Introduction to ITU-T Audience Measurement (AM)

Authored by Q13/16 Ad hoc Group on Audience Measurement
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The Values of Audience Measurement

Service Provider
- Consumer product design / planning
e.g. packaging/bundling, pricing, function/feature
- Business product design / negotiations
e.g. media delivery, advertising, banking, carriage fees, ad sales, channel positions
- Competitive Service Offering
e.g. Service personalization, targeted ads
- Operational optimization
e.g. channel-line up, bandwidth allocation, equipment life-cycle, staffing
- Customer Relationship Management
e.g. cross-sell, up-sell, retention

Audience Measurement Provider
- ✓ Consumption patterns
- ✓ Audience forecast by segment
- ✓ Viewer habits and preferences
- ✓ Degradation impact analysis
- ✓ Consumption patterns

Data Processing
- ✓ Aggregated data products
- ✓ Insight reports

Content Providers
- ✓ Content creation and optimization e.g. actors, interactivity, duration
- ✓ Windowing optimization
- ✓ Pricing/licensing
- ✓ Aggregated data products
- ✓ Insight products

Market Research
- ✓ Aggregated data products
- ✓ Insight reports e.g. ads - channel, location

Networks/Programmers
- ✓ Content selection
- ✓ Optimize content and promo placement

Advertiser/Agency
- ✓ Ad Placement
- ✓ Target audience segments
- ✓ Return on Investment
- ✓ Creative optimization

Data for others
- ✓ Sale
- ✓ Barter

IPTV-GSI, June 2011
H.IPTV-AM comparison to traditional methods

**H.IPTV-AM Benefits**
- A larger audience sample –
  - Long tail
  - Local market characteristics
  - Small groups of interest more stable
  - Amplified by multi-SP deployment
- More detailed engagement measurements
  - Direct access to IPTV systems
  - Time accurate
- Enhance other IPTV services, examples
  - Impact of service degradation – how many viewers leave channels following high error rate
  - Improve content/ad recommendation services – making recommendations and correlating subsequent choices and engagements
- Passive data collection

**H.IPTV-AM Limitations**
- IPTV services only – End users engage substantially with non-IPTV services dependent upon device type
  - TV – services provided via alternate input
  - Mobile device – phone, text, navigation, web, photography, etc.
  - PC – web, chat, local programs, etc.
- IPTV “TV” only
- Non-representative sample
  - optionally provided user information
- No presence count (supported externally)
- Optional identity and attributes of those viewers
- TV powered off
1) SP chooses independent AM provider

2) SP has own AM and provides to other SPs

3) User chooses AM provider
Example Context

- Stakeholder 1
  - Orders (order details, directives)
  - Measurements Manager
  - Aggregated reports
  - Available measurements (audience segments, measurement types, measurable media, etc.) and analytics
  - Stakeholder reports
  - Other functions of same SP
- Stakeholder 2
  - Other IPTV functions

H.IPTV-AM Scope

- Audience Measurement Functions
  - Audience Segment 1
    - Measurement requests
    - Measurement reports
  - Audience Segment 2
    - Measurement requests
    - Measurement reports
- Other IPTV functions
  - Terminal Device
- Other IPTV functions
  - Terminal Device

Inputs e.g.
- Service Provider
- Content provider
- Advertiser/agency
- Programmer
- Audience research
- Offer management
- Fulfillment management
- Audience segmentation
- Permit

Outputs e.g.
- Inputs e.g. events, permit
- Outputs e.g. targeted advertising input
Architecture and Roadmap

AM system
1. Aggregation Functions
2. Multiple locations for Audience Measurement Functions (AMF)

Audience measurement functions within IPTV architecture

Phase 1
- Linear
  - TD-AMF

Phase 2
- Non-Linear
  - NF-AMF
  - CD-AMF
  - IPTV interfaces

Phase 3
- Interactive
  - SC-AMF
  - HN-AMF

Tentative AM Roadmap

* See previous slide

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# Privacy Model and Permission Modes

<table>
<thead>
<tr>
<th>Level 0 (default)</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>User info permitted with for AM</td>
<td>None</td>
<td>Distinguishable user, no user information</td>
<td>Distinguishable user, and anonymous user information</td>
</tr>
<tr>
<td>Example data</td>
<td>No Measurement</td>
<td>Channel 5 was watched by anonymous user #12683304 on mobile device type “X”</td>
<td>Channel 5 was watched by anonymous male user #12683304 on mobile device type “X”</td>
</tr>
</tbody>
</table>

User’s policies are declared in a **permit** which includes a permission level.

Permits may also specify providers, services, devices and/or content classes.

## Internal Permission Mode
- **AM**
- AM responsible for obtaining and using permits

## External Permission Mode
- **SP**
- **AM**
- SP responsible for obtaining and using permits

## Hybrid Permission Mode
- **SP**
- **AM**
- SP responsible for obtaining permits, AM responsible for using permits

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Events and Time Sampling

- User behavioral events are the primary things measured.
- Time sampling supported for "checkpointing".
- N-day sampling support for slowly changing information.

Events under consideration for phase 1

- Linear Service:
  - ChannelStart
  - ChannelStop
  - AudioLanguageChange
  - CaptionLanguageChange

- Service Common:
  - EventCount
  - VideoResize
  - VideoZoom
  - VideoObscure
  - AudioVolume
  - ConfigurationChange
  - UserChange

Samples under consideration for phase 1

- Linear Service:
  - ChannelID

- Service Common:
  - Location
  - UserIdInfo
  - UserPresent
  - DeviceInfo
  - UserBioInfo
  - UserAddress
Messing

Configurable

- Which services to measure
- When to measure
- What to measure
- When to report
- Where to report
- How to report
- Exception handling

Configuration

Configuration “pull” message sequence

Configuration “push” message sequence

Reporting

Measurement report “pull” sequence

Measurement report “push” sequence

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Deployment Considerations

- Minimize bandwidth, storage, processing
  - Highly configurable measurements and reporting
  - E.g. report scheduling (immediate, delayed, grouped), pull/push, filtering
- TD-AMF capability profiles
  - Compliant minimum set of options
- Operational
  - Configurable ack & error messages
- Appendix – Implementation considerations
  - Situations which drive option choices