

Table 1 – Revision history

Revision	Date	Drafter	Comments
1	Sept 2023	AD	Initial document
2	Oct 2023	MS	Include revision & glossary Add table for channel types Add DASH-IF & OCR features in Advanced Tier Clarify blackout/alternate content use case

Table 2 - Glossary

Term	Definition
HDR	High Dynamic Range
CVQ	Constant Video Quality: MediaKind Rate Control Design
CBR	Constant Bit Rate
CAS	Conditional Access System
AES-128	Advanced Encryption Standard 128-bit length
FEC	Forward Error Correction
Up!, Up!+	MediaKind settings for the live encoder
ACT	AI compression Technology: MediaKind dynamic setting for the live encoder
SRT	Secure Reliable Transport
SPTS	Single Program Transport Stream

Aquila Broadcast, Aquila Streaming CLOUD – Performance Level

The richness of a given input channel's performance level is defined by the license type and the channel type. The different channel types are SD, HD, UHD. The different license types are Standard, Advanced and Premium.

Channel types	Description
SD	<ul style="list-style-type: none"> Maximum encoding resolution is 720p or lower (height <= 720). Or audio only encoding (radio channel*). Include a maximum of 6 video encodings. Include 10 Mbps Multiplexing in Aquila Live Broadcast.
HD	<ul style="list-style-type: none"> Maximum encoding resolution is HD or lower (height <= 1080). Include a maximum of 10 video encodings. Include 25 Mbps Multiplexing in Aquila Live Broadcast.
UHD	<ul style="list-style-type: none"> No restriction on the encoding resolution (within the capacity of the product) Include a maximum of 12 video encodings. Include 40 Mbps Multiplexing in Aquila Live Broadcast.

License types	Features included
Premium	<p>Common processing:</p> <ul style="list-style-type: none"> • HDR conversions • Live input switching (media composer), including Emergency Alert System (EAS) use case • JPEG-XS ingest (HD/UHD) <p>Streaming:</p> <ul style="list-style-type: none"> • Low Latency <p>Broadcast:</p> <ul style="list-style-type: none"> • CAS: AES-128
Advanced	<p>Common Video encoding:</p> <ul style="list-style-type: none"> • 1080p 50/60 encoding • UP!, UP!+, ACT presets. • HEVC for all resolutions. <p>Common processing:</p> <ul style="list-style-type: none"> • HDR pass-through & Dolby Vision v8. • Metadata: Watermarking Nielsen, Parental Control • Image/slate blackout without scheduling • Automation for Media composing (logo, crawler, blackout) • Stream & Manifest conditioning for ad insertion (SCTE-35 / ESAM): POIS functionality can be purchased via PRISMA • SCTE-104/IP, Parental Control • 1+1 synchronisation between encoders • OCR based subtitles conversion <p>Streaming:</p> <ul style="list-style-type: none"> • CVQ • Direct path • "DASH-IF CMAF ingest" at the output of the encoder • Packaging: no limits to number of outputs • Delivery: Channel routing, playlist election <p>Broadcast:</p> <ul style="list-style-type: none"> • Statmux • CAS: BISS 2 Fixed key, DVB CSA v1, DVB CSA v2, PeerSCS, PDG • In/Out: Missing PID provision, Dynamic input tracking, ProMPEG FEC
Foundation	<p>Common Video encoding:</p> <ul style="list-style-type: none"> • MPEG-2, H.264 encoding codecs • Standard, Extreme presets • CBR • Split and shared encoding including encoder synchronization <p>Common processing:</p> <ul style="list-style-type: none"> • SRT • Video pre-processing • MP1L2, Dolby Digital, Dolby Digital Plus, Linear PCM, HE-AAC-v1-v2, AAC-LC • Secondary input source for redundancy <p>Streaming:</p> <ul style="list-style-type: none"> • Encryption (Widevine, FairPlay, PlayReady) • HLS/TS, DASH, HLS/CMAF, HSS outputs • 48 Hour rolling buffer for catchup • Converged CMAF output • Packaging: up to 3 outputs* <p>Broadcast:</p> <ul style="list-style-type: none"> • Multiplexing: 1+1 device level redundancy, Component level remux, Service level remux, PID replication, PSI/SI processing • CAS: BISS 1, Separate CA network • In/Out: Active/Active & Active Standby, VLAN

* "Up to 3 outputs" on Aquila Live Streaming is referring to HTTP Streaming Protocol outputs (e.g. HLS, HSS, DASH) plus specific DRM (e.g. Widevine, FairPlay, PlayReady). Therefore, you could have a channel with 5 or 9 ABR profiles, but HLS



Performance Levels and Features for the Cloud Products (Aquila Broadcast, Aquila Streaming)

Valid from Oct 2023 – to date

streaming with FairPlay DRM of all profiles is counted as one output. Since CBR IPTV channels don't require packaging, but are included in Aquila Live Streaming, each SPTS IPTV channel is also counted as one of the "outputs".