

Ottawa Wireless Cluster Session:
'Service Provider' Market

TELUS' Wireless Broadband Vision



Jorge Delrio

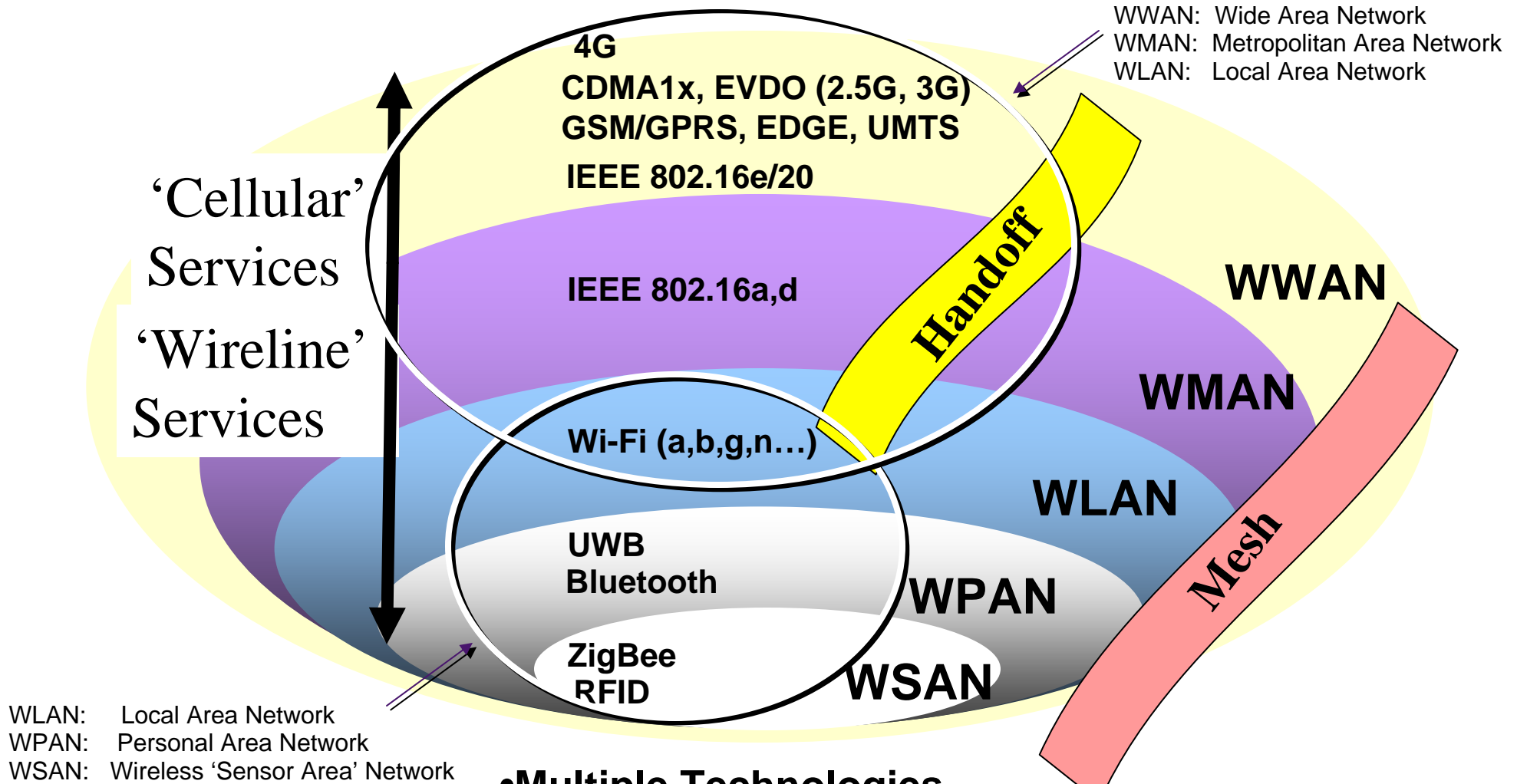
Wireless Broadband Technology Strategy
TELUS Chief Technology Office

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April 13th 2006



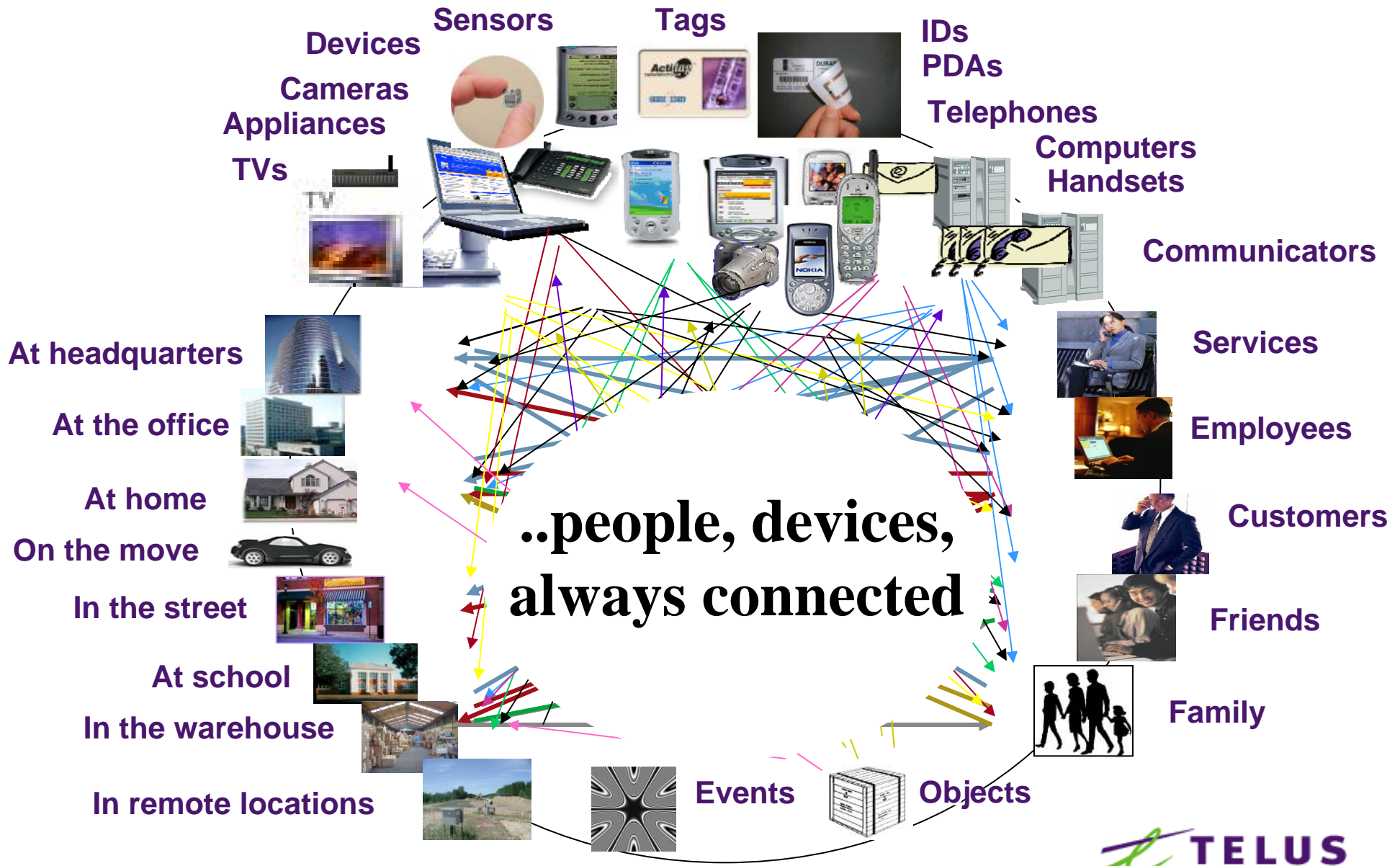
Wireless Vision: Ubiquitous Communications



- Multiple Technologies
- Spectrum Coexistence
- Complimentary Solutions

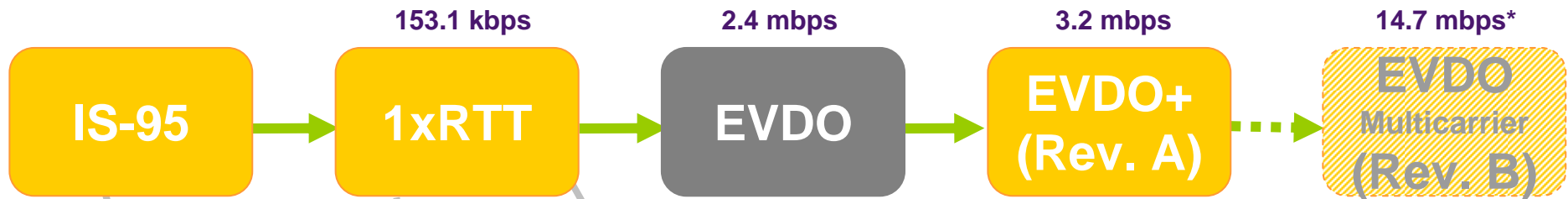


Wireless : Convergence



Mobile WAN : Pillar of Convergence

Theoretical download channel characteristics (excluding compression)



Effective end-user characteristics (excluding compression)

No packet data capability
14.4 kbps circuit

40-60 kbps
Symmetric
400ms RTT

400-700 kbps
Asymmetric
200ms RTT

500-800 kbps
Symmetric
70 ms RTT

1.8-2.7 mbps
Symmetric
<70 ms RTT

RTT = Round Trip Time (Latency)

IS-95b

38 kbps
Circuit switched
Korea only

1x Rev. a

80-120 kbps
Asymmetric
400ms RTT

EVDV

300-500 kbps
Asymmetric
300ms RTT

Limited Deployment or abandoned commercial standards

1995

2001

2005

2007

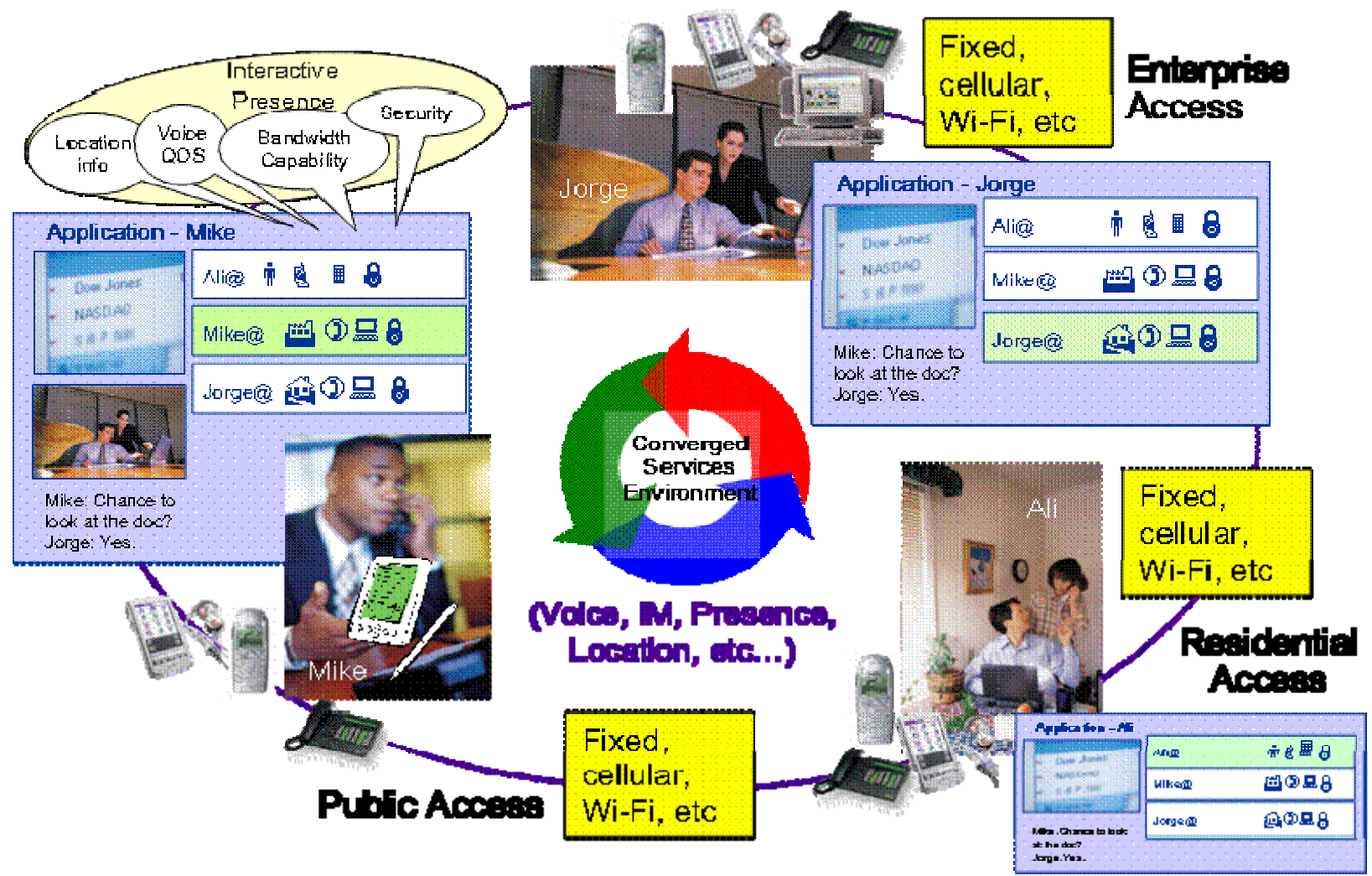
2009+

WAN/MAN/LAN Convergence: Drivers



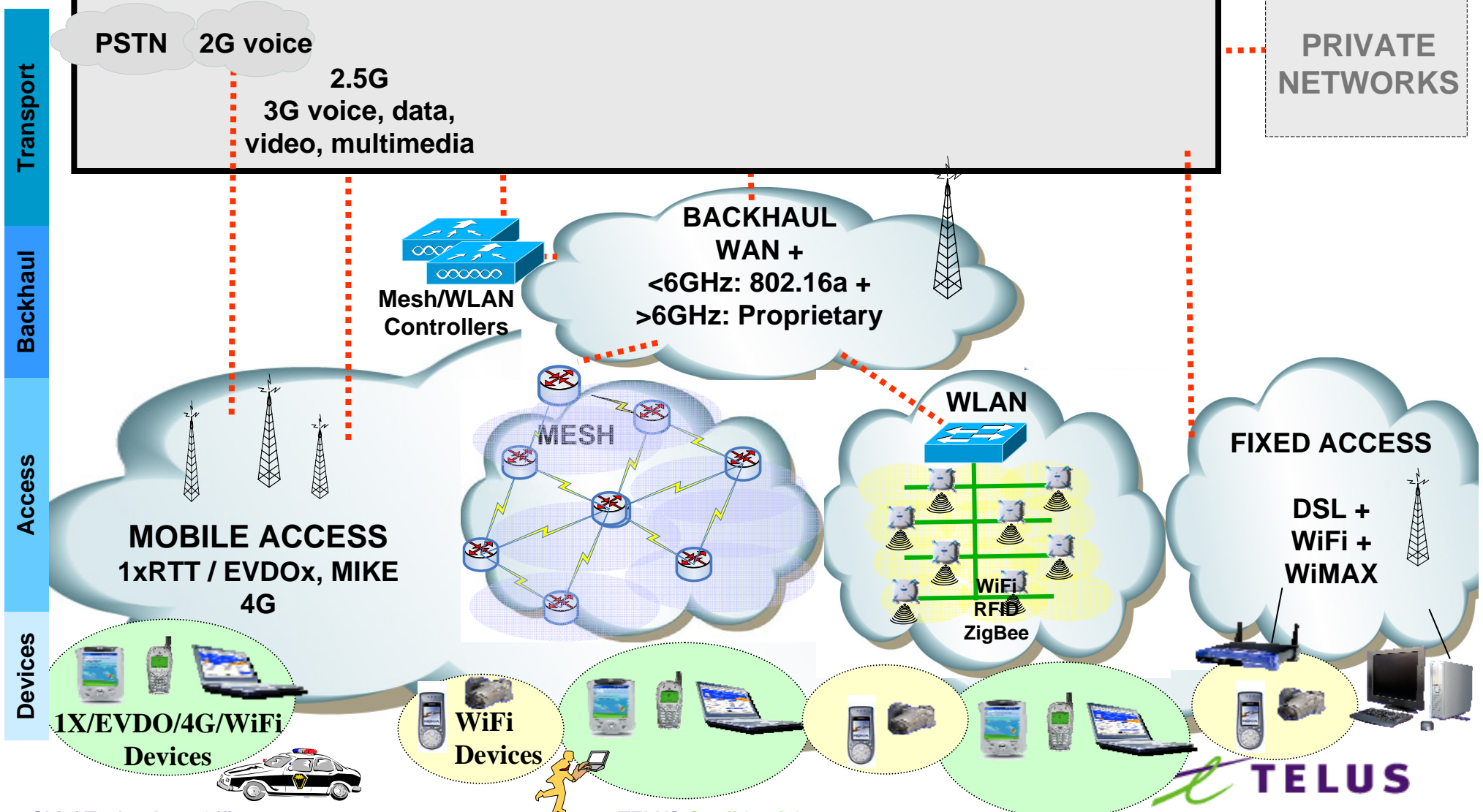
- ➔ **• Services accessible anywhere (home, office, road) through any device/access media**
 - Telephones, PCs, mobile phones, PDAs, TVs, appliances
 - PSTN, 2.5/3G, 4G, DSL/FTTx, WiFi, WiMAX/WiBRO, LAN/WLAN
- ➔ **• Simplified service subscription, service management and support across all access media**
 - Single bill, single profile, single portal
 - Ease of use, consistent support
- ➔ **• Automatic selection of access medium**
 - Devices selecting access medium (eg. lowest cost, optimum performance, etc)
 - Portability/Mobility and service transparency across media
- ➔ **• Consistent comfort, personalization across devices and media**
 - Customized service delivery (eg. single address book, distinct ring-tones, etc)
 - Privacy, service continuity and reliability
- ➔ **• Enhanced experience, enhanced productivity via new services**
 - Location based services, collaboration tools, presence management
 - Rich portfolio of applications to meet consumer, business needs
- ➔ **• Enhanced security, access control**

WAN/MAN/LAN: Converged Services

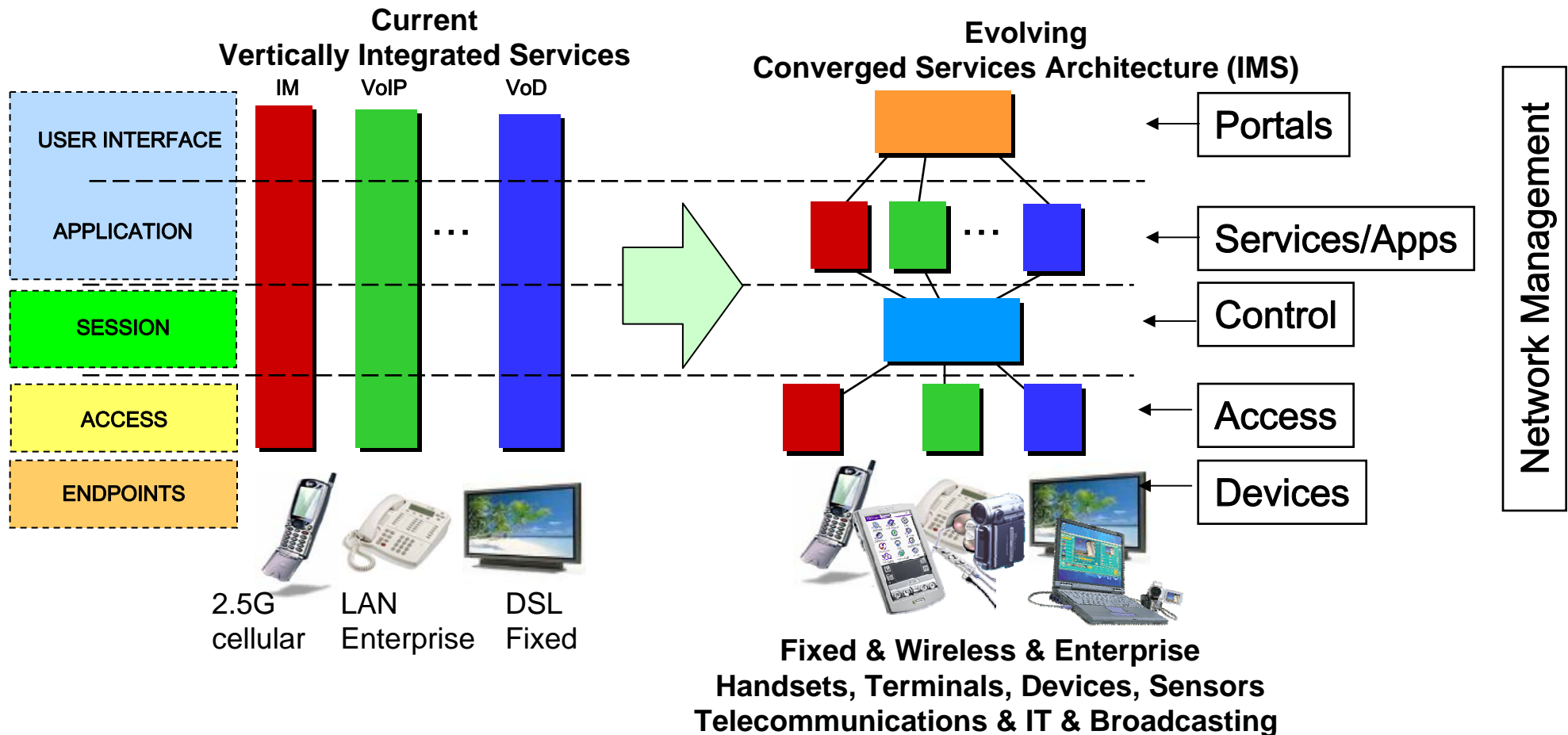


TELUS Evolving Wireless Architecture

TELUS IMS CONVERGED NETWORK



WAN/MAN/LAN Convergence: Network Architecture



New services/applications + Ubiquitous access: Increased revenues !
Common architecture + Common business/support systems: Increased efficiency !
Richer services/applications + Better customer experience: Increased competitiveness !

IMS Drivers

Deliver outstanding services

Simplify the user communications experience

Seamless communications

Introduce new technologies that address new/evolving requirements

Manage complex, hybrid infrastructures

Simple, centralized management

Robust, secure, dependable systems

Manage IT/Communications budgets and expenditures (TCO)

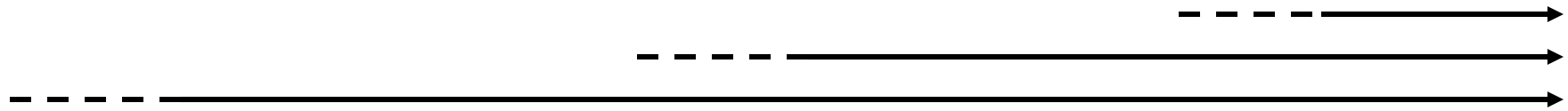
IMS Framework Addresses Public/Private Market Drivers

WLAN/WPAN/WSAN: Integrated Solutions

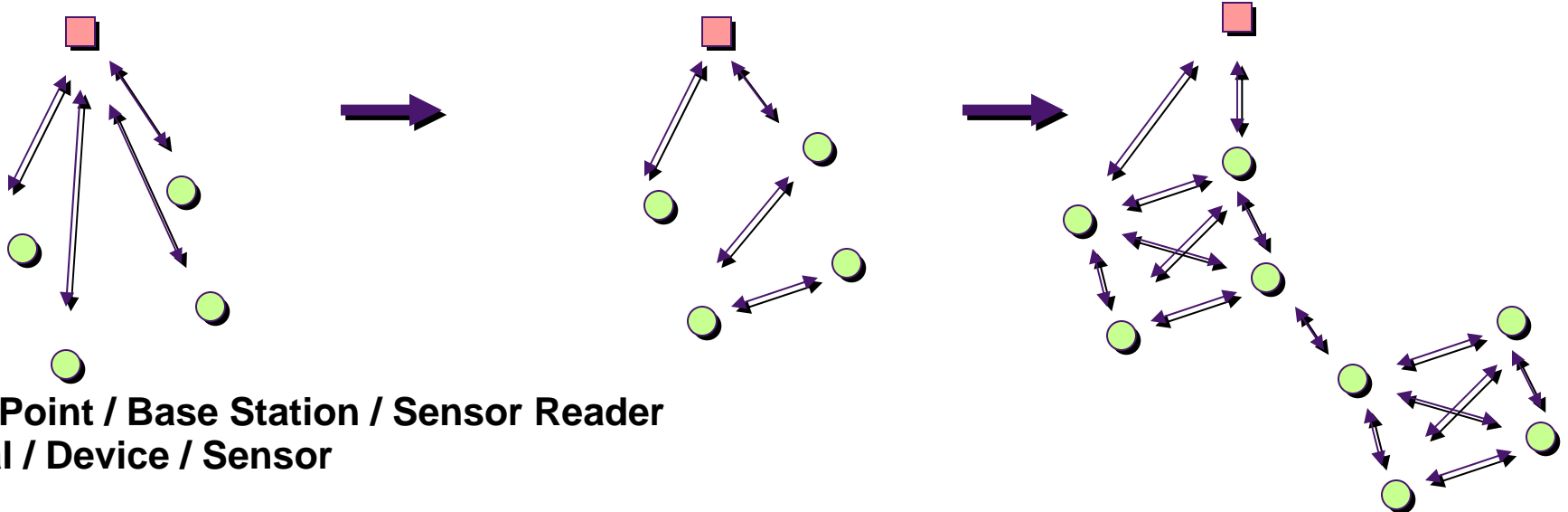


WLAN/WPAN/WSAN: Evolving Architectures

Device to Network → Device to Device → Mesh → Ad-hoc



2005



- Access Point / Base Station / Sensor Reader
- Terminal / Device / Sensor

TELUS' role is consistent across evolving architectures:

- to enable and deliver valuable services and applications
- to ensure reliable, secure communications
- to manage and guarantee the end-user experience



TELUS' WLAN/WPAN/WSAN Focus: Services/Applications

Presence Based Communication

Retail/Office/Industrial Automation

Intra-vehicle Communications

Voice Communications

Data Transfer

Inventory Location/Tracking/Control

File Sharing

Safety/Security/Access

Ubiquitous Communications

Environmental Monitoring

Health/Well Being Monitoring

Structural Monitoring

Consumer Electronics

Home Automation

Industrial Control Systems

Building Automation

Cashless Transactions

Telemetry

Identification

Interactive Multimedia

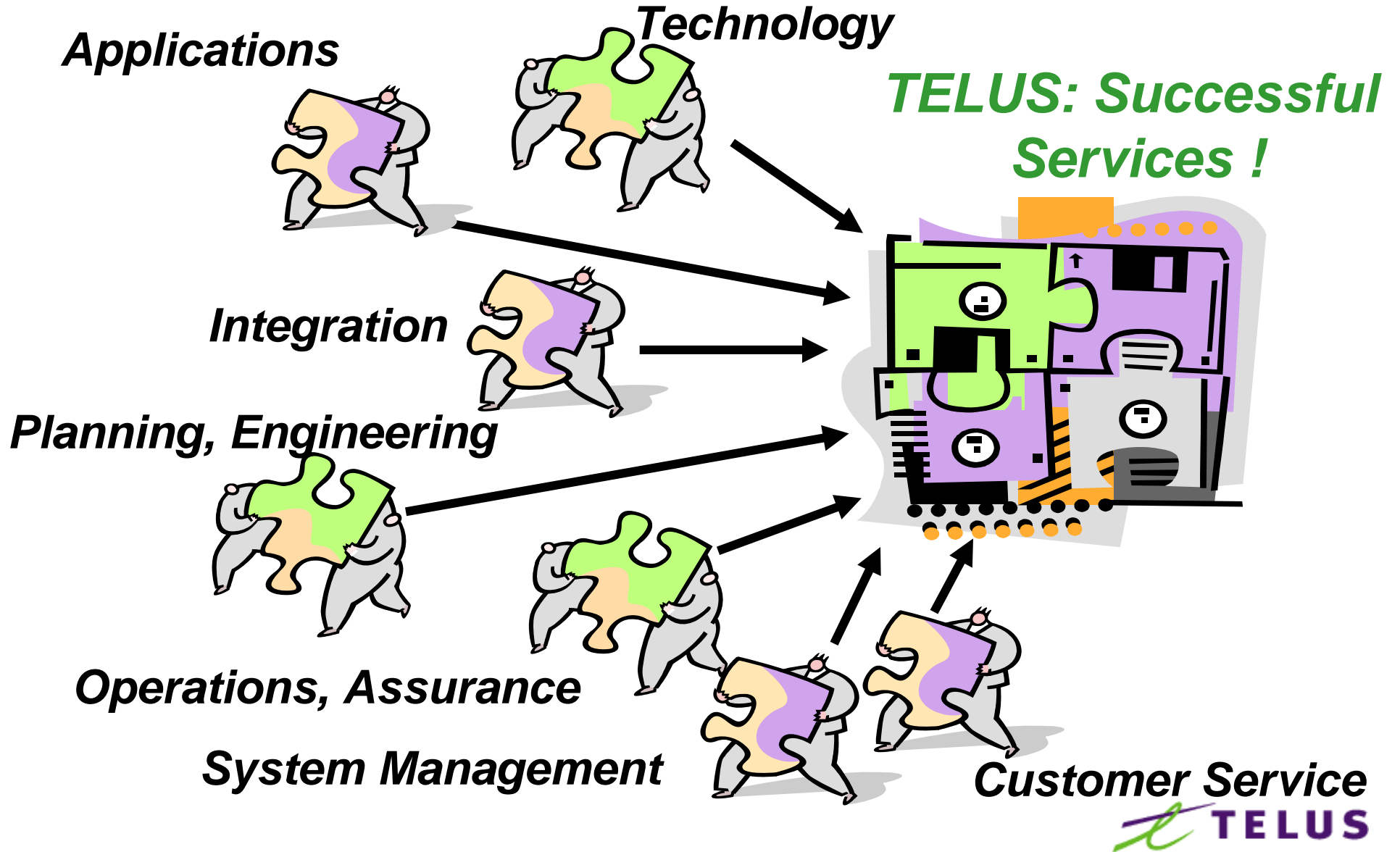
Traffic Control

Wearable Communicators

Sensing

An evolving consumer, enterprise, industrial and vertical market for WLAN/WPAN/WSAN services and applications.

Summary: Wireless Services





“ Don’t blink now or there’ll be another wireless technology to keep track of !”

Thank You !

TELUS Confidential

