IPTV World Forum – Technical Symposium

Enhancing the User Experience with NGN based IPTV Architecture and Services

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Slovak Telekom

Enhancing the User Experience with NGN based IPTV Architecture and Services

Goals

- Slovak Telekom experience in NGN & IPTV
- Evolution towards NGN based IPTV
- IPTV standardization overview and NGN based IPTV
- ETSI TISPAN in R2/R3 (non-IMS vs. IMS based IPTV)
- Possible evolution scenarios towards Converged NGN based IPTV
- What should new IPTV architectures provide to end users – any new capabilities, services, user cases ???
- Combinational Services for IPTV and its add value to user experience

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Enhancing the User Experience with NGN based IPTV Architecture and Services

Agenda

- Introduction to ST's IPTV – role of market/standards?
- TISPAN NGN IPTV - IPTV architecture evolution – non-IMS, IMS based IPTV architectures
- Combinational Services in NGN based IPTV
- Enhancing user experiences with NGN based IPTV
- Conclusion

About Slovak Telekom,a.s.

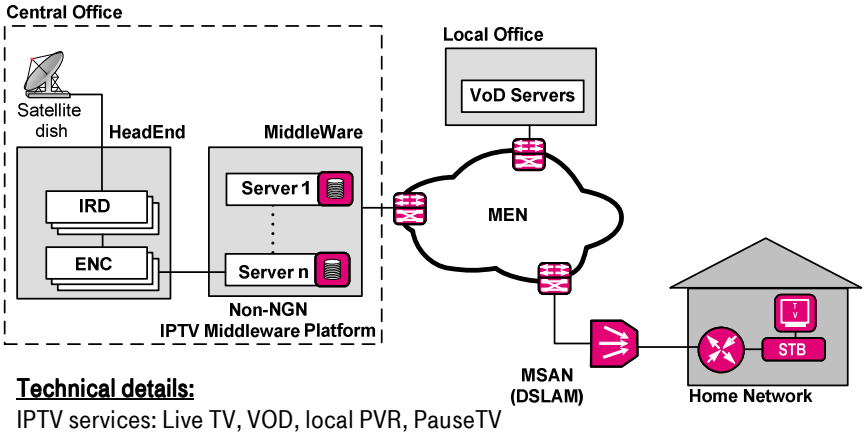
NGN technology leader in CEE

- The majority shareholder in ST,a.s. is Deutsche Telekom AG, one of the largest telecommunications operators worldwide.
- Slovak Telekom Group is telecommunication market leader in Slovakia (T-Com, T-Mobile, T-Station and zoznam.sk)
- Slovak Telekom Group provides the services of fixed network, mobile communication, internet access, internet content, data services, CPE sale, radio and TV services as well as commercial call centre services to its customers as a single provider of comprehensive telecommunications services in Slovakia
- One of the biggest national wide deployment of NGN technology in Europe in 2004 (TDM replacement & new NGN services)
- First commercial IPTV in Slovakia (from 2006) – 40k (2008)
- CEE Leader in FTTH coverage (20% HH) – top 10 cities – 220k HH

http://www.slovaktelekom.sk/en/

ST Logical IPTV architecture

Distributed non-NGN based IPTV solution



Technical details:

IPTV services: Live TV, VOD, local PVR, PauseTV

Distributed IPTV architecture, multi-/uni-cast capable network, E2E Quality monitoring

Coding: MPEG-4 AVC - Digital quality, SD/HD ready, over MPEG2-TS

Access : ADSL2+, ETTH, FTTx

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Source: ST Triple play project

IPTV Evolution

ST IPTV features

- Complete Triple Play offer (VoIP, High Speed Internet up to 70Mbps, IPTV)
- SD/HD Live channels (TV/Radio) – multiple stream (record and watch other channel independently)
- User Friendly Graphical Interface
- Flexible Selection of Theme Packages
- Local PVR Recording (up to 120 hours)
- Live pause TV (90 min.)
- EPG (approx. 14 days in advance), WebEPG
- Multiple STBs per HH (up to 4 with FTTH)
- Parental Control, Picture In Picture, Mosaic
- Continuously adding new features quarterly
- Single bill, 24/7 Customer care

Magio

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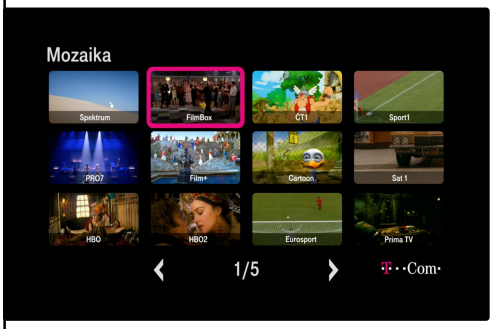
http://www.magio.sk/

IPTV services, technologies and trends

New IPTV Features & Services – Usability – Mosaic/Radios



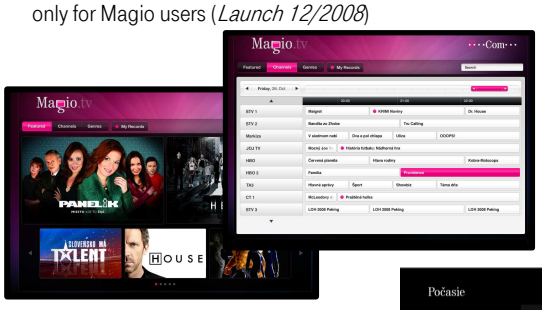
12 small TV screens on 1 view. All raster visible to all customers except adult channels.
Launched 1/9/2008

All radio channels provided over single user interface.
Launched 1/9/2008

ST IPTV services, technologies and innovations

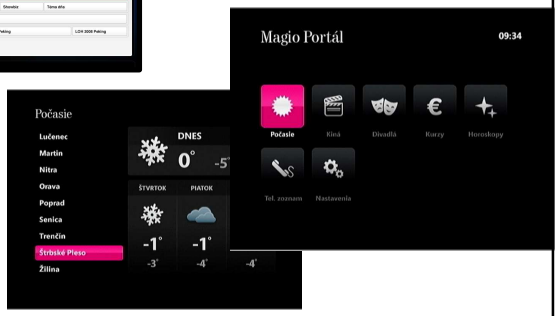
New IPTV Features & Services – Interactivity - Portals

Magio Web Portal (Internet) - Customer can manage and schedule his recordings through Magio website (magio.tv); Web EPG will be public accessible, but Remote DVR function will be available only for Magio users (*Launch 12/2008*)



Magio

http://www.magio.tv/



Magio Info Portal (STB)
Accessible using STB Browser: Weather, Cinemas, Theather, Rates, Horoscope, Phone Numbers,..
Launch 04/2009

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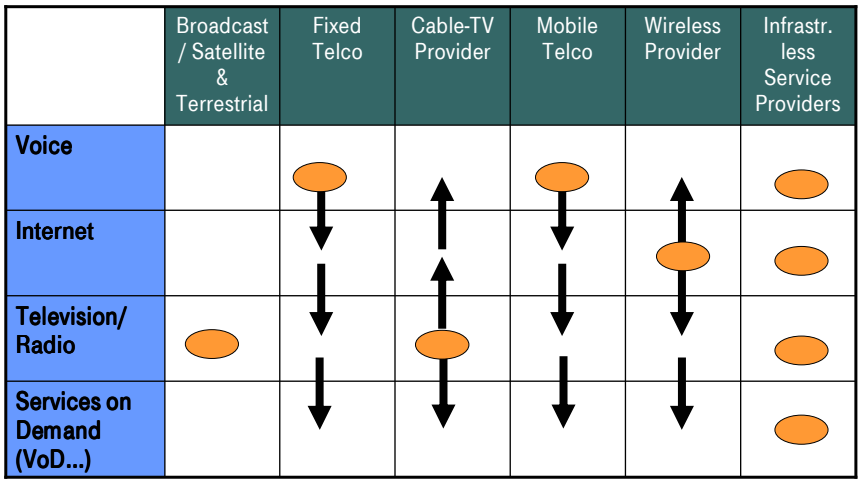
Converging Markets – NGN service → Multi-play services



Note: historically, the main service provided over the providers platform

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IPTV Evolution Towards NGN Architecture

Standardization bodies related IPTV

- ETSI TISPAN
- ITU-T IPTV FG & GSI
- 3GPP PSS & MBMS
- DVB (DVB IPI)
- ATIS IIF
- OMA BCAST

Many Others ....

Open IPTV forum
IETF
ATSC
OMA
ISO/IEC MPEG
CableLabs
DLNA
TV-Anytime
IPDR.org
ISMA
MSF
HGI

- **Global Consensus**
- **Regulatory Framework**
- **Global Standards**

=>GLOBAL INTEROPERABILITY CHALLENGE!

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IPTV Evolution Towards NGN Architecture

ETSI TISPAN R2 vs. R3 – IPTV related specifications

1) IPTV Requirements – stage 1

- IPTV service requirements – WI1044 (R2), WI1059 (R3)

2) NGN based IPTV Architecture – stage 2

- IPTV support over IMS (IMS based NGN IPTV)
  – WI2048 (R2), 2070 (R3)
- NGN dedicated IPTV architecture (non-IMS NGN IPTV)
  – WI2049 (R2), WI 2074 (R3)

3) Protocols, implementation – stage 3

- Dedicated IPTV subsystem, Stage 3 Specification - WI3137 (R2)
- IMS based IPTV, stage 3 - WI3127 (R2)

4) Others – NGN R2 architecture, Security architecture, ...

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IPTV Evolution Towards NGN Architecture

NGN based IPTV requirements – common for both - stage 1 spec - WI 1044 (R2) – TISPAN IPTV Services in Release 2

Basic TISPAN Entertaining services:

- Broadcast TV (with or with trick modes).
- Trick Modes.
- Pay Per View.
- Content on Demand (CoD).
- Near CoD.
- Interactive TV.
- Push CoD.
- Audio.
- Advertising.
- Regulatory:
  - Emergency Information.
  - Applications for the disabled.
  - Content Advisories.
- Educational facilities.
- Hybrid Services.
- Third Party Content.

IPTV Evolution Towards NGN Architecture

NGN based IPTV requirements – common for both - stage 1 spec - WI 1059 (R3) – "New" IPTV Services in Release 3

New TISPAN Entertaining services:

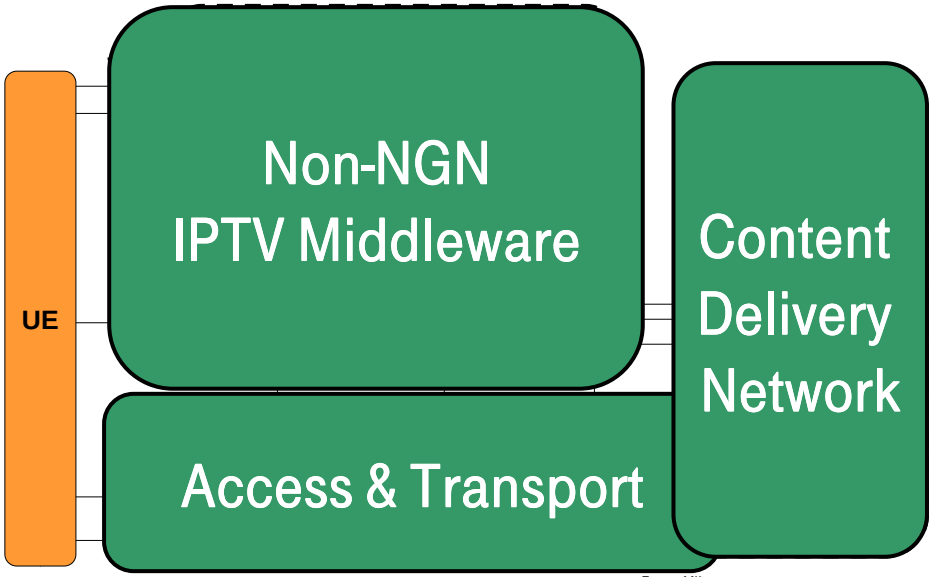
- User Generated Content
- Content Recommendation
- Time Shift TV
- Push COD
- Personalized channel
- Targeted advertising
- Content distribution
- Advance PVR (remote, c-/n-PVR)
- Profiling and personalization

IPTV and NGN Service Interaction

- Watching Apart Together
- Presence based games
- Incoming call management
- Seamless switching among devices
- Content sharing on a multimedia conference
- Sharing the remote control.

IPTV Evolution Towards NGN Architecture

from non-NGN -> NGN based non-IMS -> NGN IMS based IPTV



Source of figure: ETSI TISPAN 18bTD221r1 WI02074_NGN_Integrated_IPTV_migration.zip

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NGN based IPTV

Technical solutions for service interaction of IPTV and NGN services

General characteristics	Service interaction and service blending solutions	Element responsible
Non NGN platforms	Proprietary solutions, direct integration with IPTV per service	Not defined kind of interworking gateway (application/signaling)
NGN integrated IPTV (non-IMS)	Via NGN application server function which play role of application gateway	NGN ASF
NGN IMS based IPTV	IMS based service orchestration should be used (NGN service enablers)	3GPP SCIM OSA SCS (Parlay, ParlayX)

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NGN based IPTV evolution
Enhancing user experiences with NGN based IPTV

- Most of the end user usually really don't care which technology is to provide, what they care:
  - Price
  - Quality of service & reliability, support
  - Quality & Quantity of Content (TV channel portfolio, VoD assets, HD)
  - Usability (friendly UI) & feature and services
- Main goal of NGN based IPTV is standard based SP solution & UE, integration with transport network, single infrastructure for all services (NGN & IPTV)
- NGN based IPTV will change user experience – via quality, personalization, new services, mobility, user interactions, targeted services (Ad), multi-devices
- NGN IPTV will provide new kind of services like integration with communication services, user generated content, content personalization, recommendation, personalized channels, FMC continuation, etc.

NGN based IPTV evolution
Conclusion

- Evolution towards IMS based IPTV could be achieved as single step or there exist multiple migration scenarios
- ETSI TISPAN R2 (2008) – introduce NGN based IPTV to TISPAN architecture, provide most important IPTV services (must to have IPTV basic set)
- ETSI TISPAN R3 (ongoing) will provide new kind of services like user generated content, content personalization, recommendation, etc.
- NGN based IPTV will change user experience – via quality, personalization, new services, mobility, user interactions, targeted services (Ad), multi-devices
- Several ways how could be integrated combinational services are described in release 3 and also mechanisms based on IMS could be reused
- First system prototypes and interoperability test could be expected this year
- MSF test IMS based IPTV (Oct 2008), ETSI TISPAN Plugtest Nov 2009
- Most of the operators is analyzing available standards without exact decision yet to rollout NGN based IPTV platforms

Thank You for Your Attention !

Any Questions ???

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