

Mobile Wireless Internet Forum (MWIF) Architectural Principles

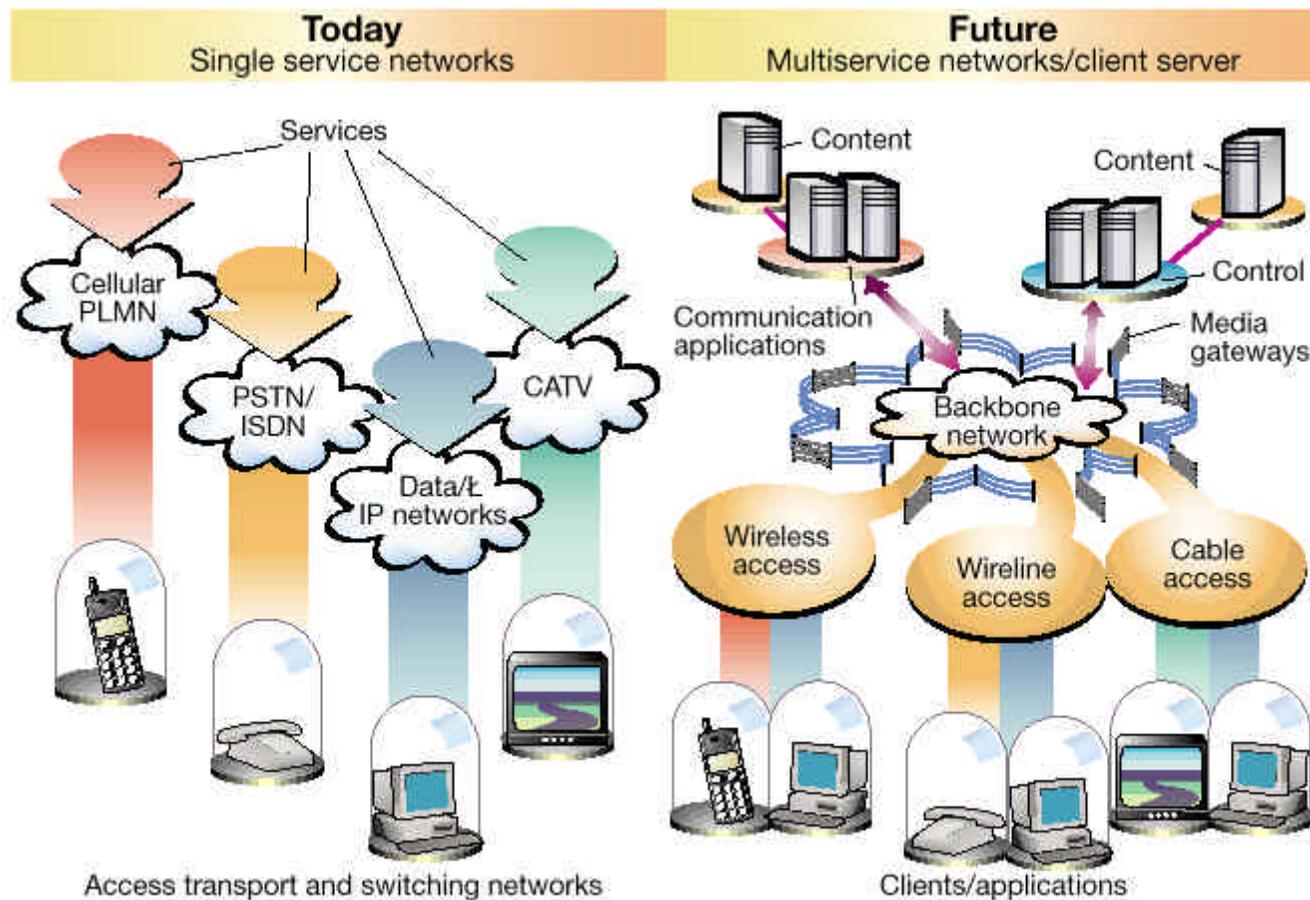
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MWIF (Mobile Wireless Internet Forum)

Mission Statement:

Drive a single open mobile wireless internet architecture that enables seamless integration of mobile telephony and internet services, meeting the needs of network operators and Internet service providers, and is independent of the access technology.



Charter

- **Influence & align standards with target architecture**
- **Promote interoperability of IP equipment, services, sub-systems, client & service systems with target mobile architecture**
- **Promote development & investment in target architecture**
- **Optimize applications available to customers**

Current Founding Members

Total Number: 43

3Com	KPMG	SK Telecom
Alcatel Corporation	LG	Sprint PCS
Bell Atlantic Mobile	Lucent	Solect
Celletra Inc.	Malibu Networks, Inc.	Sony
Cisco Systems	Microsoft	Sun Microsystems
Compaq	Motorola	Synacom Technology, Inc.
Comverse	NEC Corporation	Tekelec
DDI	Nokia	Telcordia Technologies
Ericsson	Nortel Networks	Telos
Fujitsu	Orange PCS Ltd	Telstra
Hitachi, Ltd	Portal Software	TIW
HP	Qualcomm Inc.	Toshiba America Research, Inc.
Hyundai Electronics	Samsung	Vodafone AirTouch
IBM	Sharp Corporation	WIND
	Siemens AG	

Interim Chair and President: Dean Sirovica, Vodafone AirTouch

Operator Business Goals

- **Significant cost reduction**
 - Data communications cost curve
 - Multi-vendor procurement
 - Modular & incremental infrastructure growth
- **Accelerated Time to market**
 - End user services
 - Infrastructure
- **Variety of services with open service creation environment**
 - Faster services & applications development
 - New business development opportunities
 - Alignment of data services and the Internet
- **Grow Internet services business**
 - Take advantage of wireline Investment in Internet, VoIP, IP-based services and applications
- **Open to billing partner(s) early on**

The Mobile Wireless Internet Forum will:

- be open to all operators, service providers and suppliers who have a desire to produce a global, common vision for an Internet-based mobile wireless network and related service capabilities
- Act as a driver that is *complementary* to the existing standards working groups and will provide a common voice of global operators
- Ensure that key regional and global standards groups address requirements that global operators see critical to early and economic deployment of IP-based mobile wireless network
- will be mobile technology neutral and not biased towards any particular standards

Architecture Principles (1)

- **Embrace internet technologies and services**
- **Separation of concerns (service from delivery)**
 - Separation of transport and signaling
 - Separation of mobility management from session control
 - Aid Operators/ISPs ability to independently upgrade sub-systems
 - Allow Operators/ISPs to build multi-vendor systems
- **Open all pertinent interfaces**
 - including RAN internal interfaces, core network interfaces
 - floating transcoder function (not tied to radio access network)
- **Independence of wireless access technology**
 - Extend IP transport of traffic and control to BTS
 - Provide IP end-to-end from terminal for data applications
 - Inter-technology mobility management (separate mobility management function)
- **Global alignment**
 - Eliminate regional/country differences in key interfaces
 - Globally accessible services
 - Interoperability with 2G and non-IP networks and services

Architecture Principles (2)

- **Harmonisation across access technologies**
 - Extends from Wireless to Wireline, xDSL, Cable, etc.
- **Distributed architecture**
 - Intelligence distributed in the network and end points
 - Scalable
- **Performance, Quality, Reliability**
 - End-to-end QoS mechanism for any given service
- **Security**
 - support mutual authentication, confidentiality, integrity and non-repudiation

Architecture Principles (3)

- **O&M**
 - standardised, compatible network management interfaces
 - flexible accounting and billing
- **Services**
 - Support wide range of services, including real-time, non-real-time, multi-media services
 - Rapid service creation
 - Support of third party service development
 - User customisation of services
- **Support regulatory requirements**
 - legal intercept
 - number portability
 - and other regional requirements

MWIF Reference Architecture

- **Towards meeting Architecture Principles, the MWIF is developing a network reference architecture**
 - catalyst for consolidating of existing architectures
 - produce gap analysis
 - benchmark existing architectures against principles
 - adopt best-in-class solutions
 - submission to 3GPP and 3GPP2 planned
- **Work being done in the Wireless Internet Architecture WG, currently chaired by Paul Reynolds of Orange PCS Ltd**
 - Targeted completion timeframe: March 2000
- **Other MWIF Technical WGs:**
 - Operator and ISP Requirements
 - IP to BTS
 - Influencing Standards

Summary

- **MWIF goal: drive adoption of a single, open mobile wireless internet architecture that can**
 - lower infrastructure cost
 - accelerate services development
 - facilitate multi-vendor interoperability
 - complement and harmonize global mobile wireless and Internet standardization
- **Attributes of target network:**
 - support multiple services in a globally seamless manner
 - access technology independence (2G and 3G, W-CDMA vs. cdma2000, mobile or fixed)
 - leverage innovations and cost curves of Internet and VoIP technologies by aligning mobile network architecture with the internet
 - remove classical separation of core and access networks via uniform adoption of IP technologies
- **Near-term milestone: development of reference architecture for consideration by 3GPP and 3GPP2**

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