



DAIDALOS Workshop

Overview on ETSI TISPER

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TISPAN

TISPAN: Telecommunication and Internet converged Services and Protocols for Advanced Networking

results from the combination, in September 2003, of :

- ❑ SPAN, formed as a Technical Body from the joining of SPS (Services, Protocols & Switching) and NA (Network Aspects)

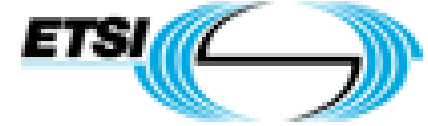
SPAN = Services and Protocols for Advanced Networks

- ❑ TIPHON, formed in 1997 as an ETSI Project to study VoIP and subsequently extended to any Telecom (including Multimedia) services over IP

TIPHON = Telecommunications and Internet Protocol Harmonization Over Networks



TISPAN_NGN Synergy

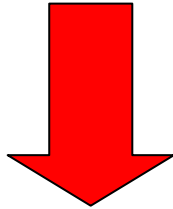


- ❑ The working groups of the TC TISPAN have been carefully defined to cover the needs of the industry in specific technical areas of competence
- ❑ Each project follows a particular technical subject and co-ordinates across the competence groups
- ❑ The following slide gives an summary of the way the TC TISPAN leads the way in standardisation

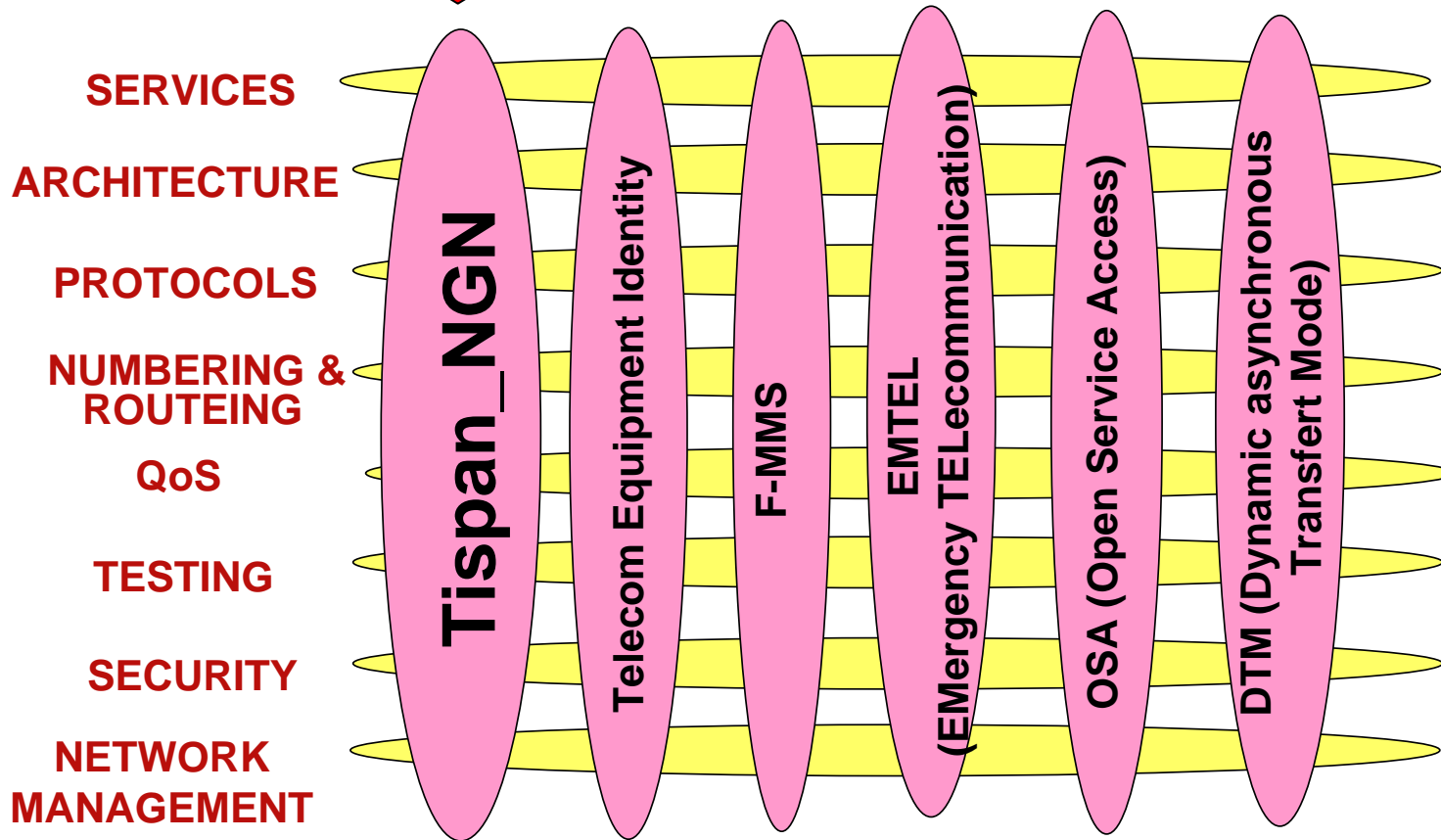
tispan Technical Committee structure



8 Working Groups



Projects



Etc... as needed



WHAT ?

□ **The Next Generation Network will finally provide:**

- A multi-service, multi-protocol, multi-access, IP based network - secure, reliable and trusted
 - Multi-services: delivered by a common QoS enabled core network.
 - Multi-access: several access networks; fixed and mobile terminals.
 - Not one network, but different networks that interoperate seamlessly
- An enabler for Service Providers to offer
 - real-time and non real-time communication services
 - between peers or in a client-server configuration.
- Nomadicity and Mobility
 - of both users and devices
 - intra- and inter-Network Domains, eventually between Fixed and Mobile networks

➤ **“My communications services” always reachable, everywhere, using any terminal.**

PSTN/ISDN service continuity in NGN:

□ PSTN/ISDN Simulation



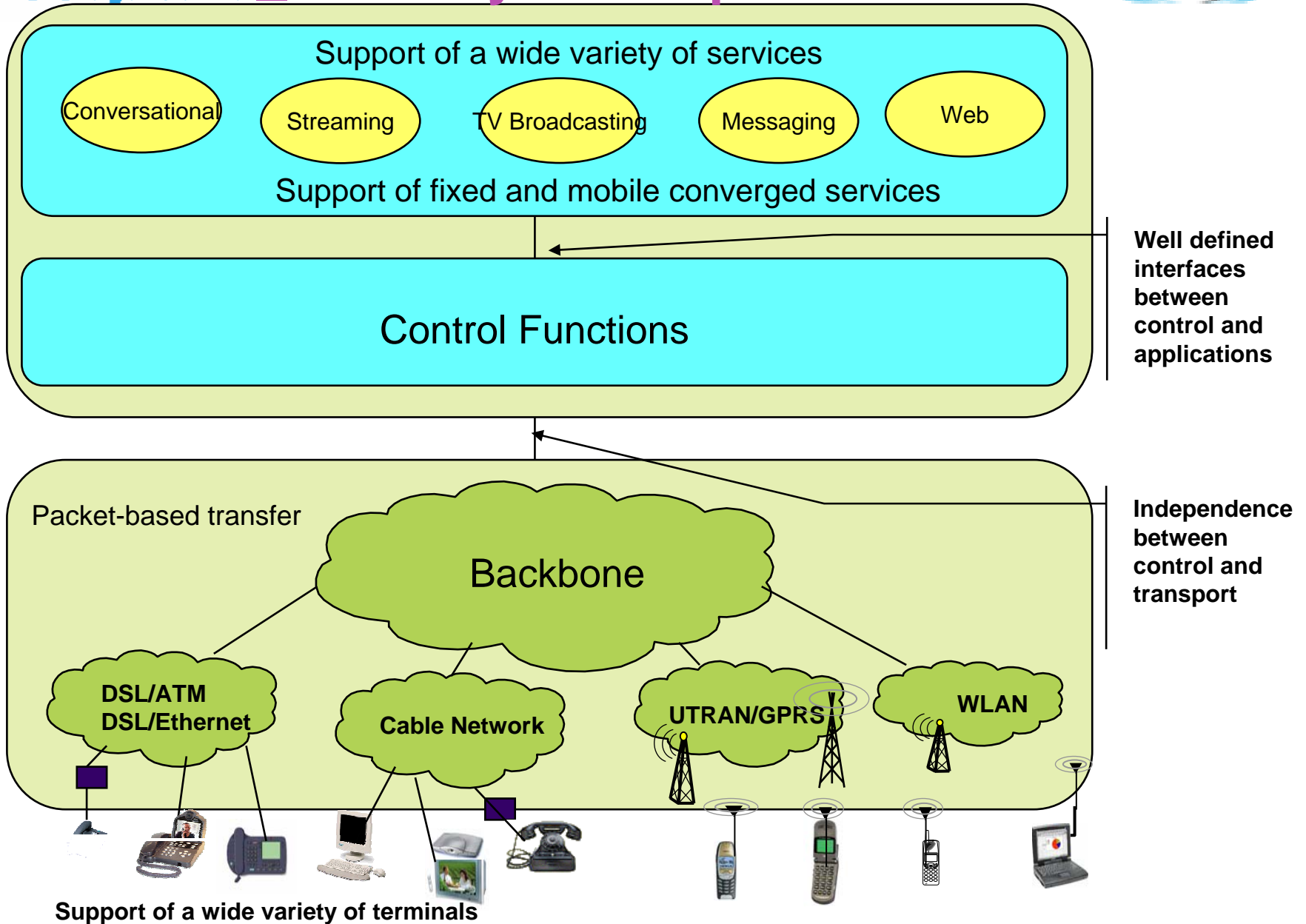
- *"Provides PSTN/ISDN-like service capabilities using session control over IP interfaces and infrastructure"*
- The provision of PSTN/ISDN-like services to advanced terminals (IP-phones) or IP-interfaces. There is no strict requirement to make all PSTN/ ISDN services available or identical, although end users expect to have access to the most popular ones, possibly with different ergonomics.

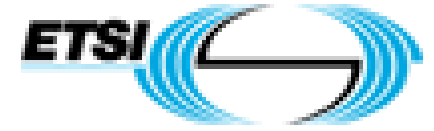
□ PSTN/ISDN Emulation



- *"Provides PSTN/ISDN service capabilities and interfaces using adaptation to an IP infrastructure"*
- Emulates a PSTN/ISDN network from the point of view of legacy terminals (or interfaces) by an IP network, through a gateway. All PSTN/ISDN services remain available and identical (i.e. with the same ergonomics), such that end users are unaware that they are not connected to a TDM-based PSTN/ISDN.

tispan_NGN key assumptions



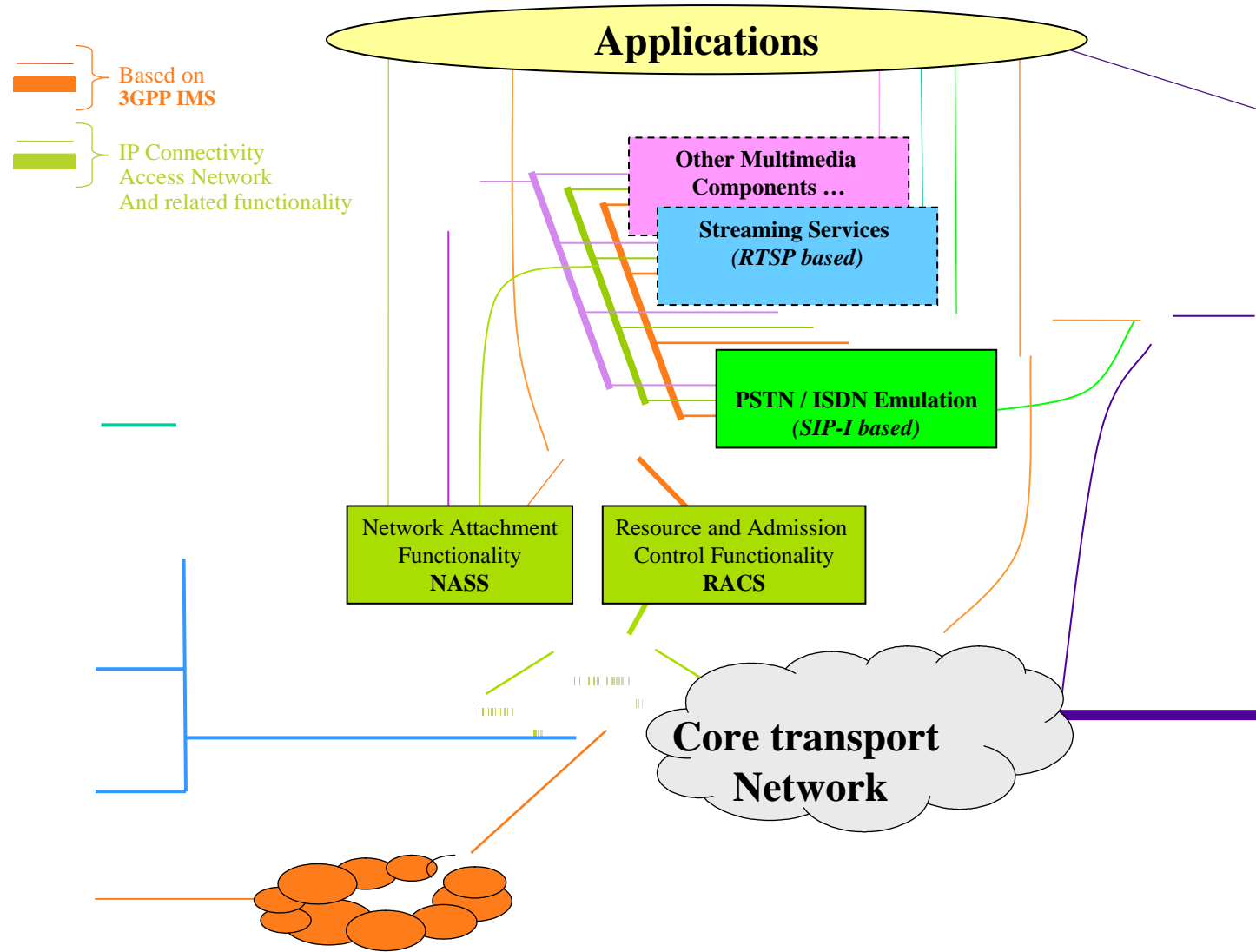


HOW ?

- ❑ **Use the “core” IMS as one of the high-level components of the overall NGN architecture, with initial focus on xDSL**
 - xDSL-based access networks provide access to IMS and other subsystems (e.g.; streaming)
 - xDSL-based access networks as a new type of IP-Connectivity Access Network for the IMS

- ❑ **Complement the IMS with other subsystems**
 - A resource and admission control subsystem
 - A network attachment subsystem
 - A PSTN/ISDN Emulation Subsystem
 - Other multimedia subsystems and applications

- ❑ A sub-system oriented approach, enabling:
 - The addition of new subsystems over the time to cover new demands and service classes.
 - To import subsystems from other standardisation bodies.
 - Flexibility to adjust the architecture.
- ❑ IP connectivity is provided using two subsystems:
 - Network Attachment Subsystem (NASS)
 - Resource and Admission Control Subsystem (RACS)
- ❑ First service-oriented subsystems include:
 - The 3GPP IMS suitably adapted to accommodate xDSL-based access networks requirements (joint effort with 3GPP), supporting multimedia services and PSTN/ISDN Simulation.
 - A PSTN/ISDN Emulation subsystem specifically tailored to allow TDM equipment replacement, while keeping legacy terminals unchanged.

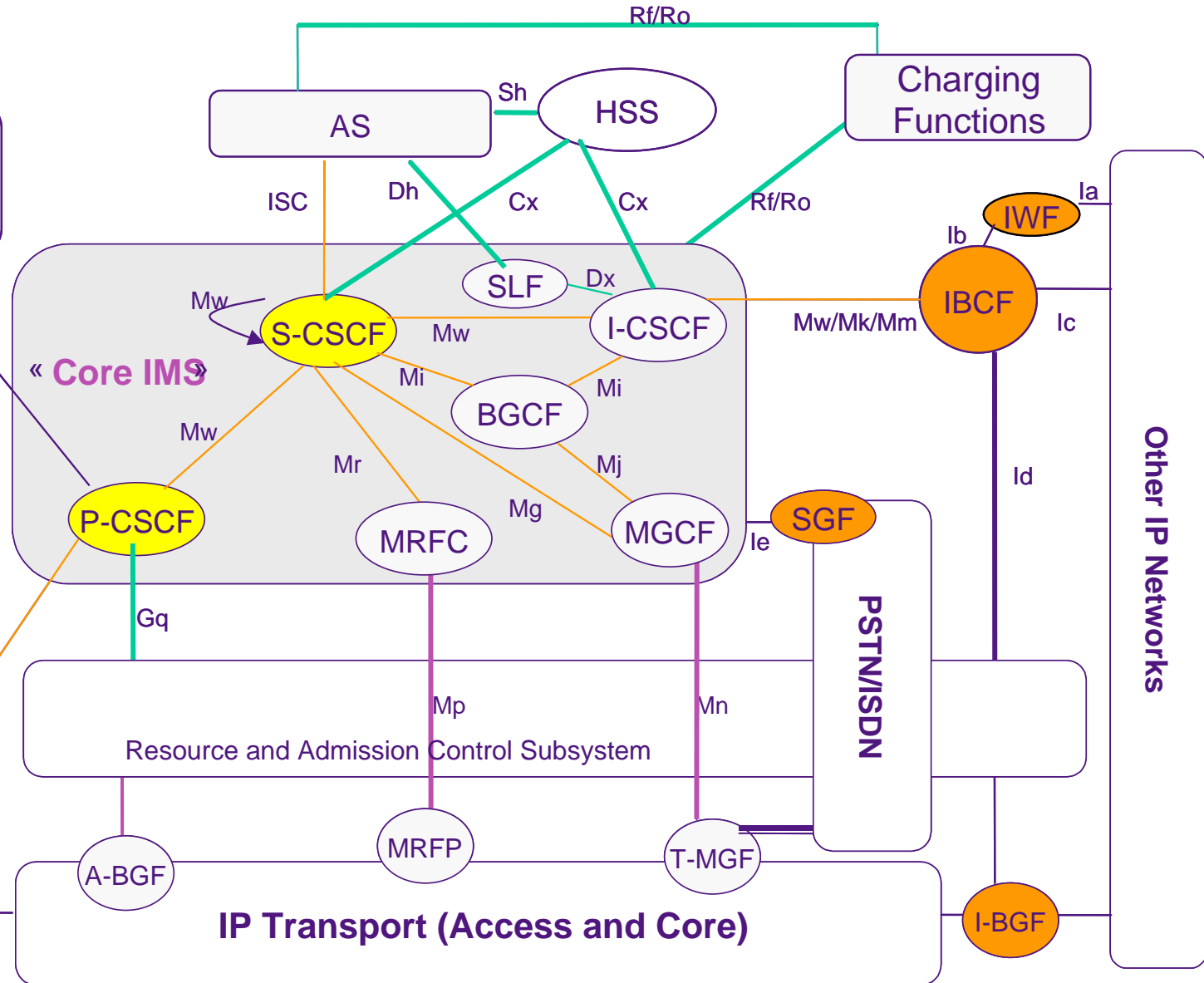


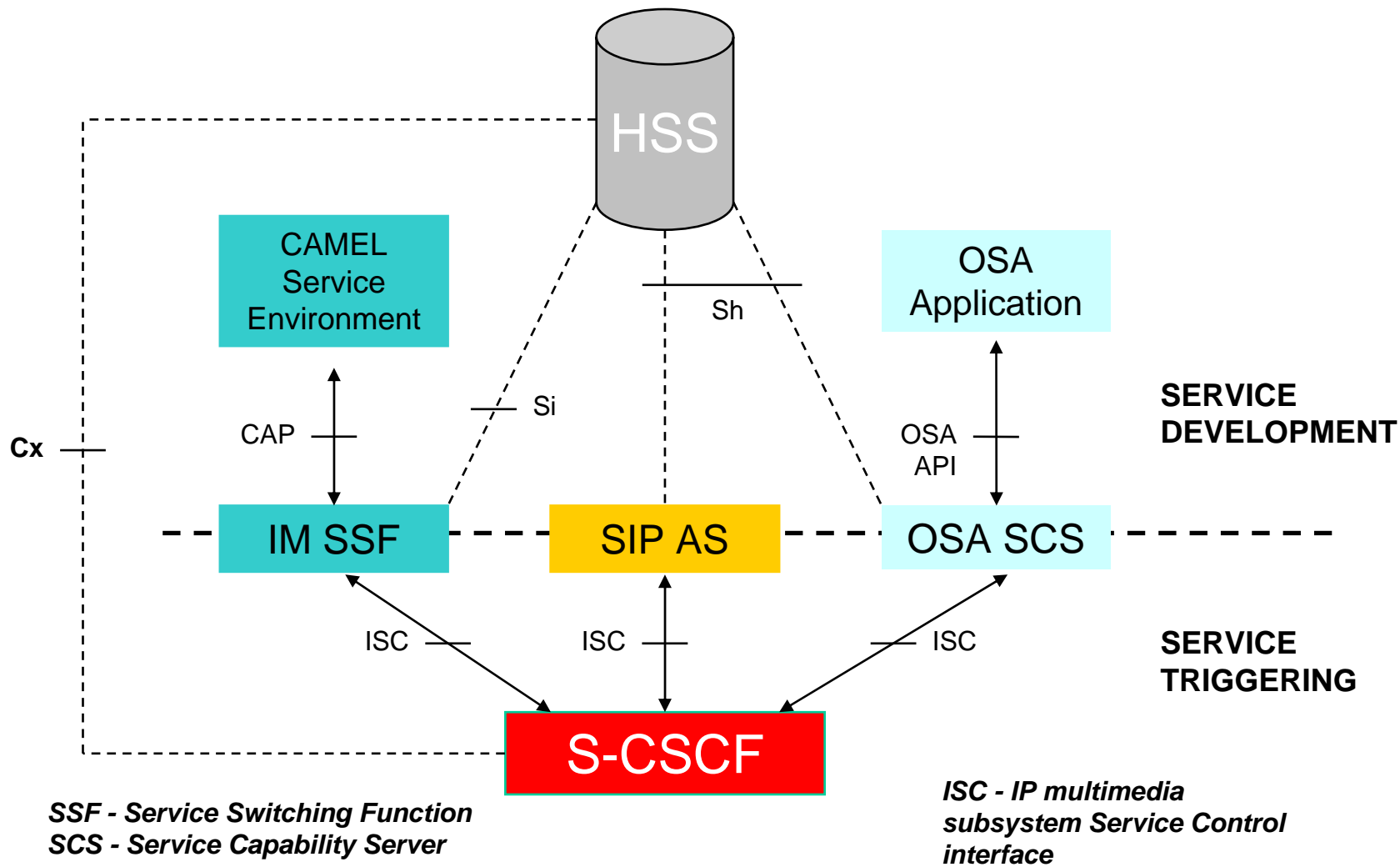


NGN specific impacted

Network Attachment Subsystem

SIP
H.248
DIAMETER



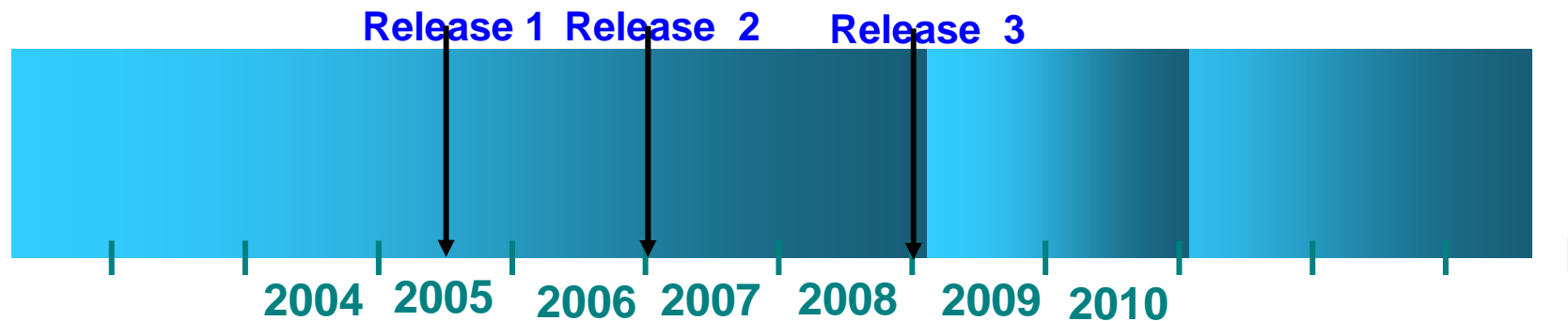


- ❑ The ISC interface uses SIP protocol
 - Unique call control protocol from the mobile to the AS (messages and procedures related to ISC interface are standardized)
 - The same interface towards all types of AS
- ❑ Three types of AS are defined: SIP, OSA and CAMEL
 - Existing services could be re-used
 - Open to third party services providers
 - The network complexity is transparent to the service development
- ❑ The 3GPP standardisation stops at the ISC interface
 - The service development is not defined by the 3GPP
 - The interface between IMS Application Server and third party developer is only partly standardised



WHEN ?

Towards a converged Wireline and Wireless NGN ...



- ❑ **Release 1 bringing Multimedia services**
 - Nomadicity/user-controlled roaming
 - xDSL access focus; Network Attachment Subsystem
 - PSTN/ISDN emulation and simulation
 - Allowing the flexible introduction of whatever new service
- ❑ **Release 2 optimizing access resources usage**
 - According to user subscription profile and service use
 - Corporate users specific requirements ...
- ❑ **Release 3**
 - ??



WHY ?

- ❑ **IP Multimedia Subsystem generally fulfills the NGN requirements for conversational services**
 - For managed, carrier operated telecom network
 - With Release 6 becomes applicable to a range of access network types (3G RAN, WLAN)
 - IMS access (technology) independence
- ❑ **Whole Telecom industry benefit**
 - Will enable simple and effective interworking between Cellular and Wireline
 - Growing IMS market, encouraging greater usage
 - Market stimulation, decreasing costs (thanks to shared development/deployment costs)
 - ...


- ❑ TISPAN_NGN has taken the lead in adapting 3G IMS as a key base component in the NGN architecture
 - It needs adaptations to support xDSL access (on-going)
 - Still a number of issues to be addressed (Identifiers, Security, IPv4/v6 interworking and transition ...)
- ❑ A promising major step to enable smooth Fixed-Mobile convergence for Multimedia:
 - Consolidating the IMS and Service Platforms access & transport technology independence
 - Enabling seamless service interworking
 - An effective basis to support Nomadicity and Mobility features
- ❑ Still a number of challenges ahead
 - Resource optimization and transport technology evolution
 - Ensure QoS for real time services ...
 - Identifiers, Security ...
- But a significant step is being taken to enable the Multimedia Fixed-Mobile convergence in TISPAN_NGN Release 1



SUMMARY

tispan_NGN summary



- ❑ A strong industry demand
 - For new generation Multimedia services on xDSL access
 - For preparing replacement of soon becoming obsolescent PSTN
- ❑ For a first Release of specifications by mid-2005
 - Giving main standards directions
 - With realistic and implementable solutions
- ❑ ETSI TISPAN taking the lead to propose an architecture basis consisting of a range of subsystems:
 - Maximizing Wireline and Cellular convergence, through adoption of 3G/UMTS IMS component for support of conversational services
 - Access network attachment Subsystem, Resource and admission control sub-system
- ❑ TISPAN collaborating with 3GPP to accommodate Wireline access network requirements by IMS
 - A 1st Workshop held last June, a further one next year
 - To coordinate the IMS specifications evolutions to support various Wireless and Wireline access technologies
- ❑ Other collaborations
 - ITU-T NGN Focus Group, SG 11, SG 13, SG 19, other SDOs
 - European IST projects e.g.  which is considering IMS in the scope of their system architecture too.

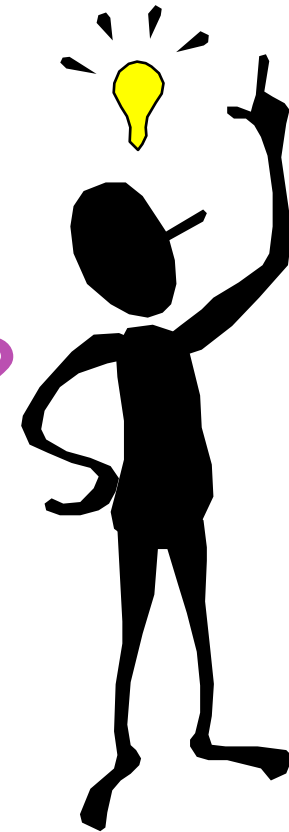


THANKS FOR YOUR ATTENTION

Questions/Comments ?

ETSI TISPAN Portal:

http://portal.etsi.org/Portal_Common/home.asp



Acronyms (1)

<input type="checkbox"/>	API	Application Programming Interface
<input type="checkbox"/>	AS	Application Server
<input type="checkbox"/>	BGCF	Breakout Gateway Control Function
<input type="checkbox"/>	CAMEL	Customised Applications for Mobile Enhanced Logic
<input type="checkbox"/>	CSCF	Call Session Control Function
<input type="checkbox"/>	IMS	IP Multimedia Subsystem
<input type="checkbox"/>	IM SSF	IP Multimedia Service Switching Function
<input type="checkbox"/>	IP-CAN	IP- Connectivity Access Network
<input type="checkbox"/>	ISC	IP_multimedia_subsystem_Service_Control_interface
<input type="checkbox"/>	IWF	Inter-Working Function
<input type="checkbox"/>	GPRS	General Packet Radio Service
<input type="checkbox"/>	HSS	Home Subscriber Server

Acronyms (2)

<input type="checkbox"/>	MRF	Media Resource Function
<input type="checkbox"/>	MG	Media Gateway
<input type="checkbox"/>	MGCF	Media Gateway Control Function
<input type="checkbox"/>	NASS	Network Attachment Sub-System
<input type="checkbox"/>	OSA	Open Services Architecture
<input type="checkbox"/>	SCS	Service Capability Server
<input type="checkbox"/>	QoS	Quality of Service
<input type="checkbox"/>	RACS	Resource and Admission Control Subsystem
<input type="checkbox"/>	RAN	Radio Access Network
<input type="checkbox"/>	SIP	Session Initiation Protocol
<input type="checkbox"/>	SLF	Subscription Locator Function
<input type="checkbox"/>	UMTS	Universal Mobile Telecom. System
<input type="checkbox"/>	UTRAN	Universal Telecom. Radio Access Net.
<input type="checkbox"/>	WLAN	Wireless Local Access Network