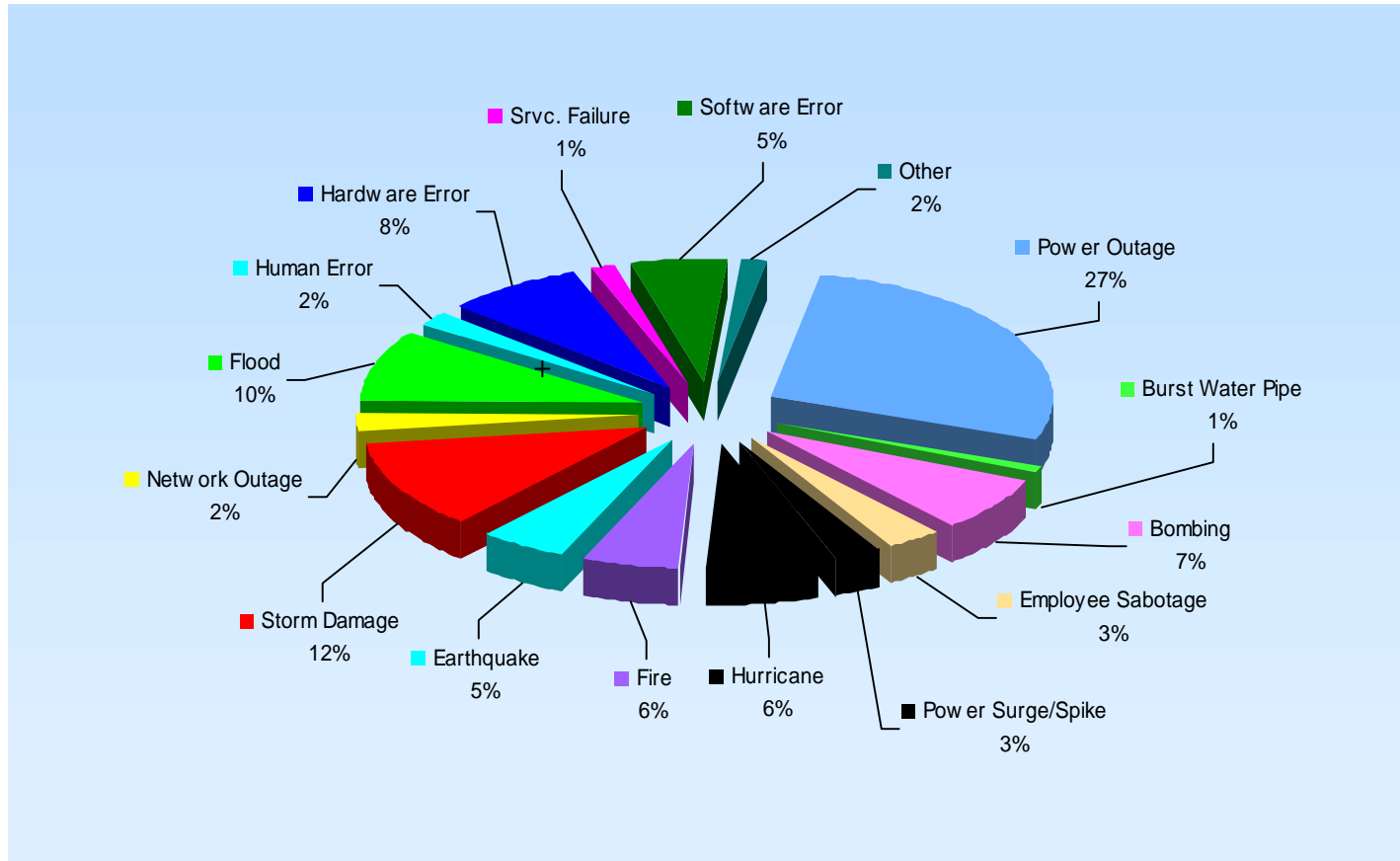
* The methodology used assumes 20% of transactions are lost during downtime and does not account for brand erosion and decreased customer satisfaction.

Average Hourly Cost of Downtime

• Brokerage / Large E-commerce	\$6,400k
• Credit Card Authorization	\$2,600k
• Enterprise Resource Planning	\$780k
• Telecommunications	\$320k
• Telesales Promotions	\$200k
• Transportation	\$100k

Source: Contingency Planning & Research

Recovery Industry Experience



MOST COMMON OUTAGE INCIDENTS NATIONALLY (USA)

Source: Contingency Planning Research, Inc.
Based on 5,320 Outage Incidents Since 1982
(01/30/95)

What can happen?

- Fire
- Flood
- Theft
- Terrorist attack
- Hurricane
- Lightning
- Software failure
- Hardware failure
- Malicious damage
- Virus attack

Or...

... anything that keeps you and your systems apart



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