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TELECOMMUNICATIONS: Transforming An Industry

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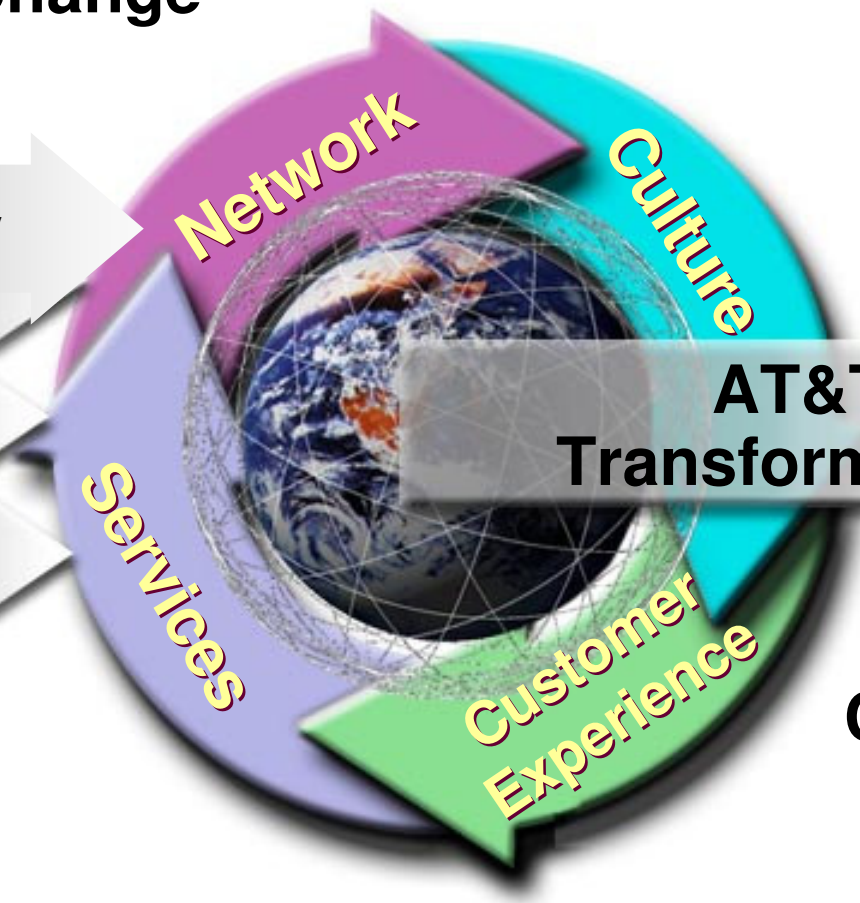
AT&T CTO & CIO

Forces of Change

- Technology
- Business
- Customer
- Regulatory



AT&T Transformation

Competitive Advantage

Forces of Change

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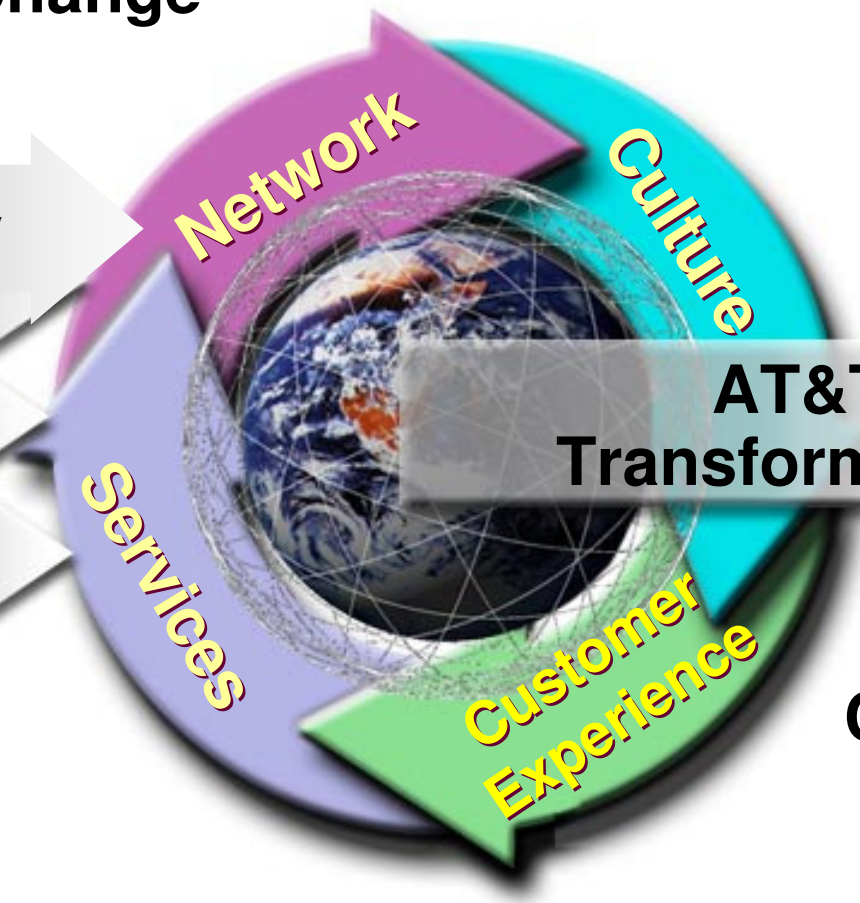
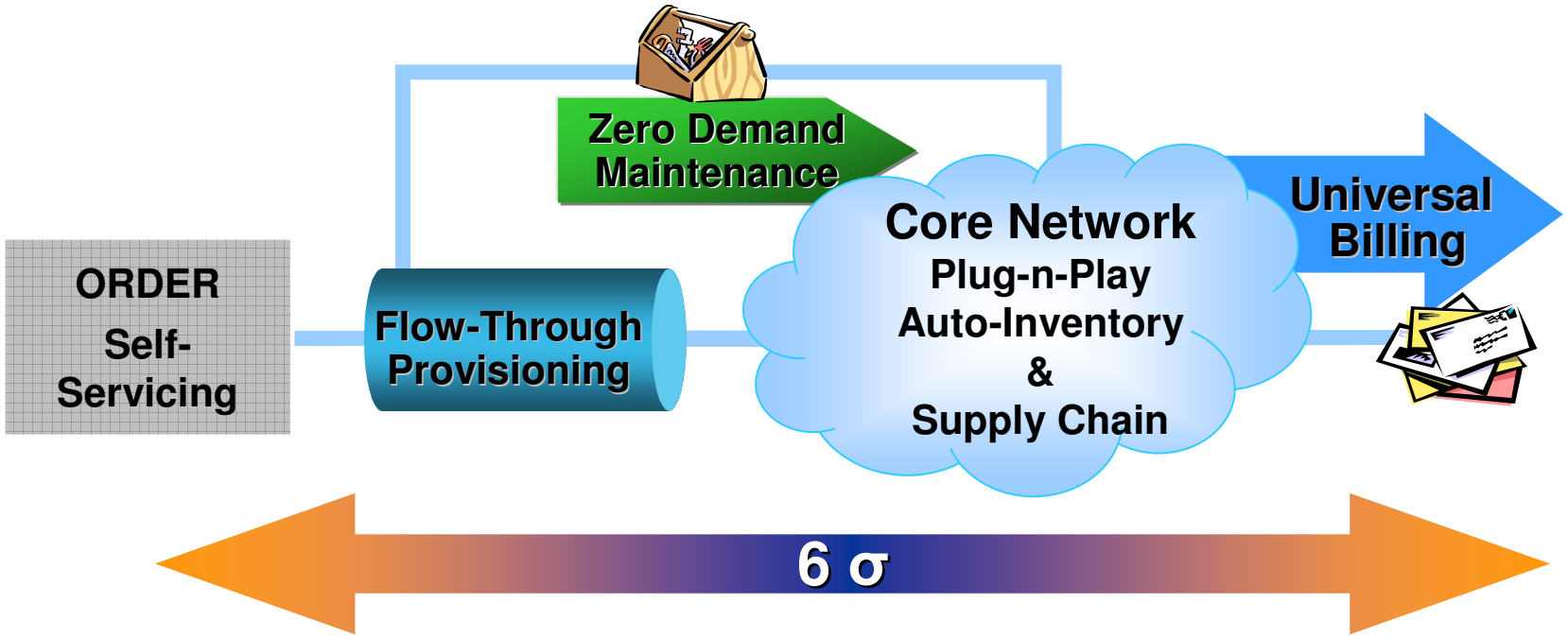


AT&T Transformation

Competitive Advantage

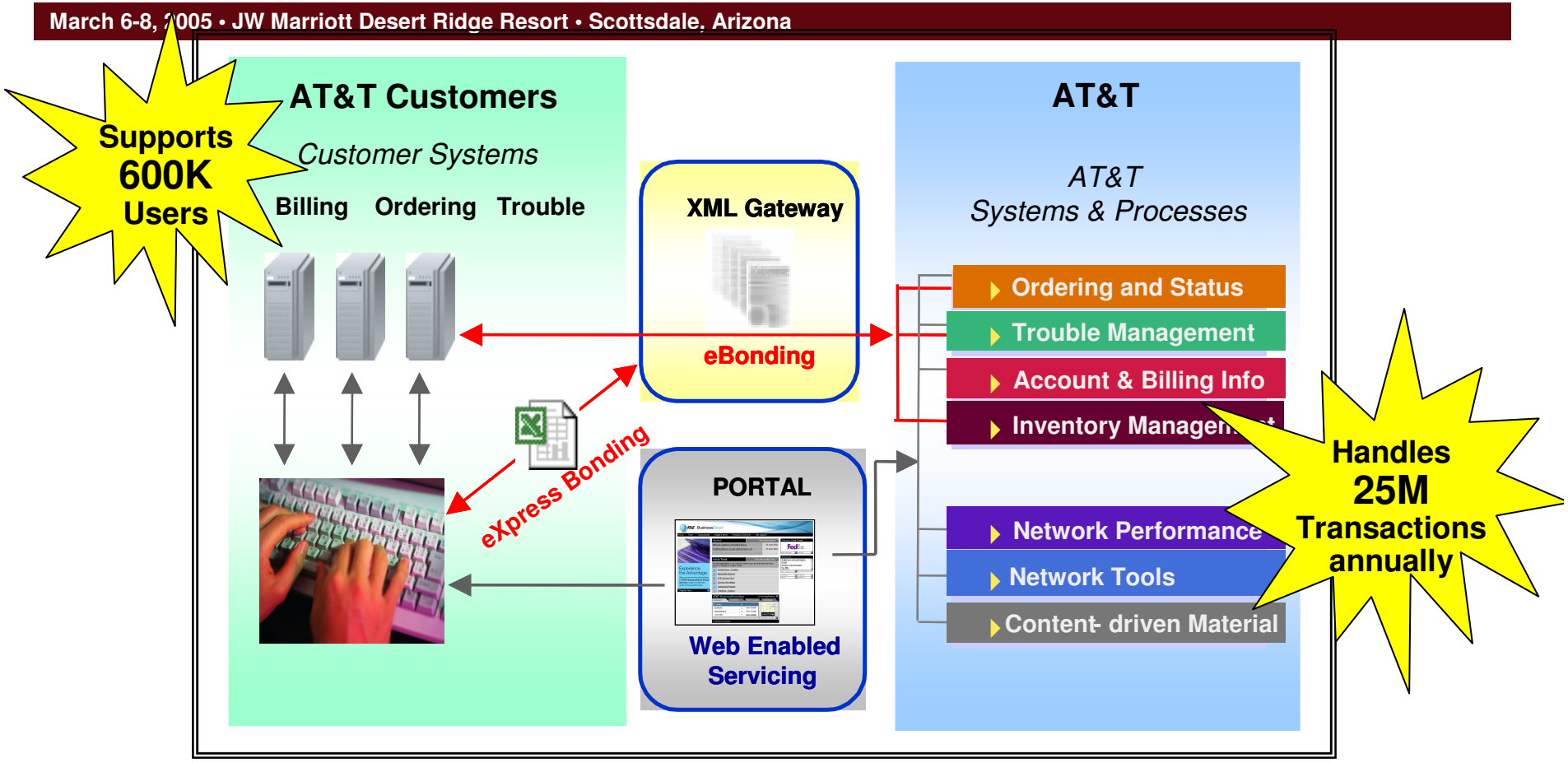
Concept of One℠ & Concept of Zero℠

Concept of One℠ Goal = Consolidated Network, Processes, and Systems
Concept of Zero℠ Goal = Zero Defects + Zero Cycle Time



2005 -- It's No Longer Just a Concept: How Are We Doing?

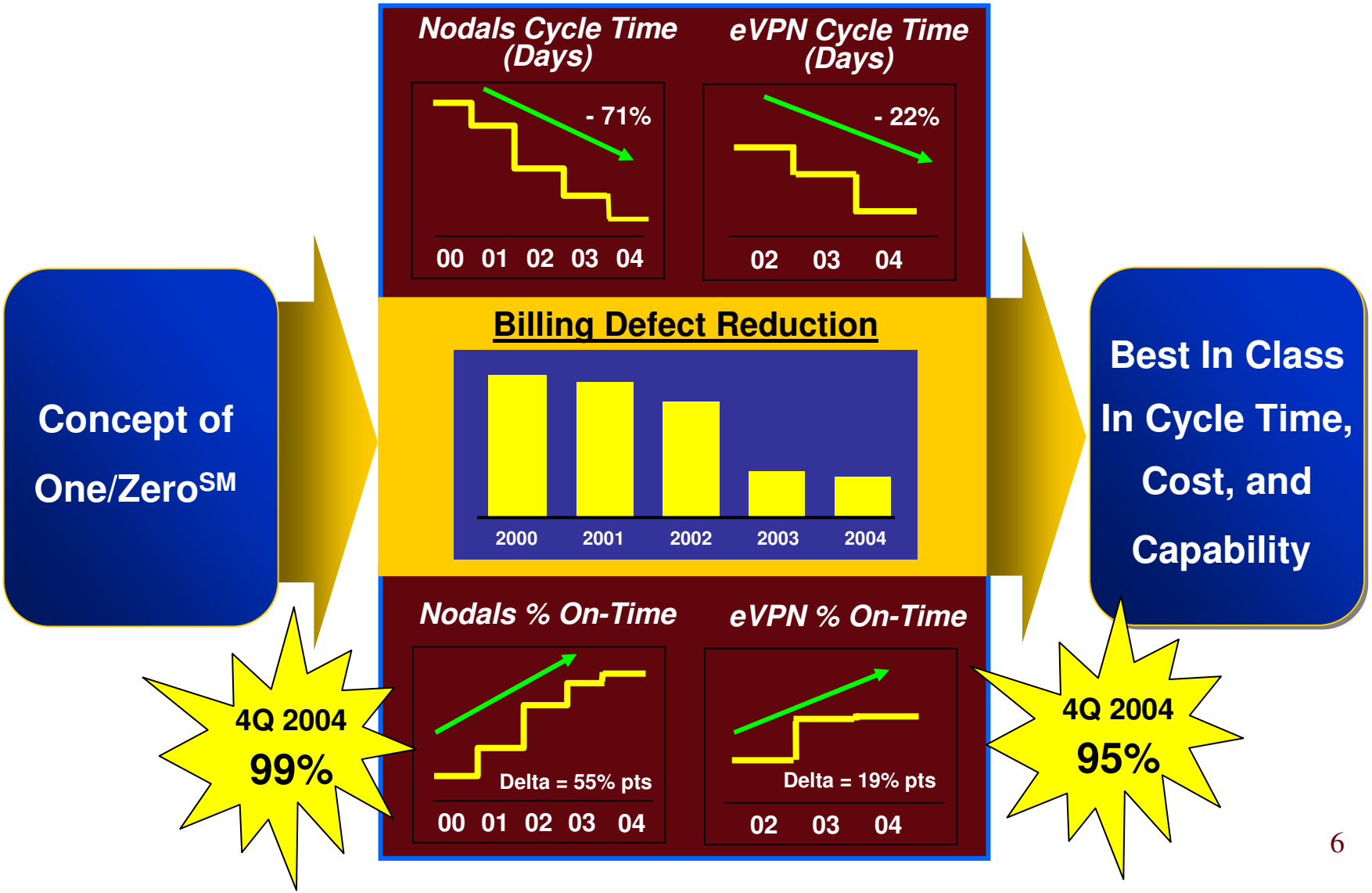
AT&T's e-Bonding



RESULTS

- Industry's highest satisfaction rate (Yankee Group)
- **30%** of all AT&T business orders and **60%** of trouble tickets originate electronically
- Shortens order cycle time and accuracy by **20%** for PVC circuits, and speeds their installation by **+ 30%**
- Lower fall-out rates than manually entered transactions

Enhancing the Customer Experience…



Forces of Change

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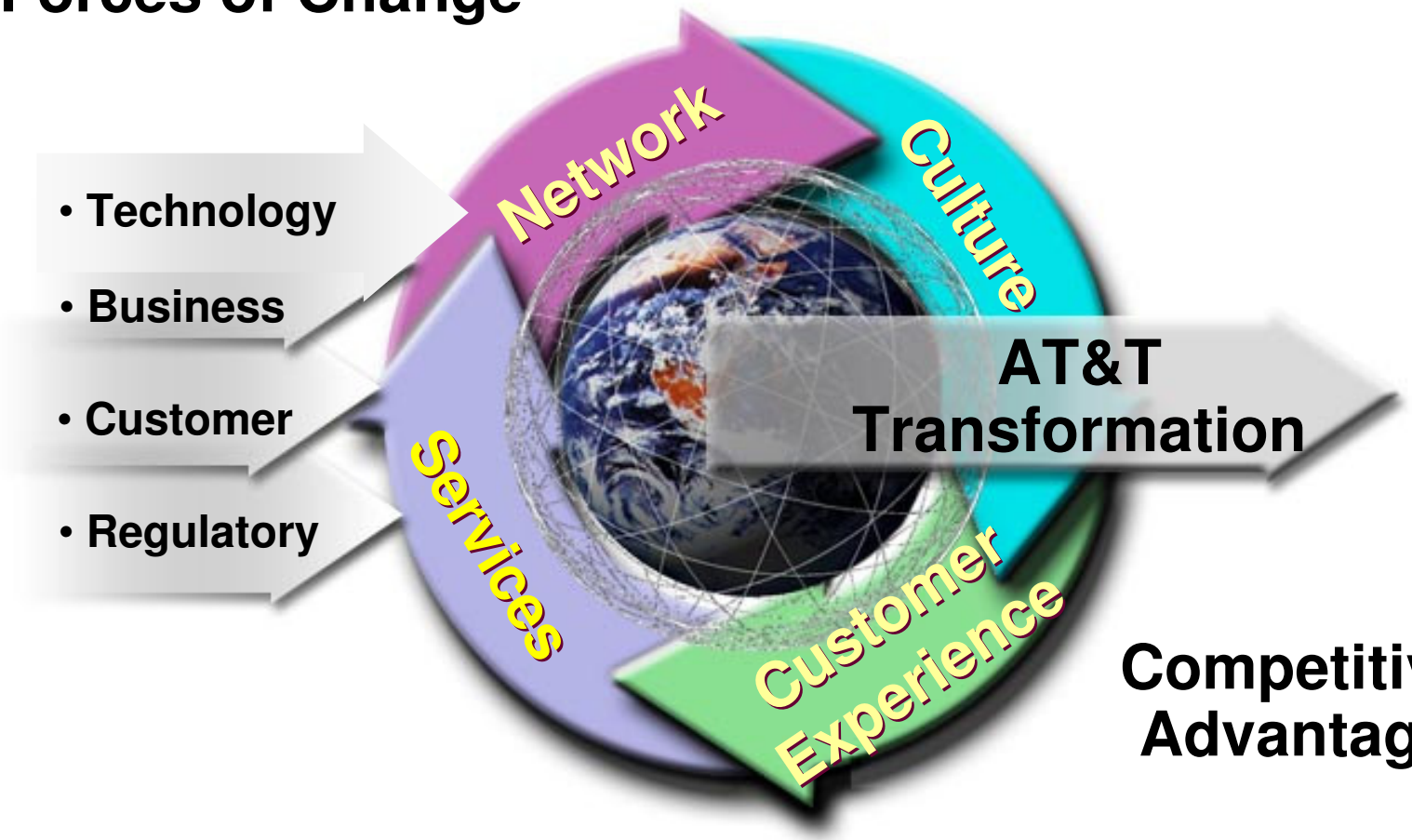
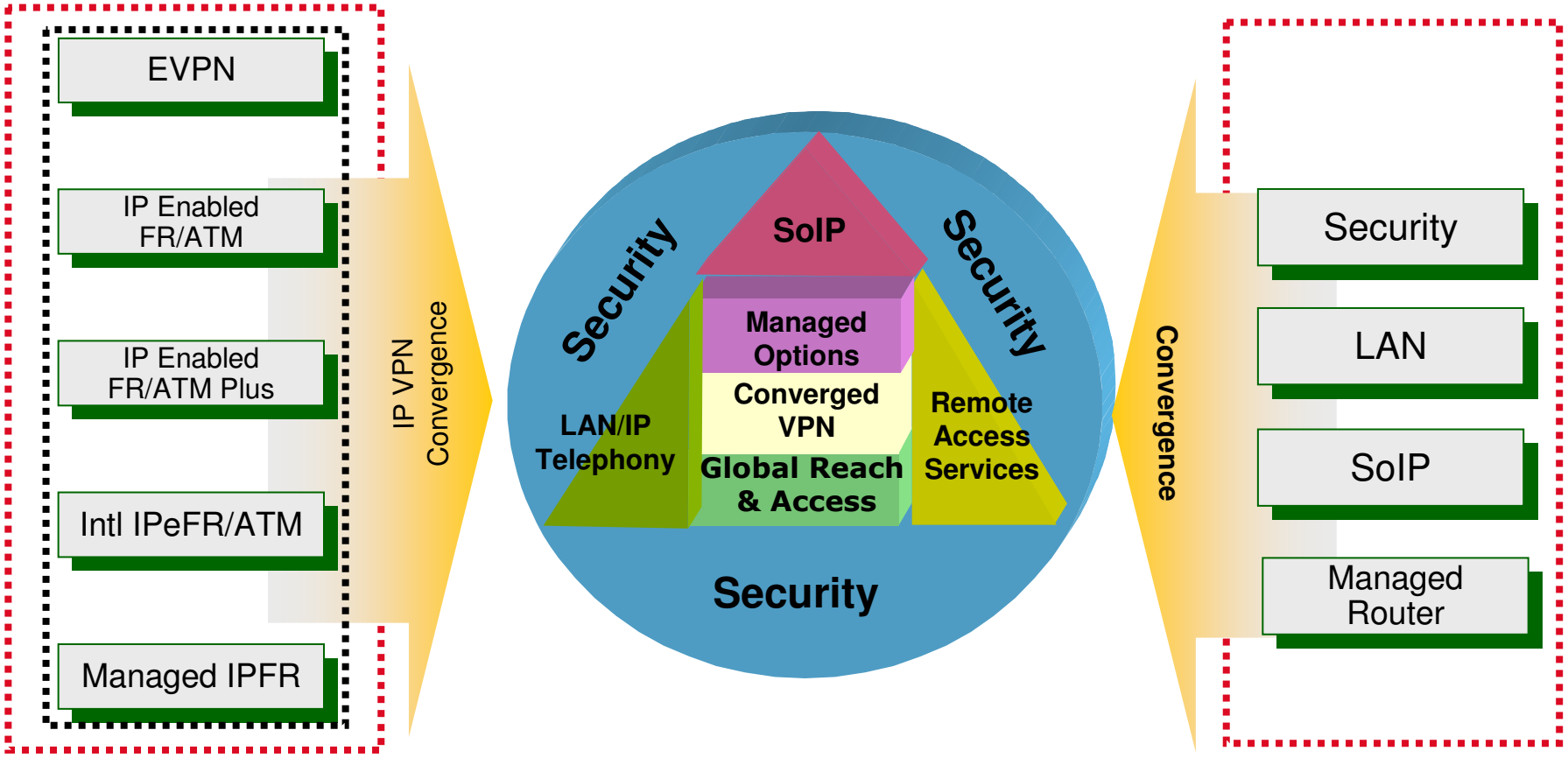


Enterprise Networking Product Convergence

Family of VPN Product Lines

Expanded Services

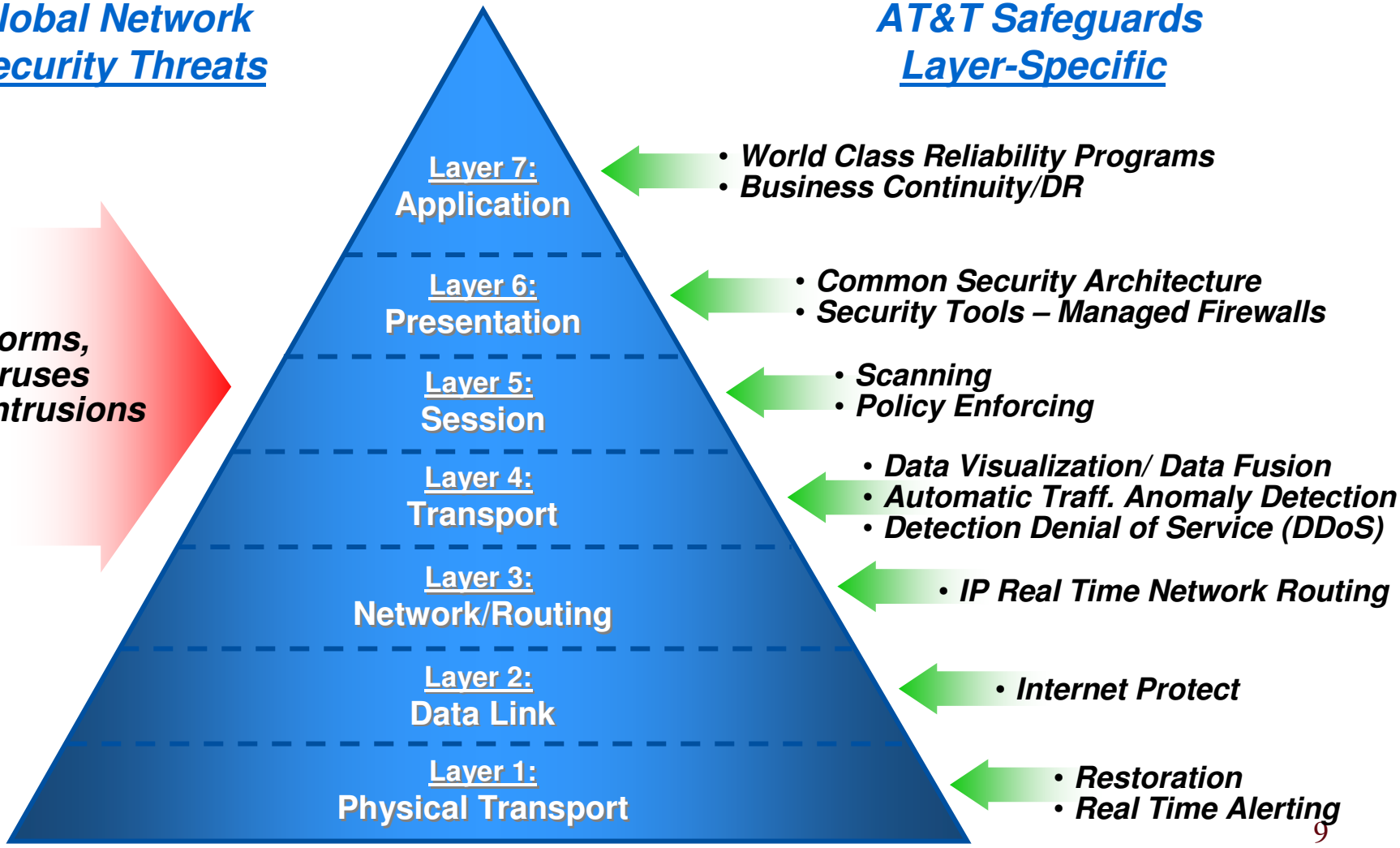


IP Has Eaten Everything

Security Services

Global Network Security Threats

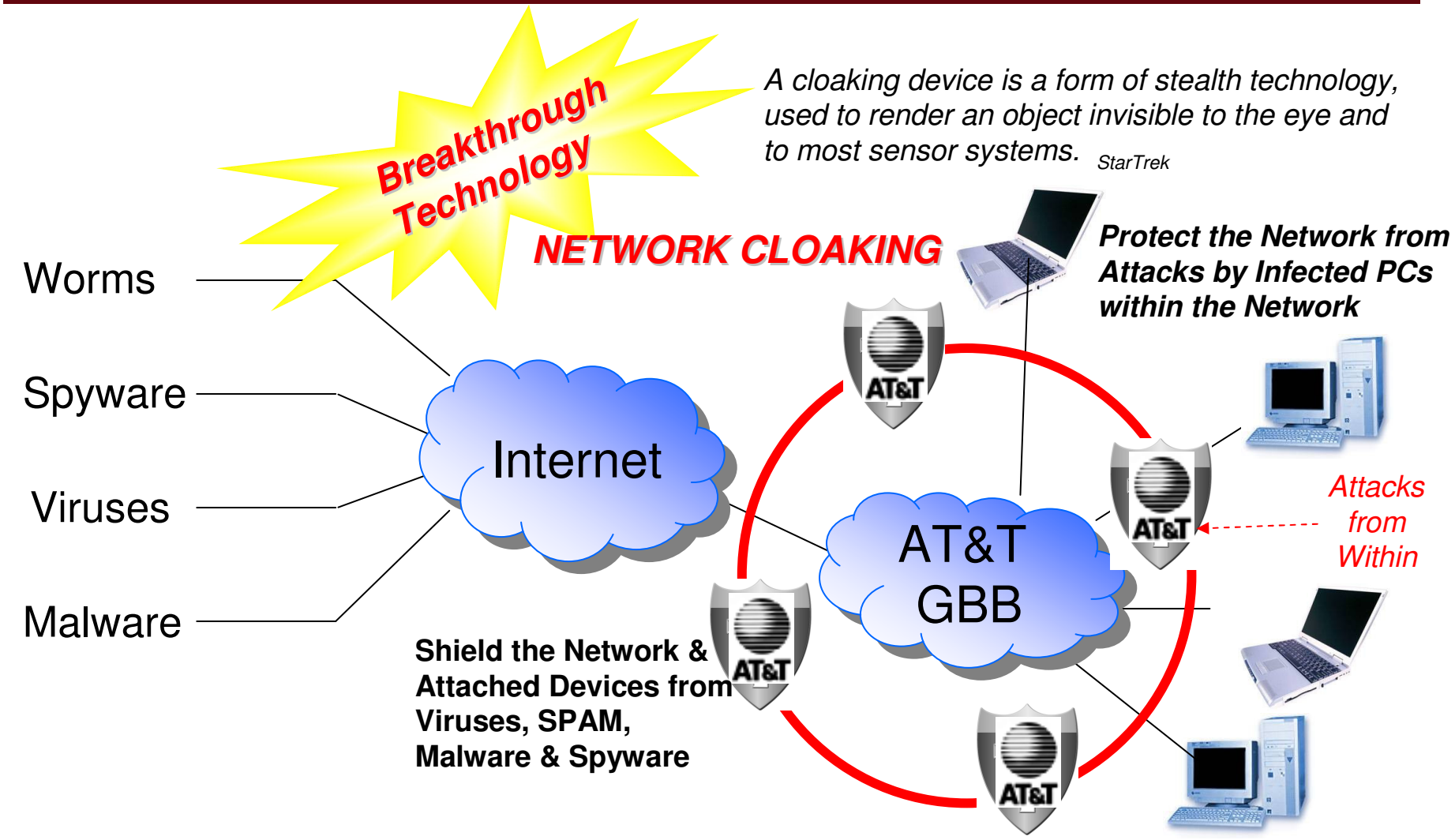
Worms, Viruses and Intrusions



AT&T Safeguards Layer-Specific

- World Class Reliability Programs
- Business Continuity/DR
- Common Security Architecture
- Security Tools – Managed Firewalls
- Scanning
- Policy Enforcing
- Data Visualization/ Data Fusion
- Automatic Traff. Anomaly Detection
- Detection Denial of Service (DDoS)
- IP Real Time Network Routing
- Internet Protect
- Restoration
- Real Time Alerting

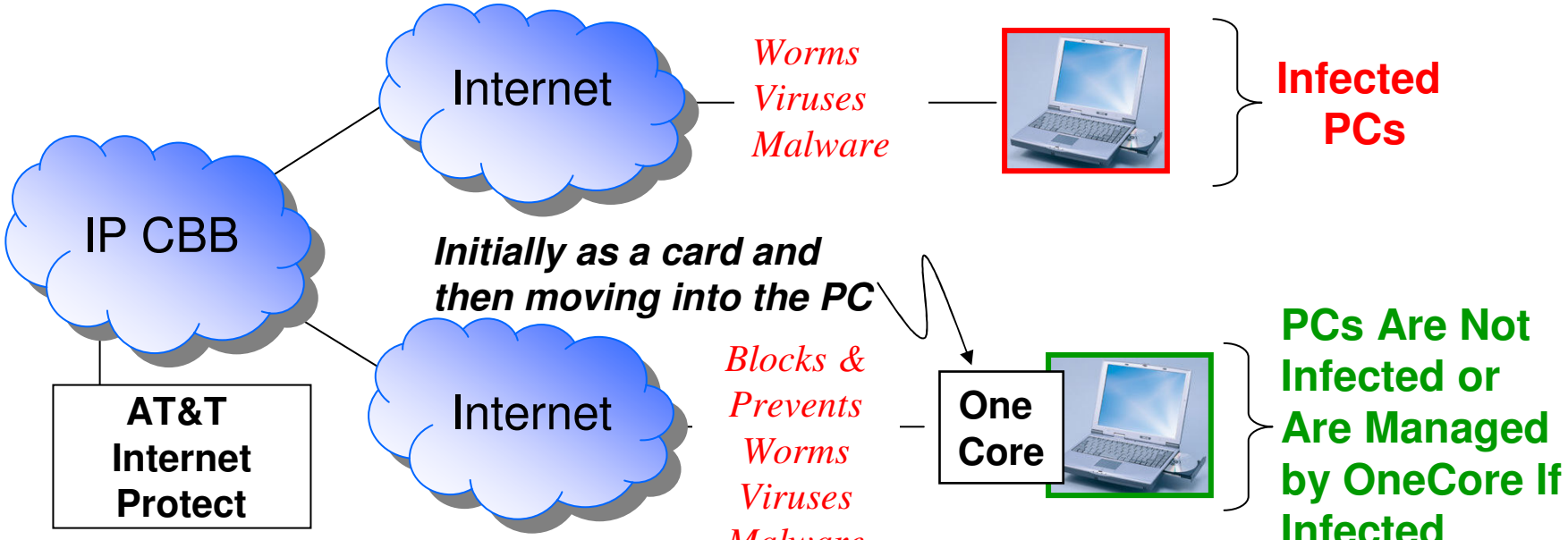
Power of Network Protection



AT&T: Revolutionizing Security

Power of Detection

AT&T has turned the network into the First Line of Defense

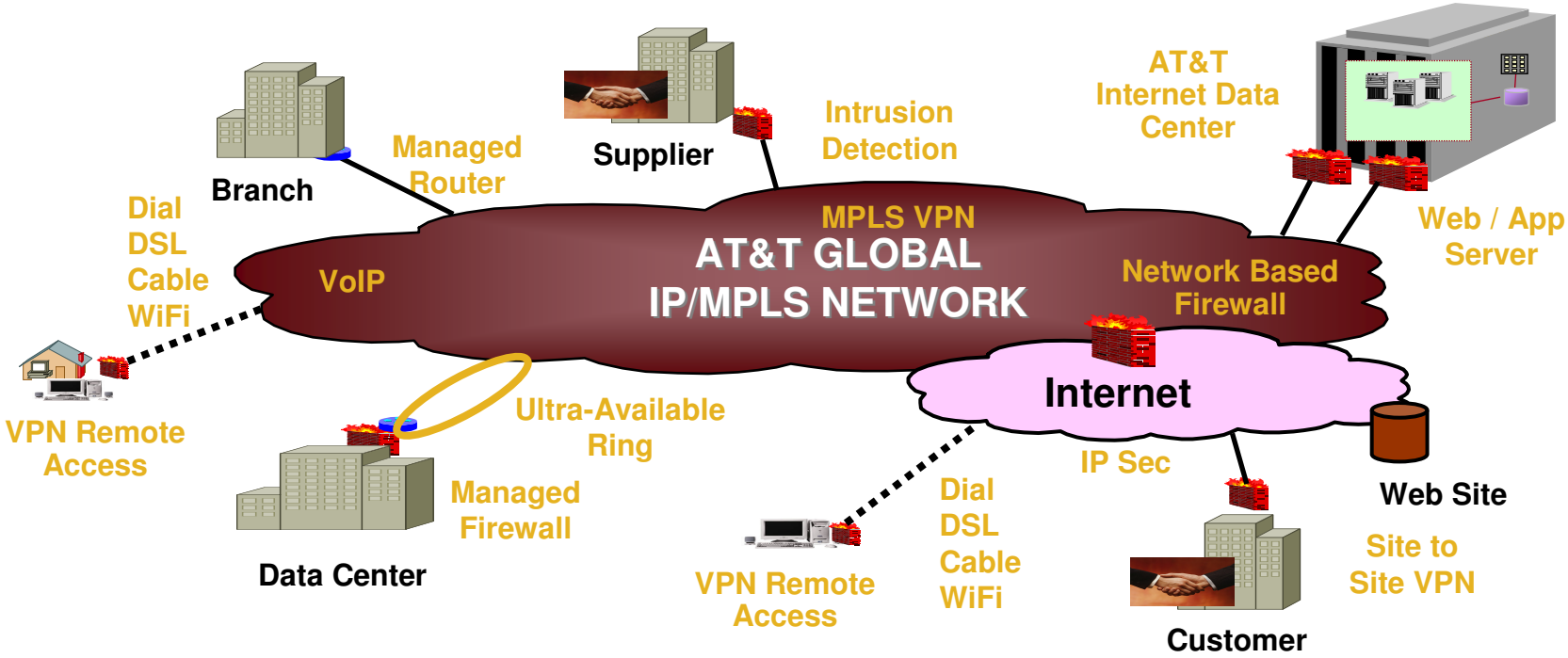


AT&T knows about attack before other corporations, even the software virus protection companies – with Internet Protect and network traffic analysis

OneCore – Brings QoS, Security, Protection, and Network Management to Client Devices

Speed, Scale, & Breakthrough Technology Separate AT&T From Its Competitors

Integrated Enterprise VPN



Application Performance Mgmt

- Voice over IP / LAN Telephony
- Storage Management

Security Management

- Managed Firewall
- Intrusion Detection/Anti-Virus Scanning

CPE Deployment / Management

- Ultra-Availability Services
- Managed Router

Transport / Access

- MPLS
- Private Line, Frame Relay / ATM
- Dial, DSL, Cable, WiFi

AT&T Is Revolutionizing Telecommunications Services

Forces of Change

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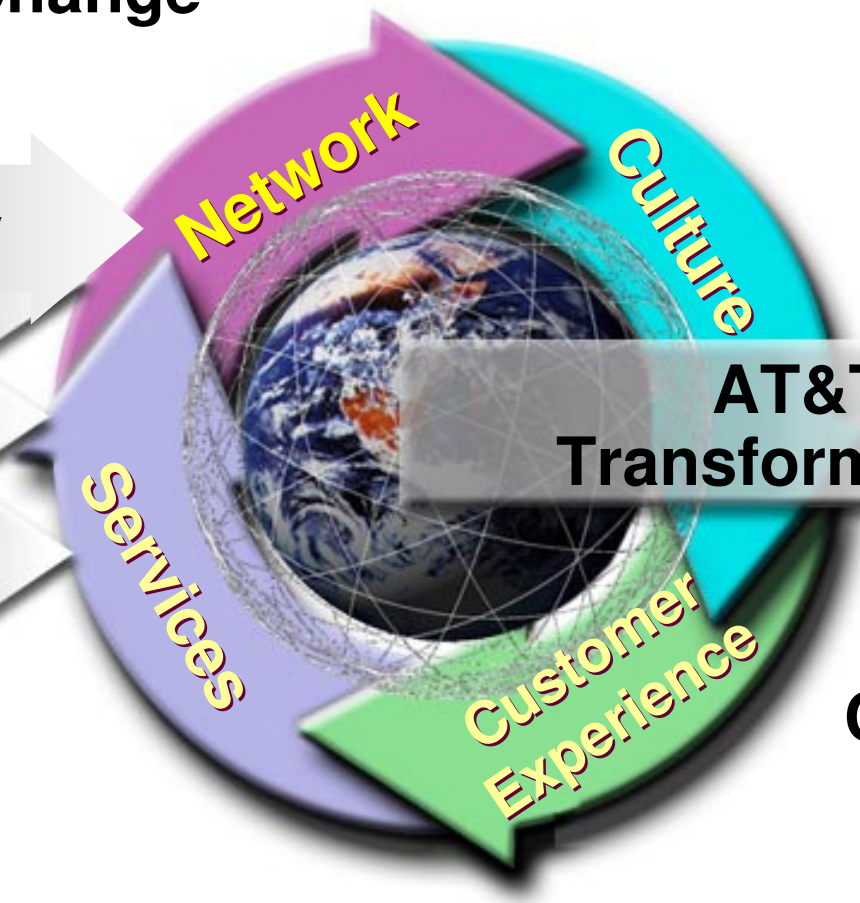
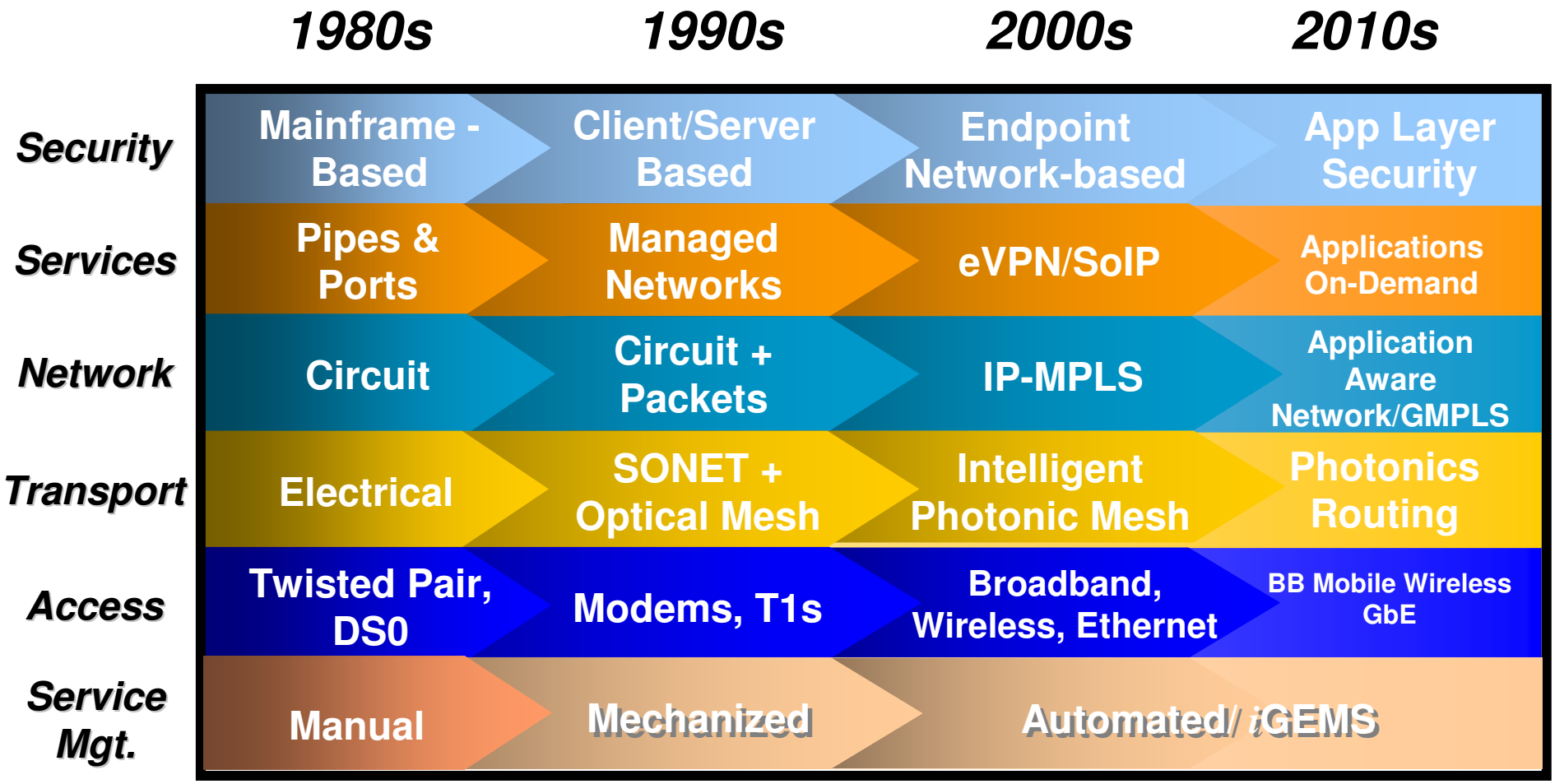


AT&T Transformation

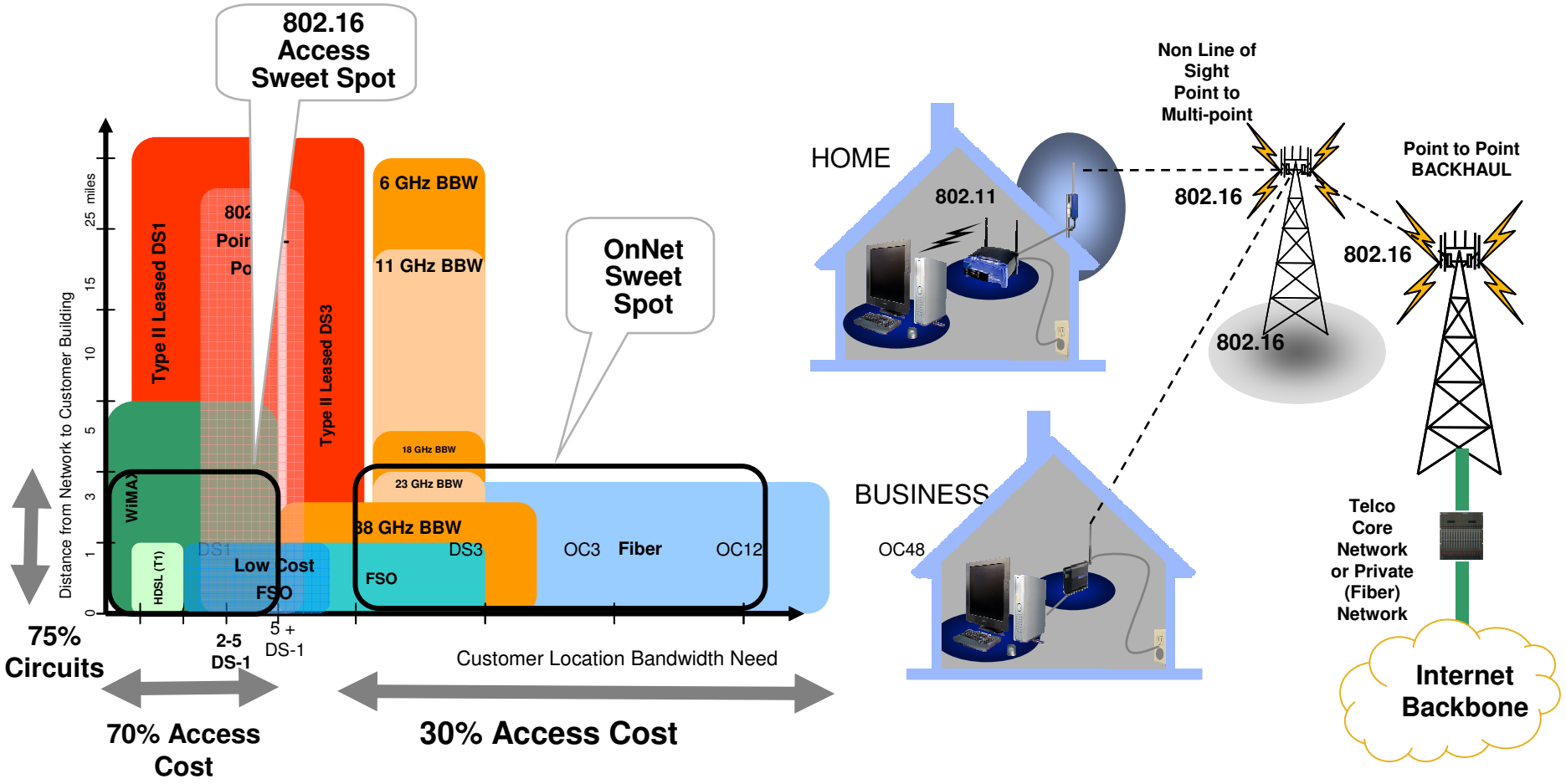
Competitive Advantage

AT&T Network Architecture Evolution



AT&T Is Leading A Massive Industry Transformation

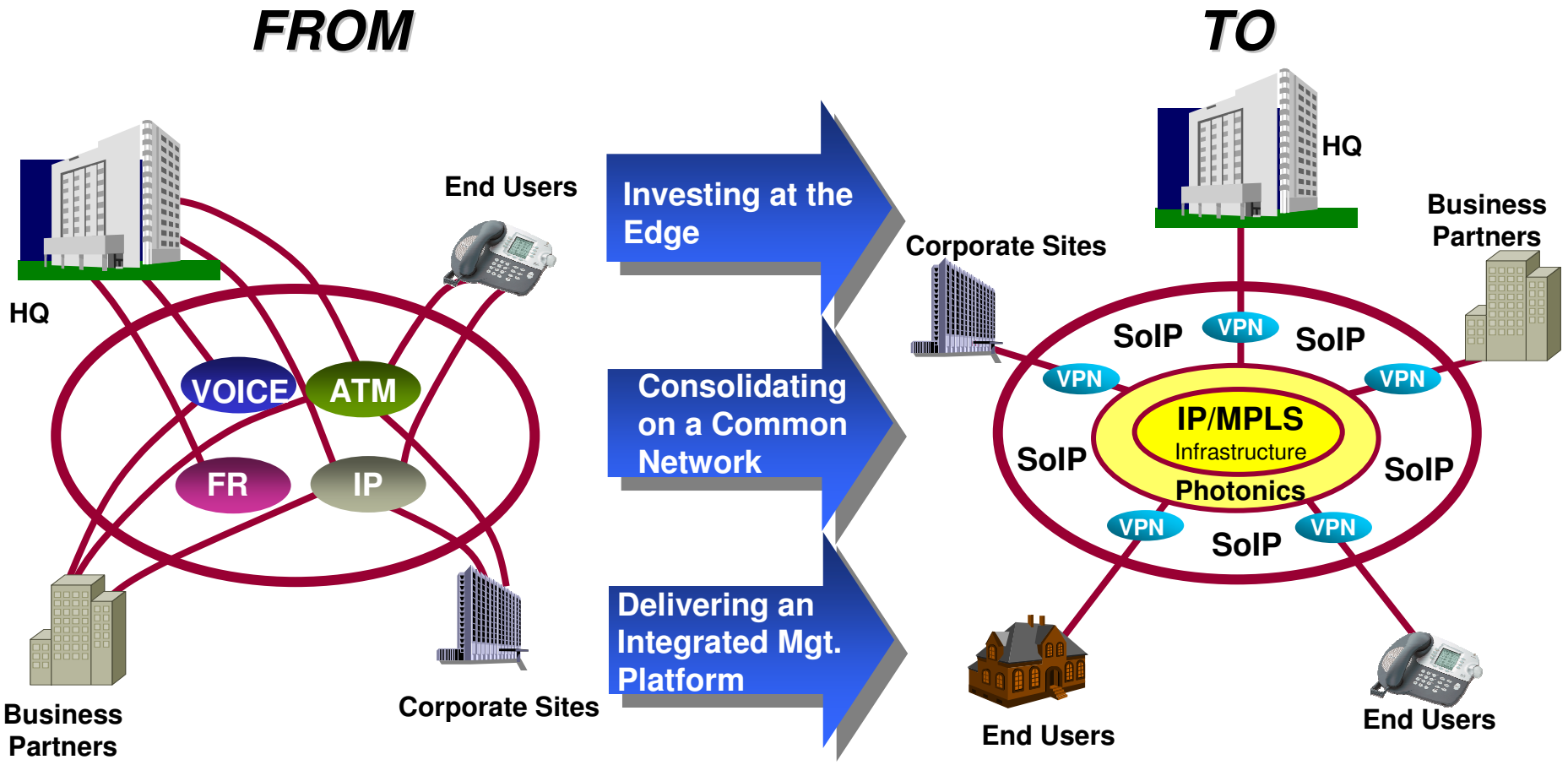
Broadband Wireless Access



Wireless Internet Will Be Big -- Driving Mobility

Power of Convergence

AT&T has Invested Nearly $35 Billion Since 1998 in its Global Network



Delivering The Flexibility & Integration To Serve Customers Better

Power of Cybernated Network

Continuous Monitoring, Flexible Command & Dynamic Response

Non-Real Time

- Monitor – traffic, topology
- Decide – capacity, configuration
- Control – capacity, topology & update

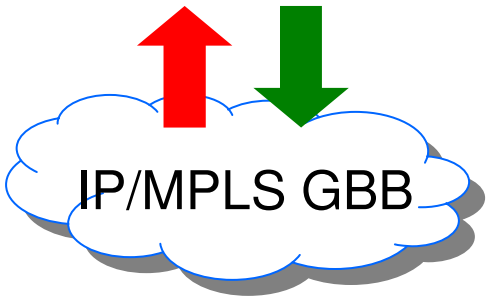
Up to 50 min outage,
Up to 30% packet loss from congestion

Real Time

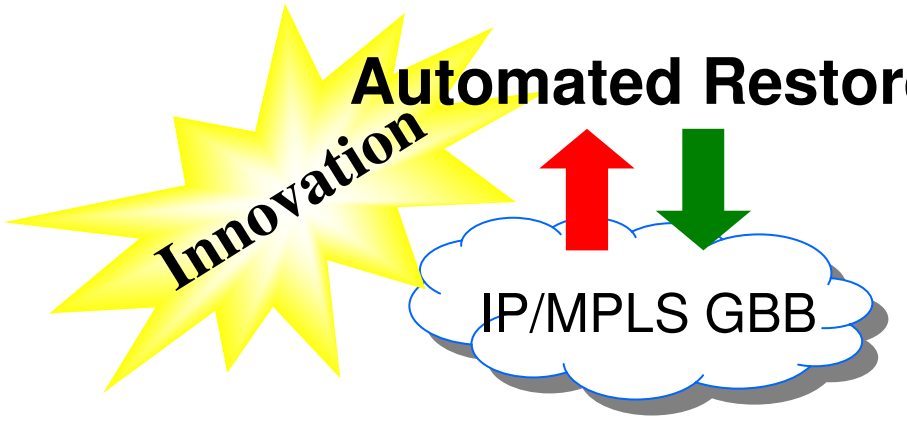
- Monitor – fault, performance
- Decide – problem mitigation
- Control – network update

5 sec outage,
~ 0 packet loss from congestion

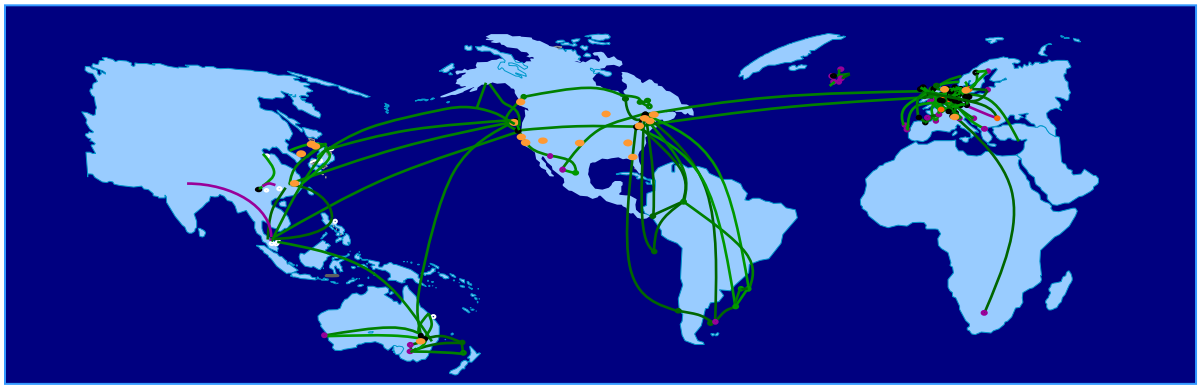
Planned Maintenance



Automated Restore



AT&T Global & Domestic Network



More Places

Global Network
- 147 MPLS Nodes
- 4,800 Remote Access POPs in more than 140 countries
- 26 Internet Data Centers

Domestic Network
- 691 POPs
- 77K Route Miles

More Packets

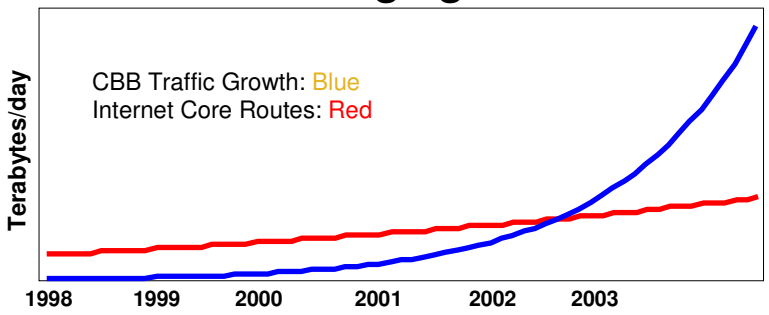
AT&T carries around 2.1 petabytes of IP traffic per day over the AT&T network

AT&T's IP traffic is now over 50% greater than LD voice traffic

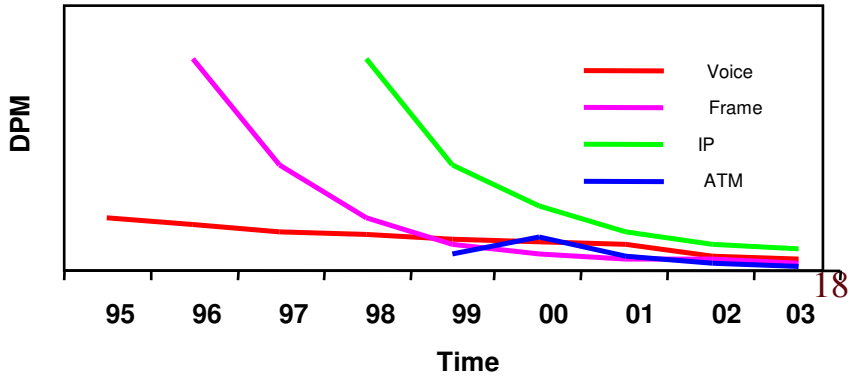
More Reliable

All of AT&T's networks perform between 4-5 nines of reliability

Leveraging Scale



Improving Reliability



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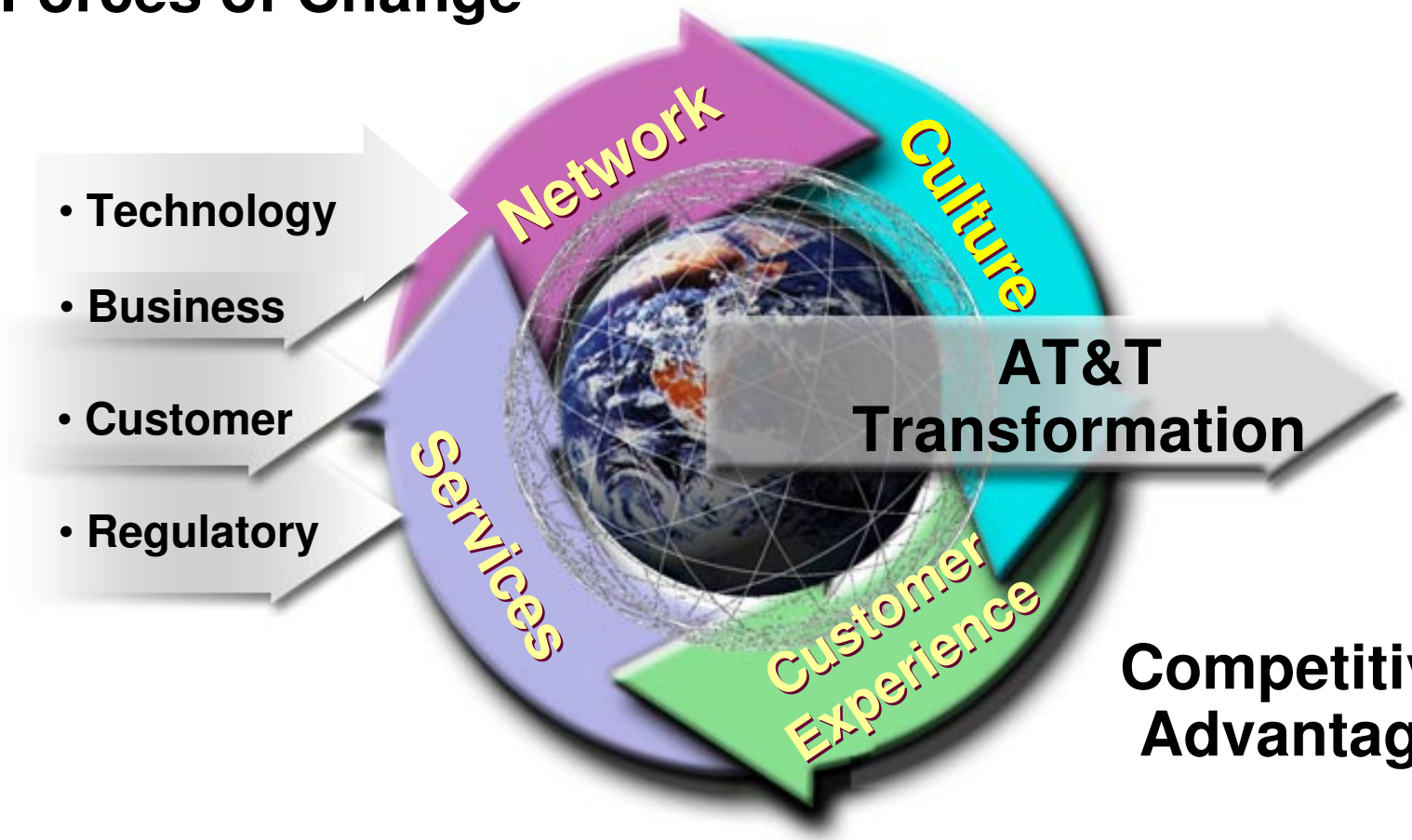
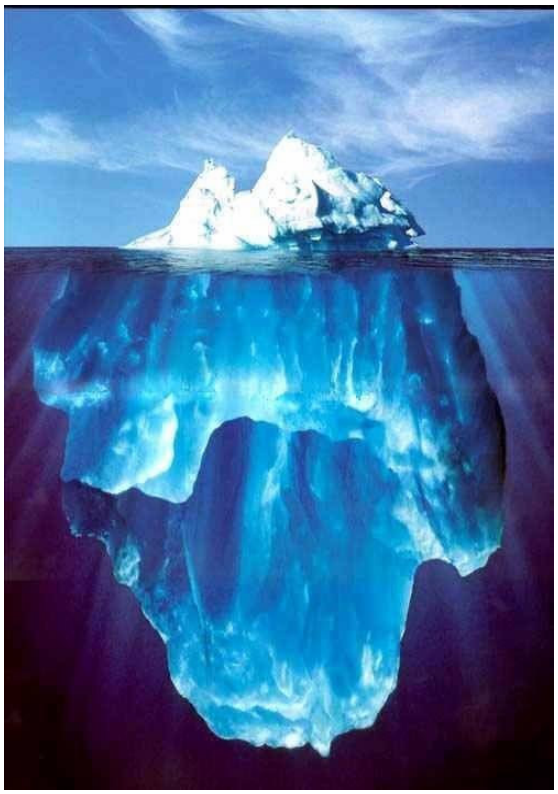


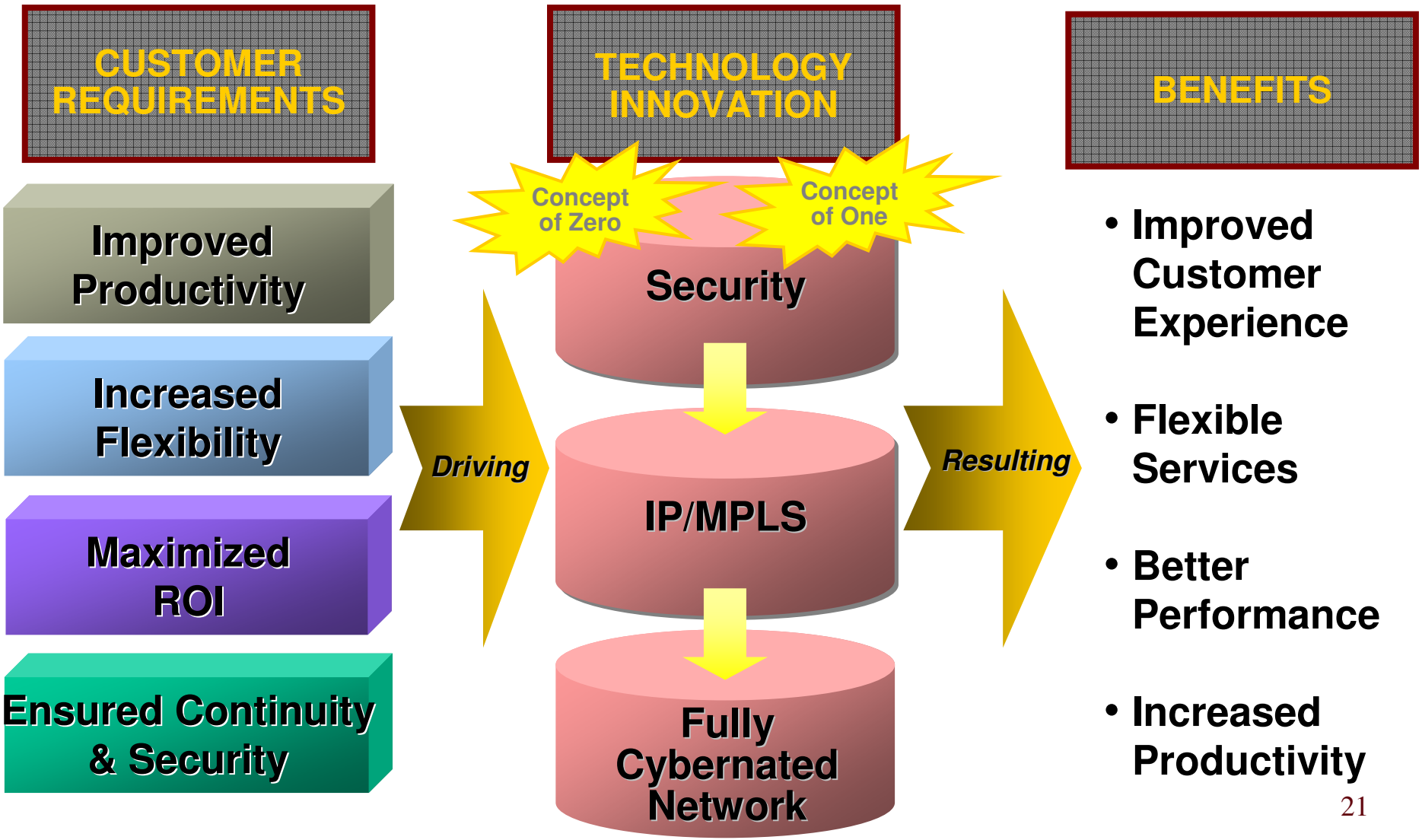
Cultural Transformation

- Reduced Management Layers from 14 to 8.
- Improved productivity – revenue per employee exceeds nearest competitor by over $100K.
- Continue support for innovation and technology advancement by being with the only domestic telecommunications company with a dedicated research lab with a 2,000+ Patent Portfolio



Understanding 90% on the bottom from the 10% on the top

Power of Transformation



Thank You!

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