The market for IMS and the consequences for ENUM

George D Salisbury

Managing Consultant

Frankfurt, April 2008

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A provocative view on IMS and ENUM

IMS and ENUM will probably not achieve the success that they are technically capable of.

IMS and ENUM

- IMS is primarily a network operator view of service delivery.
- The IMS concept was laid down 10 years ago when technology and business models were different to those of today.
- Network operators need Number Portability support far more than they need Public ENUM.

George D. Salisbury

Detecon International GmbH

Head of Technology Strategy Group

- 19 years in product development for international vendors.
- 5 years in business and strategy development for an international voice/IP/data service provider.
- 4 years in telecommunications consultancy.

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Driver for NGN

The overwhelming reason to change from legacy to NGN technology is operational cost reduction, it is not driven by new services!

The only reason for change is:

- to put the business in a **better** position than it would be in if the change were not implemented

There are two definitions of better:

- New revenue streams.
- Lower cost base for existing revenue streams.

Drivers

- **1997**: 1 Giga Floating Operations per second (GFLOPs) cost about 30,000 US $.
- **Today**: an off-the-shelf PC provides about 10 GFLOPs for about 300 US $.
- Price decreases for fiber, IP and Ethernet are also impressive.

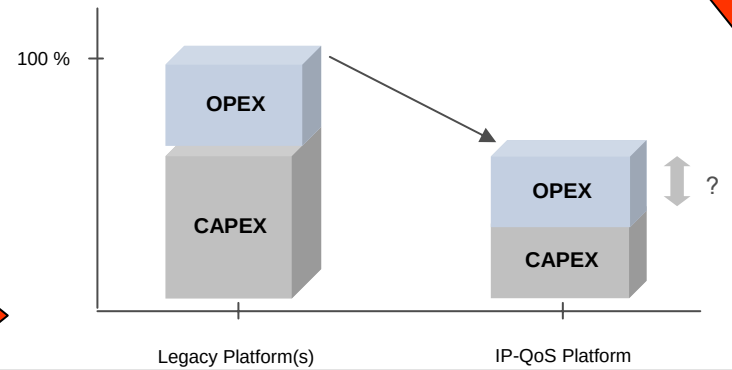
Lower costs

Developments in telecommunications nodes

- PSTN: ~ 80 exchanges per million inhabitants.
- ISDN: ~ 20 exchanges per million inhabitants.
- MPLS core: ~ 2 sites per million inhabitants (with MPLS LE and LS routers).
- NGN: ~ 1 voice “site” per 4 million inhabitants. (with call control capabilities for PSTN services).

Fewer boxes

New entry to the market is cheaper!



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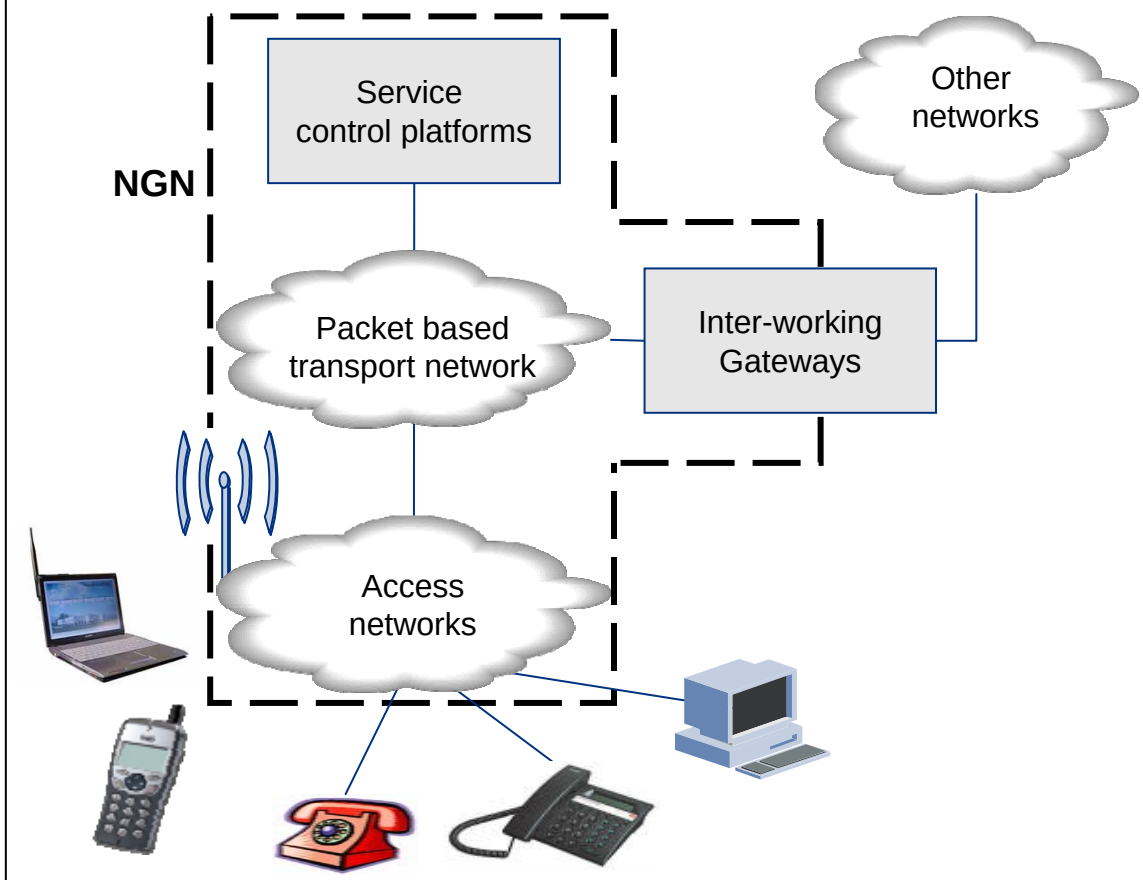
NGN, what is it

Network operators distinguish very clearly between an NGN and the Internet. The Internet is *best-effort* constrained, an NGN is not.

One network infrastructure for multiple services



Internet ≠ NGN

NGN, a definition:

- *The use of a common Transport and Control infrastructure to deliver digital information, between a source and one or more destinations, to one of a set of pre-defined quality of services.*

Characteristics:

- Multi-service capability: voice, IP, TV, data.
- Separation of service from transport.
- Packet based transport.
- Potential for operational expenditure reduction.

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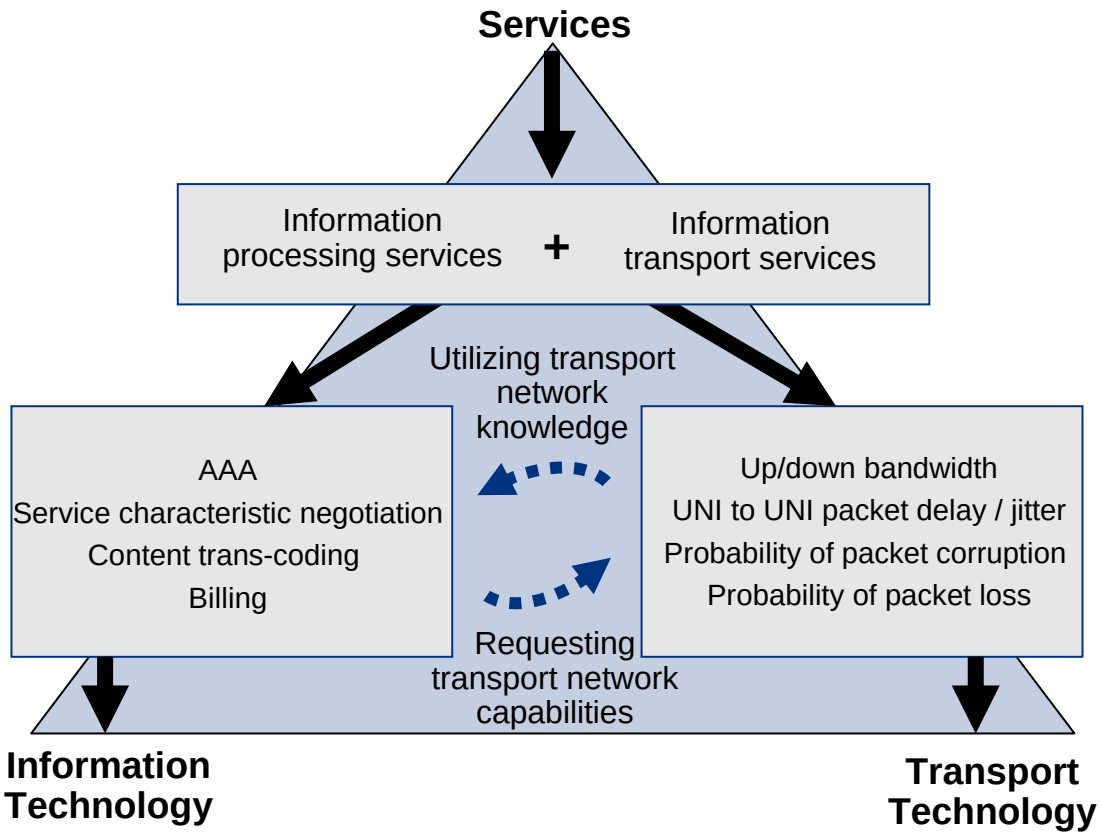
The network operators hopes

Network operators want to use IMS to capitalize on possession of a network.

Services breakdown to Information and Transport technology



Network operators goal

- Getting the **information** and **transport** technology to **interact** with one another to create a business advantage.

Leveraging on:

- The knowledge that they have.
- The capabilities that they have.

Ideally the business advantage uses transport capabilities that are not readily accessible to 3d party service providers.

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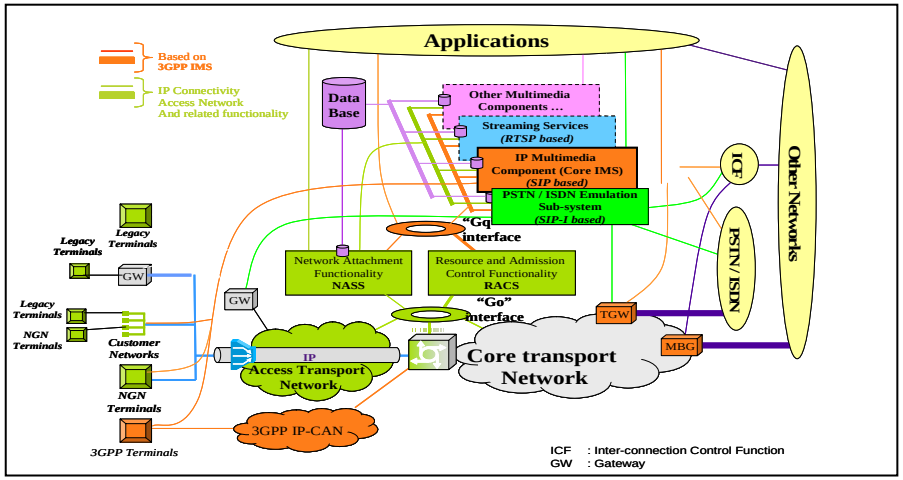
IMS architecture

IMS can be viewed as a highly standardized architecture for NGN

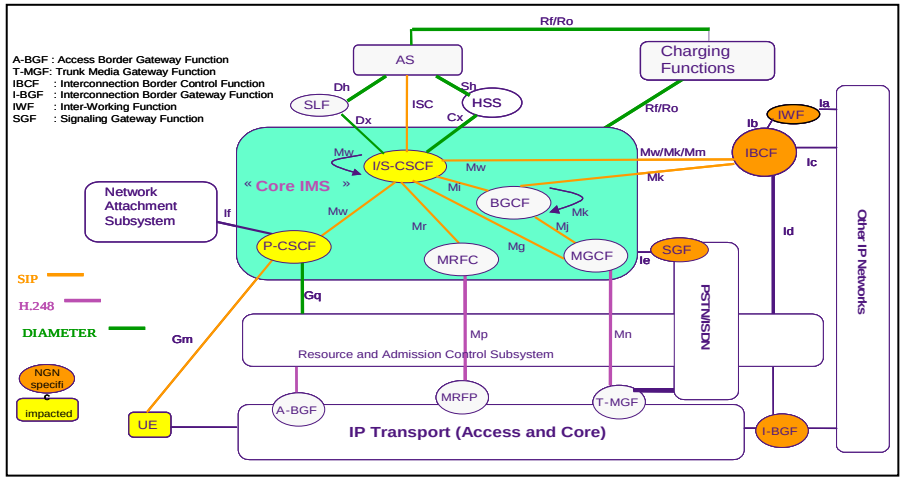


IMS: Pros

- Reduced cost of system integration.
- Opportunity for carrier to swap-in swap-out vendors.

IMS: Cons

- A standard does **not imply** existence of an implementation.
- Standardization roadmap might not reflect a given users time-to-market.
- Reduced opportunity for feature/service discrimination.



Graphics source: ETSI

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Architectural purity versus pragmatic engineering

Highly standardized architecture does not necessarily mean *open*.

Goal versus reality	Cynical (?) observation
To minimize the cost of achieving inter-operability across an interface. The more **exposed** interfaces that a system has, the more likely it is that some-one will push for standardization of that interface. **But:** Some vendors are grouping IMS functions on to a common platform thus reducing interface exposure and: ■ better use available processing power. ■ short-cuts communication between functions (i.e. avoid the full SIP stack). e.g. I/P/S CSCF on a common processing platform (i.e. no external messages needed between I/P/S).	Expect to see more IMS functionality being grouped on "monolithic" processing platforms to: ■ Take advantage of the continuing advancements in processing power **and** network interface speeds. ■ Avoid network based communication between components. ■ Inhibit vendor competition.

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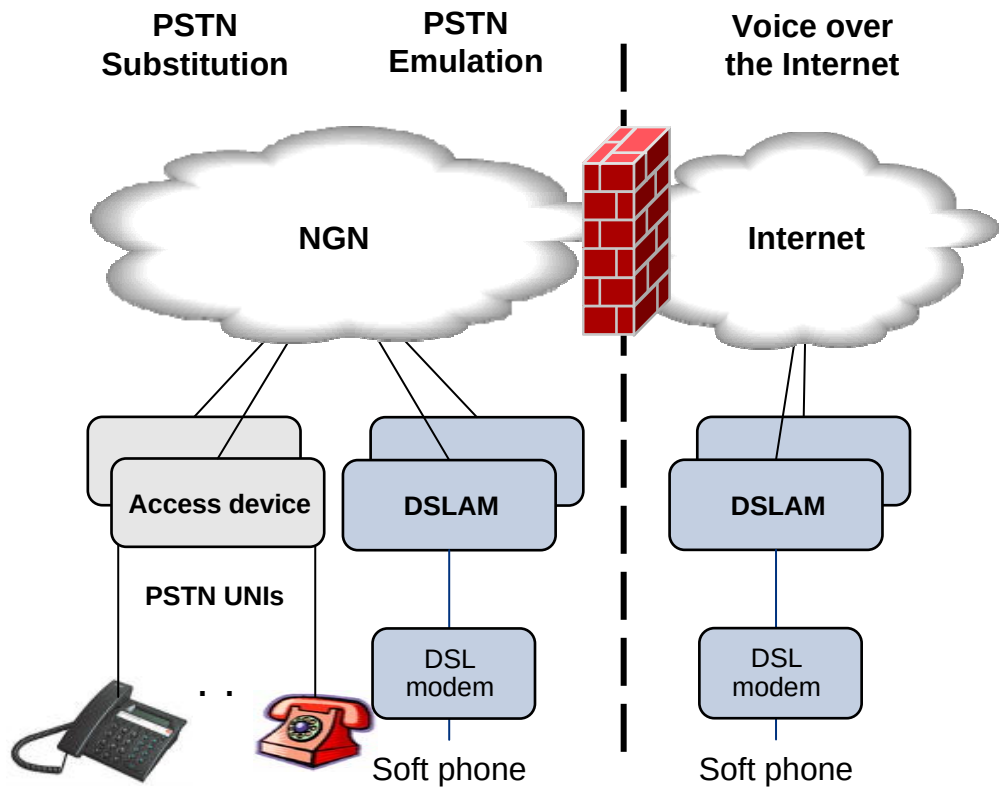
Different flavors of voice service

There are three types of voice telecommunication services.

Voice services



NGN based

- Majority of subscribers will be connected via legacy User Network Interfaces to access devices that are located at the network end of the access circuit. (**PSTN Substitution**)
- Security considerations place a firewall between the NGN and the Internet.
- IP addresses of the NGN infrastructure are not reachable from the Internet.
- Where the NGN and the Internet *share* infrastructure they are kept *logically separate*.

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Public ENUM – example

Suppliers of public communications services do not need Public ENUM except to identify the owning service provider i.e. nothing more than Number Portability

Public ENUM

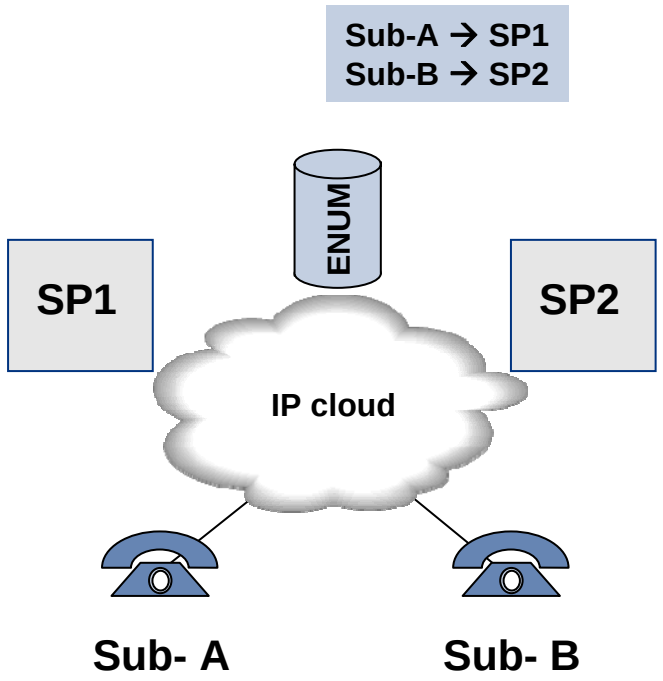
Sub-A and Sub-B both subscribe to services from the service providers SP1 and SP2 respectively.

Sub-A wants to call Sub-B:

- Sub-A can not bypass SP1 and go straight to SP2 without a prior contract (AAA problems).
- SP1 can not bypass SP2 to get to Sub-B because of :
  - Possibility legal interception.
  - Termination services that Sub-B may have from SP2.

Note: PSTN substitution service is even more unfriendly to Public ENUM.

Simple call



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Summary

IMS and Public ENUM face massive hurdles.

Summary - IMS	Summary – Public ENUM
■ Tomorrows technology will make today's obsolete. ■ Today's architectures are inappropriate for tomorrows technology. ■ IMS was laid down 10 years ago. ■ Today's technology has already bypassed IMS architectural drivers.	■ Public ENUM has issues with supporting pay-for-use services. ■ ENUM supported sub-direct-to-sub communications bypasses legal interception. ■ Except as a number portability substitute, telecommunications service providers have no reason to like Public ENUM.

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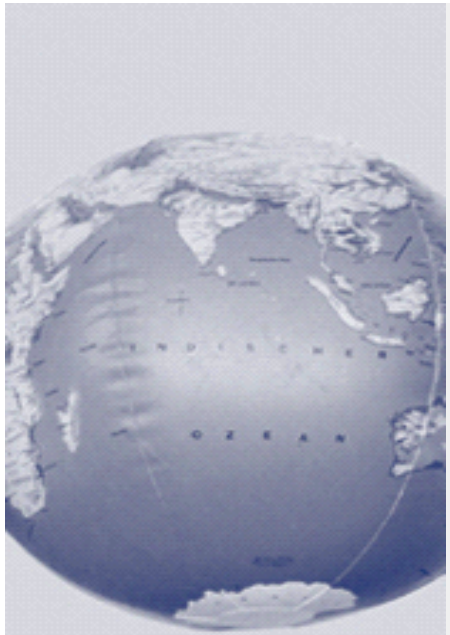

My thanks for your time and attention.

For additional details please contact your Detecon representative or

George SALISBURY
Head of Group: Technology Strategy

Detecon International GmbH
Oberkasseler Str. 2
53227 Bonn (Germany)
Phone: +49 228 700 2971
Fax: +49 228 700 2107
Mobile: +49 160 90753327
e-Mail: George.Salisbury@Detecon.com

Integrated management and technology consulting worldwide

Detecon International GmbH

Oberkasseler Str. 2
53227 Bonn · Germany
Phone (+49 228) 700-0

Frankfurter Str. 27
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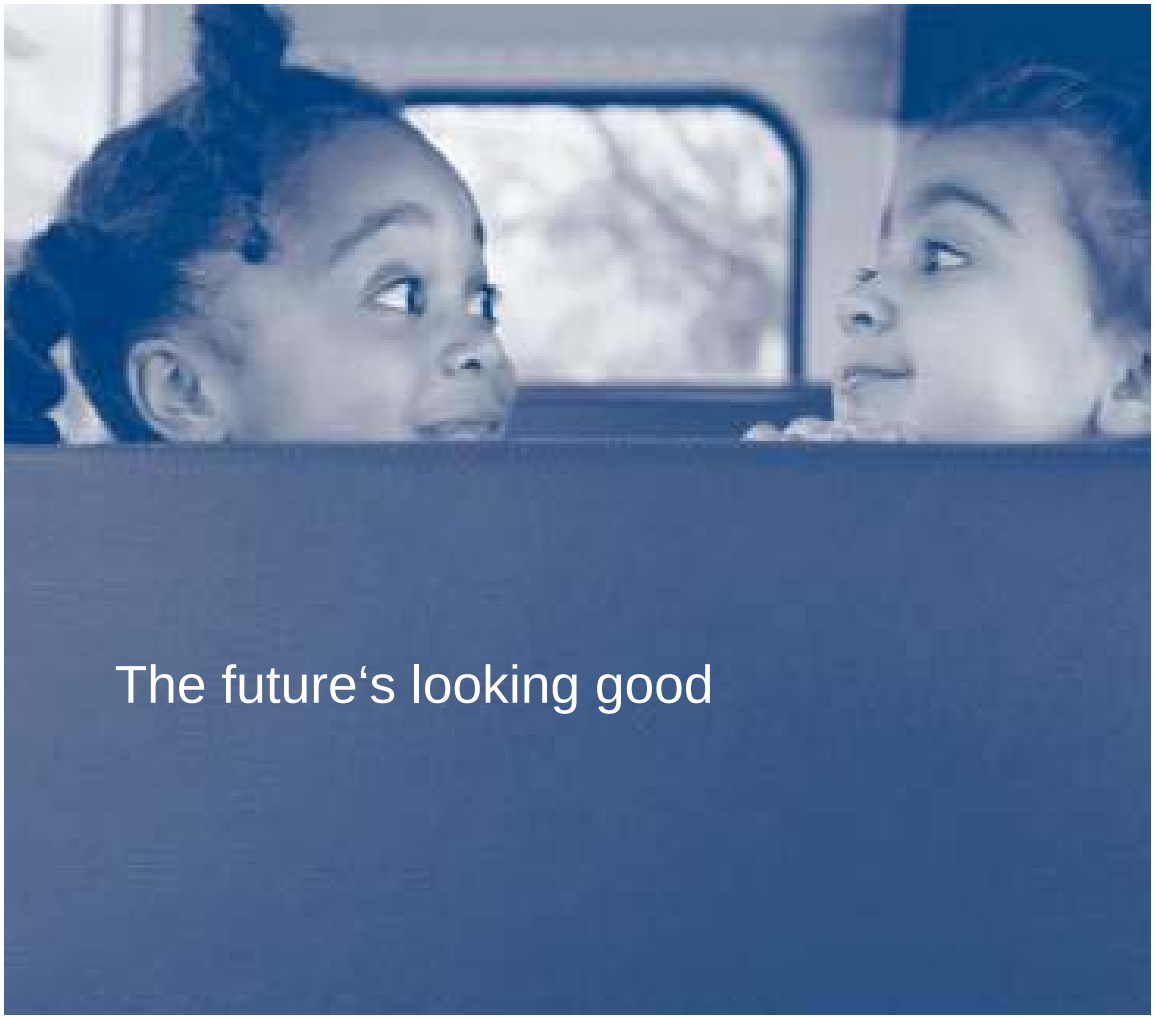

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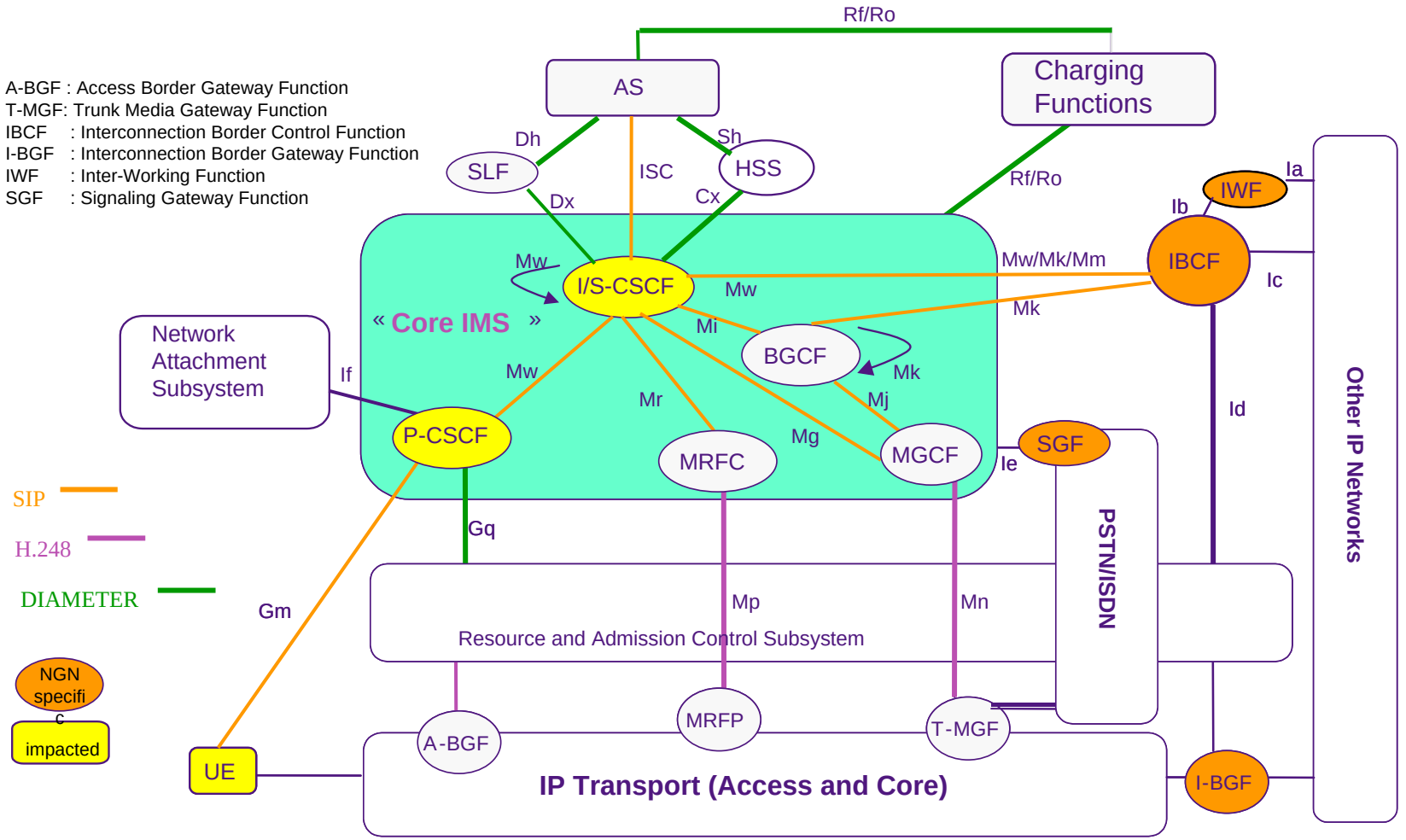
TISPAN and IMS



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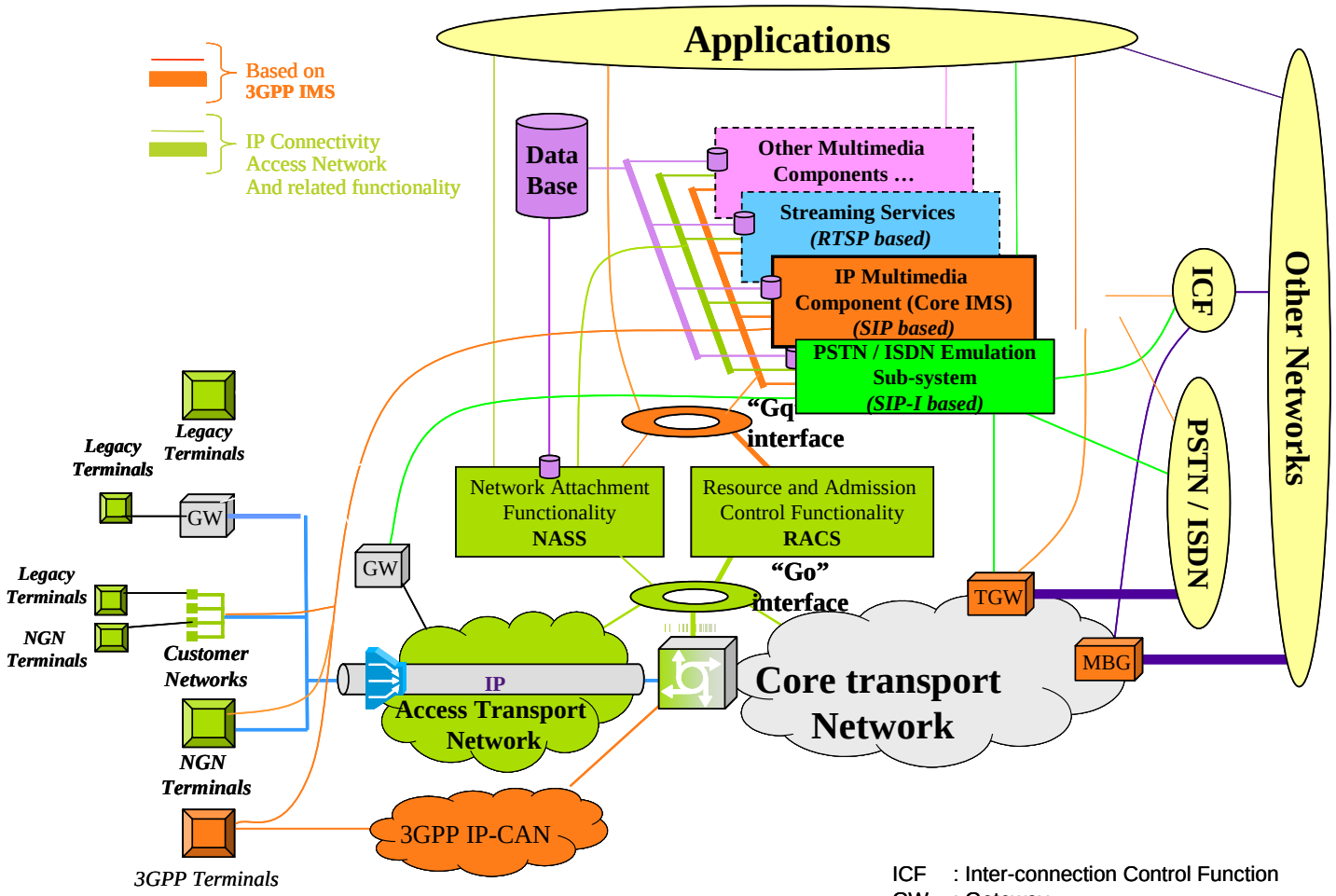

ICF : Inter-connection Control Function
GW : Gateway

Source: ETSI

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The End