Orchestrating a brighter world NEC

ExpressCluster for Physical Security Applications

Security Continuity Challenges and Needs

Critical Security Application Services and Data

The Backbone of Physical Security Systems

Network Video

Ex: video enhanced (e.g. tailgating) access control

Alarm Monitoring

Access Control

Security Application

Ex: mobile PDA/smartphone security monitoring

Global Alerts

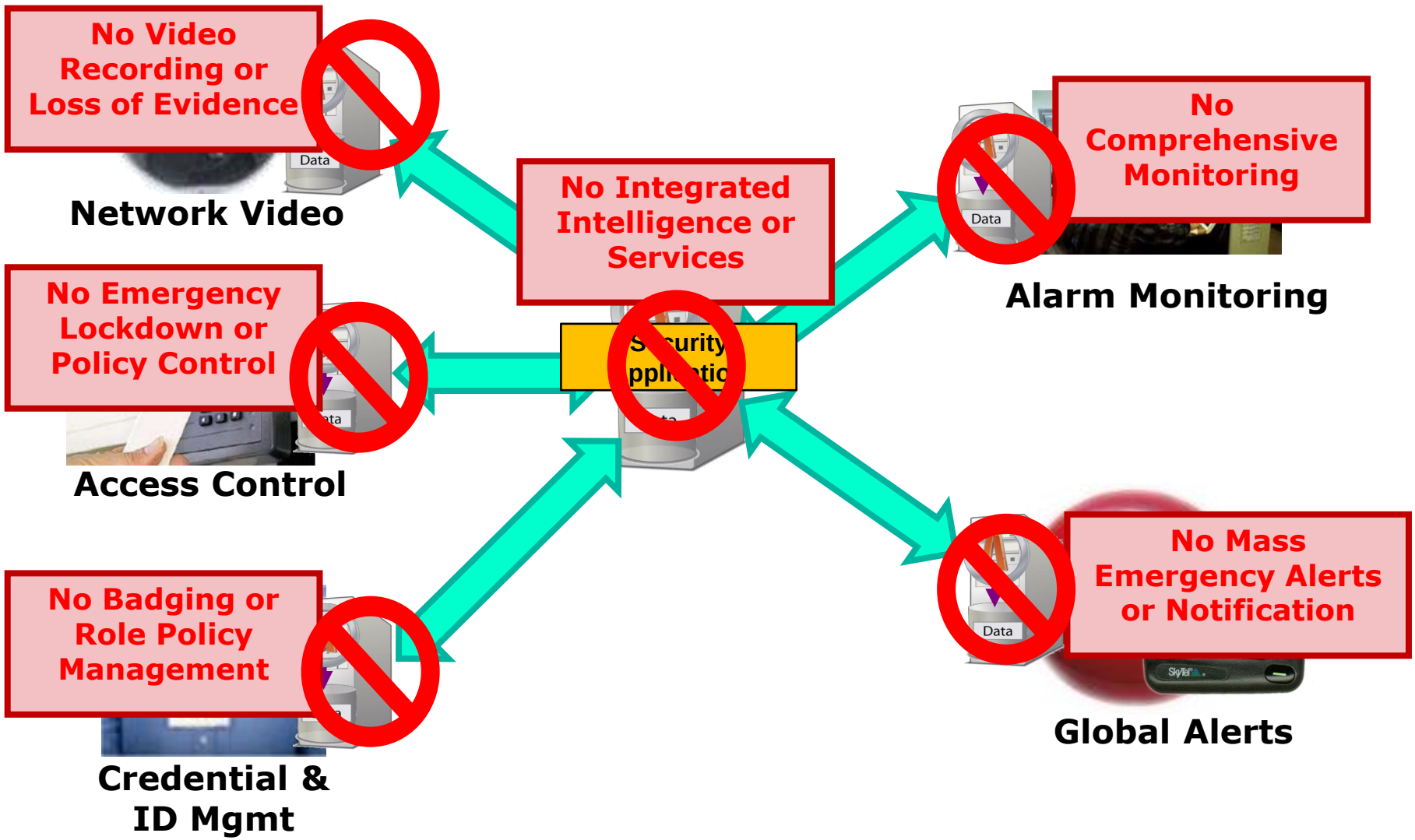
Credential & ID Mgmt

Ex: multi-factor and biometric authentication for access control

Ex: role-based custom alerts and notification

Critical Security Application & Data Outage Impact

Loss of Vital Security Visibility, Control and Automation

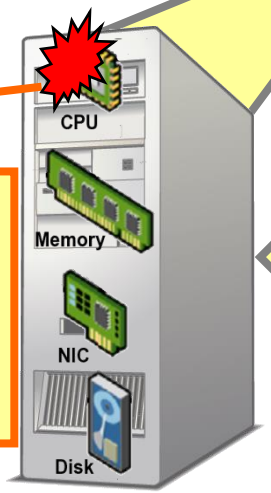


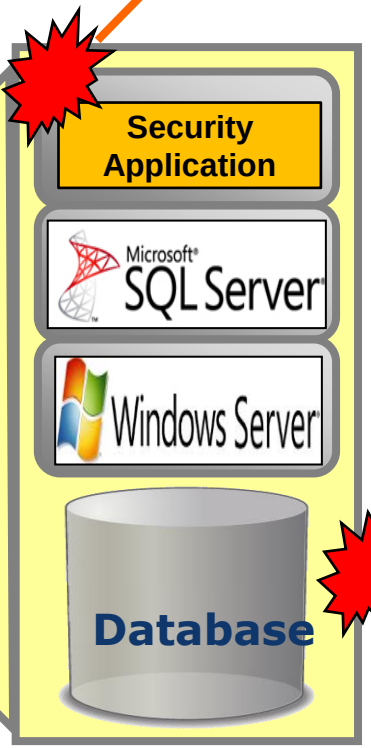
Security System Outage Risks

Many Potential Causes of System Outage

Site Outage
Ex: storm, WAN cable cut, sabotage

Software Outage
Ex: application crash, OS security patch update





Hardware Outage
Ex: disk controller failure, stolen video recorder/server in robbery

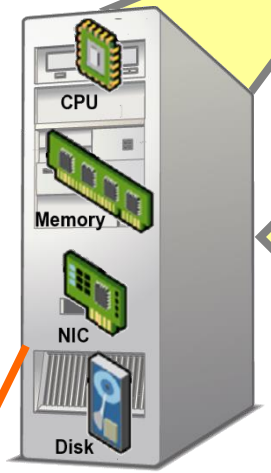
Resource Outage
Ex: out of disk space, network saturation due to virus

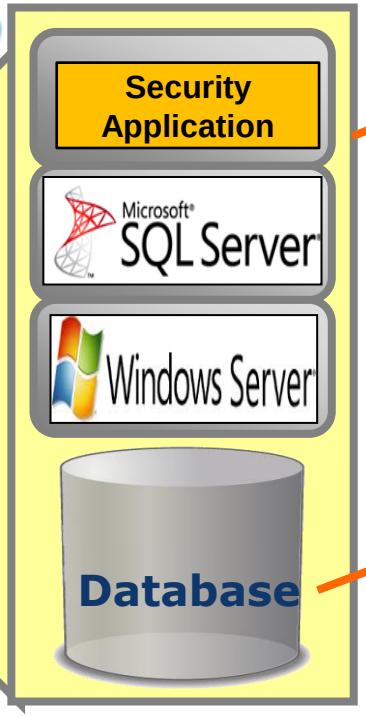
Common Security System Continuity Challenges

Disparate Point Solutions and Slow Recovery

Systems
- *Difficult and slow manual recovery of multiple systems*

Site
- *Recovery across sites requires extensive manual process*





Software
- *Point solutions requires manual coordination with data recovery*

Hardware
- *Idle standby hardware requires manual recovery and not easy to test or use for productive work*

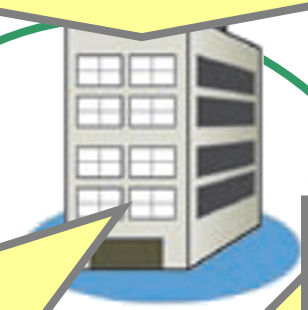
Data
- *Point solutions provides only recovery of limited data types*

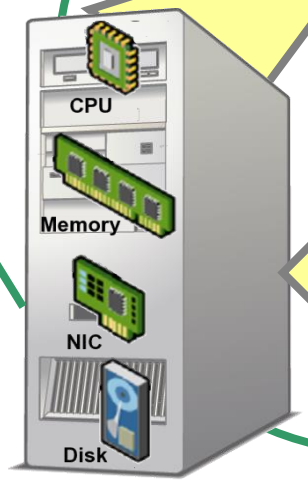
Critical Security System Continuity Needs

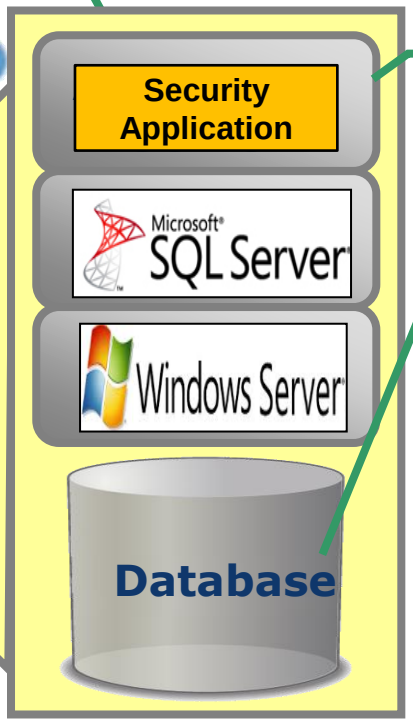
Comprehensive and Automated Recovery Solutions

Unified solution to address HW, SW, resource, and site failures

Extensible solution to automate fast recovery of all interdependent systems







Fast application, DB and OS service recovery

Flexible and minimized resource requirements

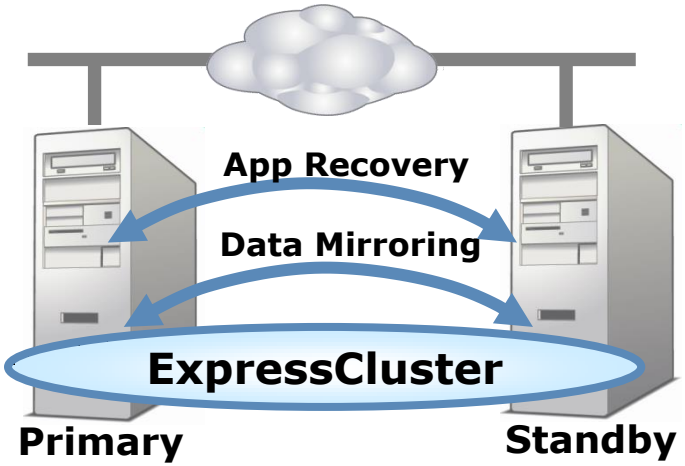
Fast data content and access recovery with little or no data loss

Common App Server, DB Server, OS, and HW support

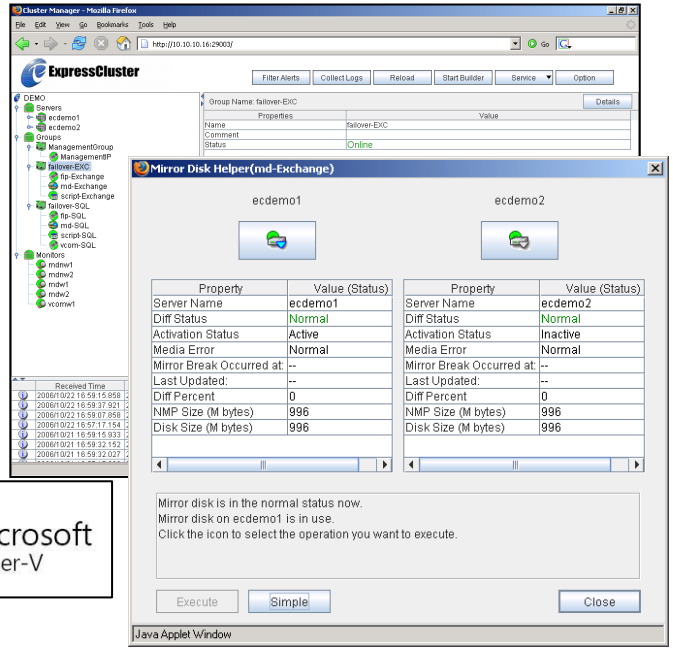
NEC ExpressCluster Software Overview

ExpressCluster Overview

Application redundancy software for fully automated recovery of critical application systems from hardware, software and site failures to avoid serious business disruption and damage

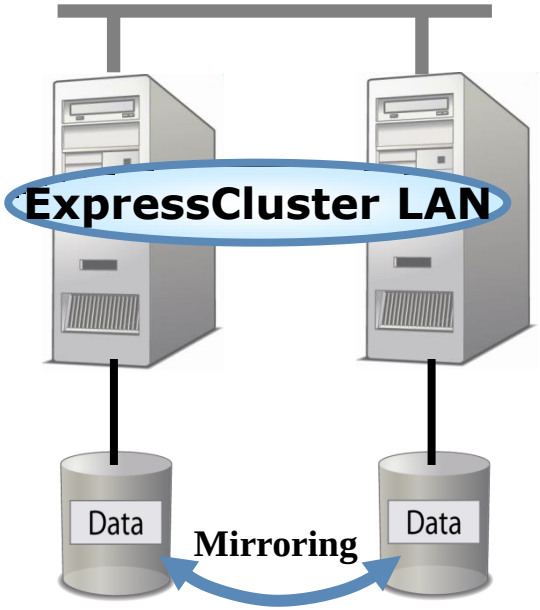


- Fast recovery of applications and data within minutes of hardware, software and site failures across local and remote locations to ensure business continuity.
- Unified simple-to-use web-based management for easy monitoring, configuration and testing.
- Low solution cost with support of industry standard hardware and network infrastructure and economical standard application, OS and virtualization software.



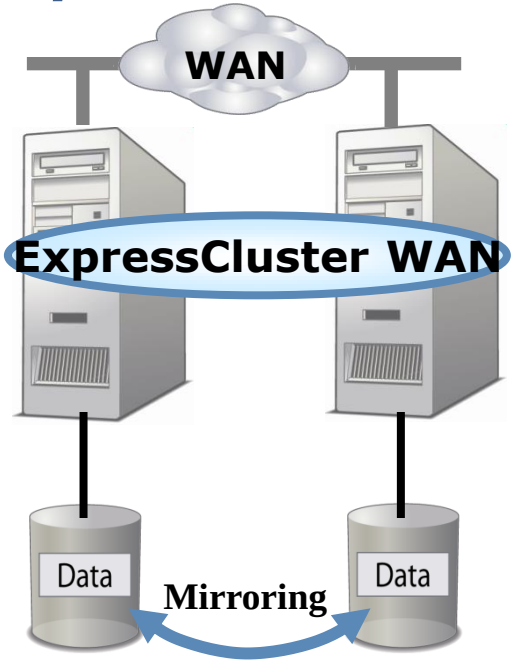
Core ExpressCluster Products for Security Systems

ExpressCluster LAN



- **Local Redundancy**
  - **Low cost local high availability**
  - **Synch data mirroring**
  - **No shared storage required**
  - **Single IP network support**

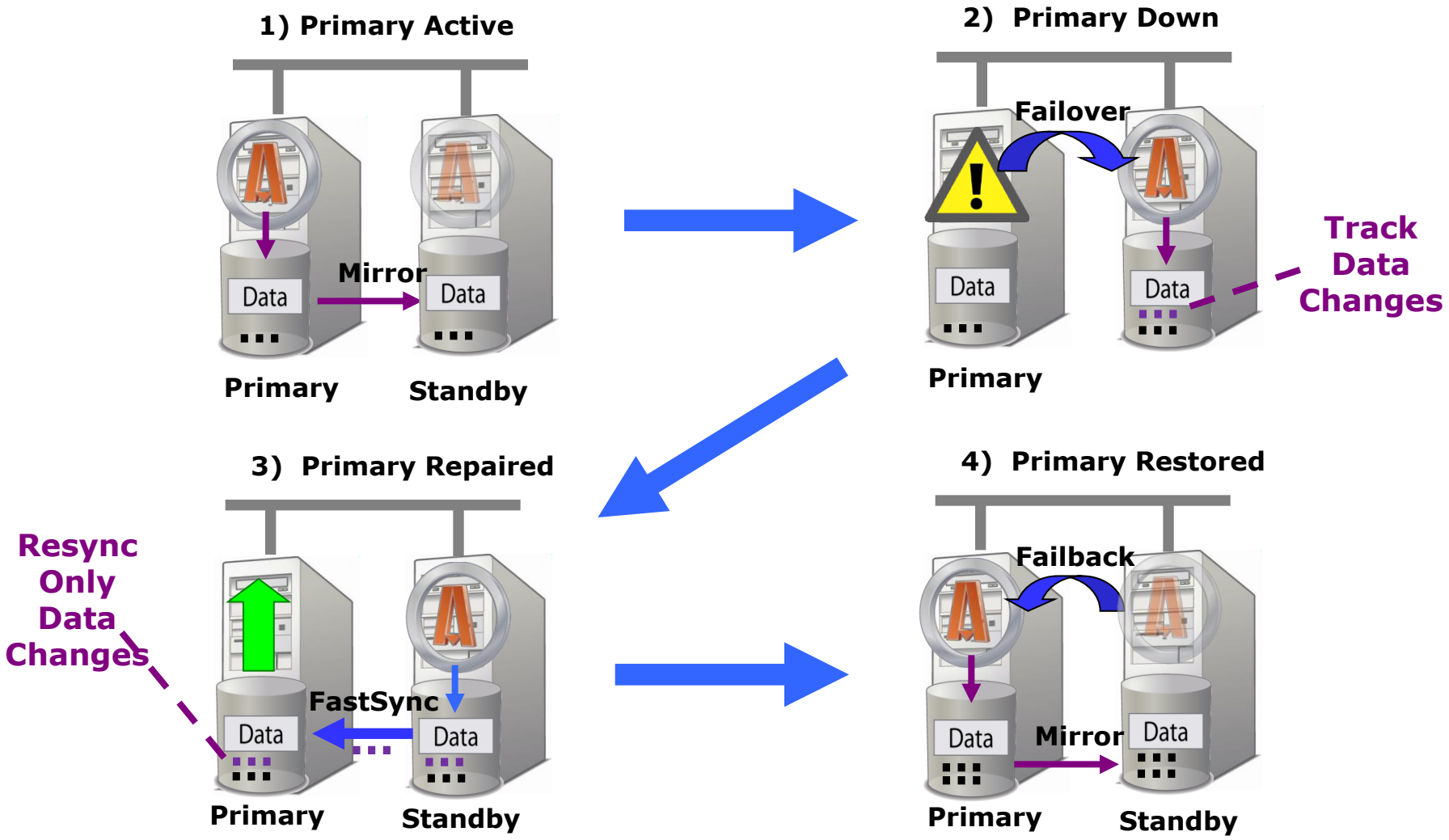
ExpressCluster WAN



- **Remote Redundancy**
  - **Auto remote disaster recovery**
  - **Sync or async data mirroring**
  - **Low bandwidth and long distance WAN support**
  - **Multiple IP networks support**

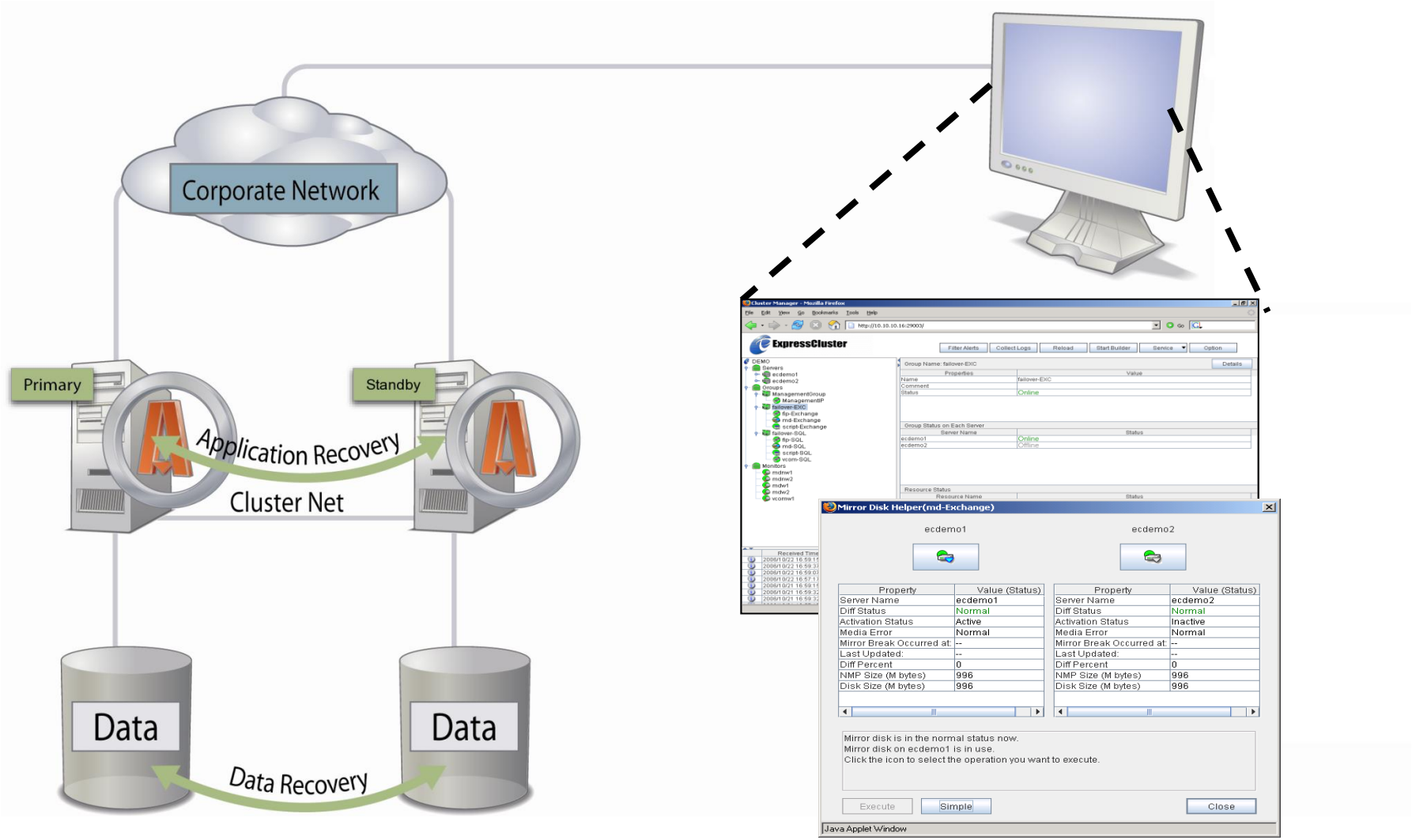
Minimize Unplanned Outages

Fast Automatic Recovery From HW, SW, and Site Failures



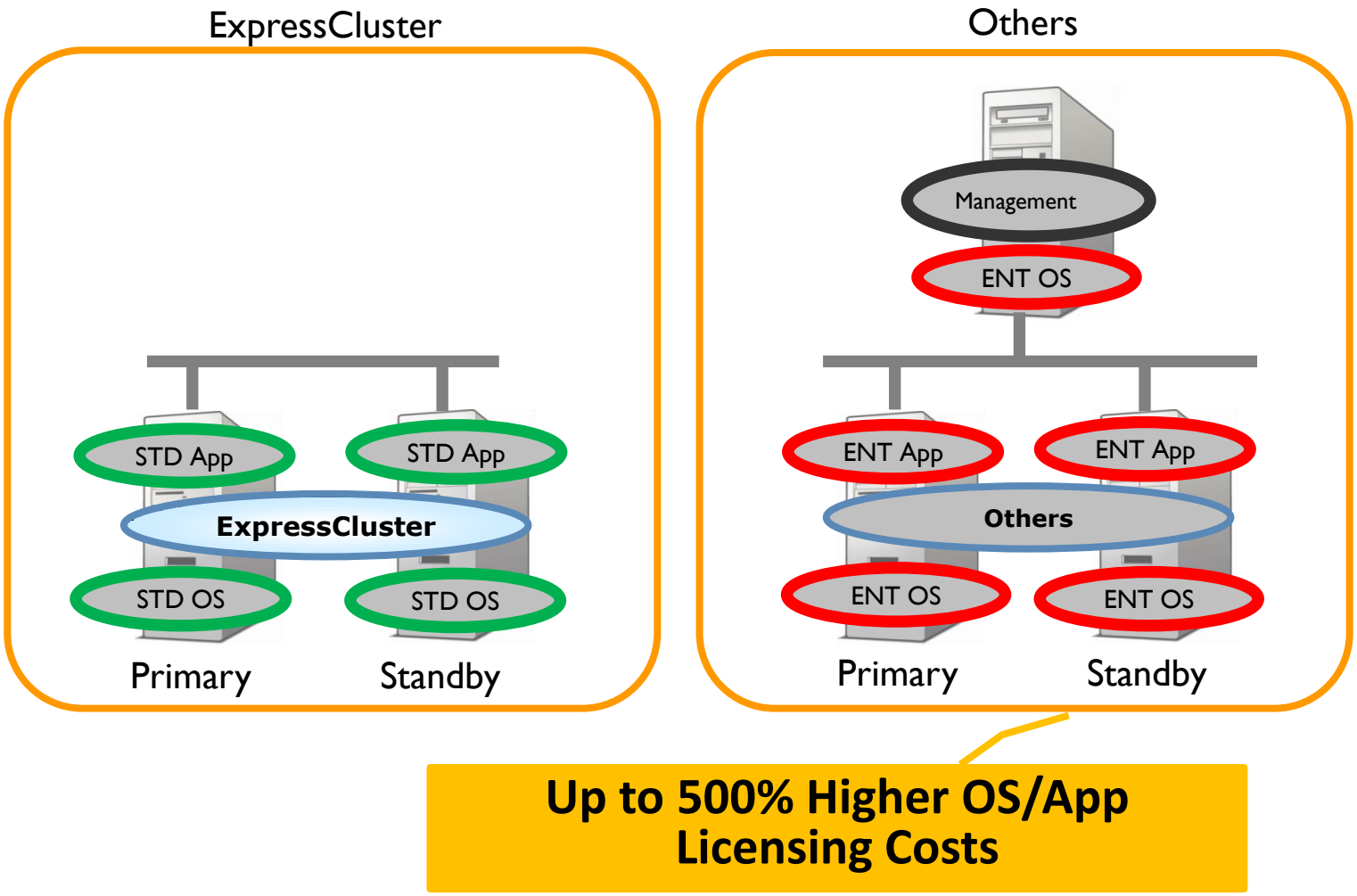
Integrated Application and Data Recovery

Minimized Deployment and Operational Costs



Minimized OS/Application Total Cost of Ownership

Standard and Premium Edition OS/Application Support

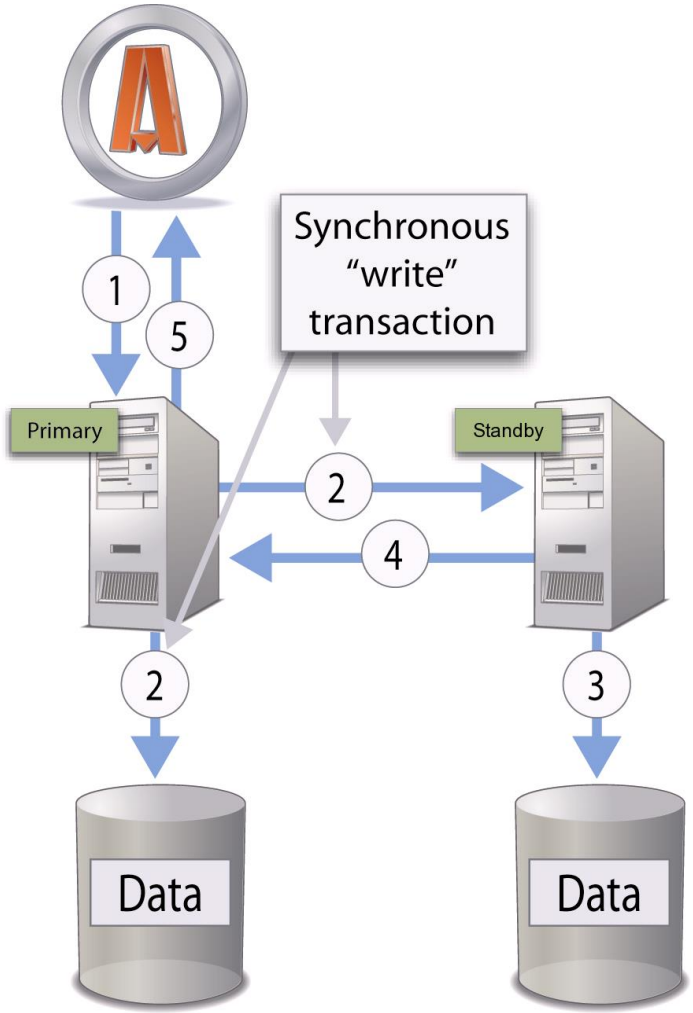


Synchronous Data Mirroring

WAN/LAN

Full Data Protection in LAN and WAN Environment

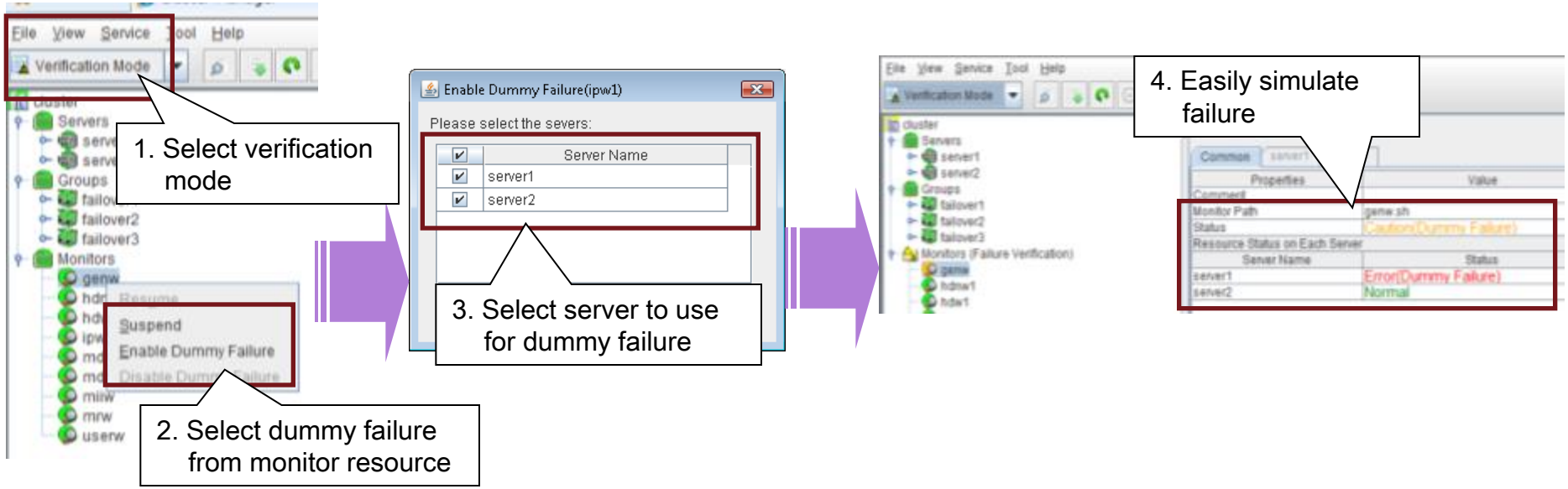
1) Primary receives a "write" request from App
2) Primary writes data to disk and forwards write data to Standby.
3) Standby writes data to its own disk.
4) Standby sends the result to Primary.
5) Primary receives the result from Standby and returns the result of the "write" back App.



Quick and Easy System Recovery Testing

Granular Failure Simulation Simplifies System Testing

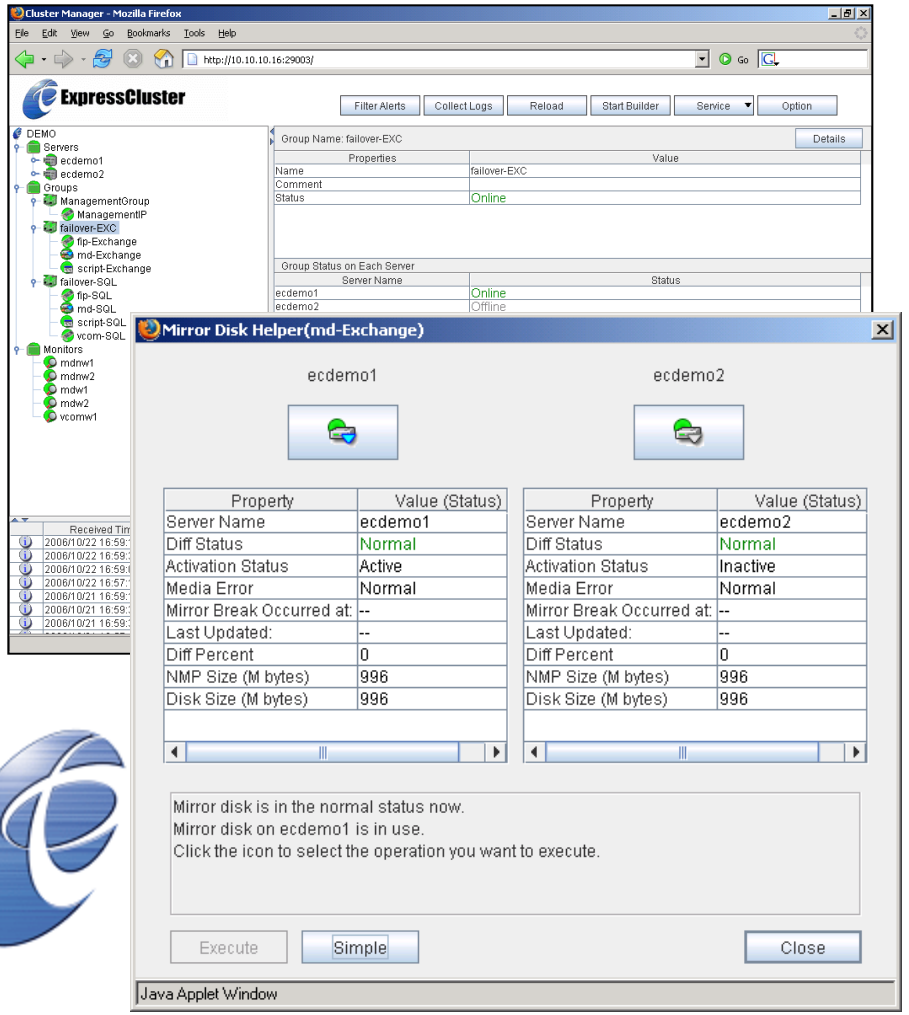
- "Verification Mode" in the management console
- Early discovery of misconfiguration and assurance of functional resources.



ExpressCluster Value Proposition

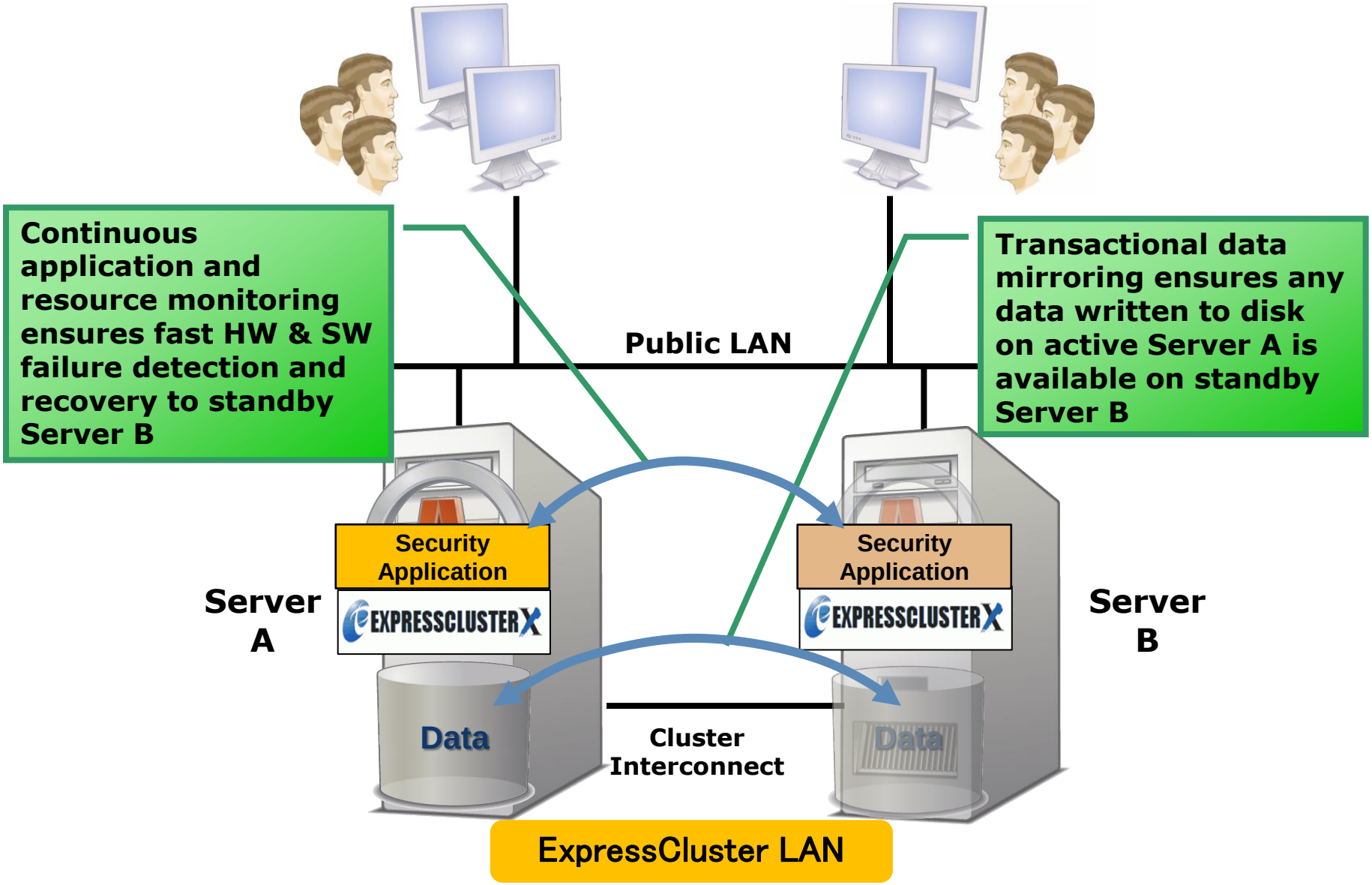
Comprehensive System Continuity Solutions

- ***Superior Performance***
  - Fast and automatic system recovery
  - Real-time transactional data mirroring
- ***Superior Usability***
  - Unified management of all protected applications and data stores
  - Transparent virtual server identity migration requires no client reconfiguration
- ***Superior Cost of Ownership***
  - Standard OS/applications support
  - Low bandwidth network support
  - Active/active configurations support

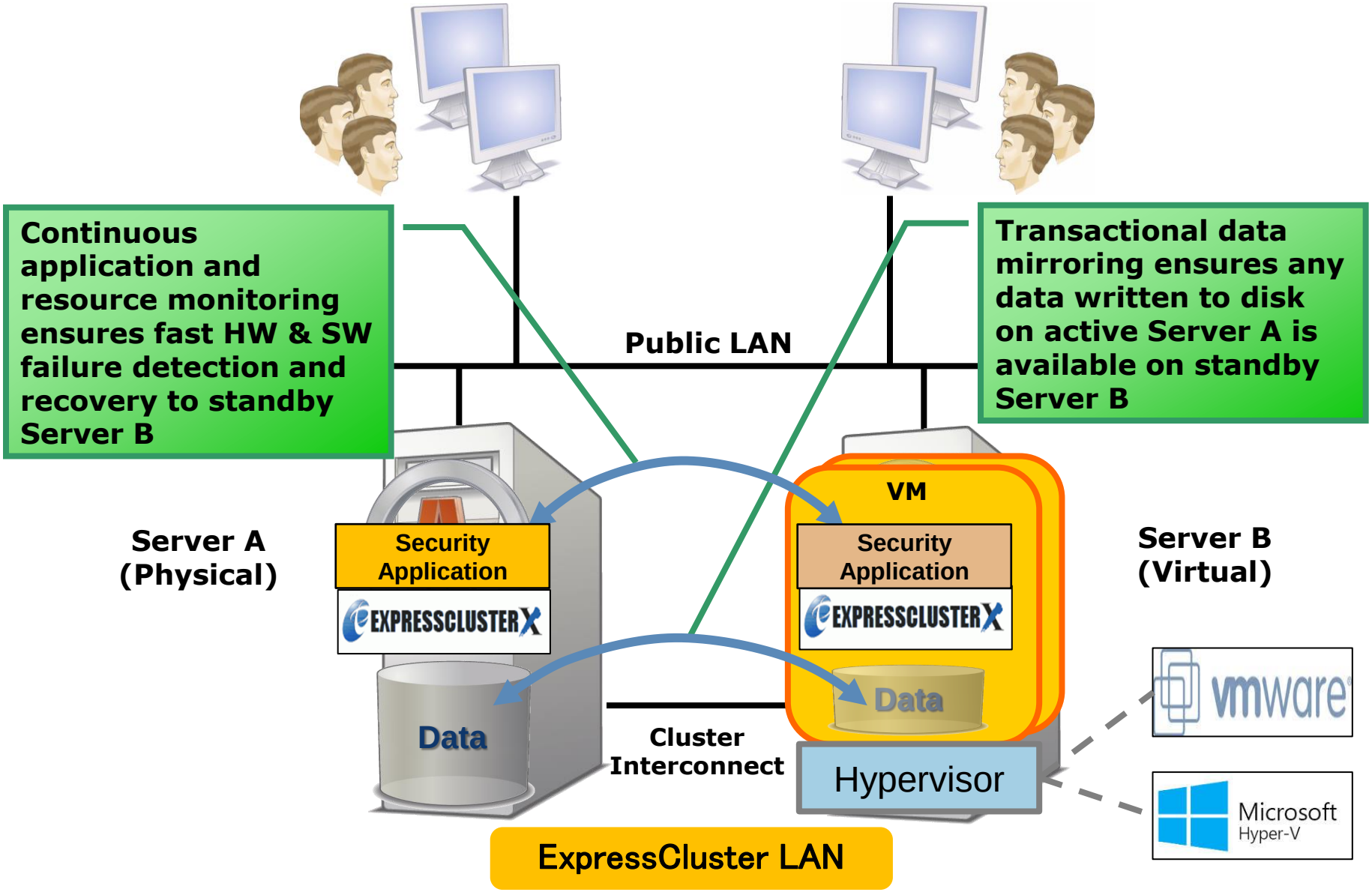


Sample Solutions

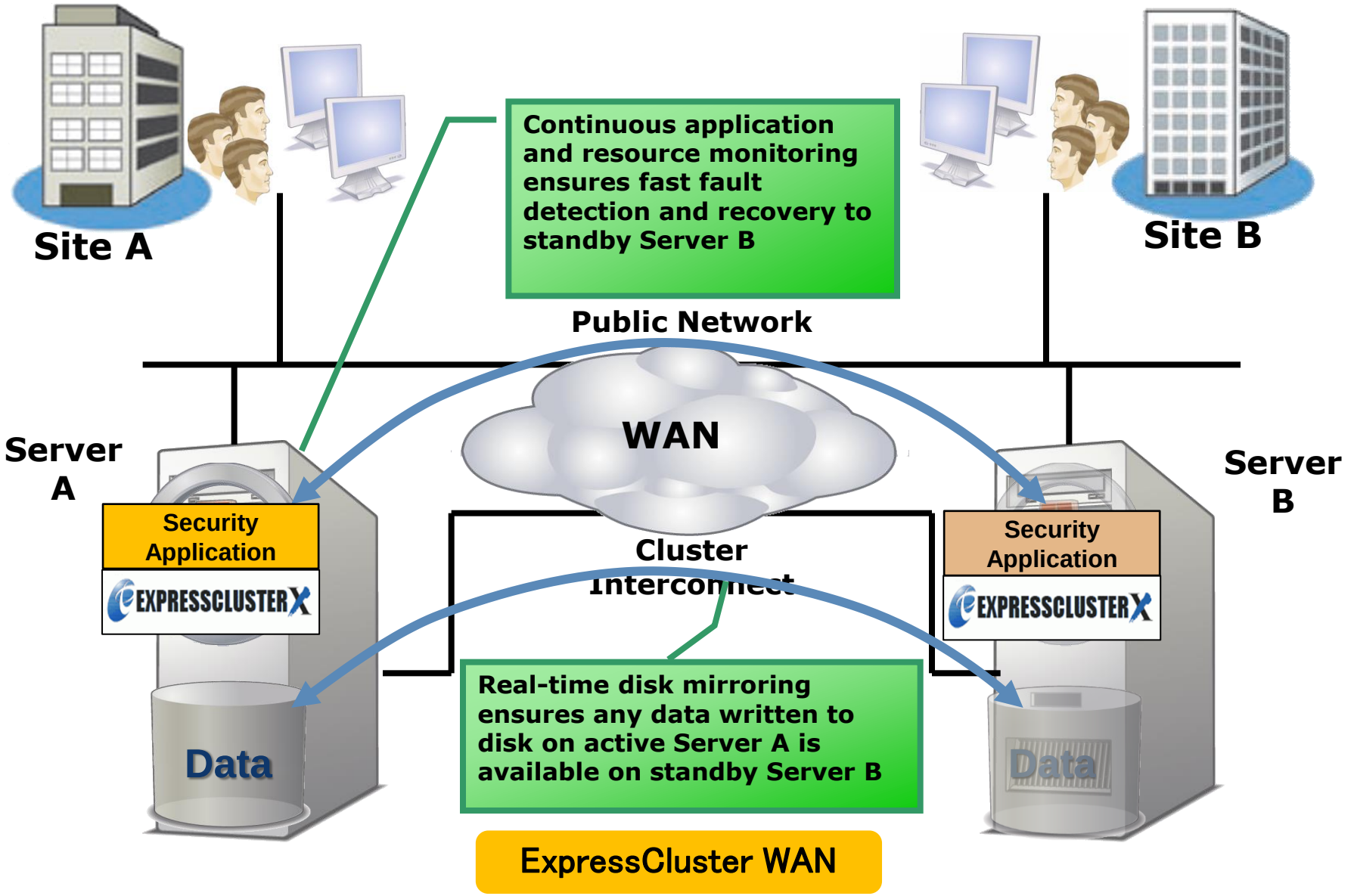
Local High Availability (HA) Solution



Physical/Virtual High Availability (HA) Solution



Remote Disaster Recovery (DR) Solution

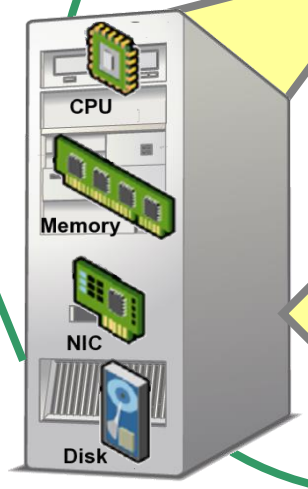


Most Comprehensive Redundancy Solutions

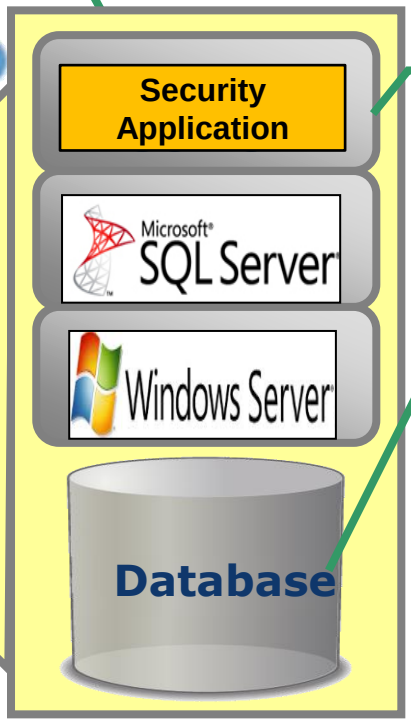
Fast and Automated Recovery from All Failures

Integrated continuity management for critical systems

Easy extensibility to accommodate recovery of multiple interdependent systems



Flexible deployment options for optimized resource utilization



Fast recovery for packaged and custom application services and resources

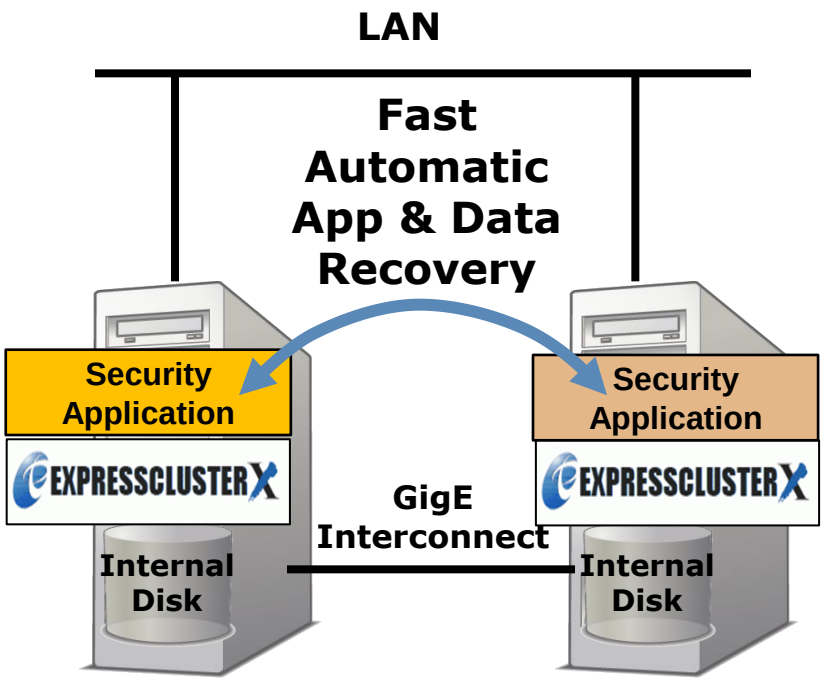
Continuous disk mirroring ensures maximum data protection

Standard OS, app, and DB, storage HW, and network support

Case Studies

Case Study (Local High Availability)

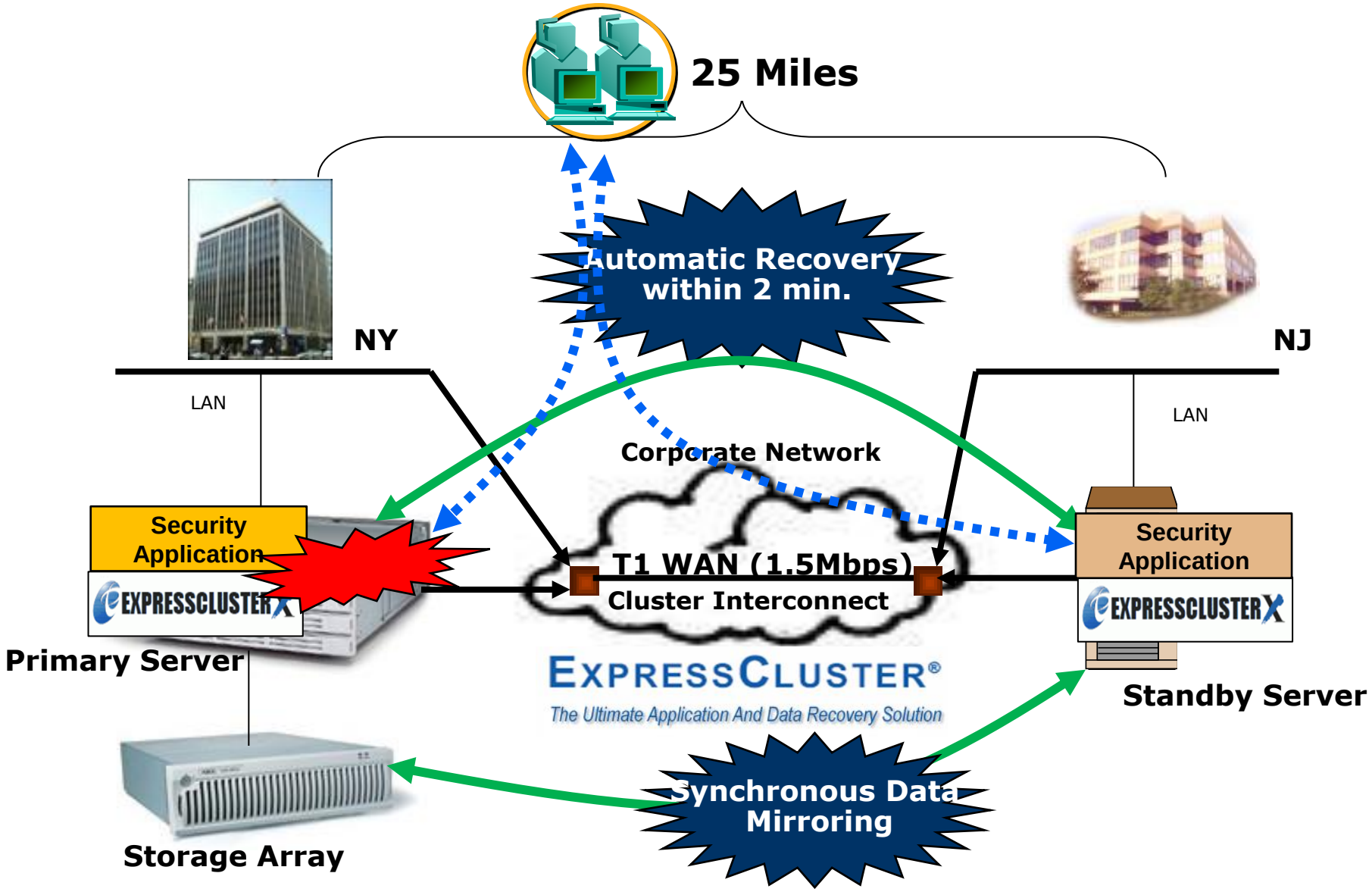
- Large metropolitan railroad transportation company
  - Over 7 million monthly ridership
- Key Needs and Challenges
  - Critical access control servers in locations without IT staff require fast automated recovery against HW & SW failures to avoid security lapse
- Solution
  - NEC ExpressCluster LAN
  - General Purpose Intel Servers
  - Security Mgmt System



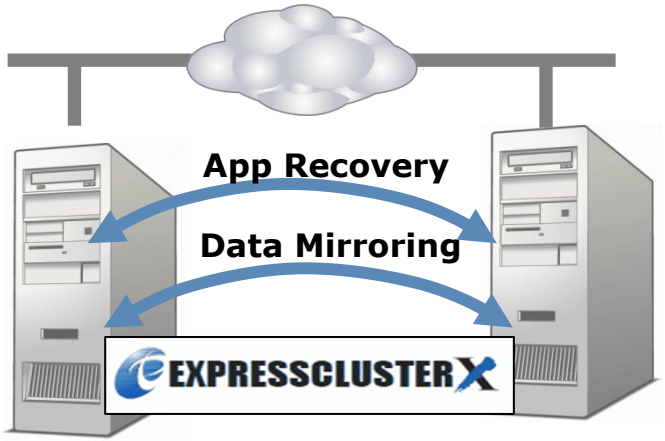
Case Study (Remote Disaster Recovery) 1/2

- US Government Agency SmartCard Access Control System
  - Large space: 3.5 million square feet in New York
  - Far reaching: 35 federal agencies
  - High volume: 13,000 employees and contractors
- Key Needs and Challenges
  - The post-9/11 world requires enhanced access control security – fast disaster recovery is essential to ensure access control continuity
  - Continuous monitoring and preservation of access event records are absolutely necessary for real-time and post-disaster analysis
- Solution
  - NEC ExpressCluster WAN
  - 2-way Intel® Xeon® Servers
  - Security Mgmt System

Case Study (Remote Disaster Recovery) 2/2



Summary



- Fast automated recovery from hardware, software and site failures in few minutes within same or different sites
- 99.99% availability for software and hardware
- Supports industry standard OS, applications, server, storage and networks
- Easily reuse existing equipment and infrastructure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