



INTELLIGENT NETWORKING

Mirosław Szymczak, CCIE 4959

Channel SE Leader

CISCO SYSTEMS

The Business Imperative

What's on the Mind of the IT Professional?

Cisco.com

- **Align IT capabilities to business requirements**
- **Use IT investments to go “on the offense”**
- **Reduce complexity of the overall environment**
- **Integrate data from separate applications**

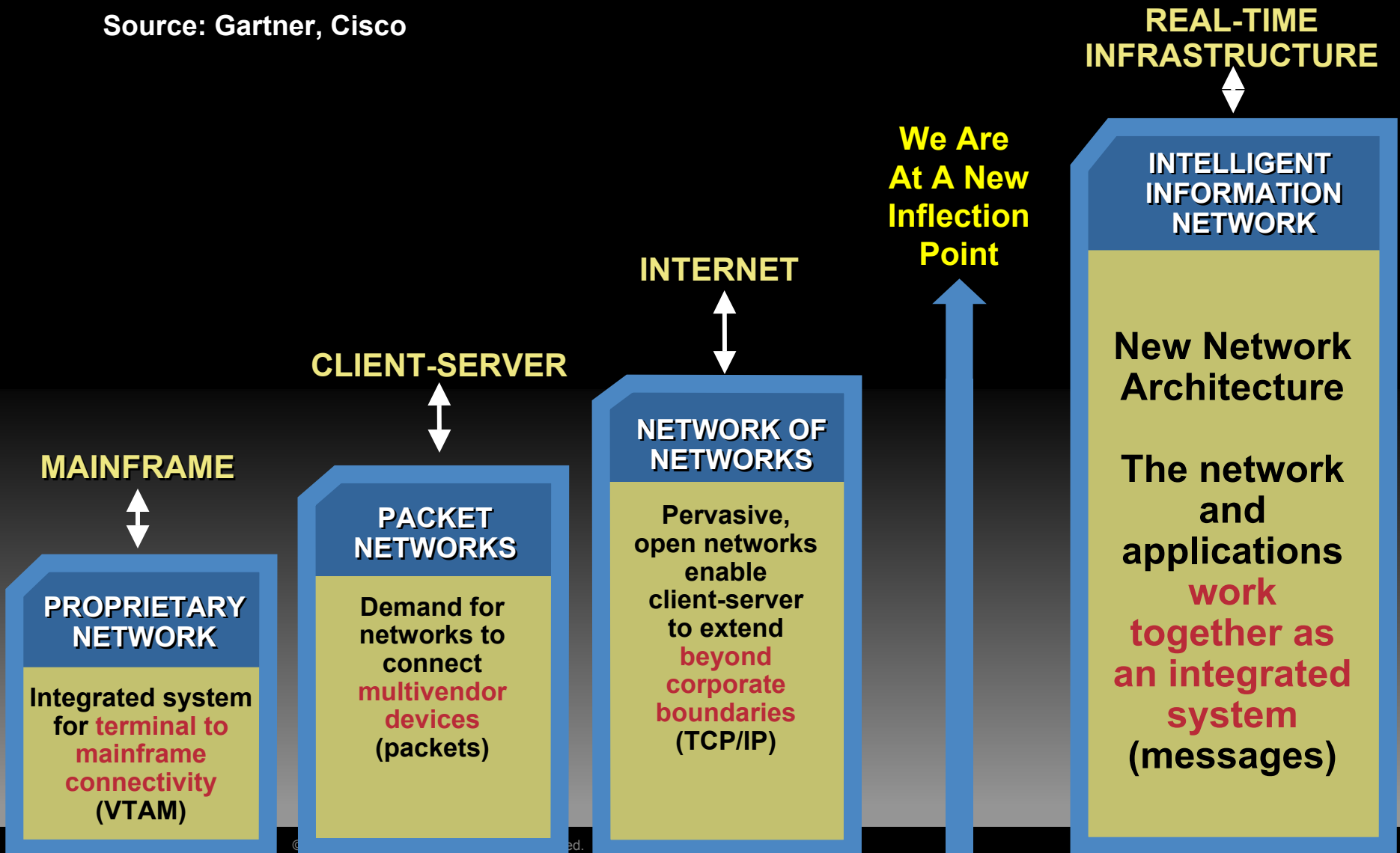
- **The network touches all part of the infrastructure**
- **Uniquely positioned to help solve these issues**



Industry Inflection Points Historically Drive New Architectures

Cisco.com

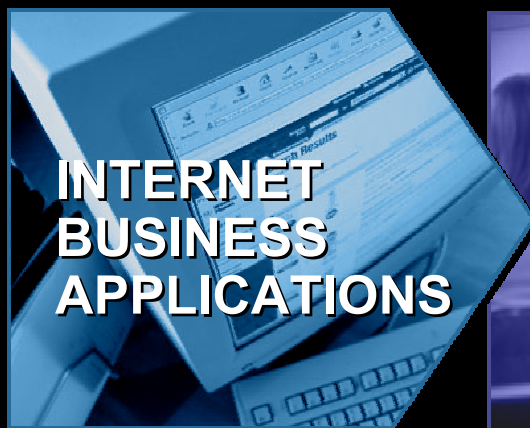
Source: Gartner, Cisco



Applications and Business Processes: Sequence Matters

Cisco.com

CUSTOMER SERVICE AND SUPPORT



Source: Momentum Research Group – Net Impact 2003

Business Process Optimization Strategy: The Role of the Network

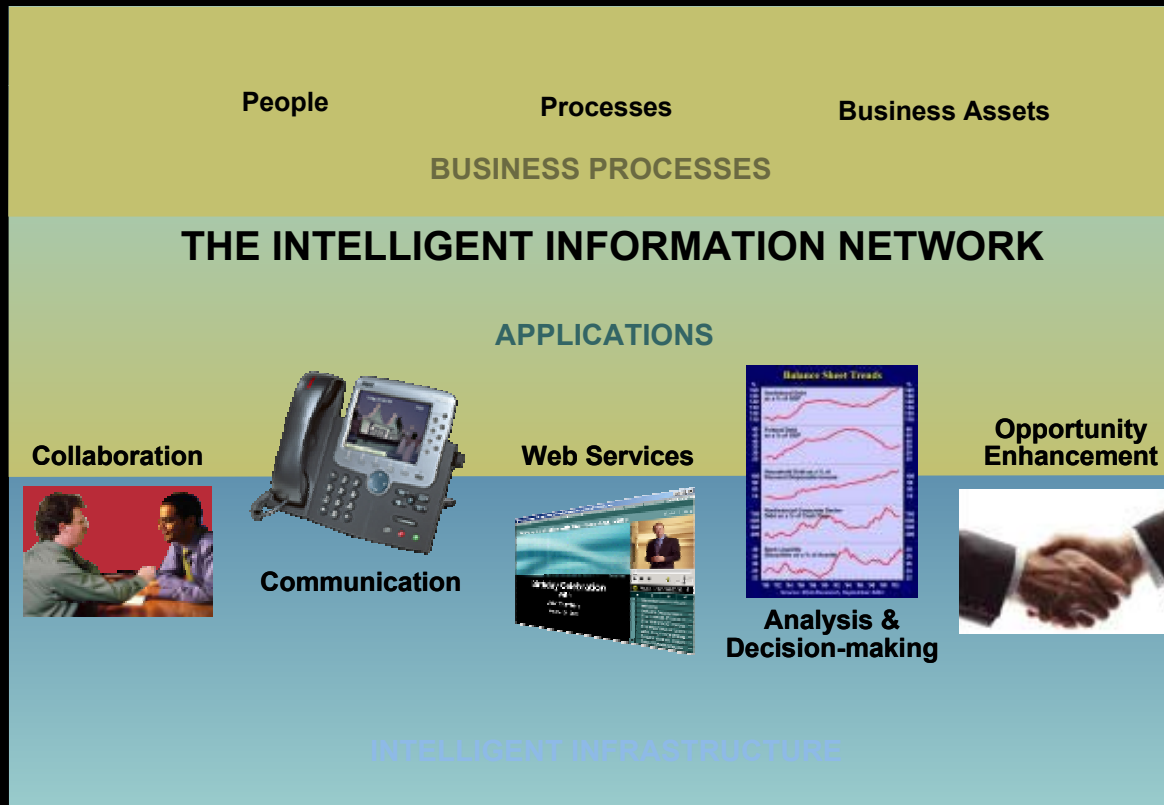
Cisco.com

- **Infrastructure investment alternatives:**
 1. Reduce costs though increased connectivity .. or ..
 2. Enable business processes AND reduce costs by investing in an **intelligent network**
- **Why intelligent networking?**
 - The network touches all parts of the infrastructure – a stronger foundation improves the entire house
 - Enabling intelligence in the infrastructure binds the network and applications together and enables more effective applications and services

➤ THE NETWORK IS FUNDAMENTAL TO BUSINESS SUCCESS

Intelligent Networking Increases Application and Service Effectiveness

Cisco.com



- **Active participation** in application and service delivery
- A **systems approach** enables this intelligence without increasing complexity
- Flexible **policy controls** adapt this intelligent system to *your* business process

Intelligent Networking Benefits

Cisco.com

- **Secure infrastructure**
Self-defending network mitigates threats, both known and unknown
- **Faster deployment of service and applications**
Applications run better
Integrated, modular systems and management reduce custom integration
Granular policy controls couple network with business processes and services
- **Reduced complexity and lower TCO**
New capabilities and technologies are simpler to integrate
Integrated systems and management reduce OpEx and systems integration



Examples of Intelligent Networking Today

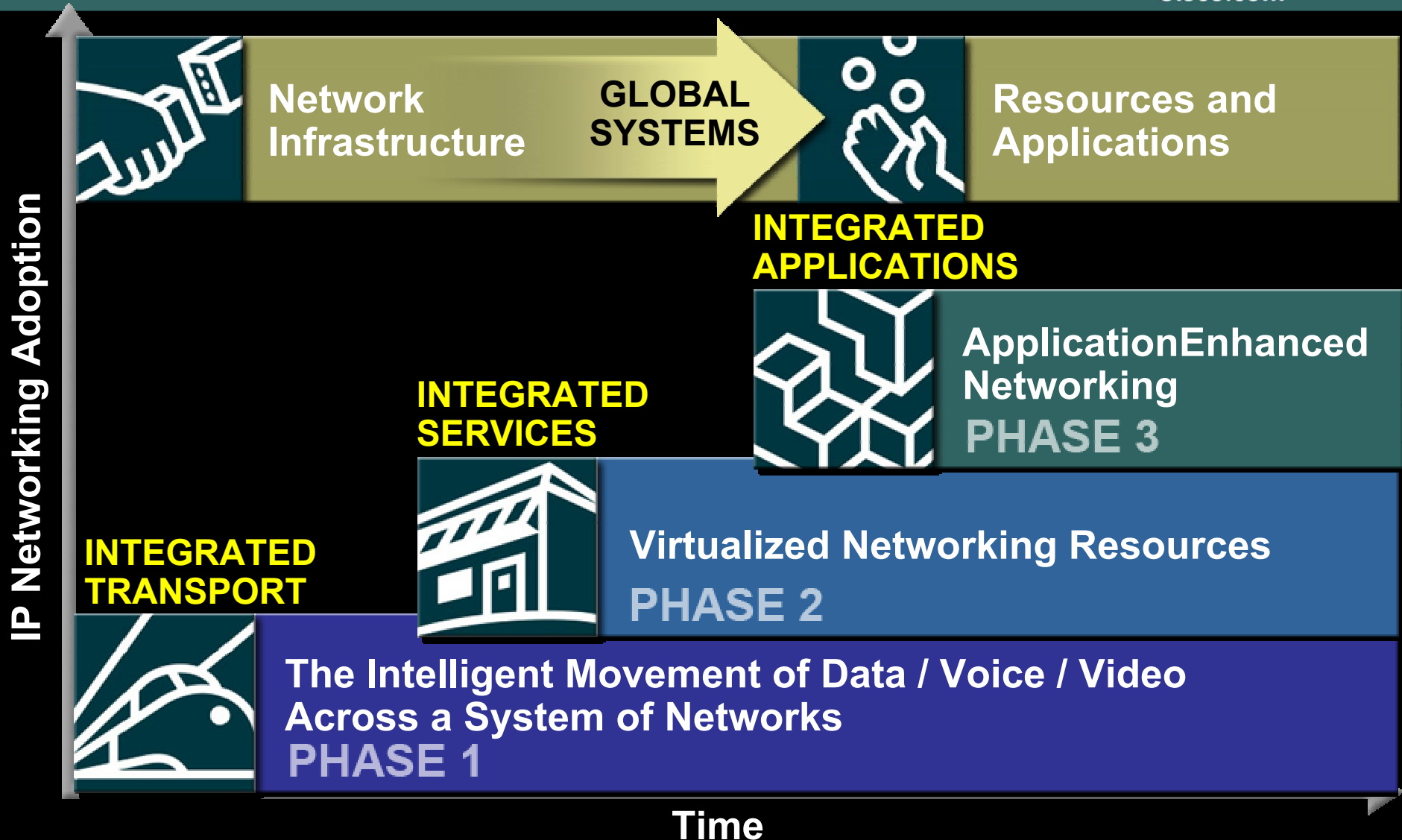
Cisco.com

- **Network Admission Control** – enforces security policies during network admission, preventing reintroduction of security threats
- **Network Infection Containment** – contains anomalous, destructive traffic, preventing “day zero” infection
- **Rich Media Services** – applications like Cisco Meeting Place integrate scheduling, conferencing, and collaboration from your PC or IP phone
- **Application & Content Network Services** – optimizes application and network utilization

Cisco's 3–5 Year Technology Vision

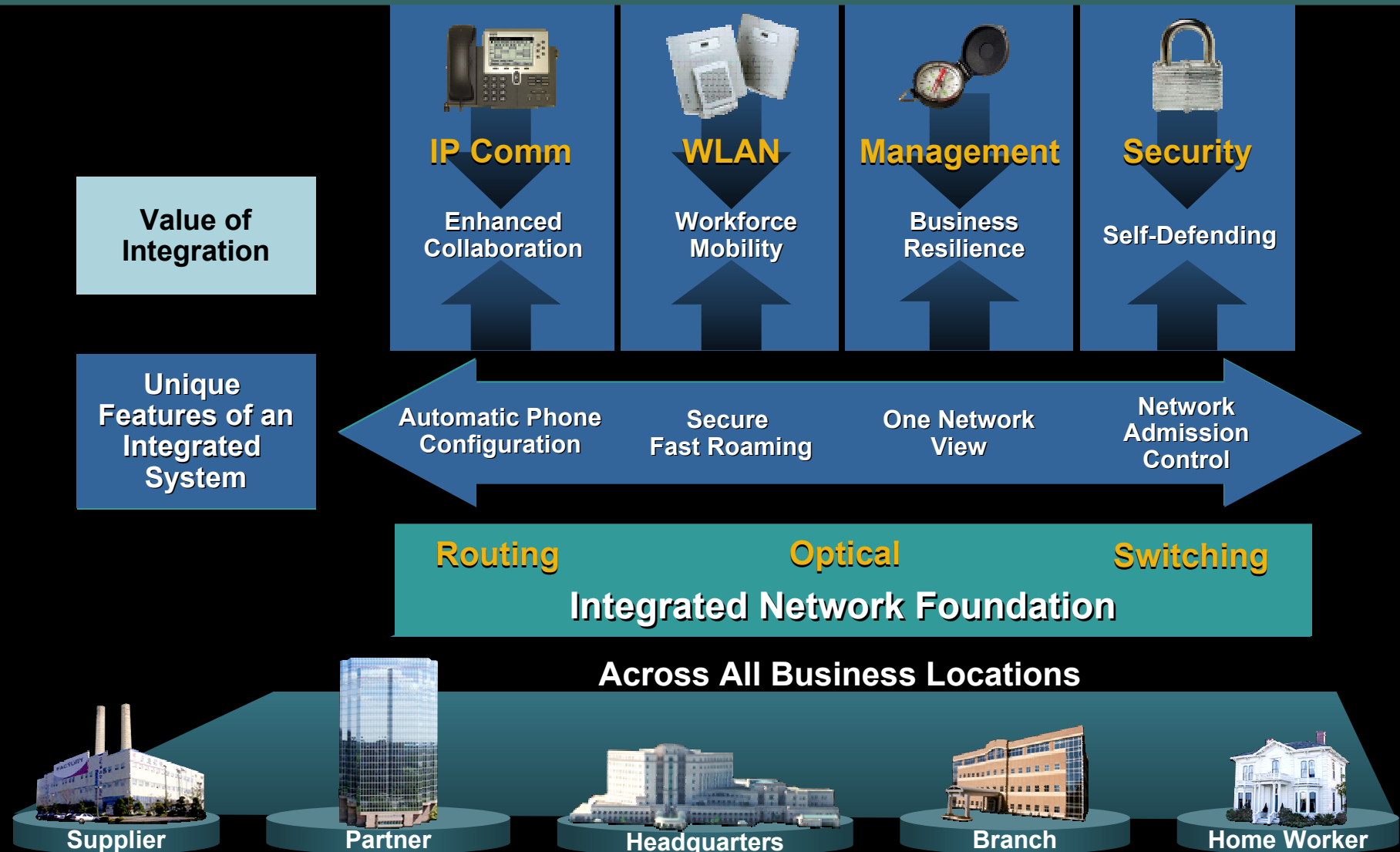
The Intelligent Information Network: A Global Systems Approach

Cisco.com



IIN Phase I: Building Technologies “In” vs. Bolting them “On”

Cisco.com



Realizing “Built-In” Benefits Today

Cisco.com



WIRELESS

Wireline and wireless equivalence
—ubiquitous secure connectivity

Productivity gains at Cisco total \$9M per year, **and reduced cabling costs in new buildings, saving \$400-\$700 per employee**



IP COMMUNICATIONS

More effective communication and collaboration through application and infrastructure integration

Cisco saves \$3.7M per year **on PBX lease and contracted maintenance costs at headquarters alone**



SELF-DEFENDING NETWORK

Trusted and protected business applications, legislative compliance

Threats increased 300% while cost to address incidents declined by 90%



FOUNDATION TECHNOLOGIES

Integrated, intelligent systems

Cisco reduced costs by 23% **by modernizing our network**

Source: Cisco, 2005

IIN Phase 2: Virtualization

Simplicity and Agility in Managing Resources

Cisco.com

- **What is virtualization?**
 - A *logical* rather than physical view of data, storage, network, and other resources presented independently of location, packaging, or capacity
 - Many resources → one to simplify (e.g. ISR)
 - One resource → many for increased flexibility (e.g. CRS-1)
- **Benefit: flexible configuration and management of all infrastructure resources to reduce costs and increase agility**



Virtualizing Communications Through the Network

Removing the Need for “Human Middleware”

Cisco.com

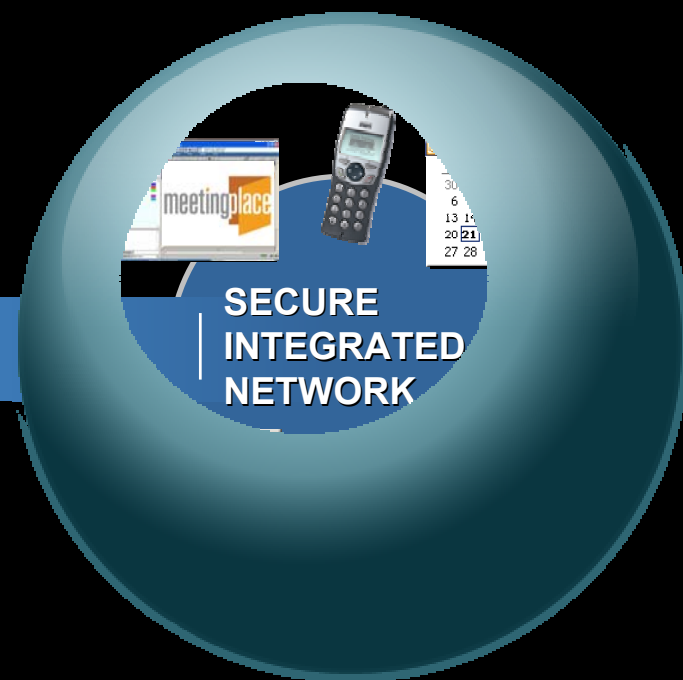
ACCESS

MOBILITY



VOICE, VIDEO,
DATA

COLLABORATION

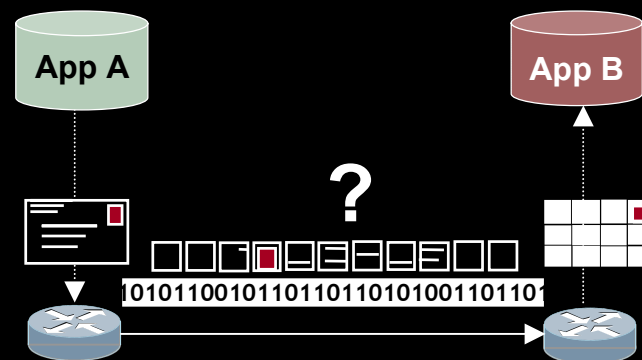


IIN Phase 3: Application Enhanced Networking

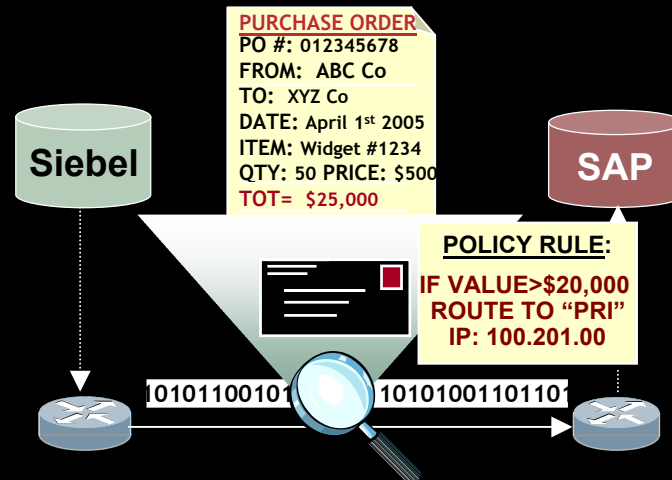
The Network Becomes Fluent in the Language of Applications

Cisco.com

- AON messaging functions:
 - Routing
 - Security
 - Translation
 - Validation/Policy
- Legacy or web services apps
- Visibility into business process detail
- No changes required to existing applications
- Synergy with packet network for unique interactions
- Full extensibility to allow partners and customers to “program the network”



PACKET NETWORKING



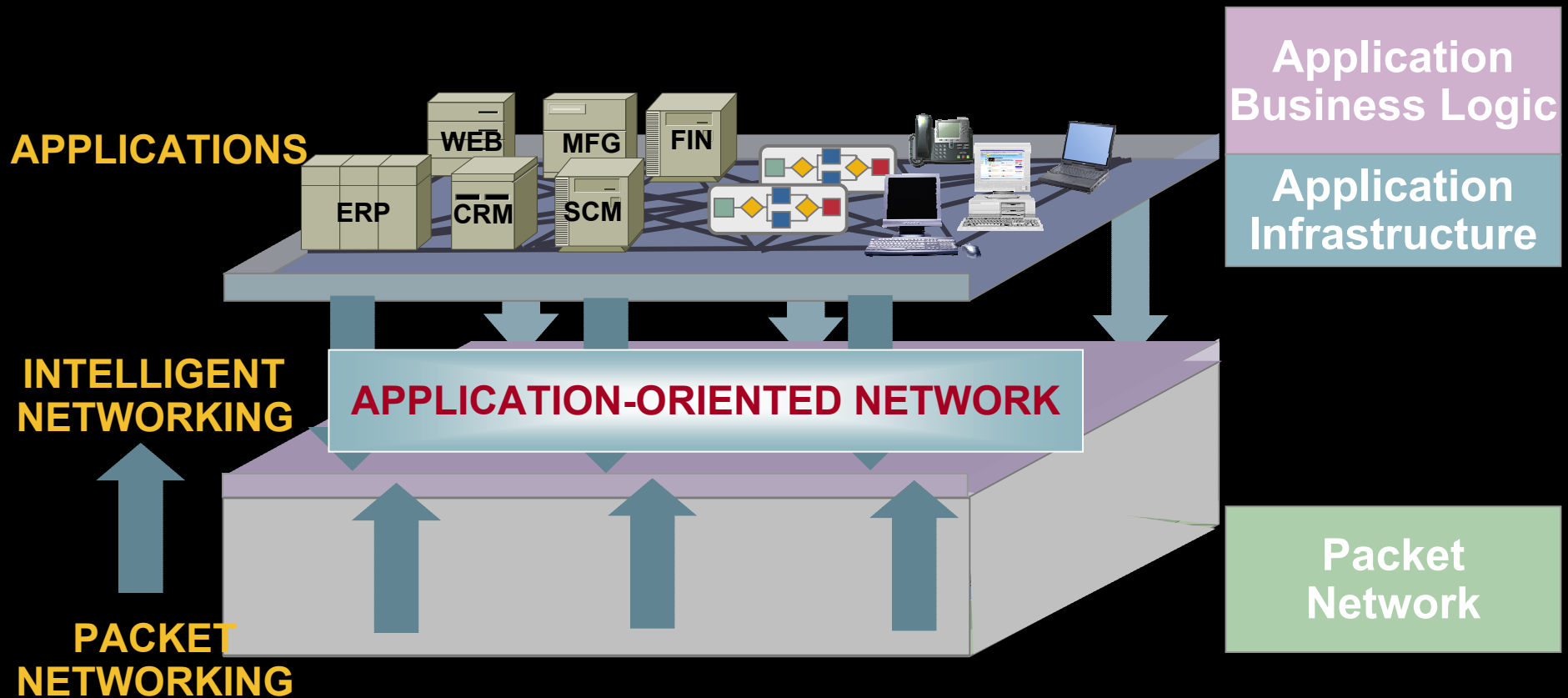
APPLICATION-ORIENTED NETWORKING

From Connectivity to Intelligent Networking

Active Participation in Application and Service Delivery

Cisco.com

The Network Speaks the Language of Applications

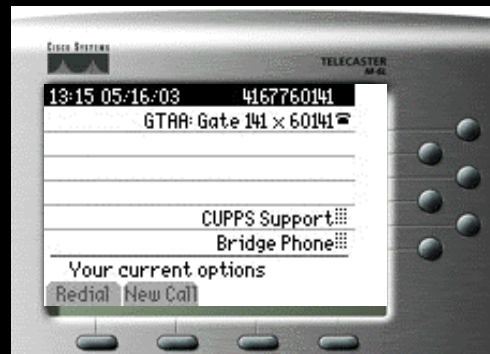


Toronto Airport: A New Business Paradigm Based on an Intelligent Network

Cisco.com

Common Use Gates With Custom Airline Features

- Integrated, Common-Use Passenger Processing System / Phone System login
- Airline Directory Integration
- Dial-plan
- PBX integration
- Airline Applications



Gate Agent Login



**Automated
Boarding
Reminders**



**Stop/Resume
Boarding
Emergency
Gate Alerts**



**Passenger
Information
Kiosks**



**Access to
Public and
Private
Wireless
Services**



**Cisco
Emergency
Responder**

Cisco: Helping Our Customers Make the Journey From Connectivity to Intelligent Systems

Cisco.com

- RESILIENT,
INTEGRATED,
AND ADAPTIVE
INFRASTRUCTURE
- FOUNDATION FOR
BUSINESS PROCESS
TRANSFORMATION

- 
- APPLICATIONS ARE MORE EFFECTIVE,
COMPLEXITY IS REDUCED,
TOTAL COST OF OWNERSHIP IS LOWER

- 
- PROTECT, OPTIMIZE, AND GROW
YOUR BUSINESS

