



IPX and Practical Trial Activity Review

April 2009

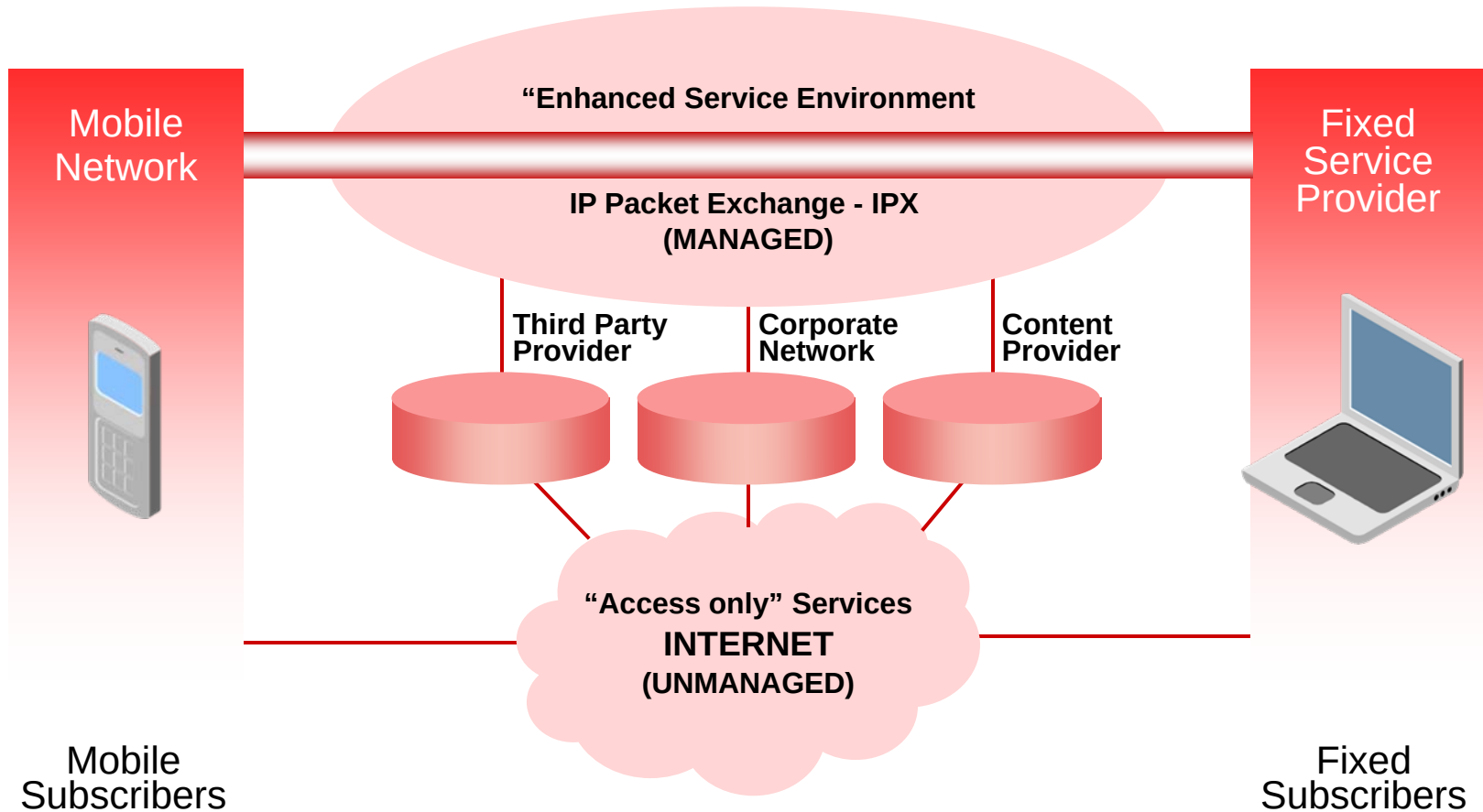
- 1. What is IPX?**
- 2. Practical Trial Activities & Achievements**



1. What is IPX?



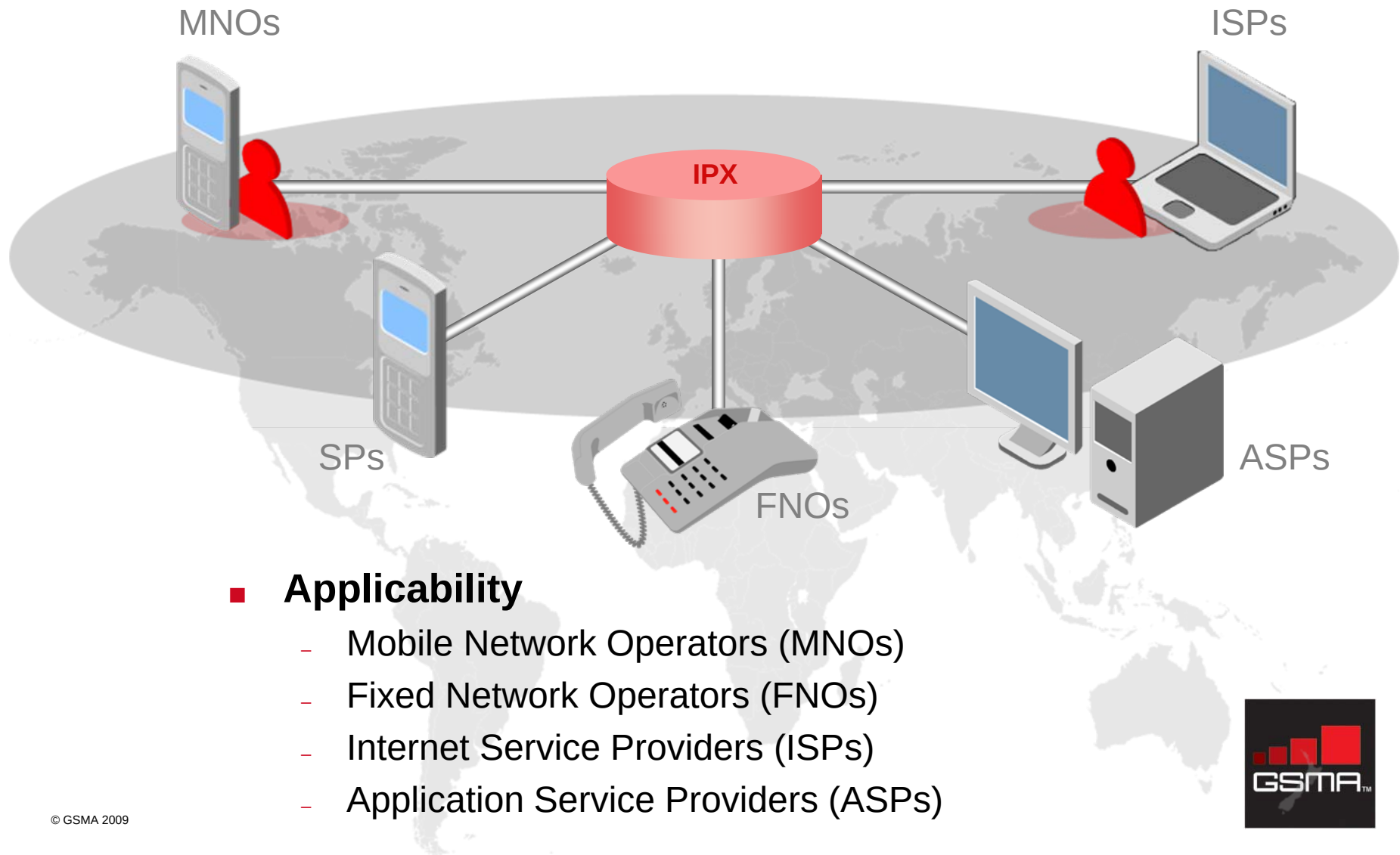
Managed Service Environment



- IPX delivers a secure and reliable QoS solution
- Coexistence of both models leaves choice to the customer



IP eXchange - IPX

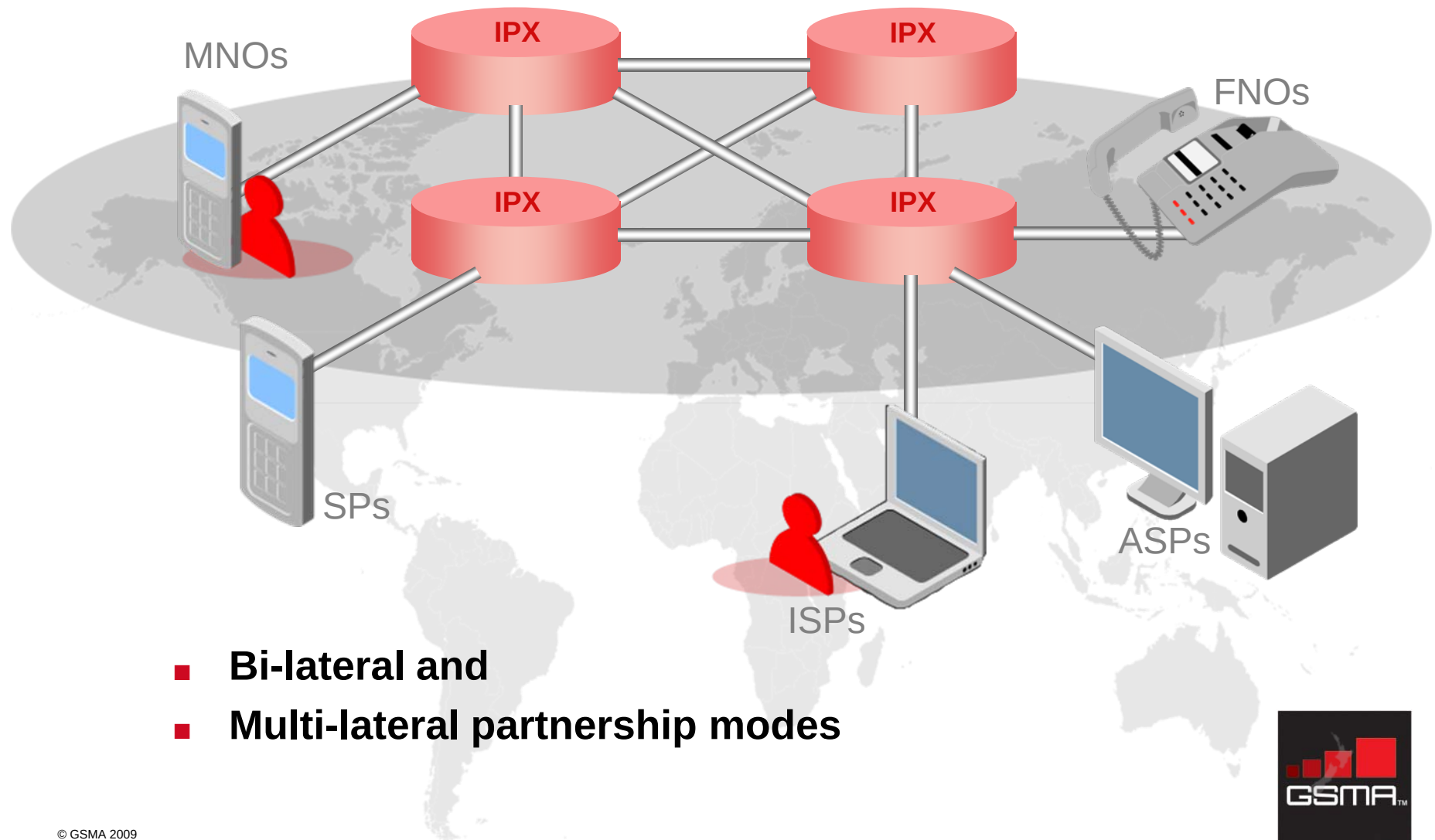


■ Applicability

- Mobile Network Operators (MNOs)
- Fixed Network Operators (FNOs)
- Internet Service Providers (ISPs)
- Application Service Providers (ASPs)

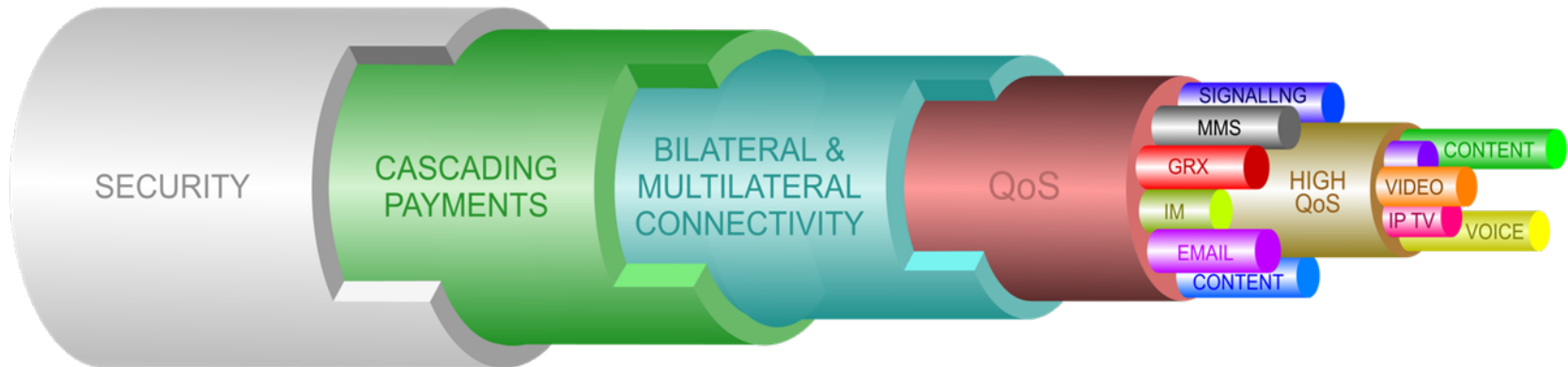


IPX – one contract, many partners





IPX – Key Components



- IPX traffic has managed QoS at various levels of performance
- Payments associated with the business model are identified and settled between operators
- Operators are free to select bi-lateral or the efficient multi-lateral modes of interconnection for different types of traffic
- All IP traffic is protected
- Services not requiring premium quality can use less demanding QoS bearers



IP Services on the IPX

- IPX Services are standardised
 - common charging principle
 - technically inter-operable end to end
- Service Providers can decide to use the IPX by choosing
 - the Service they want to interwork over the IPX
 - the Service Providers they want to interwork with
 - which service interworking they need with the IPX carriers
- Agreements specified in a Contract Service Schedule containing
 - SLA
 - connectivity model
 - operator interconnection list



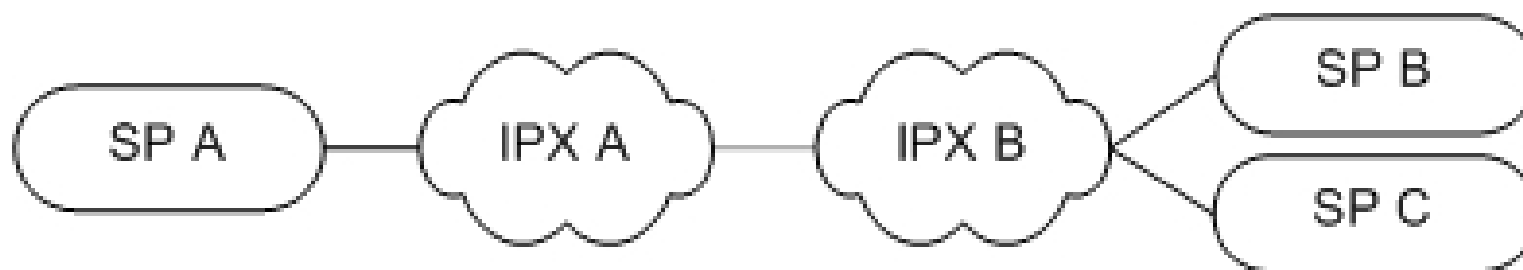
2. Practical Trial Activities and Achievements

IPX Validation Work

- Since 2007, GSMA has verified IPX technical and commercial specifications through practical trials
- Trials involved a wide variety of Service Providers and International Carriers operating across the globe
- All principal IPX features have been demonstrated



IPX Service Trials, 2007 and 2008

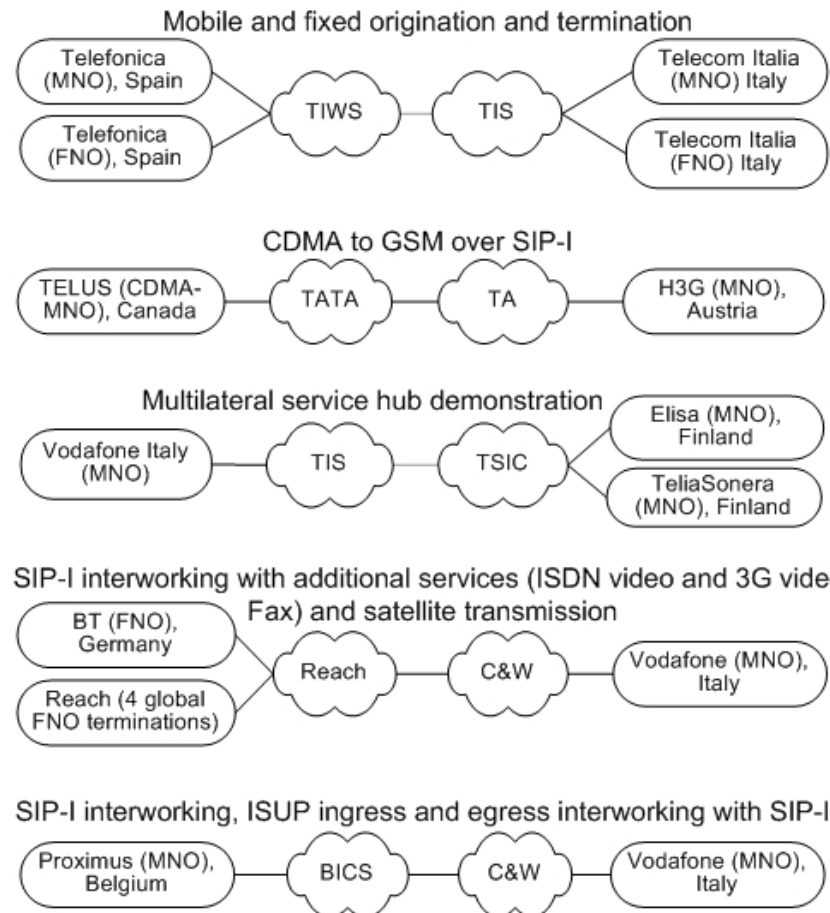
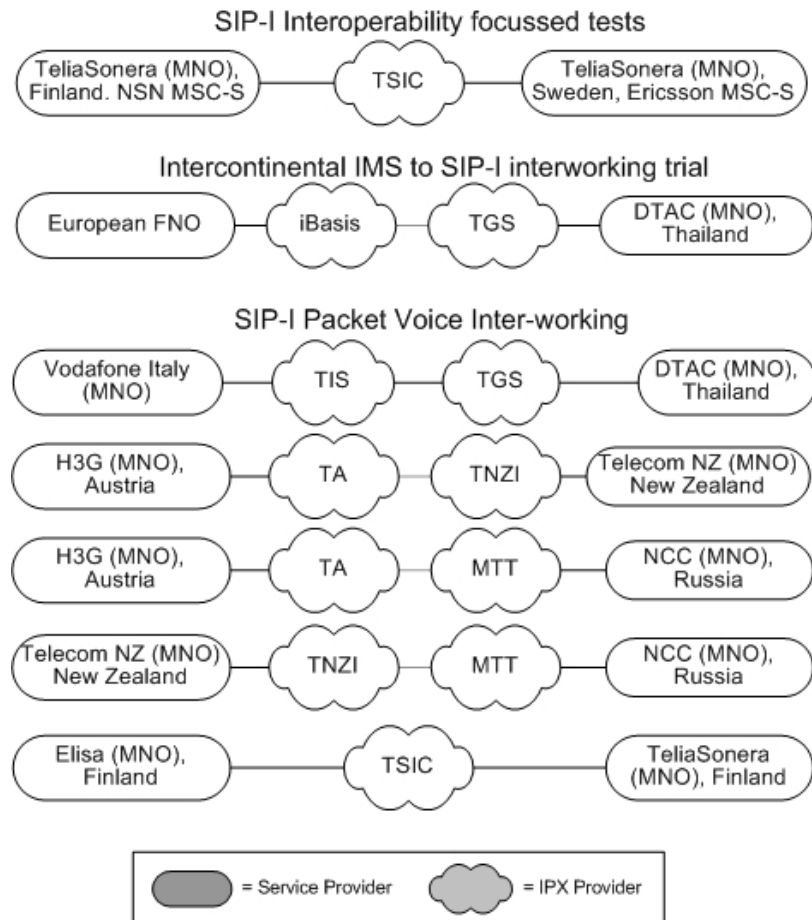


Trial configuration example

12 x End-to-End Service Trials		
Service Provider types ?	✓	17 SPs (Fixed, GSM and CDMA)
Private and Secure ?	✓	Security architecture implemented
Bilateral and multilateral ?	✓	9 bilateral and 3 multilateral trials
Cascade billing ?	✓	CDRs generated and reconciled
Global Reach ?	✓	20 countries in 5 continents
Multiple Services ?	✓	Voice, video call, fax
Interoperability ?	✓	8xSIP-I platforms, 1xIMS



IPX Service Trials Detail

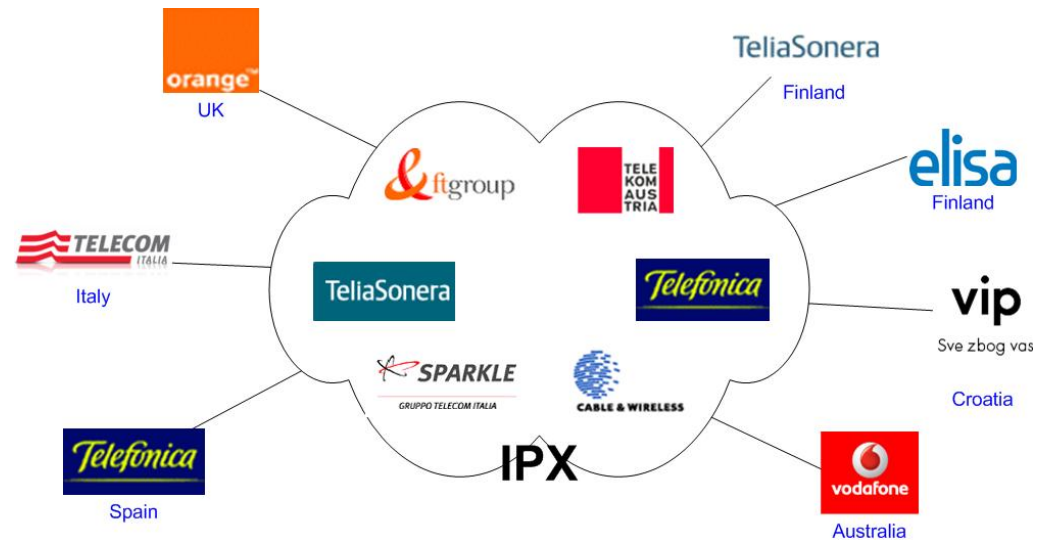


Tests: basic voice call and voice quality tests, supplementary service tests, CDR validation, SIP-I interoperability, codec tests, other service tests, IPX specific tests, participant specific tests



IP Performance Tests 2007

- A variety of QoS measurements taken across 2 x IPX in cascade
- Distances over 2500km
- Majority of networks compliant (or within 10%) of QoS KPI targets, without any optimisations
- Jitter generally less than 20mS
- European modelled MOS =4
- Australia modelled MOS =3

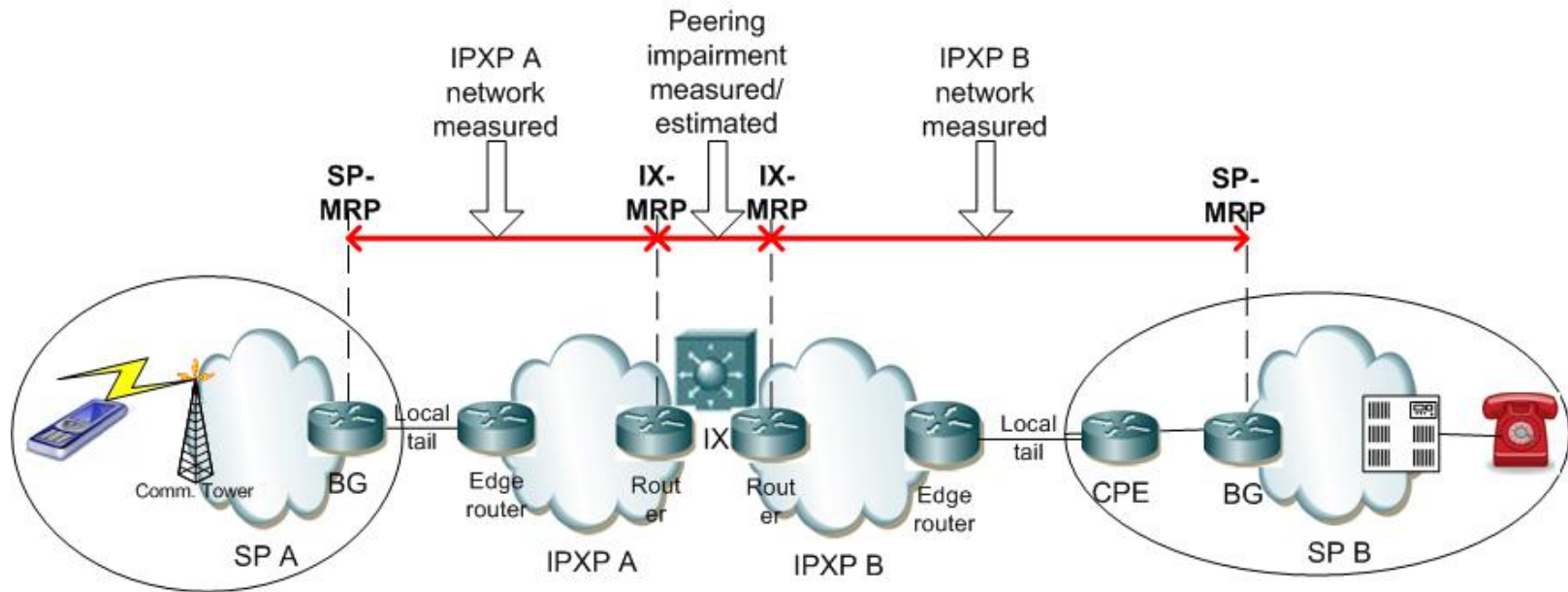


IPX can deliver required performance?





End-to-End SLA Management



- End-to-end SLAs are managed using composite KPIs
 - A composite KPI is the sum of the measurements across network segments in the end-to-end path
- Collection and reporting of composite KPIs can be performed efficiently through a centralised database, to compliment other approaches

Cascading responsibility manageable?







Ongoing Support

- Educational material
- Information and specifications
- Template agreements and service schedules
- Support for practical trials

See www.gsmworld.com/ipi for more information or
contact ipi@gsm.org



Openness



Quality

For more information, please visit

www.gsmworld.com/ipi

or email us at ipi@gsm.org

Thank you



**Cascading
Payments**



Efficiency