

# Supernova

June 21, 2005

**One Person's Edge is Another's Core**

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*President -- Global Networking Technology Services & AT&T Labs*

*AT&T CTO & CIO*

*AT&T Fellow*



The world's networking company <sup>SM</sup>

1

**Customer Business Drivers →**  
*The Rise of the Collaboration Networks (over IP)*

2

**AT&T's Network Direction →**  
*One Person's Edge is Another's Core*

3

**Technology and Service Enablers**

# **1 Customer Business Drivers**

## ***The Rise of the Collaboration Networks (CNoIP)***

# Customer Business Drivers are...

## *Key Business Drivers*

## *Technology Enablers*

**Security**

(Anti-)Viruses, Worms, Spam, Terrorism, Cyberattack, DDoS, Prevention

**Right-Time Collaboration**

Broadband, Presence IM, Metro Ethernet, IP, VoIP, Grid, New Access Technologies

**Mobility / Remote Worker**

Telecommuting / Virtual Office, Wi-Fi, WiMax, RFID, Sensors, Personal Firewalls

**Flexibility / Pay Per Use**

On-Demand, Virtualization, Real-Time Enterprise, Software as a Service

**Business Process / Integration**

Autonomic, Adaptive, Predictive, Orchestration, EAI, Web Services

**Compliance Challenges**

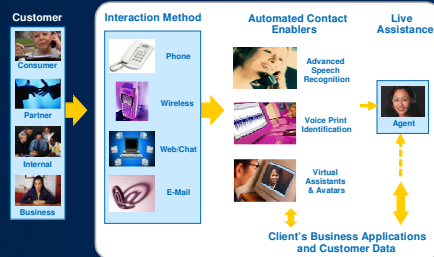
SEC 17a4, HIPAA, Sarbanes-Oxley, Email Archiving, Voice Printing

**Globalization**

Global, Off-shore, NAFTA, WTO

# Creating the Need for Emerging Collaboration Networks

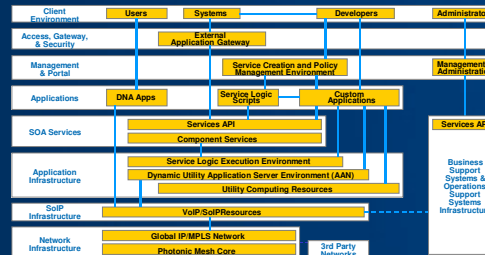
## Call Center Solutions



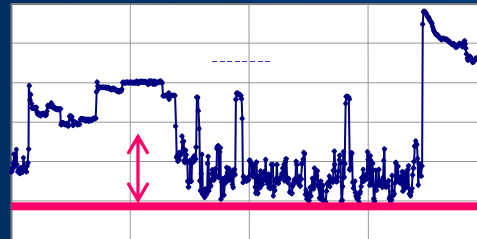
## Next Generation Management



## SIP & Mobility



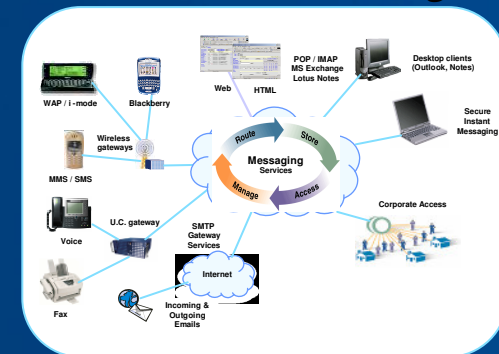
## Security



## Media & IPTV



## Conferencing & Collaboration & Blogs



## E-Communications



**e-Collaboration Will Dominate the Workplace**



# Collaboration Networks = IP Evolution

## *Yesterday's Networks*

## *IP Evolution*

Pipes and Ports	▶ Rich Network-Centric Services
Individual Networks	▶ Convergence
Fixed Capacity	▶ On Demand Utility Everywhere
IPv4	▶ IPv6, Multicast, Unilink, VPLS
Heterogeneity Required	▶ Heterogeneous by Choice
Frame Relay, ATM, IP	▶ Converged IP-MPLS
Transport Services	▶ Storage, Servers, Applications
Wired	▶ Wireless, Free Space, Wired
Person-to-Person Communication	▶ eBonding, Network of Things - COI
Network as a Helpful Utility	▶ Network as Business Critical

***IP Has Eaten Everything***

# 2 AT&T's Network Direction

*One Person's Edge is Another's Core*

# One Person's Edge is Another's Core ...



***Scalable Edge Applications Form New Core***



# AT&T Services Over IP Vision

## *Layered Architecture*

### Integrated Feature Execution Environment

Collaboration



Voice



Conferencing



Messaging



Video



AT&T CallVantage



IP Centrex



AT&T Services over IP Infrastructure Provides Advanced Services in a Uniform Environment

### Common Services over IP Network Infrastructure

E911

CALEA

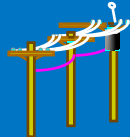
Peering

Global IP/MPLS

Network  
Functions

Border Elements & Gateways

### All Access Technologies



### Any End Device



# **3 Technology and Service Enablers**

# WiMAX: Next Generation Access Technology

## WiMAX

*(Worldwide Interoperability of Radio Access)*

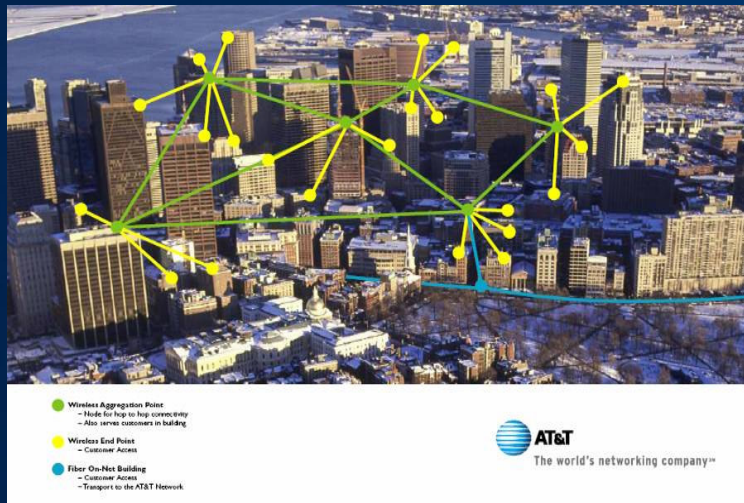
- An air interface standard (IEEE 802.16)
- Wireless Metropolitan Area Network (MAN)
- Ethernet “over the air”
- An alternative to ~T1/DSL/cable wireline access
- A global standard

## WiMax Technology



## Visualizing a WiMax Network

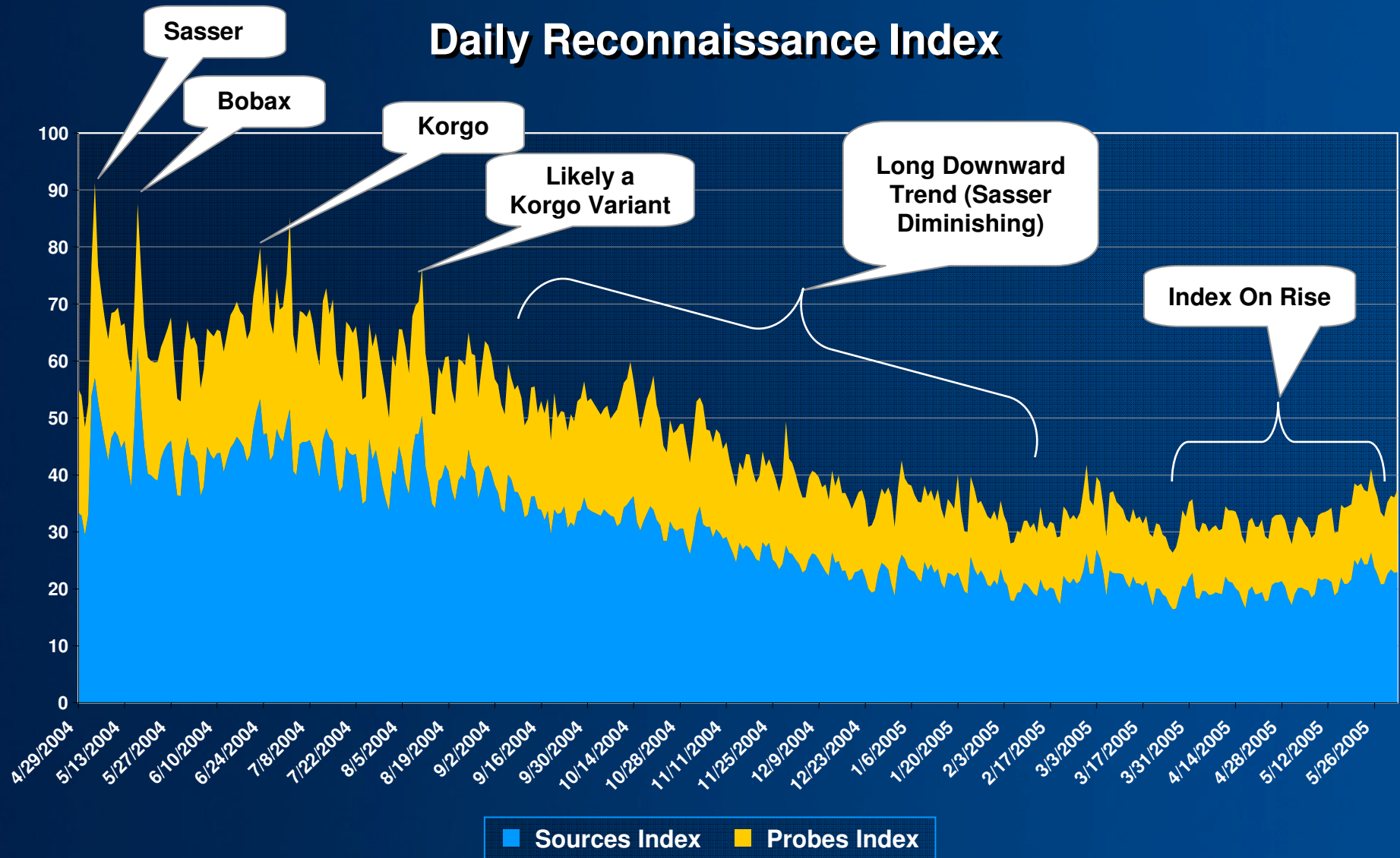
*WiMax Links are shown in yellow, typically 1-5 Miles*



## Expected Advantages of Wimax Access

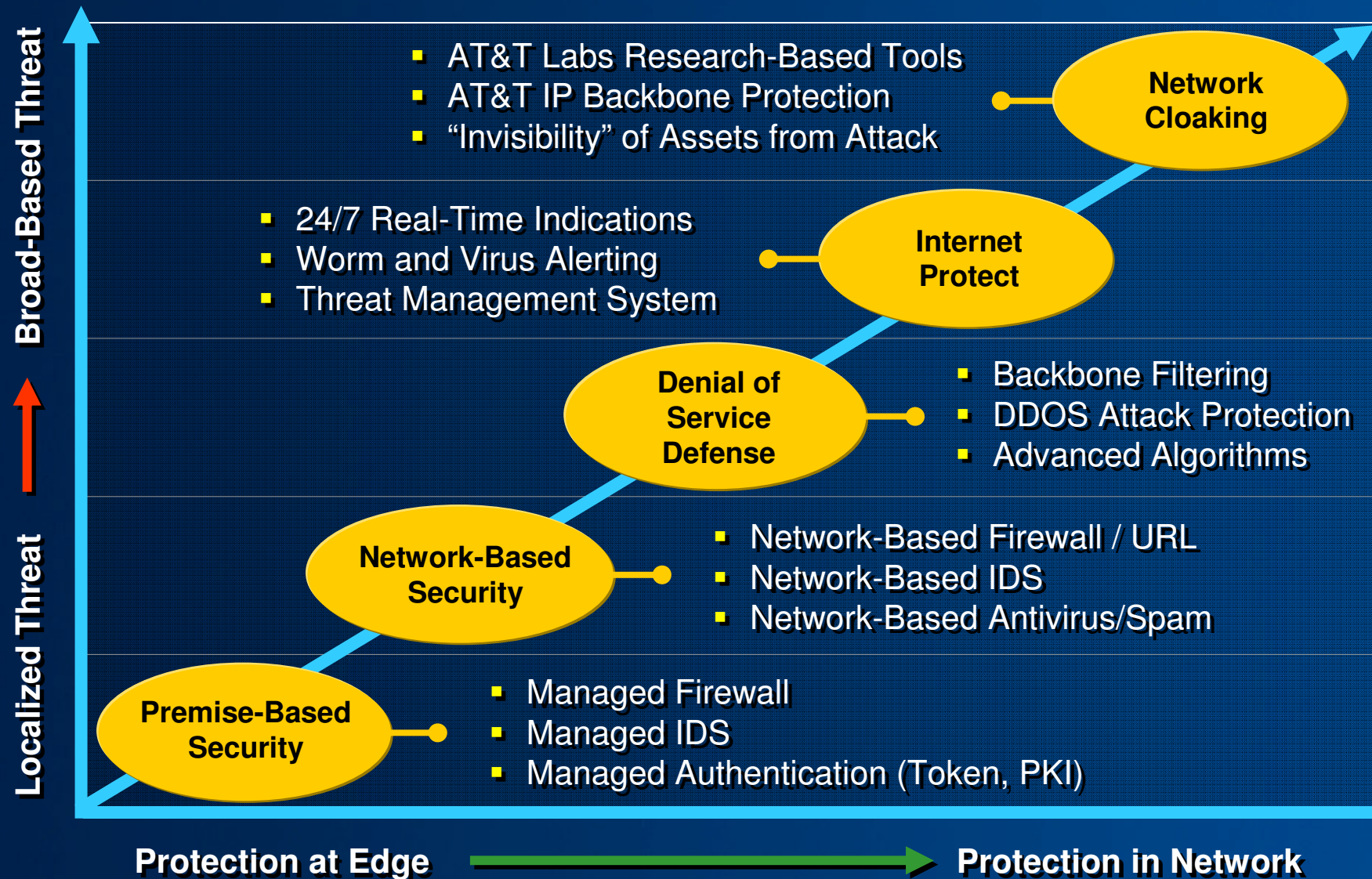
- Cost effective
- Fast Provisioning
- Customer preferred interface – Ethernet
- Higher reliability than T1 access circuits
- Provides resilient, portable & mobile services

# AT&T Cyber Security Reconnaissance Index





# AT&T Continuum of Managed Security Services



# Internet Security News Channel

- **Internet Security News**  
TV channel for IT, network, and security professionals
- **24/7 Breaking Stories**  
Security alerts, advisories, attacks, scrolling news ticker
- **Live TV Channel**  
From AT&T to your browser or Company NOC
- **Business Content**  
On-air commentary, news shows, specials, talks





# Miracle Video Search Engine



***MIRACLE – Platform aimed at creating the technologies for automated & content-based indexing of multimedia information for intelligent, selective, & efficient retrieval; browsing using IP technology***

# Enhanced Conferencing

**AT&T E\*Communications Meetings**

Logged In: Gerald Karam, AT&T Labs

Home Meetings Help Logout

Meeting Place Change Meeting Delete Meeting Meeting Summary Participants Secure PINs

**Meeting: Pitney Bowes** Status: In Progress

Host: Gerald Karam Host PIN: 282989  
Bridge #: (999) 555-2400 Part. PIN: 262989  
Date/Time: 08/19/04 10:54 AM EDT Duration: 0 hrs 20 mins  
Synopsis: \*no synopsis provided\*

**Conference Recorder**  
Recording...  
Record Pause

**Active Meetings...**  
UNCALL Pitney Bowes  
Planning Meeting JOIN NOW

**Call Control**  
\*You are the Host\* PIN: 282989  
-- you are on the call --  
HOLD MUTE HANG UP  
LOCK MEETING END MEETING

**Meeting Documents**  
**Shared Meeting Documents**  
Reinvent URL 2004-08-19 URL Gerald Karam  
Planning document 2004-08-19 0:02 M Gerald Karam  
**My Documents**  
Reinvent URL 2004-08-19 URL Shared?  
Planning document  
Budget and Projections  
MANAGE DOCUMENTS

**Participant List**  
IM Mute Block  
--- Members ---  
Gerald Karam  
Karrie Hanson  
--- Guests ---

**Touch Tone Help**  
6 Mute yourself on the phone by pressing the 6 key.  
8 Unmute yourself on the phone by pressing the 8 key.  
3 End the meeting (host only) by pressing the 3 key.

**VOIP conferencing**  
AT&T's new enabler for powerful new conferencing features

- Meeting recording
- Multi-meeting support
- SpeechLogger keyword search
- Email/IM notification
- Meeting Security

**SpeechLogger**  
Search for a term in this conference recording: [search bar]  
or click on one from this list: registry, implementation, internal architecture, protocol, application, budget, description, sample, industry  
or click on the play button to listen to the entire conference

**Recorded Conference Search and Playback**  
Meeting: Application Building  
[play button]  
[stop button] [speed button]

**Meeting: Application Building**  
Host: Speech Logger  
Bridge #: (999) 555-2400  
Date/Time: 08/19/04  
Synopsis: \*no synopsis provided\*

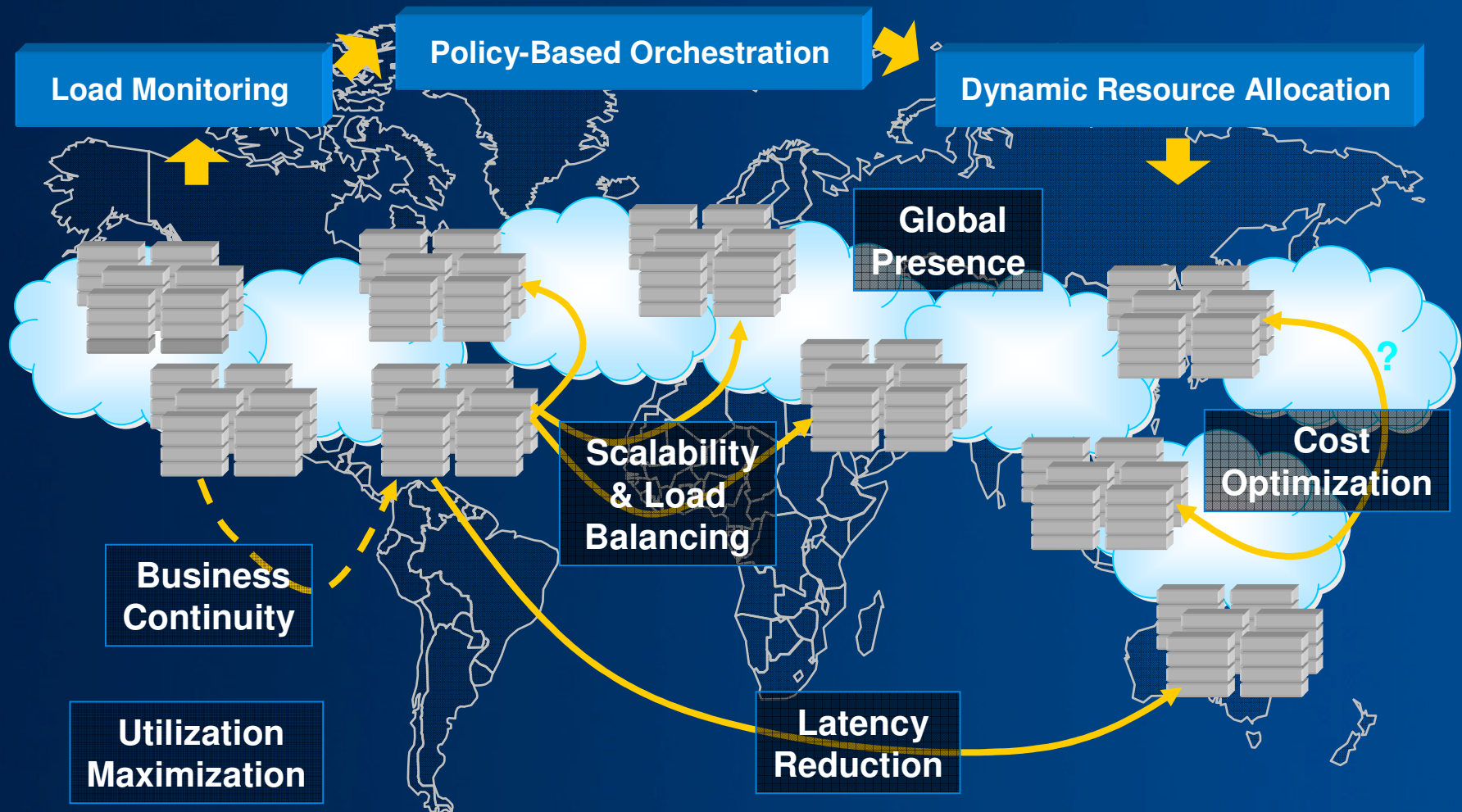
**Call Control**  
\*Meeting not in progress\*

**Participant List**  
IM Mute Block  
--- Members ---  
Speech Logger  
--- Guests ---

**SpeechLogger™ is used to manage conference recording and searching**

# AT&T Application Aware Network:

## ***Interplay of Processing, Storage, and IP Networking***





# Converged Services Over IP

## Anywhere, Anytime, Any Device Communications



**Enabling Flexible, Seamless Services For Customers**

# Technology Collaboration: Control vs. Freedom

## *Forces of Control*

## *Forces of Freedom*

Passive reception of  
information & entertainment

Active participation in reception of  
information & entertainment (web)

Newscasts; Limited content providers

Blogcasts; Personal Studios

Proprietary Solutions

Standard Bodies

Proprietary Software

Open Source

Closed Control Systems

Open Control Systems

Licensed Spectrum

Unlicensed Spectrum – Cognitive Radio

Regulated Access

Open Access

Traditional Phone Numbering System

IP-Address Portability

Proprietary Networks, Vendor Dependency

Open Networks, Architecture & API

Synchronous Communication

Asynchronous Services

# Thank You!



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