



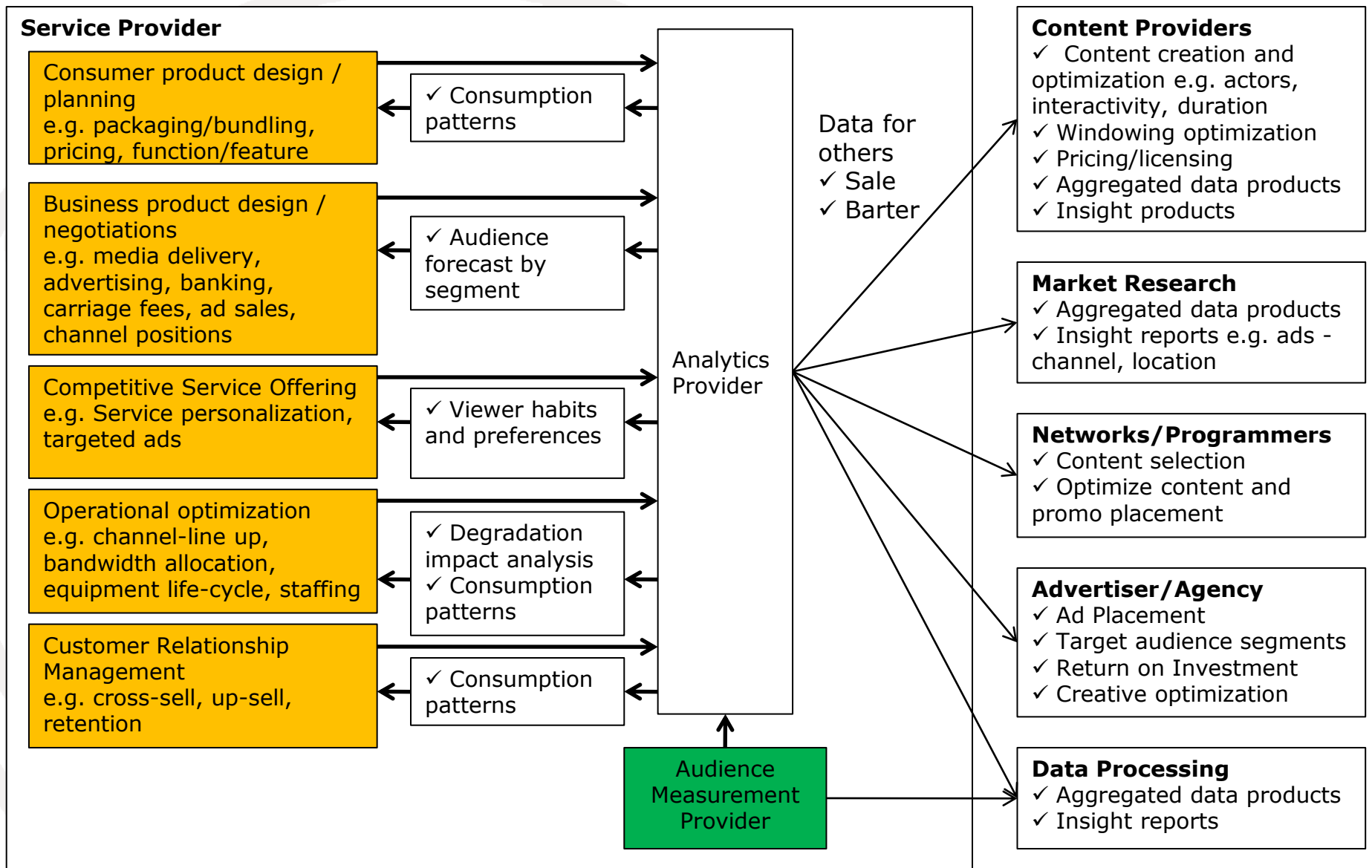
Introduction to ITU-T Audience Measurement (AM)

*Authored by Q13/16 Ad hoc
Group on Audience
Measurement*

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The Values of Audience Measurement



H.IPTV-AM comparison to traditional methods

■ H.IPTV-AM Benefits

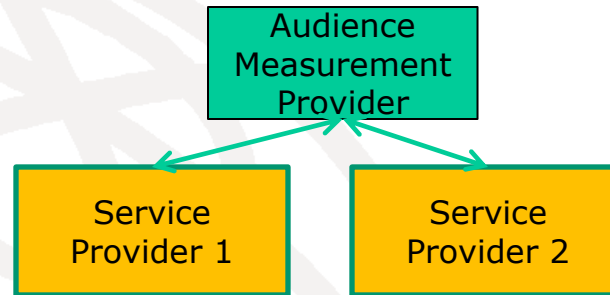
- A larger audience sample –
 - Long tail
 - Local market characteristics
 - Small groups of interest more stable
 - Amplified by multi-SP deployment
- More detailed engagement measurements
 - Direct access to IPTV systems
 - Time accurate
- Enhance other IPTV services, examples
 - Impact of service 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

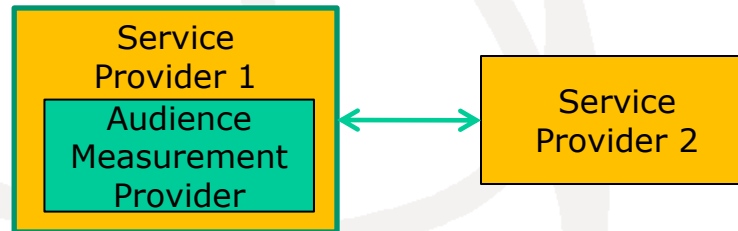
- IPTV services only – End users engage substantially with non-IPTV services dependent upon device type
 - TV – services provided via alternate input
 - Mobile device – phone, text, navigation, web, photography, etc.
 - PC – web, chat, local programs, etc.
- IPTV “TV” only
- Non- representative sample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

Deployment Scenarios

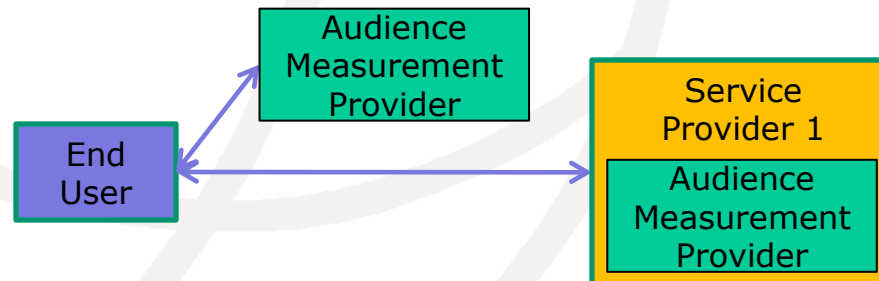
- 1) SP chooses independent AM provider



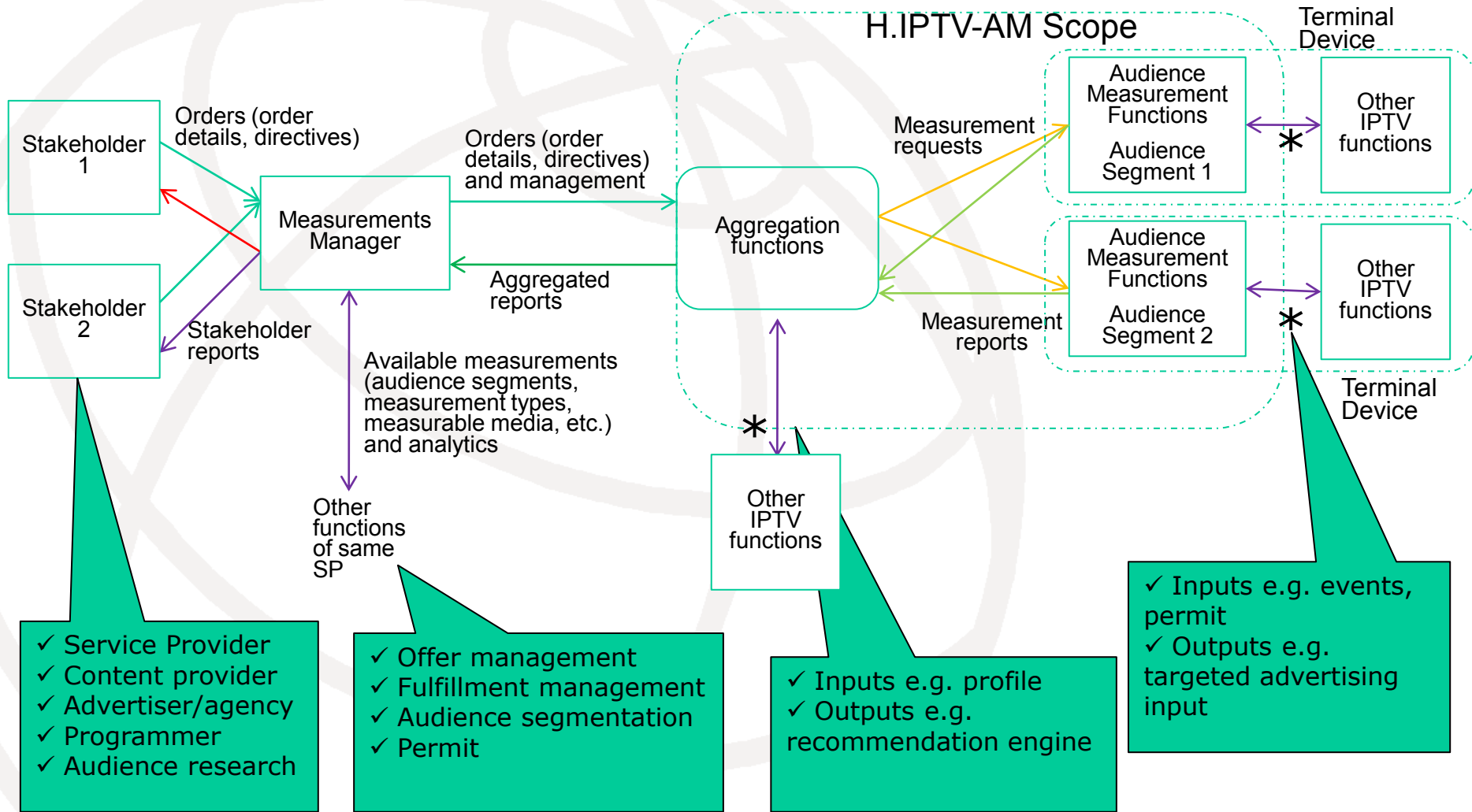
- 2) SP has own AM and provides to other SPs



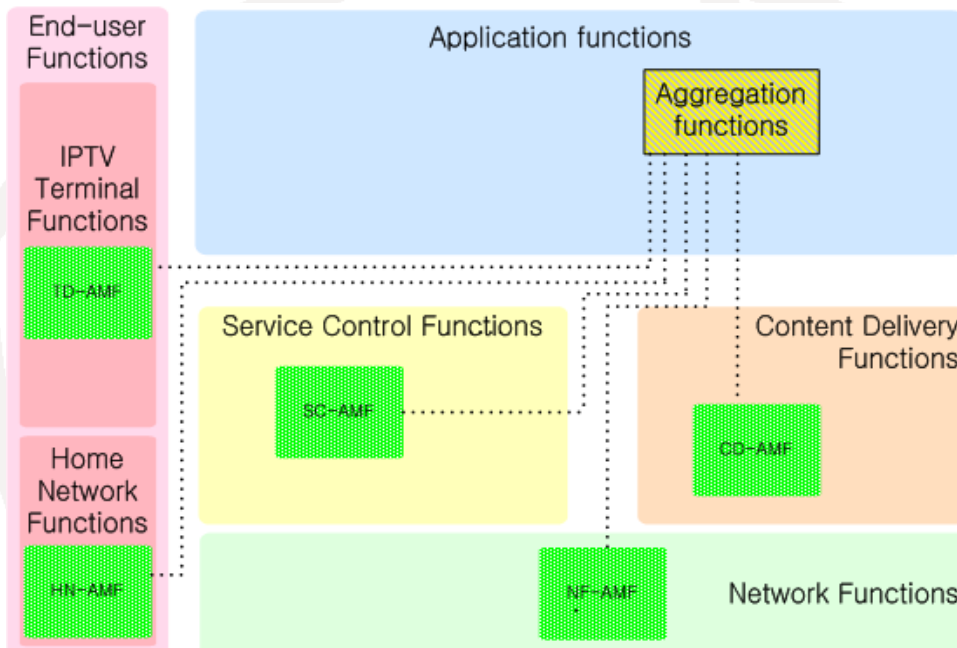
- 3) User chooses AM provider



Example Context



Architecture and Roadmap



Audience measurement functions within IPTV architecture

AM system

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

June '2011

Services
Locations
Interfaces

Phase 1	Phase 2	Phase 3
Linear	Non-Linear	Interactive
TD-AMF	NF-AMF CD-AMF	SC-AMF HN-AMF
	IPTV interfaces *	

* See previous slide

Tentative AM Roadmap

Privacy Model and Permission Modes

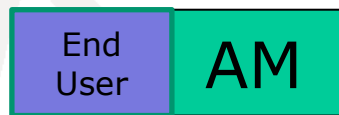
	Level 0 (default)	Level 1	Level 2	Level 3
User info permitted with for AM	None	Distinguishable user, no user information	Distinguishable user, and anonymous user information	Distinguishable user, anonymous user information, and identifiable subscriber or user information
Example data	No Measurement	Channel 5 was watched by anonymous user #12683304 on mobile device type "X"	Channel 5 was watched by anonymous <u>male</u> user #12683304 on mobile device type "X"	Channel 5 was watched on mobile device type "X" being used by <u>subscriber or user "John Smith" with email js@sp.net</u>

User's policies are declared in a "permit" which includes a permission level

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

Permission Mode set during discovery

Internal Permission Mode



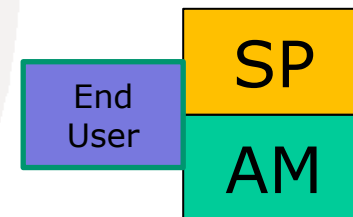
AM responsible for obtaining and using permits

External Permission Mode



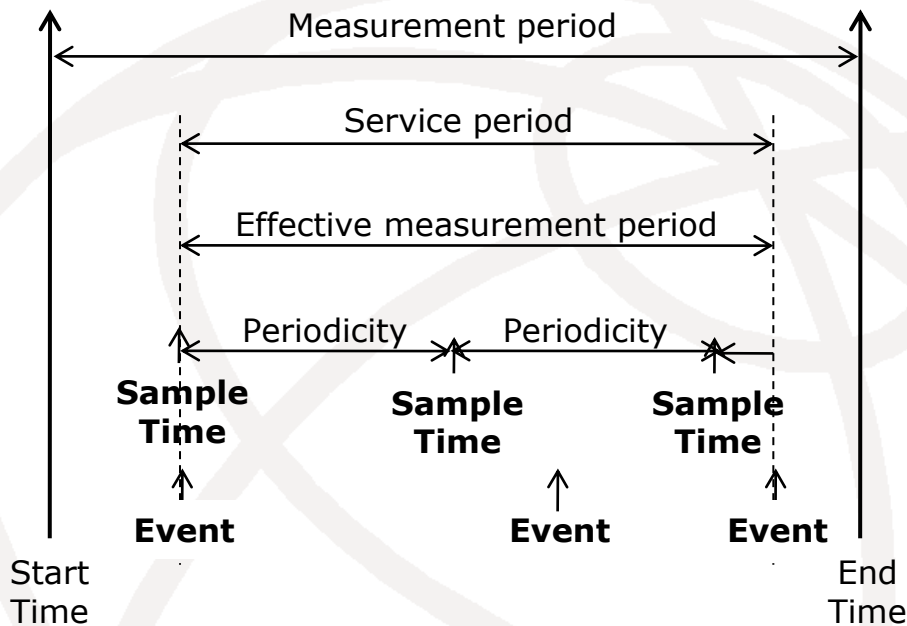
SP responsible for obtaining and using permits

Hybrid Permission Mode



SP responsible for obtaining permits, AM responsible for using permits

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

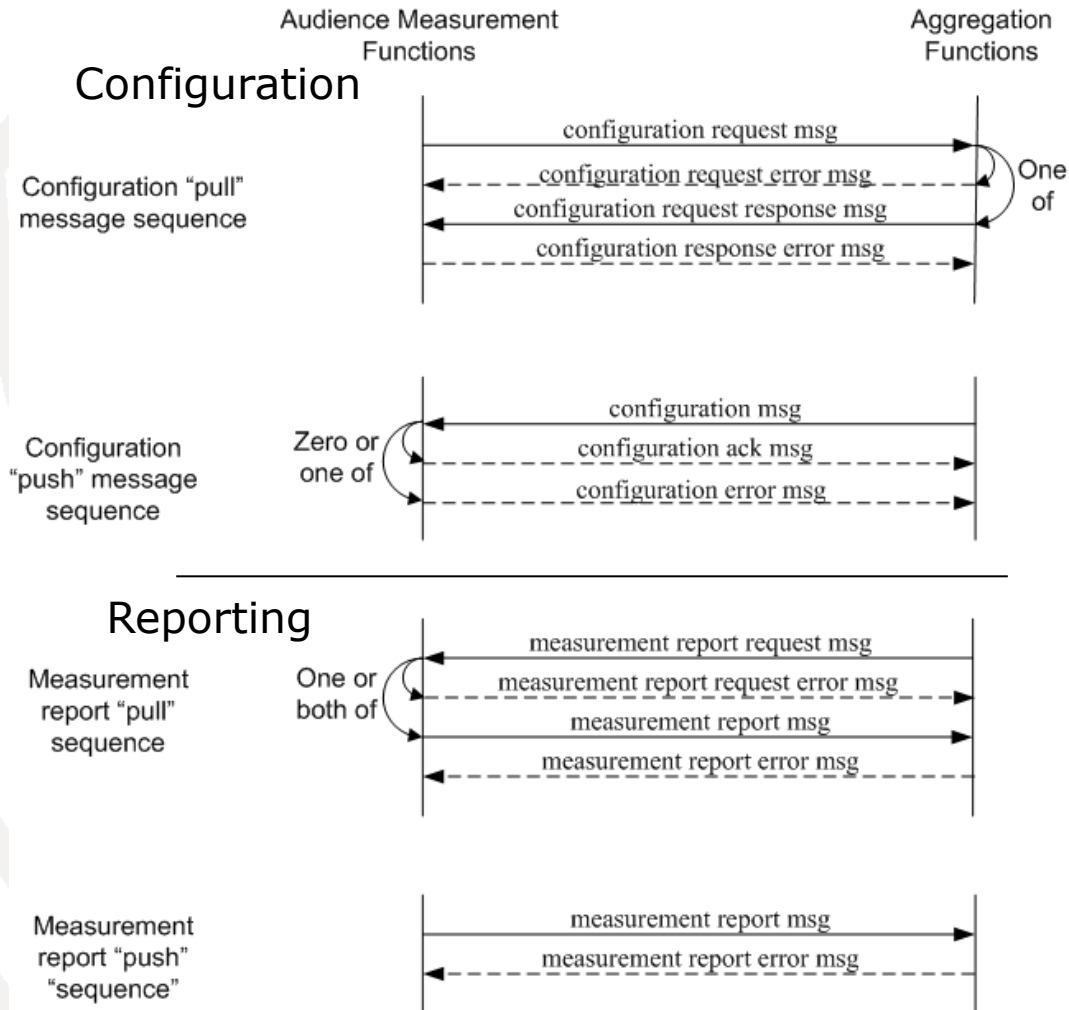
Linear Service

- ✓ ChannelID

Service Common

- ✓ Location
- ✓ UserIdInfo
- ✓ UserPresent
- ✓ DeviceInfo
- ✓ UserBioInfo
- ✓ UserAddress

Messaging



Configurable

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

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