



# 3rd Annual i3Forum Conference

## The Future is All IP

May 17, 2012  
Chicago

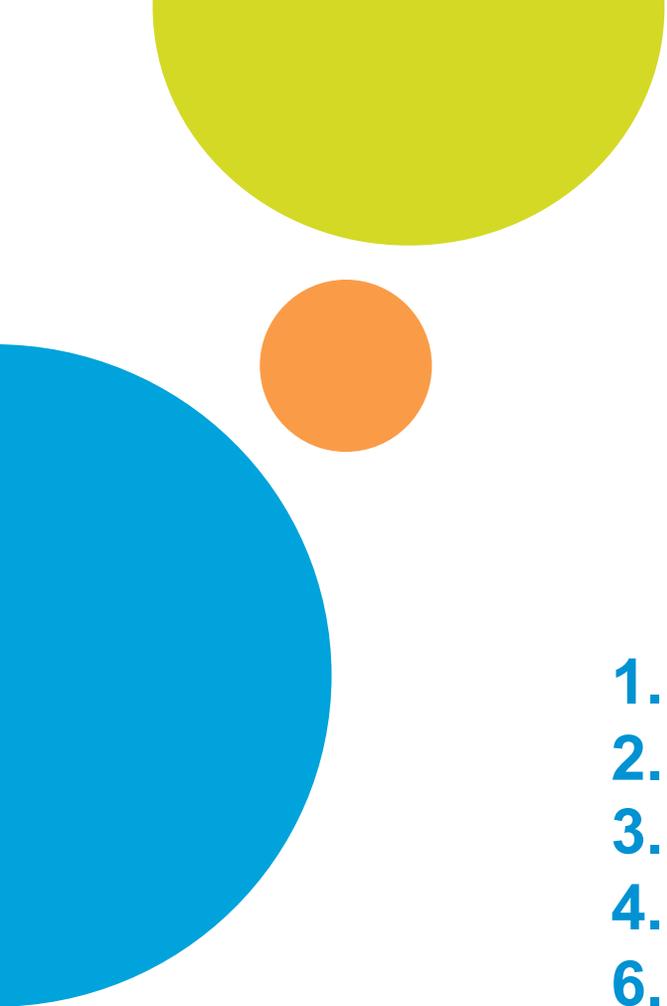
### IPX Service Status and Future

Piero Irrera, Director Wholesale Carrier Services

Vodafone Germany

[www.i3forum.org](http://www.i3forum.org)

i<sup>3</sup> forum   
international ip interconnection

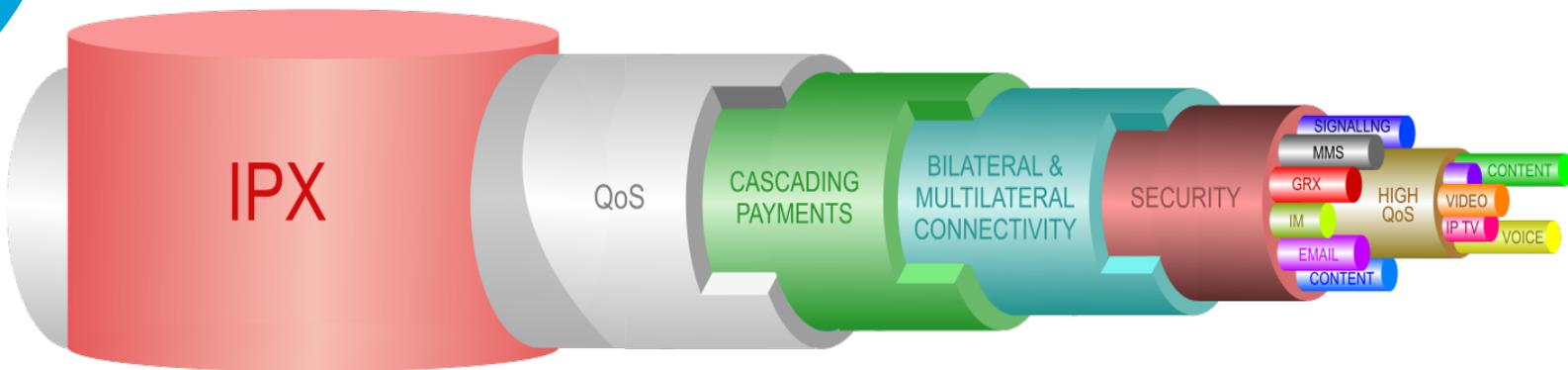


# Agenda

1. About IPX
2. Relationship with other organizations
3. Customer requirements and solutions
4. Status of IPX-NNI solutions
6. Summary and outlook

# About IPX

- GSMA Definition of IP Packet Exchange (IPX) as private managed backbone providing guaranteed QoS, security and cascading payments (2008)
- Concept of GSMA-IPX (source: GSMA)



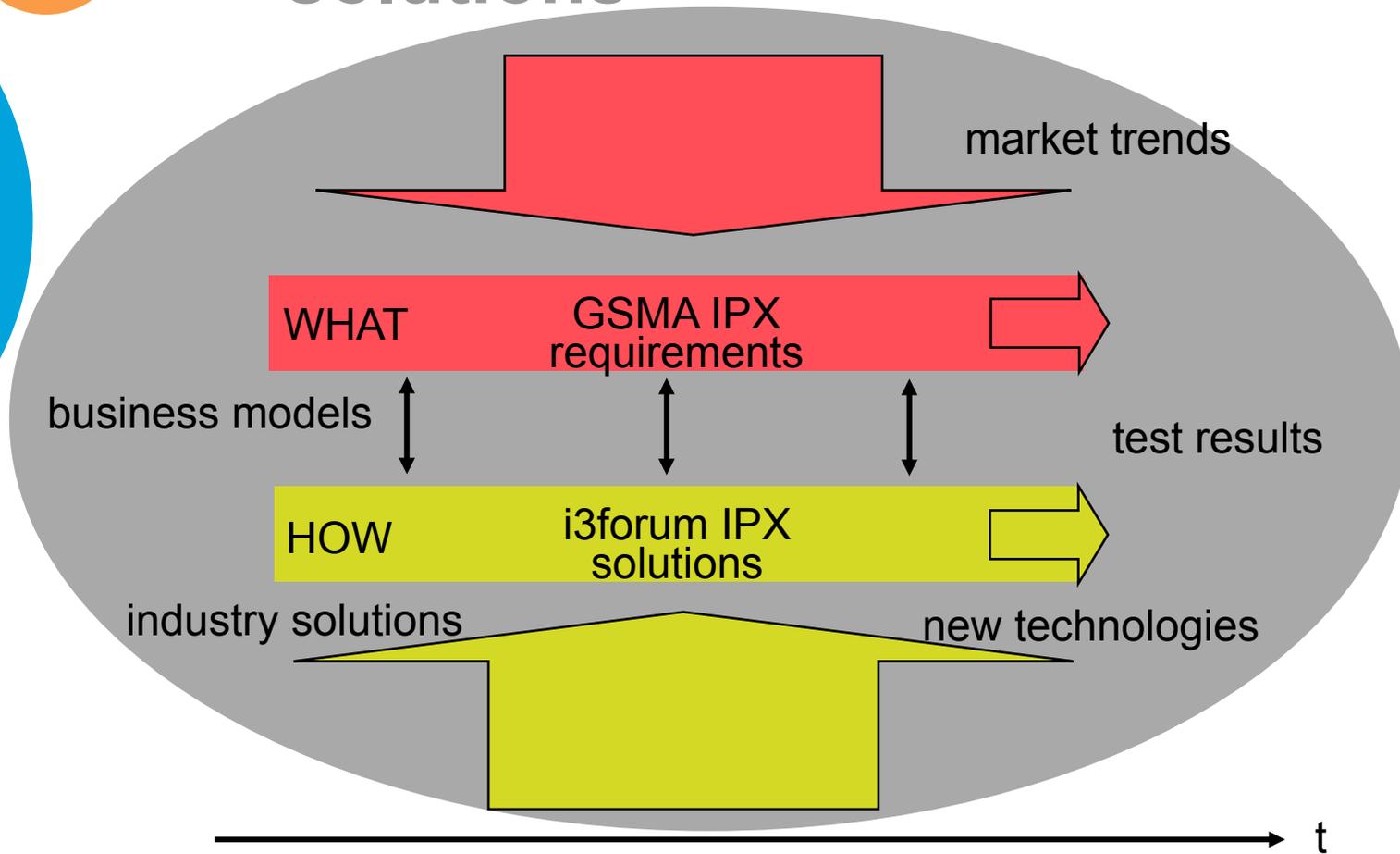
• Inter-IPX-provider multi-service interconnect: IPX-NNI



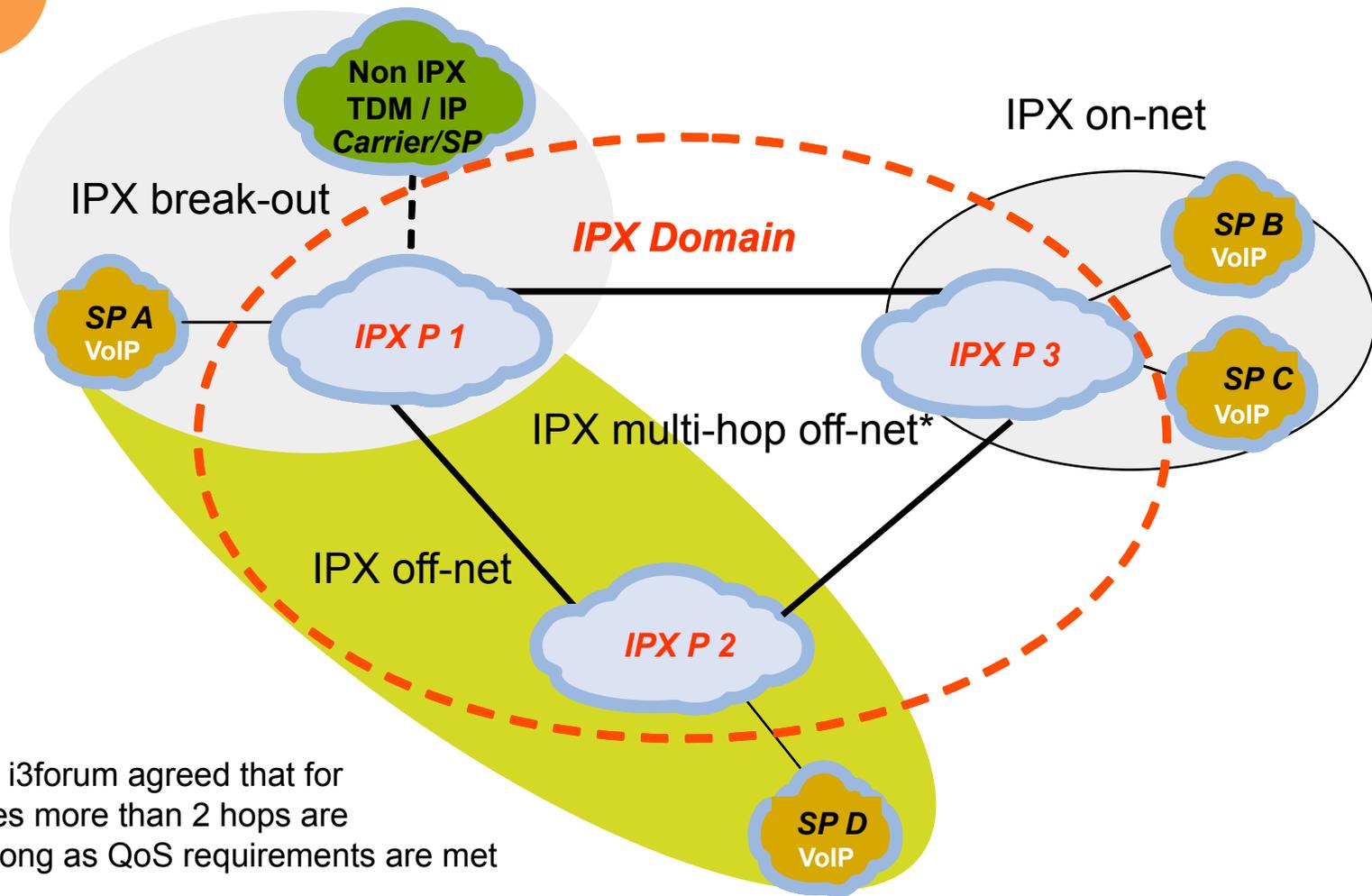
## Relationship with other organizations

- i3forum is co-operating with all relevant industry organizations
- Process of close and positive co-operation with GSMA on how to meet (customer) requirements with (supplier) solutions
- Regular exchange with IWG and IREG
- Input from Euro5 Group (documents submitted to GSMA + i3forum in April 2012)

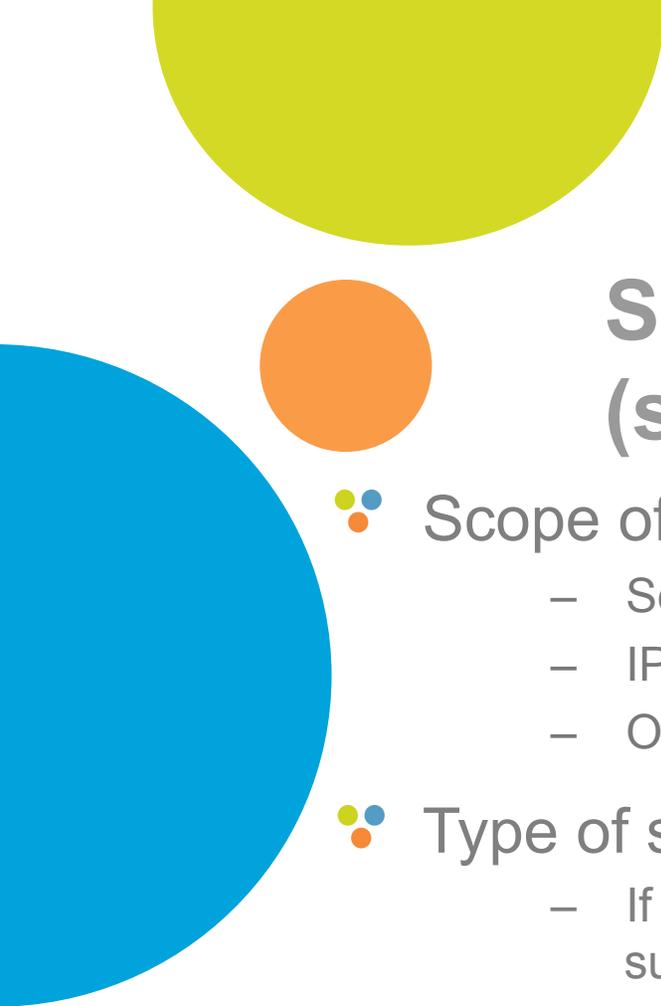
# Customer requirements and solutions



# Status of IPX-NNI solutions (hops)

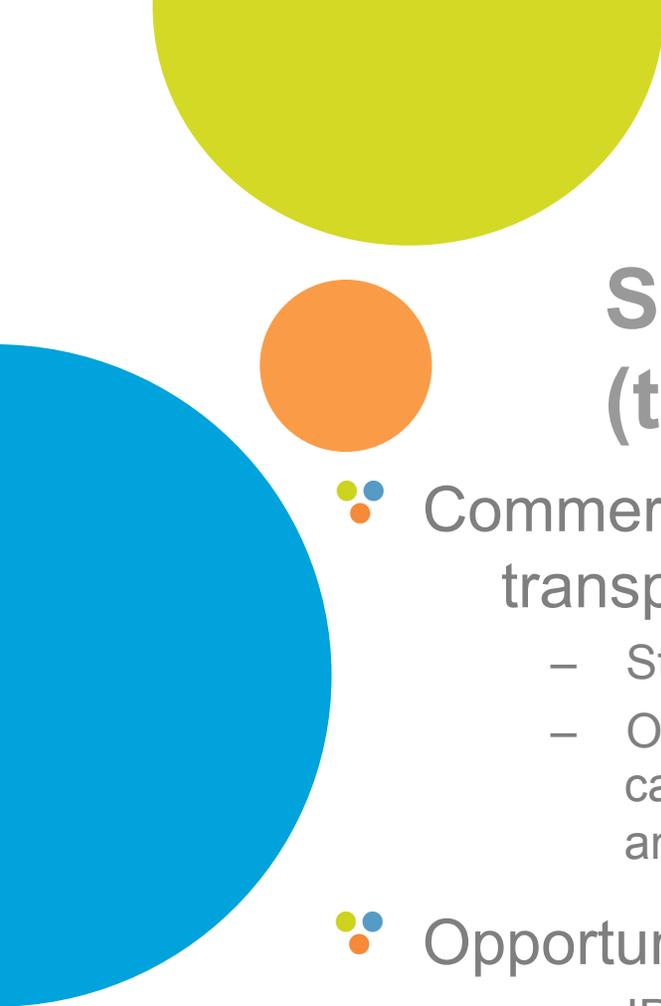


\* GSMA and i3forum agreed that for voice services more than 2 hops are possible as long as QoS requirements are met



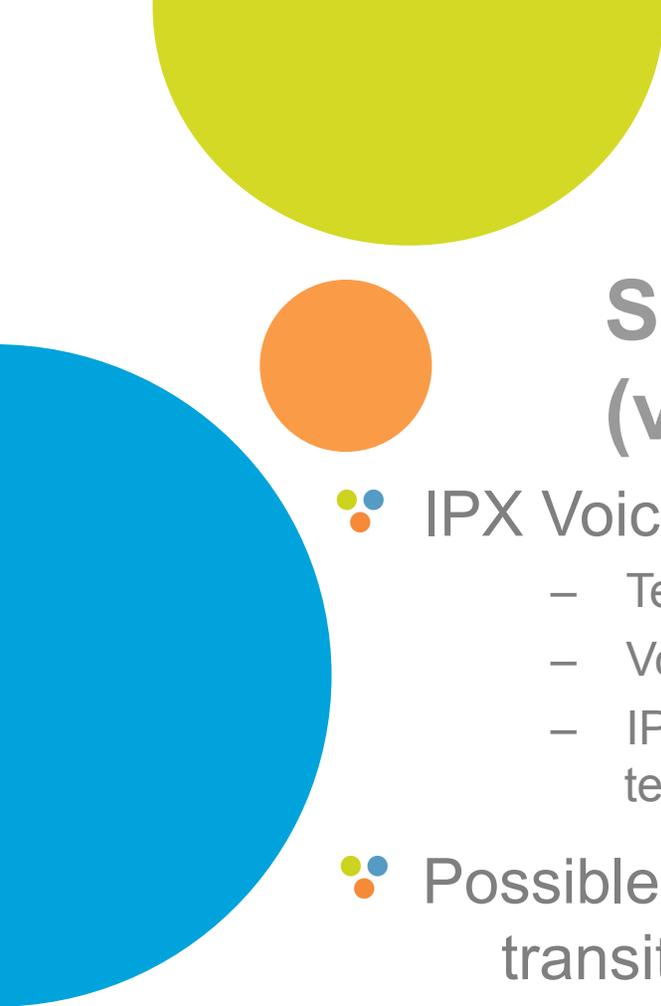
## Status of IPX-NNI solutions (services)

- Scope of services:
  - Service-unaware IPX-Transport service (optional)
  - IPX-Voice service
  - Others to be specified in the future
- Type of services supported
  - If offered, service-unaware IPX transport service need to support different (Type of) Service (ToS), security and privacy
- QoS performance and features of the service
  - QoS to IP layer performance (latency, packet loss, jitter) AND service specific parameter (e.g. for IPX VoIP this could be parameters like codecs supported, ASR, NER, CLI).
  - specific KPI's as best effort



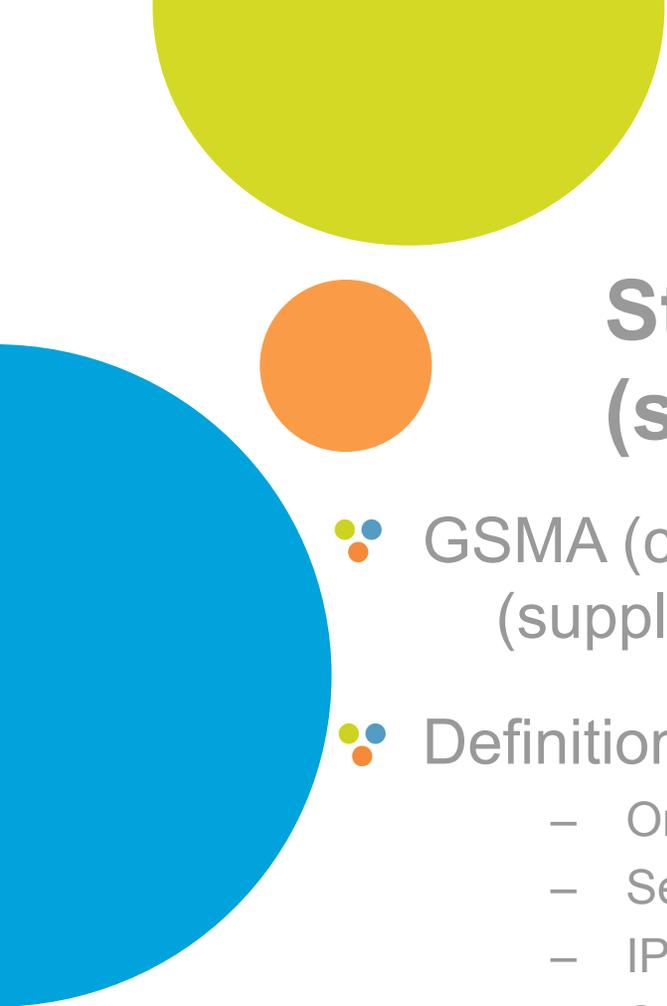
## Status of IPX-NNI solutions (transport)

- Commercial settlement models for service unaware IPX transport between IPX-P and SP
  - Standard fallback model is Sending Party Pays
  - Other models (installed port capacity, average or peak used capacity, percentile used capacity, volume in GB) are optional and to be commercially negotiated
- Opportunity and risk of IPX transport service:
  - IPX-P is not obliged to offer separation transport service to other IPX-P unless commercially negotiated
  - If commercially negotiated one IPX-P might expand its (e.g. voice) service reach through other IPX-P's transport service (opp or risk for IPX / opp for other IPX)



## Status of IPX-NNI solutions (voice)

- IPX Voice service components:
  - Termination fee (minute based, often regulated)
  - Voice transit fee
  - IPX-P is not obliged to offer separation of transit fee and termination fee unless commercially negotiated
- Possible commercial settlement models for IPX voice transit fee (if offered):
  - Minute based
  - Others (e.g. installed port capacity, average or peak used capacity, percentile used capacity, volume in GB)



## Status of IPX-NNI solutions (summary and outlook)

- GSMA (customer) requirements and i3forum's (supplier) ready-to-use solutions are evolving
- Definitions and scope of IPX services
  - On-net, off-net, multi-hop off-net, break-out
  - Service-unaware IPX-Transport service (optional)
  - IPX-Voice service (others to be specified in the future)
  - Separation of IPX Core and Services (technical + commercial) might occur
- Different (Types of) Services and QoS to be supported
- Commercial settlement models for IPX transport and IPX voice service (beyond minute-based) tbd



# Thank You

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## Panel discussion on IPX

-  Glenn Marschel, Chief Executive Officer, NetNumber
-  Shawn Zargham, Chief Technology Officer, Telarix
-  Christian Michaud, Director Business Development, Tata Communications
-  Carlos da Silva, Director Business Development, PCCW Global
-  Chris Lengyel, Director Strategic Marketing and New Products, iBasis
-  Piero Irrera, Director Wholesale Carrier Services, Vodafone Germany