ITU-T IPTV Standards for Interoperability

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Agenda

- Why IPTV?
- Why Standard?
- ITU IPTV Standard
- Some examples
- Conclusion

Why IPTV?

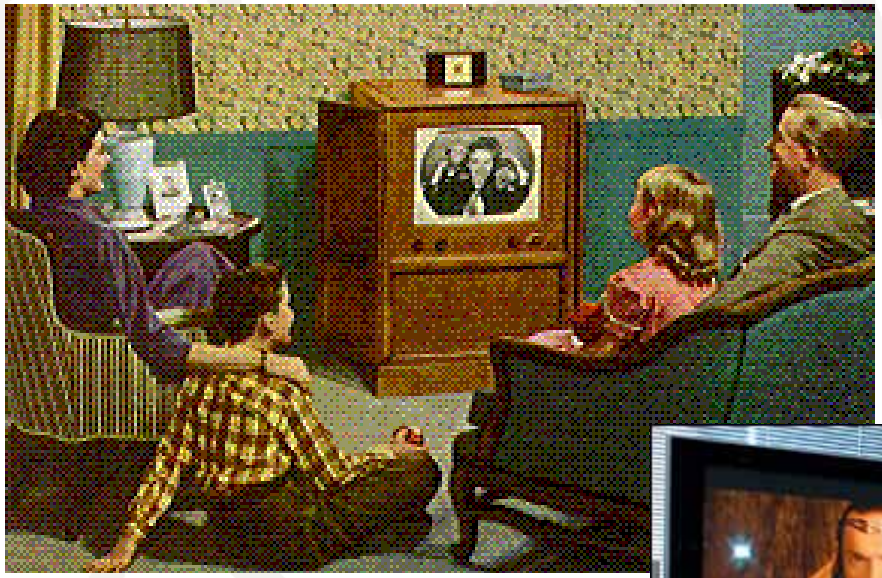

Digital TV
VOD
Online Games
Music Center
IPTV
Multimedia Center
Education
Surveillance
Digital Home
Surfing
Banking
e-Commerce
VoIP
E-mail
Messages

TV Set as a Universal UI -bridge for Digital Divide-

- TV set is not just for broadcasting
- It is the universal user interface for various services
- Game, DVD, VHS,
- Familiar to both Young and Old
- Accessible to a wide range of population, without special training
- Model of similar Interfaces

TV set as Universal Interface

- Since its introduction, familiar to both Young and Old
- Accessible to a wide range of population, without special training
- It is the universal user interface for various services



TV as Universal Interface Model

- TV set is not just for broadcasting
- Model of similar Interfaces

Photo/Video

DVD/Bluray

Games

TV as “Public” Media

- “Out-of-home TV set”
  - Japan circa 1955

Digital Signage as a Media

- London circa 2008

IPTV as Signage

- In-store Signage

IPTV as Digital Kiosk

IPTV and New Generation NW

- IPTV is part of the new wave, and one of the most highly visible services to emerge as part of work on the converged network age.
- It can be seen as both the business case and principal driver for a larger customer base.
- IPTV subscriptions around the world will reach 48.8 million this year (Gartner).

Need for Global Standard

Standardized IPTV would mean

- Lower cost
- Wider Market
- Better Quality of Service and Experience
- More consorted security
- Open infrastructure
- Innovation and new services
  - Standardized HTML gave us Web;
    Standardized IPTV will give a new *Internet*

-Interoperability is the key -

ITU Definition of IPTV

- Multimedia services, such as

  Television; Video; Audio; Text; Graphics; Data,

  delivered over IP based networks

  managed to provide the required level of **QoS/QoE**, **security**, **interactivity** and **reliability**.

  - ITU-T IPTV is ***NOT*** EXCLUSIVELY
    - Video streaming
    - Over the Internet
    - For PC

Adoption and Deployment

- UK's DTG (Digital TV Group) has adopted ITU-T Y.1910 as its Connected TV Architecture
- ITU-T H.264 widely adopted and used as IPTV video content format
- The following have been implemented and deployed over 4 million terminals (STB, TV, PC), and sold in market.
  - ITU-T H.721 (Terminal Device)
  - ITU-T H.701 (error recovery),
  - ITU-T H.762 (Interactive Framework LIME),
  - ITU-T H.770 (service discovery)
  - ITU-T H.750 (metadata)

ITU-T H.721
Open Managed Terminal for IPTV

- Terminals based on ITU-T H.721 are available in the retail market
- Customer can buy them at a shop, connect to NW, and receive an IPTV service
- Standardized to provide open and accessible IPTV services

STB

TV set

PC

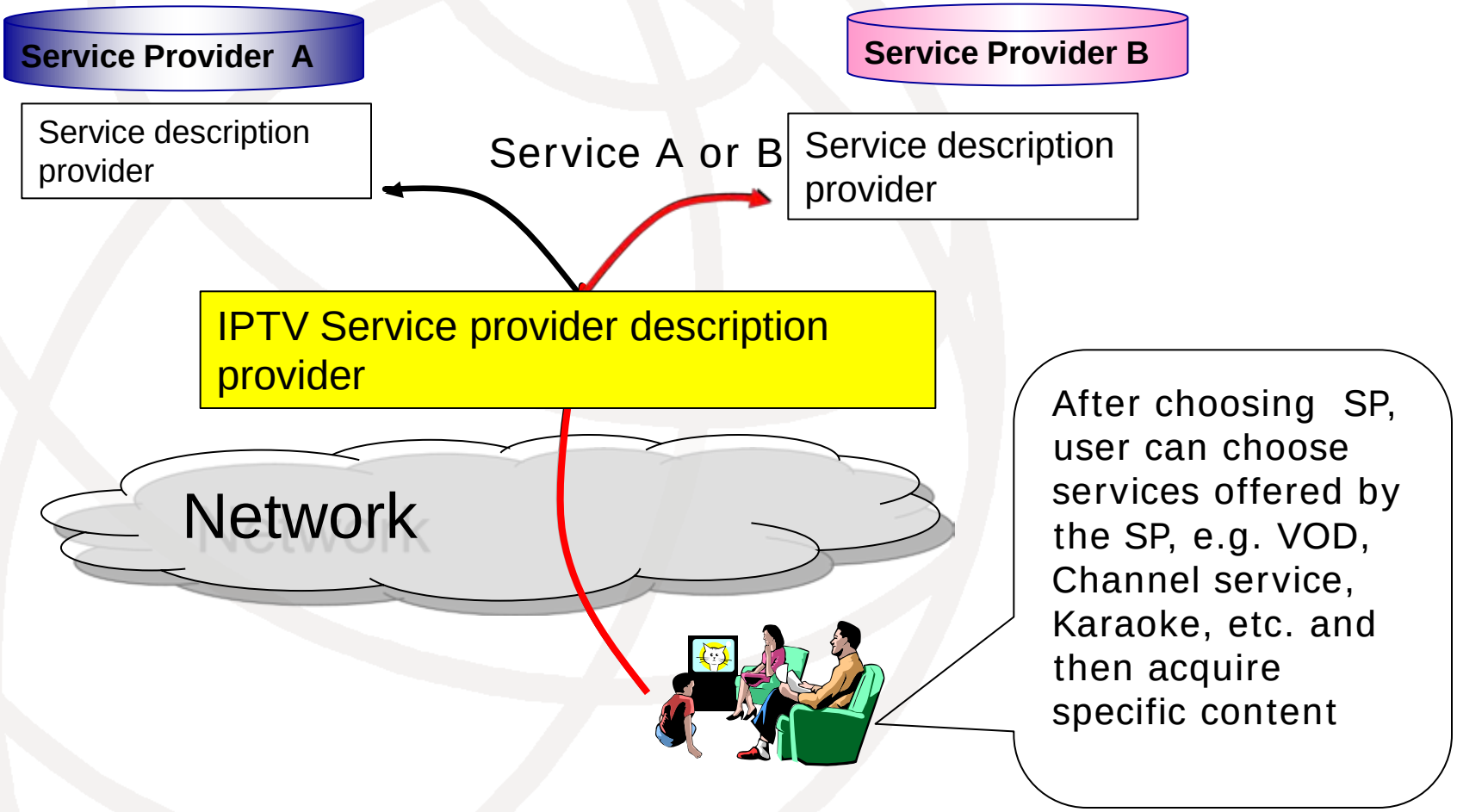
Standard Managed “Connected TV”

- ITU-T H.721 terminals are ***managed*** “connected TV”.
- Supports multiple service providers
- requires no difficult configuration – just plug and watch

Back of REGZA for H.721;ether cable is directly connected

H.770: IPTV Service Discovery

- General Framework for discovering and selecting service providers and services
- Allows user to enjoy various services and service providers easily
- Must-have for open, managed platform



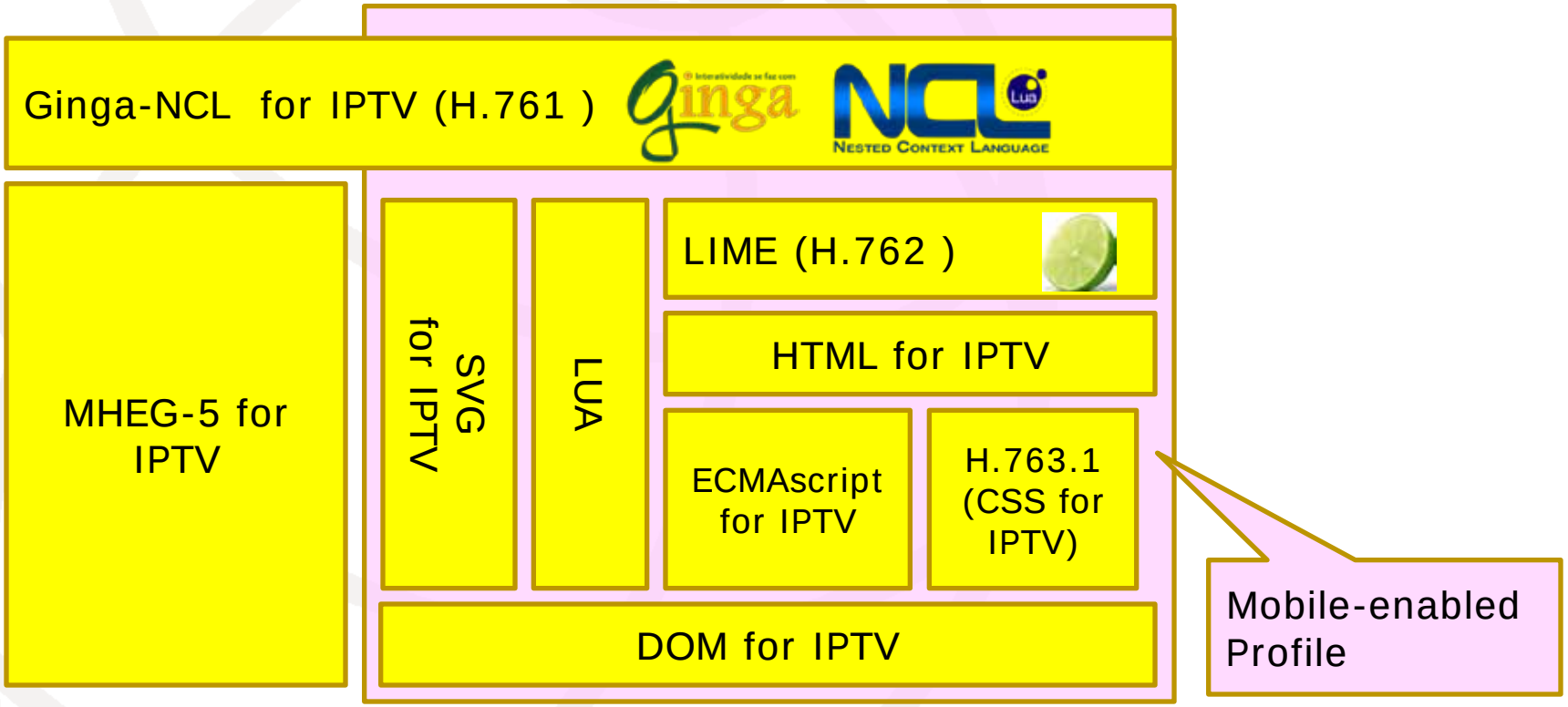
Example of Service Provider Discovery

List of available SPs; user can choose his SPs from the list

- How the list (Service Provider Discovery Information) is displayed depends on implementation
- Manufacturers can differentiate by providing innovative means

ITU-T MAFR:
Standard Common Suite for Interactivity

- ITU-T H.760 (Multimedia Application Framework) Series defines Standard Common Suite of Multimedia Application Platform that gives multimedia interactivity to IPTV content.
- With this Common Suite, IPTV Terminals can support interactivity anywhere in the world



T-Commerce with IPTV

IPTV for Mobile Device

Interatividade se faz com ginga

E-Government: Public Info Board on IPTV (Bus traffic Info)

- Check the route on the map
- Traffic condition of the bus routes
- Length of the Waiting queues (how long you would have to wait.)
- Signals your bus is arriving just 5 min. before the bus comes

E-health Apps for IPTV

E-Health

- LIME app does
  - obtain health data and shows it on TV
  - Allow the user to send the data to the doctor via e-mail
  - Receive the reply from the doctor to show his professional advice on the TV screen

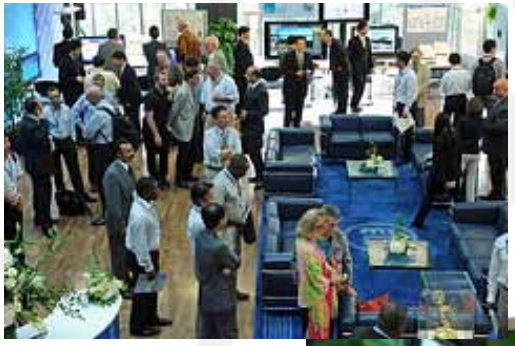
Interop Events

- First Successful Interop event held in Geneva, July 2010.
- Second, also successful, Interop held in Singapore (Sept. 2010)
- **Third one in Pune, India in December 2010**
  - **At Sinhgad Technical Education Society Narhe Campus**
  - **Co-organized by TechMahindra**
  - **Showcasing on 16-17**
  - **Workshop on 17, inviting representatives from major players in the IPTV ecosystem – Telco, Broadcasters, Content Creators, Solution providers, Integrators,**

Interop Events

- Throughout the 3 events, many companies consistently participated in the event to test products conformant to ITU-T Recommendations and showcased their solutions
- Service Discovery, Video on Demand, Linear TV, Quality of Service (QoS), Interactive Applications, Metadata have been tested for Interoperability
- Content protection, mobility, Android-apps were demonstrated
- Attracting many guests from many countries from Africa, Asia, Europe, and Americas
- Many international organizations – e.g. EBU, WHO, WIPO – supporting the events
- **Much more global interest expected after the event in Pune, India.**

Interop event for IPTV in Geneva



Interop Event in Singapore

Conclusion

- ITU IPTV standard is ready for deployment
- Practical, cost-effective, end-to-end solution
- ITU IPTV standard is truly global, open.
- future-proof
- Interoperability is actively tested and proved
- will encourage innovation, ensure interoperability and ultimately help players remain competitive
- More requirements and suggestions are expected from the Indian market

- Thank you!

- For more information
  - http://www.itu.int/ITU-T/gsi/iptv/
  - http://www.itu.int/interop
  - Or contact:

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