Increasing Operational Capabilities & Improving Risk Management in Financial Institutions

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What is a Risk ?

What Is Operational Risk?

IT Risk
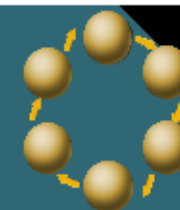
IT Security and Availability

Operational Risk

IT related risks are (just) one part of operational risks, but accounting for a major part of severe losses…

Financial Services Institutions Need

- **Loss Prevention**

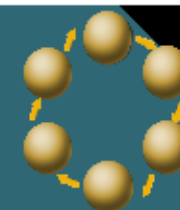- **Business Continuity**

- **Operational Risk Management**

Institution Needs: Loss Prevention

Business Type	Brokerage Firm	Credit Card Authorization Company	Automated Teller Machines	Major Online Auction Site
Exposure / hour	$6.5Million / hr	$2.6Million / hr	$ 14'500 / hr in fees	$ 70'000 / hr
Exposure / per 5 min ("99.999%")	$542k	$217k	$1.2k	$5.8k

Source:
"Electronic Security: Risk Mitigation in Financial Transactions,"
The World Bank, Thomas
Glaessner, Tom Kellermann, Valerie McNevin, June 2002.

Institution Needs: Business Continuity

- Device availability

- Network path availability

- End user service availability

Percent Availability	N-Nines	Downtime Time Minutes/Year	Qualitative Term
99%	2-Nines	5,000 Min/Yr	
99.9%	3-Nines	500 Min/Yr	Well-Managed
99.99%	4-Nines	50 Min/Yr	Highly Available
99.999%	5-Nines	5 Min/Yr	Carrier Class
99.9999%	6-Nines	.5 Min/Yr	Extremely Highly Available

What IT can do for Risk Management

Technology is a:

- _Tool for Risk Simulation and Measurement_

- _Tool for Risk Reduction and Mitigation_

IT for Risk Reduction and Mitigation

" CitiFinancial … is notifying 3.9 million customers that unencrypted tapes containing their personal financial data have been lost while in transit … by the bank's third party courier, UPS. "

" The bank says it provides this information each month to credit bureaus … but as of next month, the information … will be sent electronically in encrypted form. "

Finextra published
06/06/2005

IMPROVE RISK MANAGEMENT &

INCREASING OPERATIONAL CAPABILITIES
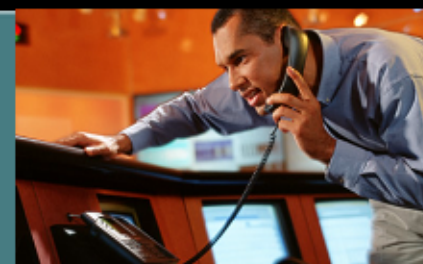
CISCO RESPONSE &
VALUE PROPOSITION

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Operational Risk Management
Cisco Response

Business Continuity
- Data Continuity
- Voice Continuity
- Facilities Mgmt
- Crisis Mgmt

Business Security
- IT Security
- "IP" Physical Security

Recording & Archiving
- Data Retention & Consolidation
- Voice & Video Recording
- Information Retrieval

Knowledge Management
- e-learning
- GAP Analysis
- Policies and Processes Enforcement

Operational Risk Management
Business Security

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11

Major Segments of Security

Access Control

Video Surveillance

IT Security

Visitor and ID Management

Intrusion Detection

Public Announcement

Fire Alarm

Deploy Security as an Integrated System

Secured Doors and Vaults

Firewalls and Router ACLs

Surveillance and Alarms

Network and Host-based Intrusion Detection

Patrolling Security Guard
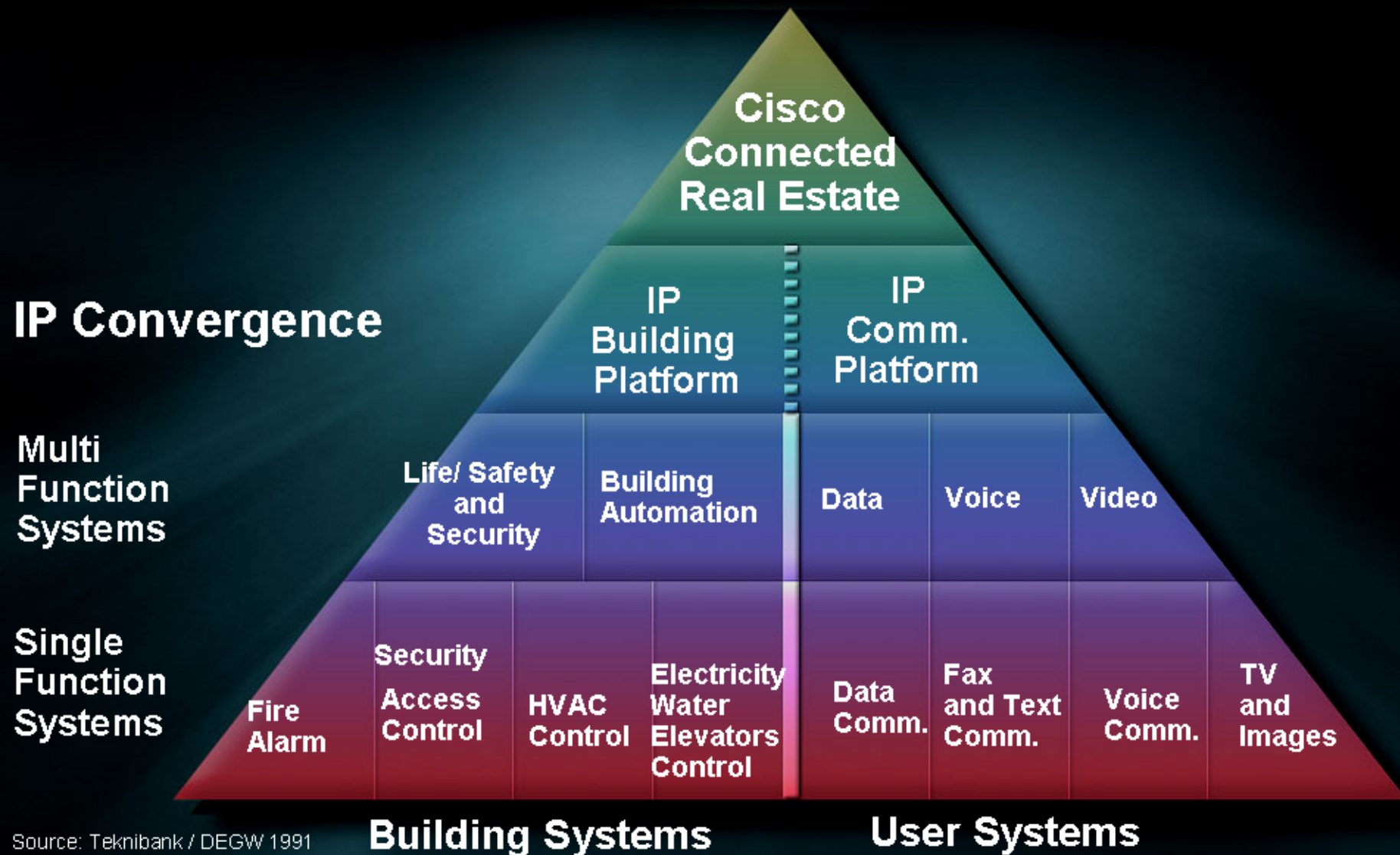
Cisco Security Agent
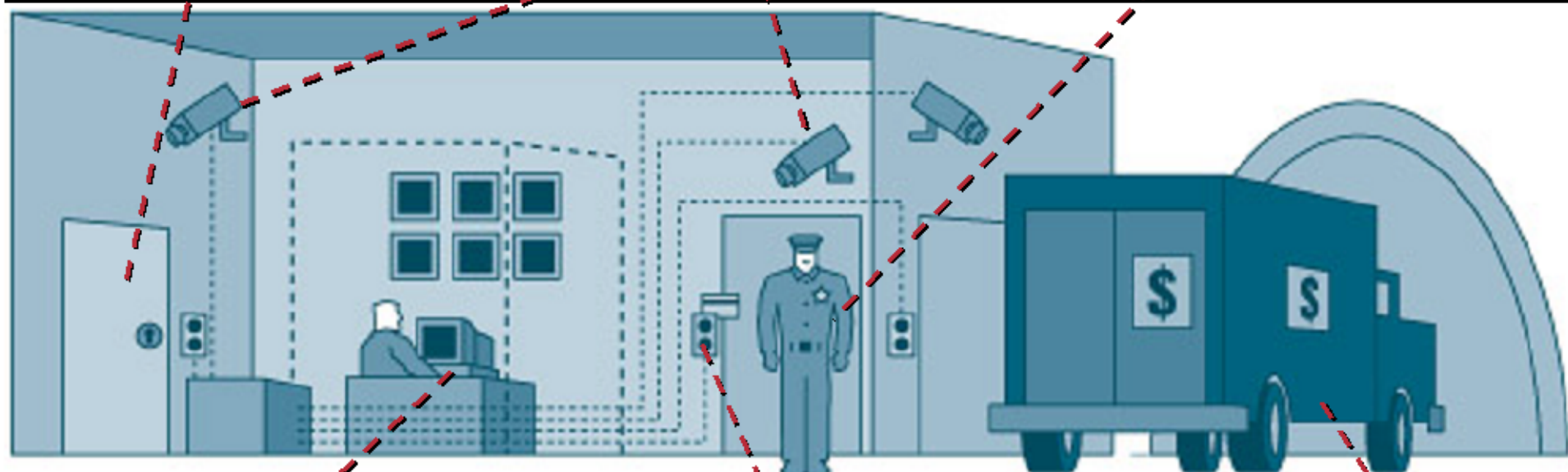
Security Room CCTV

Centralized Security and Policy Management

Card Readers

Identity, AAA, Access Control Servers and Certificate Authorities

Secure Transport

Encryption and Virtual Private Networks (VPN's)
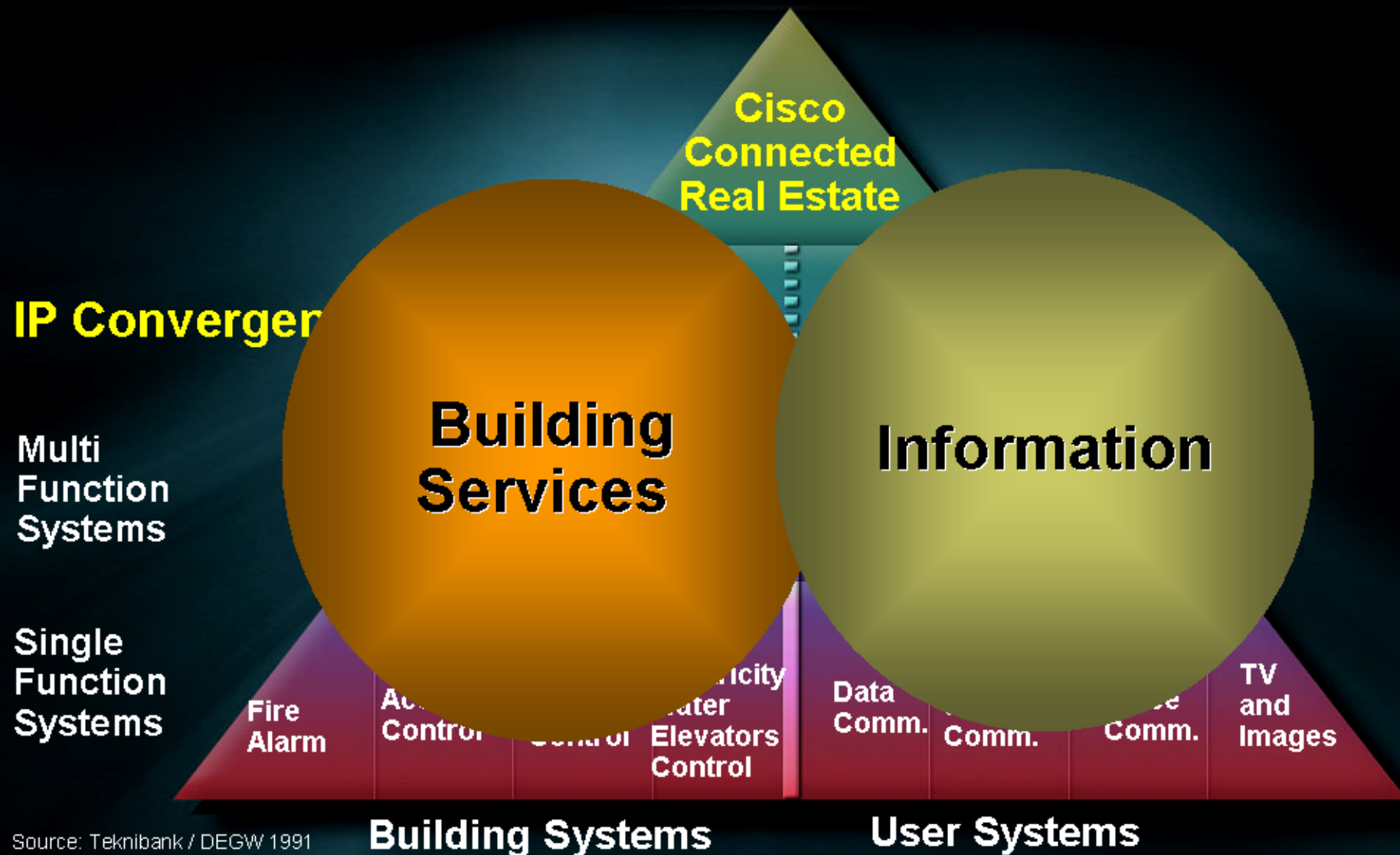
Business Continuity
Cisco Connected Real Estate

IP Convergence

Multi Function Systems

Single Function Systems

Cisco Connected Real Estate

| IP Building Platform | IP Comm. Platform |

| Life/ Safety and Security | Building Automation | Data | Voice | Video |

| Fire Alarm | Security Access Control | HVAC Control | Electricity Water Elevators Control | Data Comm. | Fax and Text Comm. | Voice Comm. | TV and Images |

Building Systems   **User Systems**

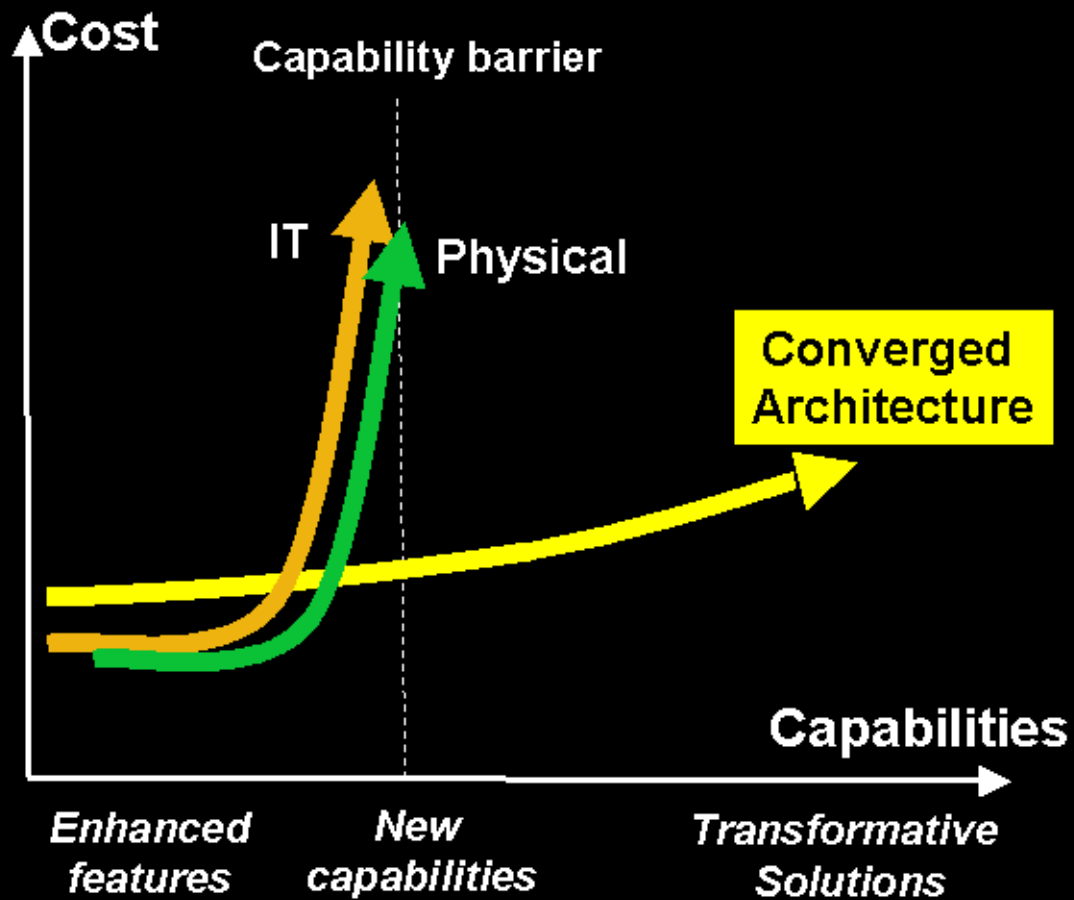Source: Teknibank / DEGW 1991

"IP Enhanced" Physical Security

- Optimise surveillance process

  ➢ IP Improves process vs VCR tapes

  ➢ Centralise surveillance
    & storage of any location

- Providing

  ➢ Alarms & Triggers

  ➢ Immediate access to archives

  ➢ Wireless and/or remote availability
    for 3rd parties (f.i police, sec., etc)

  ➢ Elimination of manual intervention

Business Security

Cost

Capability barrier

IT   Physical

Converged Architecture

Capabilities

Enhanced features   New capabilities   Transformative Solutions

Business Security
Security Convergence Gets Real

" Growing numbers of organizations are recognizing the natural economies of scale and operational efficiencies available when physical security teams work with similar, complementary IT security groups"

" In 2005, companies in Europe and North America will increase spending nearly threefold on projects that combine traditional security controls with IT Security."

Forrester Research, Inc. – Steve Hunt
Trends 2005: Security convergence gets real

Cisco Business Security Summary

- **Detection & prevention not only at firewall but built into every devise providing external and internal integrated End-End Security Protection**

- **Identify suspicious attacks through behavior detection & take appropriate action before damage is caused**

- **IT and Physical Security Convergence**

- **Cisco Self Defending Network provides capital and operational cost reduction (3 – 6 times)**

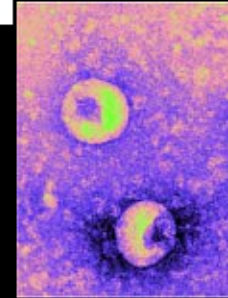**Operational Risk Management
Business Continuity**

Business Resilience

- **YOU NEED TO:**

- **Allows business to continue despite severe interruptions**

- **Include from the entire network to the applications**

- **Operate business as usual even though all employees cannot be centralize at the office**

Foreseeable threats

- ## WTO meeting in Hong Kong

  Business disruption in Hong Kong Island

- ## Avian Flu or Reoccurrence of SARS

  Security, Health, Environment

- ## Natural Disaster

  Hurricane, Storm or earthquake…

BCP in office place
Anytime Access Wherever They Are…

Virtualization

Giving Users Access to Their Communications Environment, Regardless of Location

Always Connected, Leveraging…

- Wireless access
- PC Softphones
- Mobile devices
- Email services
- Message notification services
- Rich Media Collaboration

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Next Generation Communication Solution Benefits

- Enhanced productivity & Customer Satisfaction

- Operational Agility & Business Continuity

  Ubiquitous access to services for all users

  Anytime, Anywhere (contingency planning)

- Lower total cost of ownership

  Reduced capital layout in new sites

  Big operational savings over time

Planning for Disaster Recovery

Business Need

Technology Enablers

Enable Non-stop E-Business Applications → **Highly Available E-Business Data Center Infrastructure**

Ensure Rapid Recovery for Mission-critical Information and Systems → **Synchronous Disk Mirroring And Data Center Mirroring**

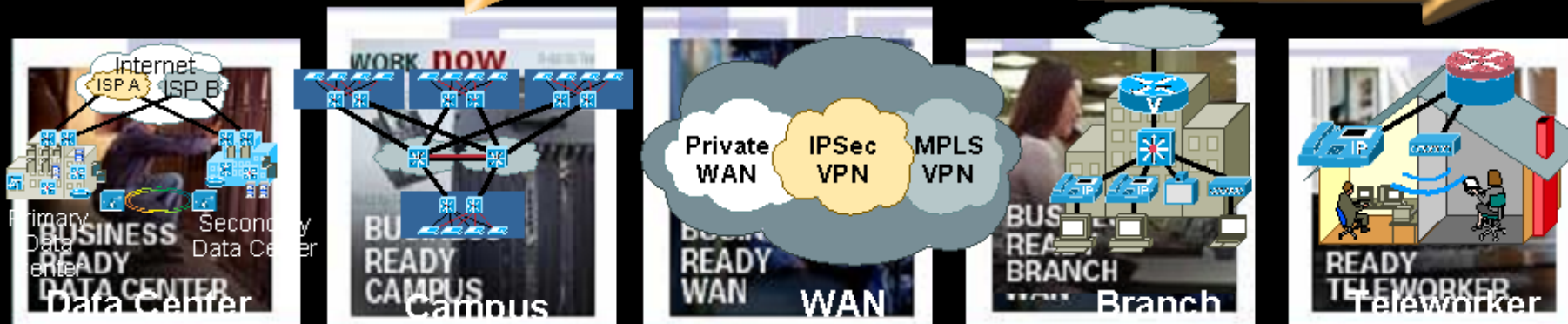**Protect Distributed Corporate Information Assets** → **Remote Data Replication and Consolidated Backup**

Business Continuity
Across the Entire IT Organization

Gain Compliance & Avoid Losses

INTEGRATED SECURITY

Internet
ISP A   ISP B

Primary Data Center   Secondary Data Center

BUSINESS READY DATA CENTER   **Data Center**

WORK now

BU READY CAMPUS   **Campus**

Private WAN   IPSec VPN   MPLS VPN

BUSI READY WAN   **WAN**

BUS REA BRANCH   **Branch**

READY TELEWORKER   **Teleworker**

CONVERGED INFRASTRUCTURE

Optimize Processes & Contain Costs

Business Continuity
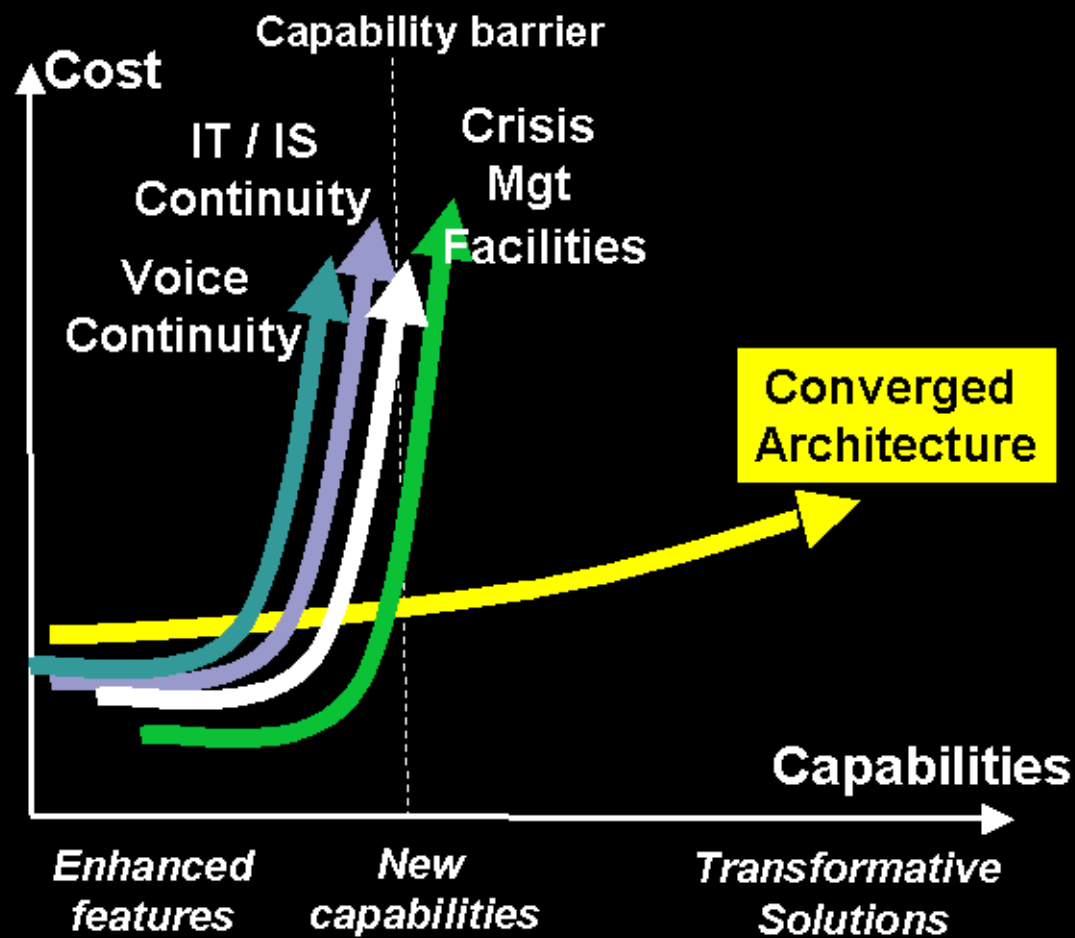
Operational Risk Management
Knowledge Management

Knowledge Management

Challenges

Compliance reporting and management visibility

Learner engagement and completion

Rapid, global, consistent training and knowledge sharing

Corporate agility / Competitive Advantage

Responses

Corporate-wide Learning Management System (LMS)

Make it fun, relevant *and* educational

Re-usable templates and processes, highly collaborative teams

Just-in-time communication and training

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Operational Risk Management
Data & Voice Archiving

Sarbanes Oxley: At its core …

- Sarbanes holds public companies & their chief executives primarily responsible for the integrity of the internal controls/structures that monitor their financial reporting processes & procedures

- It is a felony to "knowingly" destroy, alter, mutilate or create documents to "impede, obstruct or influence" any existing or contemplated corporate audit or federal investigation/bankruptcy records

- Violations of law are punishable by fine and/or prison terms
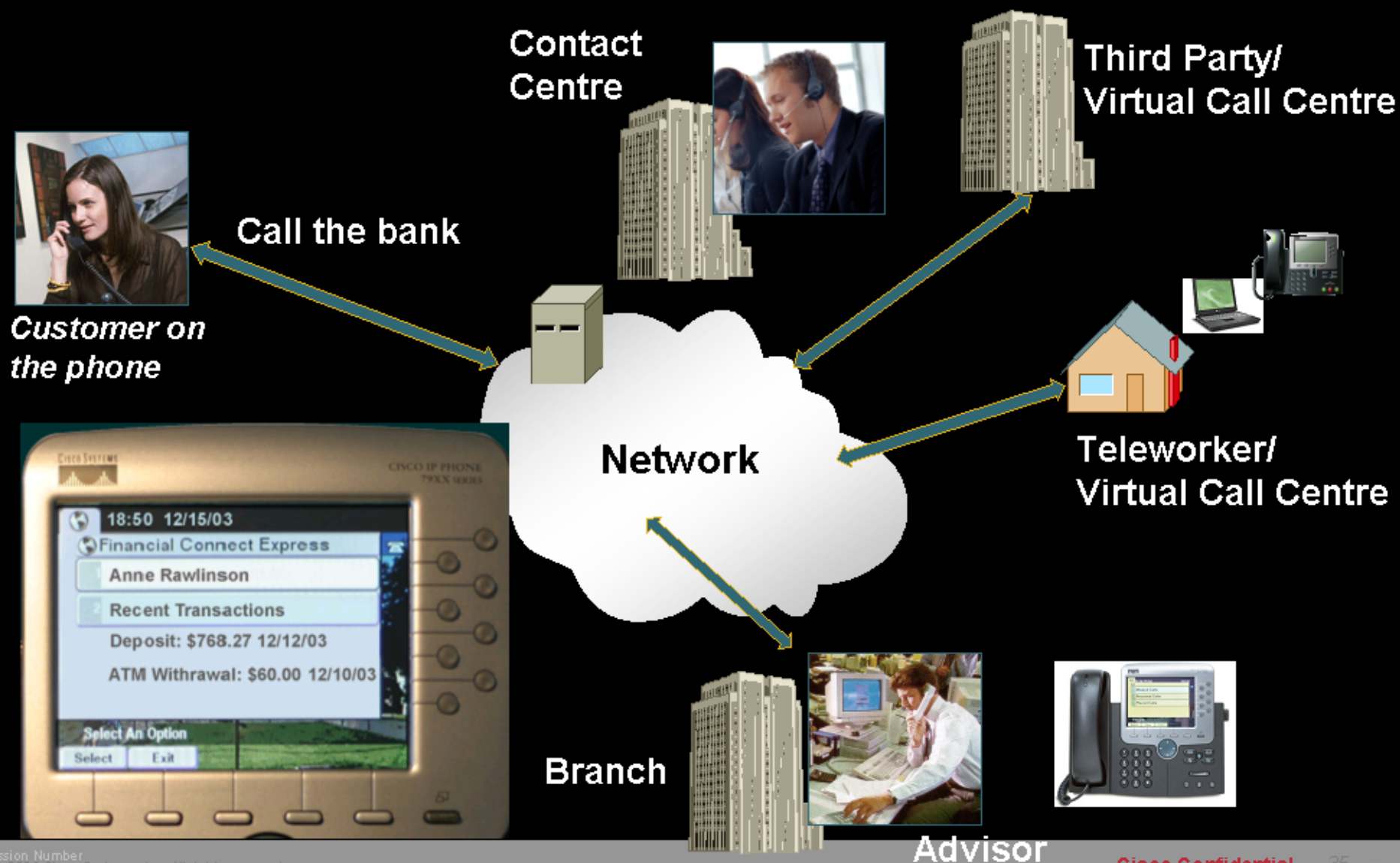
Recording & Archiving
Areas of Concern

- **Capture all communications**
  - **Mails, Phone, Video, Ticker, CRM, Deal Ticket, Chat, etc.**
- **Access to recordings needs to be fast, secure and with a minimum impact on the operation**
- **Recordings must be resilient , available & auditable**
- **Minimize impact on business (traders, compliance, IT, etc.)**
- **Improve and strengthen compliance.**
  - **Full control over access to the recordings**
  - **Information about disputes readily available**
  - **Reporting**

Compliance Records Storage Today:

- Siloed, Non-standard, Tactical

- Personnel Intensive search and recovery

- Deterioration & Degradation of media Recordings must be

Cisco IP Telephony
Recording Any Time – Any Location

Data & Voice Archiving

Contact Centre

Third Party/ Virtual Call Centre

Call the bank

Customer on the phone

Network

Teleworker/ Virtual Call Centre

18:50 12/15/03
Financial Connect Express
Anne Rawlinson
Recent Transactions
Deposit: $768.27 12/12/03
ATM Withrawal: $60.00 12/10/03
Select An Option
Select   Exit

Branch

Advisor

INCREASING OPERATIONAL CAPABILITIES & IMPROVING RISK MANAGEMENT

EXAMPLE #1

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# One of the Italian Largest Bank

Operational Risk Management Issue

- **Replacement and Centralization of the Voice Recording Capabilities**
    - Update of the legacy Call Recording system
    - Need of a centralized solution for compliance
    - Need to record the trading calls in the branch offices

Solution: IPComs and Recording

- **"Compliance" Benefits**

    - Centralized archiving
    - Instant access and control over recordings
    - Reporting and Audit

- **"Security" Benefits**

    - Enhanced Recording capabilities (word spotting)
    - Voice Identification (fut.)

- **"Business" Benefits**

    - Reduce time and costs for handling disputes
    - Increases Customer satisfaction
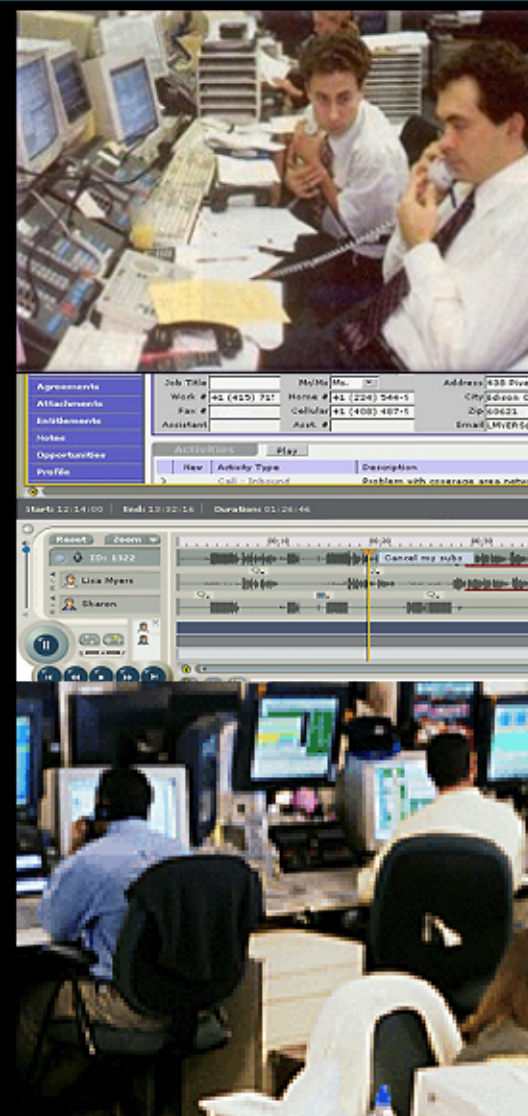
INCREASING OPERATIONAL CAPABILITIES &
IMPROVING RISK MANAGEMENT

EXAMPLE #2

Retail Bank in UK

Operational Risk Management Issue

- **Branch Security VCR tape recording**

    - Collection of 300 tape per day, 1500 per week

    - Poor readability of the VCR tape

    - Difficult retrieval of a specific event

Solution: IP Video Surveillance

- **"Compliance" Benefits**

  - Centralized storage
  - Elimination of manual intervention
  - Instant access to archives

- **"Security" Benefits**

  - Enhanced Physical Access Control
  - Real Time Surveillance w/ Alarms
  - Remote Availability (int. / ext.)

- **"Business" Benefits**

  - Sales & Marketing Tools (Counting, time in queues, footfall analysis)
  - Branch Remote Management

SUMMARY

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Expected Benefits from Basel II Implementation

Legend:
- Reputation / Market perception
- Portfolio management capabilities
- Risk-based pricing
- Credit loss reduction
- Operating efficiencies / expense reduction
- Regulatory capital relief
- Sales & marketing enablement

Source: Ernst & Young

Compliance as a Business Opportunity

- Broader Framework important – not just Basel II -> Operational Risk Reduction and Management is a Business Opportunity

- Basel II only increase importance for FSI and provides rewards for good ORM practices and thus can create a business case

- The medium-to-long-term benefits of a strong ORM infrastructure far outweighed the implementation cost

- ORM was, is and will be a key issue for any institution and important for all industries

Preparing for the Next Crisis

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Bird Flu Pandemic ?

- HSBC predicts up to 50% of staff could go sick if hit by a pandemic

- HSBC is preparing for staff to work from home, or via video link and teleconferencing facility

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