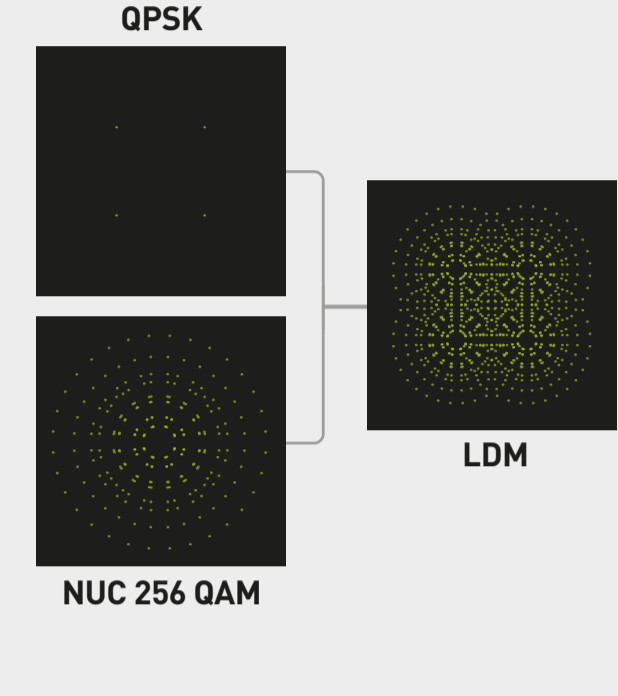


## Air interface

### Physical overview

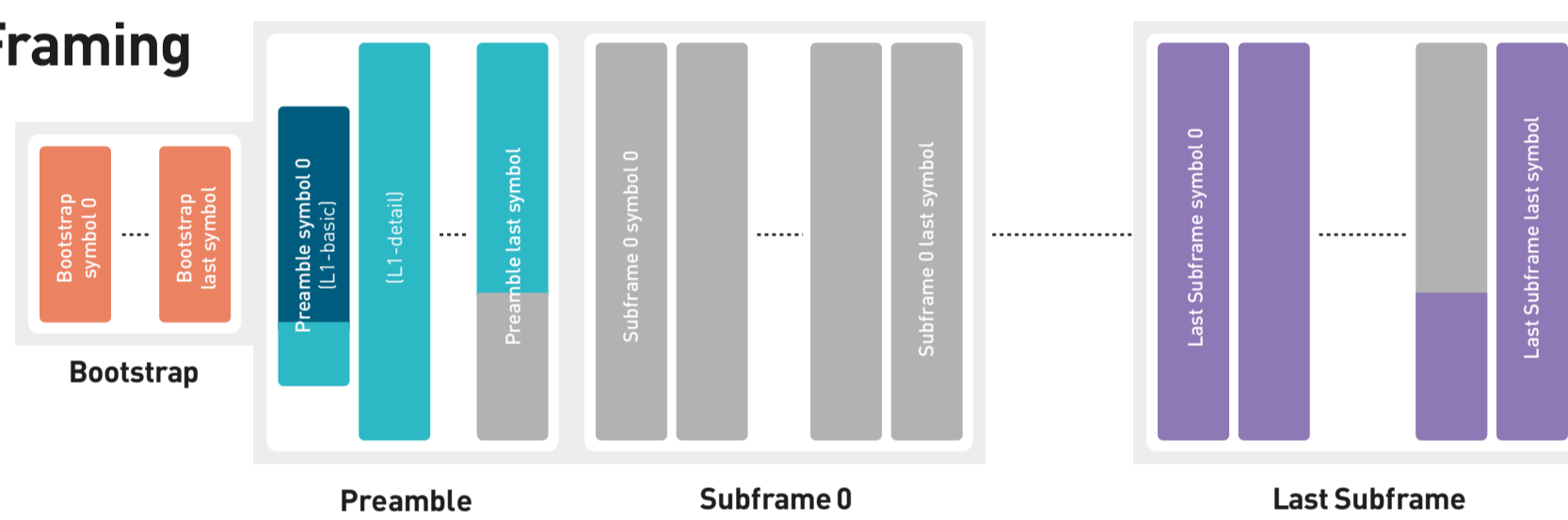
**FEC length** 16200; 64800  
**FEC code** BCH; CRC + LDPC  
**Code Rate** 2/15; 3/15; 4/15; 5/15; 6/15; 7/15; 8/15; 9/15; 10/15; 11/15; 12/15; 13/15  
**Constellation** QPSK ; NUC 16QAM, 64QAM, 256QAM, 1024QAM, 4096QAM  
**Transmission mode** SISO, MISO, MIMO, Channel bonding  
**Interleaving** Convolutional Time Interleaver; Hybrid Time Interleaver  
**FFT size** 8K; 16K; 32K  
**Bitrate Max** 8Mhz: 78,5Mbps (SISO) - 157Mbps (2x2 MIMO)  
 6Mhz: 58,8Mbps (SISO) - 117Mbps (2x2 MIMO)  
**ATSC 3.0 frame duration** from 50ms to 5s  
**PLP number** from 1 up to 64 (min 4 in parallel for demod)  
**Versatile PLP mapping** TDM, FDM, TFD, LDM, LTDM

### LDM injection

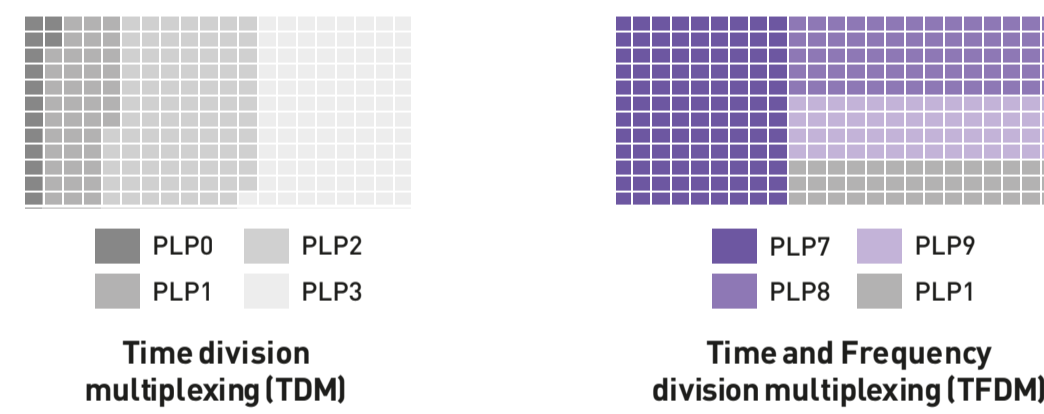


### ATSC FRAME

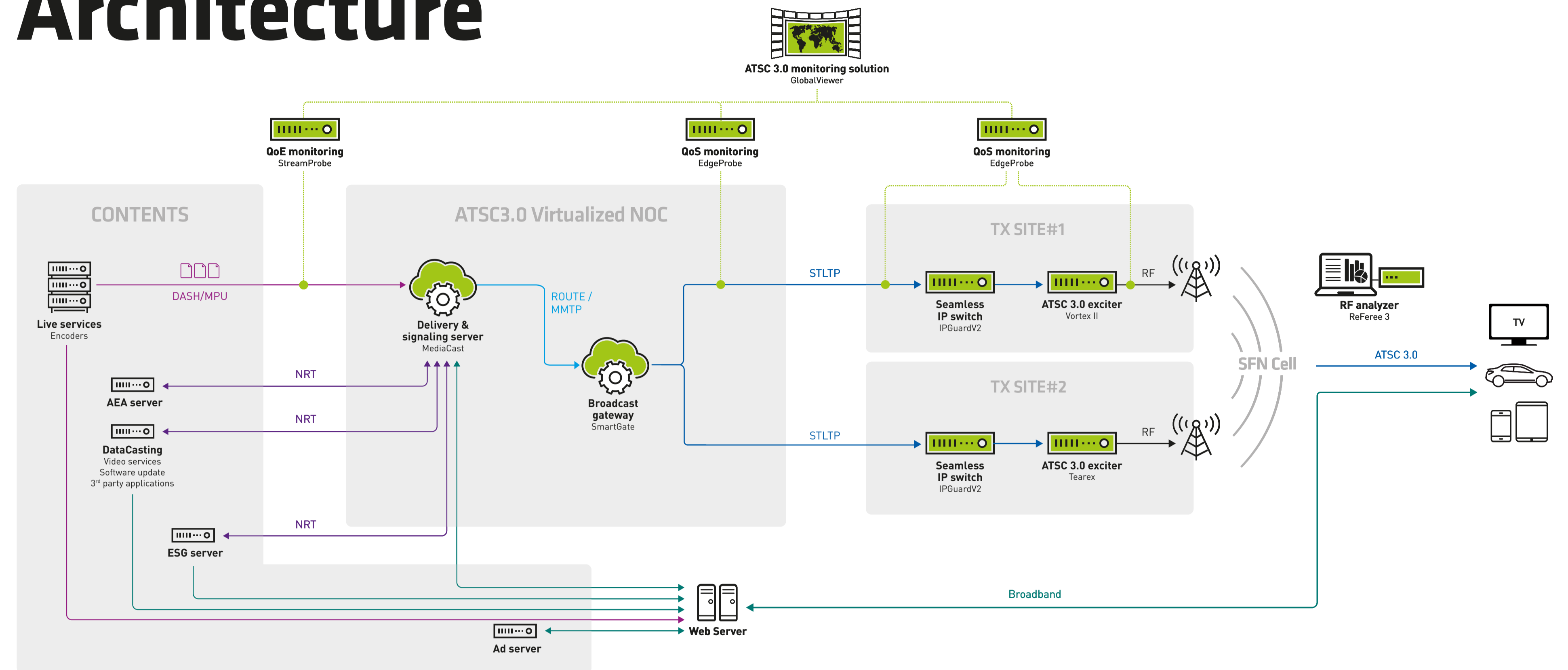
#### Framing



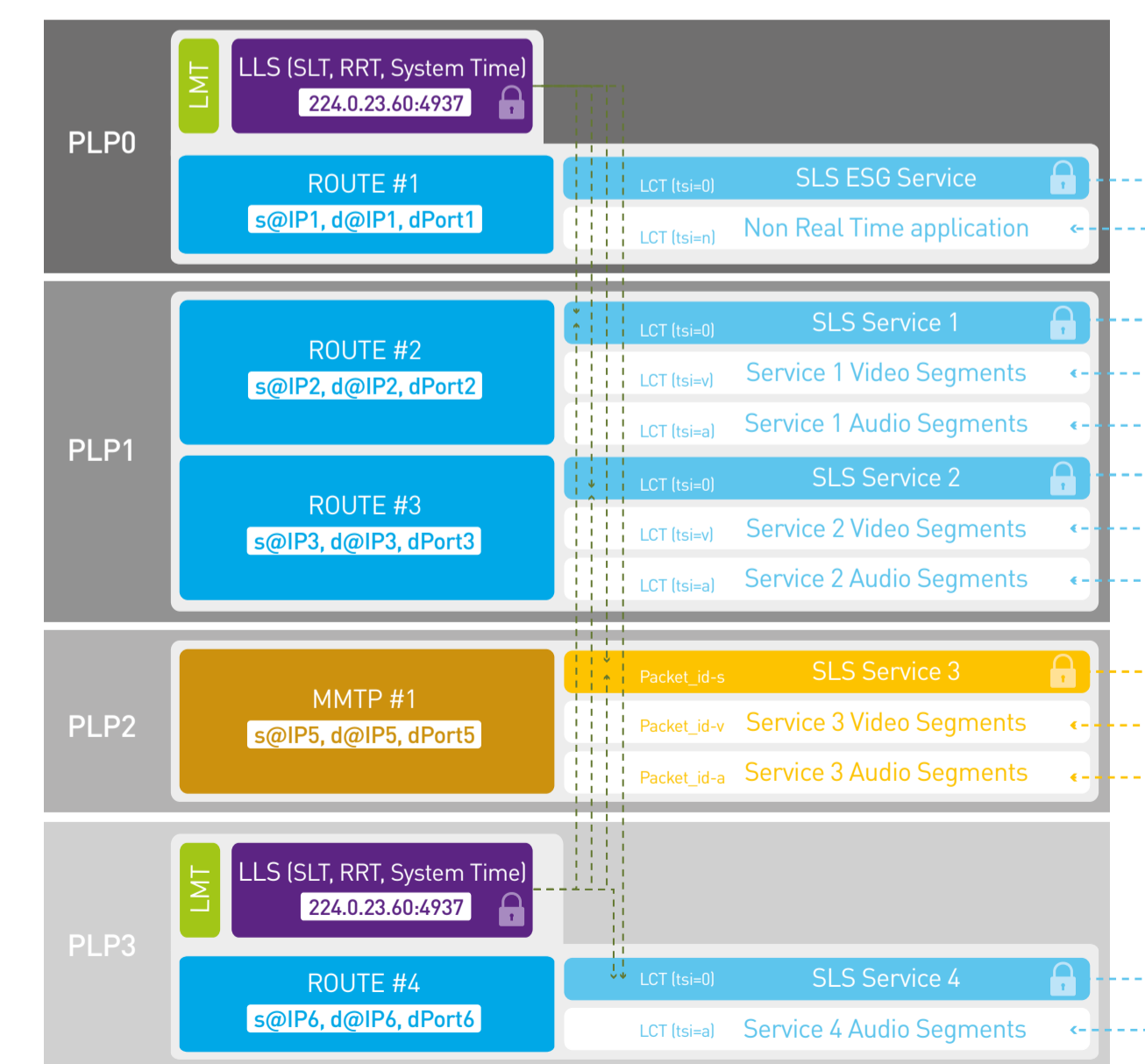
#### PLP Mapping



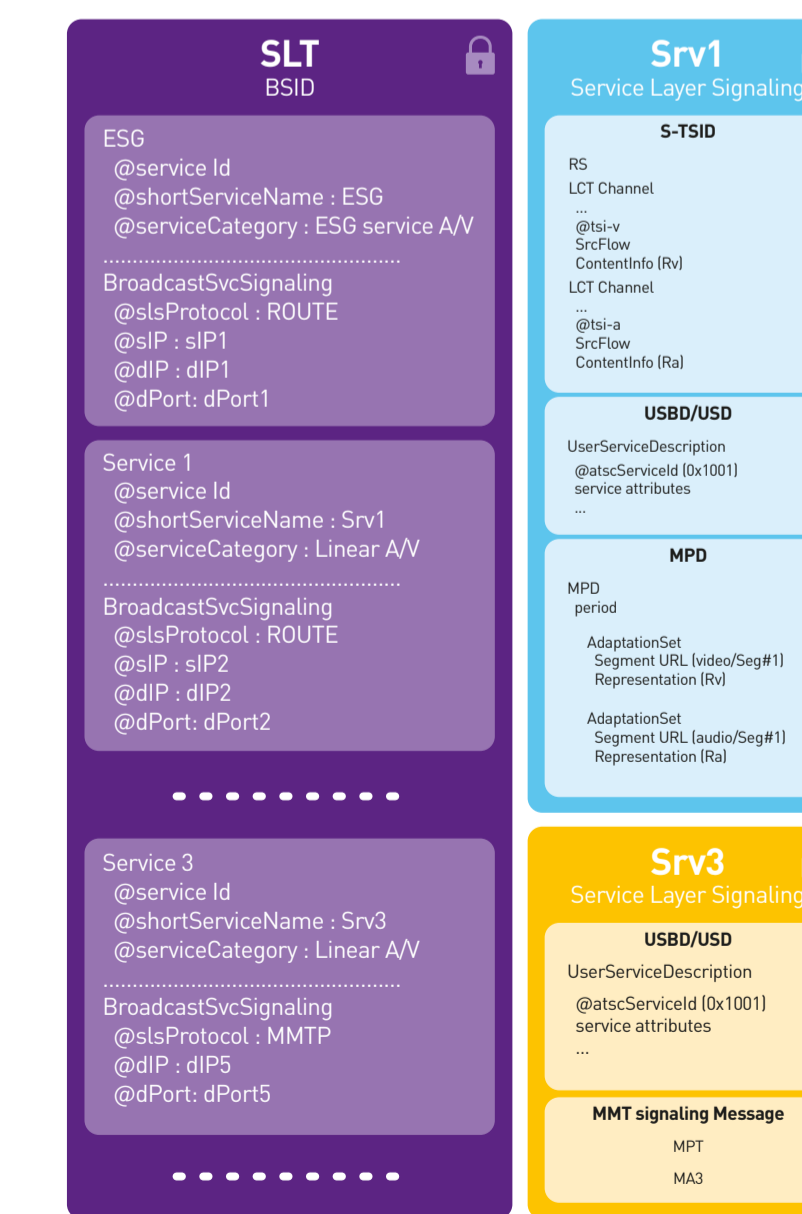
## Architecture



## Service Acquisition



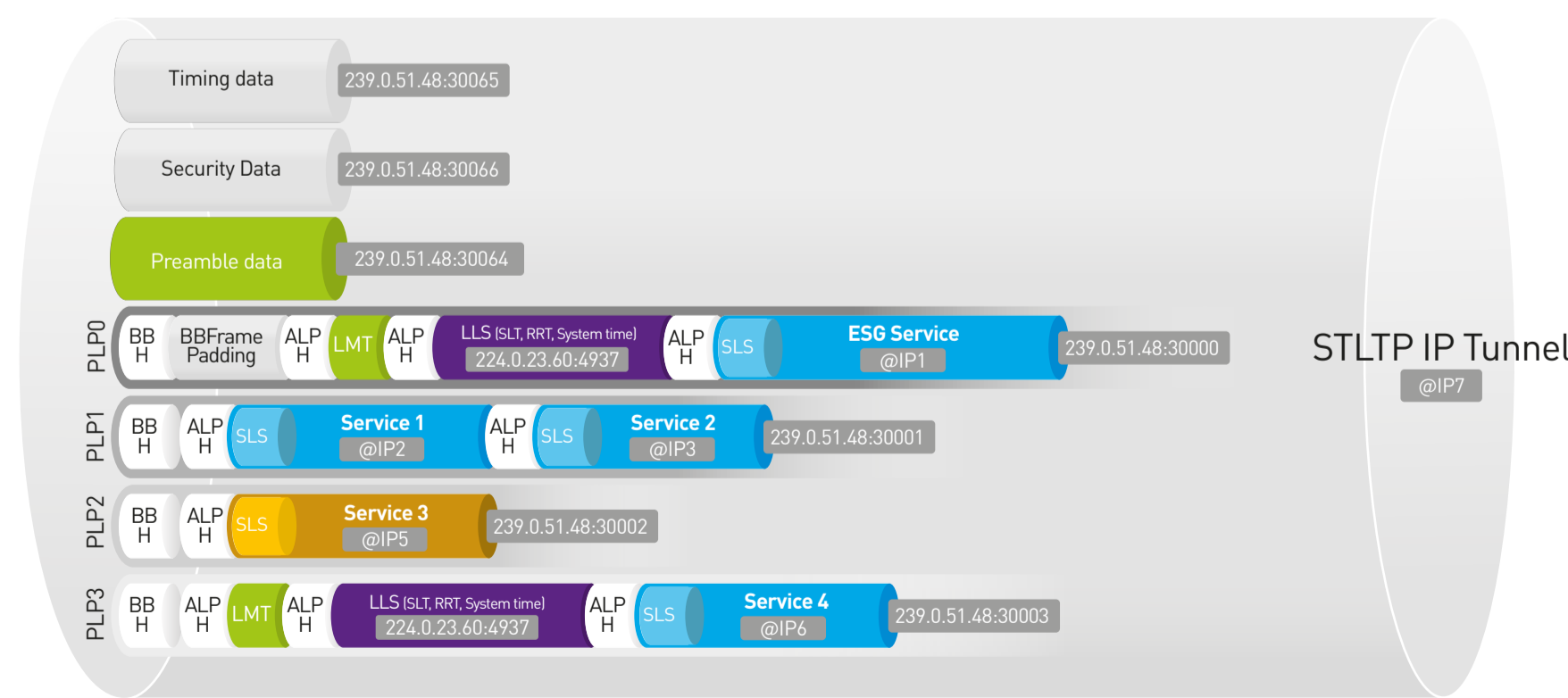
## Signaling



## GLOSSARY

<b>AEA</b>	Advanced Emergency informAtion	<b>MPT</b>	MMT Package Table
<b>ALP</b>	ATSC Link layer Protocol	<b>MPU</b>	Media Processing Unit
<b>BB</b>	Base Band Frame	<b>NRT</b>	Non-Real Time
<b>BSID</b>	Broadcast Stream ID	<b>NUC</b>	Non-Uniform Constellation
<b>DASH</b>	Dynamic Adaptive Streaming over HTTP	<b>PLP</b>	Physical Layer Pipe
<b>DSTP</b>	Data Source Transport Protocol	<b>ROUTE</b>	Real-Time Object Delivery over Unidirectional Transport
<b>EFDT</b>	Extended File Delivery Table	<b>RRT</b>	Rating Region Table
<b>ISO BMFF</b>	ISO Base Media File Format	<b>S-TSID</b>	Service-based Transport Session Instance Description
<b>LCT</b>	Layered Coding Transport	<b>SLS</b>	Service Layer Signaling
<b>LDM</b>	Layered Division Multiplexing	<b>SLS</b>	Service List Table
<b>LMT</b>	Link Mapping Table	<b>STLTP</b>	Studio to Transmitter Link Transport Protocol
<b>LLS</b>	Low Layer Signaling	<b>TDM</b>	Time Division Multiplexing
<b>MA3</b>	MMT ATSC 3.0 Signaling Message	<b>USBD/USD</b>	User Service Bundle Description / User Service Description
<b>MPD</b>	Media Presentation Description		
<b>MMT</b>	MPEG Media Transport		
<b>MMTP</b>	MPEG Media Transport Protocol		

## PLP allocation



## Protocol Stack

