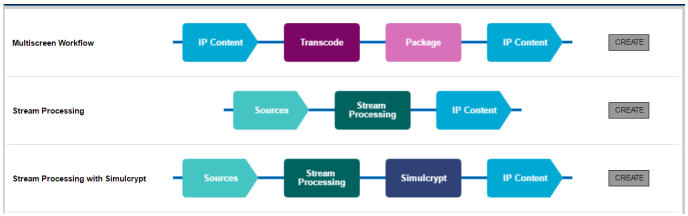
DENSE MEDIA AND STREAM PROCESSING USING ERICSSON CUSTOM HARDWARE 2

Media organisations needing dense, high quality transcoding to MPEG-2 or MPEG-4 AVC, or dense stream processing, will benefit from Ericsson's powerful MediaFirst Video Processing Custom Hardware 2 platform. Designed for low Total Cost of Ownership (TCO), reduced deployment footprint and low running costs, the Ericsson Custom Hardware 2 platform fits seamlessly into operational centres, offering high resilience operation providing 24/7 operation and in-field maintenance and expansion.

Picture quality for dense video processing CBR, VBR and ABR operations is outstanding, both for traditional broadcast or multiscreen applications. Stream processing density is market leading.

Setup and operation is easy using a logically laid out user interface that allows step by step configuration.



A thermal and power efficient front to back design reduces rack space, power, cooling and weight requirements, providing a high density solution at a very competitive price point, allowing scalability from the most demanding down to all but the most simple applications. Capable of processing up to 4 Gbps of compressed media as standard with 6 media processing slots for expansion.

NEXT GENERATION MEDIA PROCESSING PLATFORM TRANSFORMS HEAD-END EFFICIENCY

Powerful image processing

Powered by Ericsson second generation in house chip technology, designed to offer an ideal balance of density, picture quality and bandwidth efficiency

Straightforward Maintenance

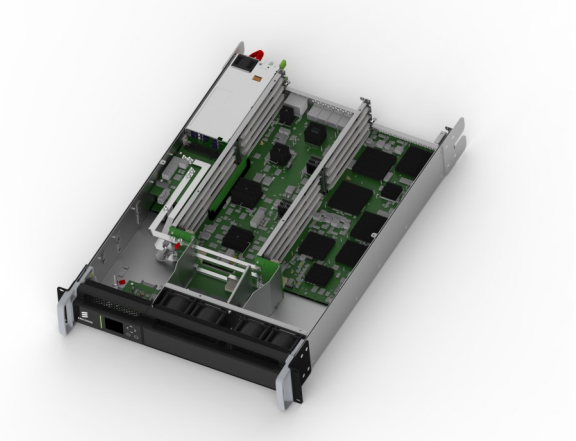
Hot-swappable fans, PSUs and option cards, coupled with a cold-swappable main processing host card, offers easy maintainability.

High Density

The next-generation video platform offers market leading stream processing density owing to usage of the latest custom electronics and a high-speed backplane.

Rugged Design

Built for maximum airflow, with two independent cooling channels



USE-CASES

Video Processing

Up to 24 high quality HD services are available in a power and space efficient 2 'RU' unit, offering transcoding from MPEG-2 and MPEG-4 AVC to MPEG-2 or MPEG-4 AVC. For broadcast applications outputs can be CBR, or statistically multiplexed together within the single unit, effectively providing a 'head-end in a box'.

Multiscreen ABR applications are also supported, generating a compelling mix of high resolution profiles for delivery across large to small screens, with up to 10 profiles per service providing market leading ABR density and low power consumption.

Stream Processing

As well as simple re-multiplexing and network adaption advanced stream processing is supported, such as component insertion or removal, PID re-mapping, and descriptor insertion. Up to 2 Gbps of transport stream processing for emission over 300 transport streams and services is available now, with a roadmap to over 4 Gbps and 512 services in the future.

Content Protection

Ericsson's Custom Hardware 2 platform allows operators to perform DVB-CSA scrambling at market-leading densities.

Capable of scrambling 2Gbps of content across multiple networks using industry standard content protection, including:

- DVB-CSA v1 (48bit) scrambling
- DVB-CSA v2 (64bit) scrambling
- DVB-CSA v3 (128bit) as a future expansion

ERICSSON

BASE UNIT FEATURES

Base Chassis Functionality

- Ericsson's optimized front-to-back cooled chassis
- 2Gbps of throughput, 16,384 PIDs across 300 transport streams and services
- Multiple native 10Gbit/s electrical and optical connectivity
- High resolution front panel display with OLED and touch sensitive controls
- Hot-swappable fans, PSUs and option cards

Operational Maintenance

Designed for resilience and high availability with automated USB upgrades providing simple and fast upgrades. With twin memory banks, upgrades become a background task with quick activation between software versions removing long service windows and reducing costs. Designed for in-field maintenance, all aspects can be maintained from processing modules, fans, PSU and filters.

HARDWARE OPTIONS

Base Unit

AVP/2RU/BAS/AC/1600

- 2RU Base Unit, including enclosure, fans and host processing card and single AC PSU
- 6 option module slots

Custom Hardware 2 Rear Panel

Additional Power Supply Units

AVP/2RU/HWO/AC/1600

- Single AC PSU
- Provides dual or redundant PSU operation

Spare Parts

AVP2/HWS/STD/FAN

- Field replaceable fan unit

AVP/2RU/UPH/AC/1600

- Field replaceable PSU

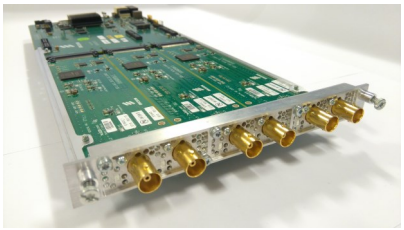
AVP2/HWS/STD/HOST

- Field replaceable host card

ASI I/O Module

AVP2/HWO/ASI

- Provides ASI input and output capabilities
- 6 x programmable bi-directional ports per card
- Maximum quantity 6 Modules



Media Processing Module

AVP2/HWO/EI9201

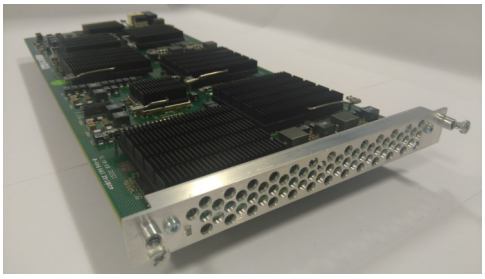
- Provides video and audio transcoding capability
- Maximum quantity 6 Modules (depending on input voltage)

Input
MPEG-2 TS, (MPTS & SPTS) over IP
Video Components: HD MPEG-2 or MPEG-4 AVC 4:2:2 or 4:2:0
Audio Components: MPEG-1 LII, Dolby Digital (AC-3)

Video Encoding
4 HD Services per card
MPEG-2 or MPEG-4 AVC
CBR or VBR (internal statistical multiplexing)
ABR: up to 10 profiles per service

Audio Encoding
Up to 16 audio services per card
Codec: MPEG-1 LII, Dolby Digital (AC-3), AAC-LC

Ancillary Data
Closed captions
SCTE-35 pass through



LICENSE OPTIONS

Output Bandwidth

AVP2/SWO/BWIDTH

Provides an additional 1 Gbps of output bandwidth. A single instance of this license is included with every base unit. One additional license can be added to increase the available output bandwidth to 2 Gbps.

DVB-CSA Scrambling

AVP2/SWO/DVBCA/50

Enables DVB-CSA V1 or V2 scrambling of up to 50 services.

Additional licenses can be added up to a maximum of 6 today, i.e. 300 scrambled services. In the future the maximum number of scrambled services will increase to 512.

ABR HD Transcoding

AVP2/SWO/VP/ABR/HD

Requires a Media Processing module AVP2/HWO/EI9201. Maximum 4 ABR HD licenses per Media Processing module.

Enables the generation of up to 10 ABR profiles from a single HD input source. Also enables 4 stereo pairs of MPEG-1 LII audio decode, 4 stereo pairs of AAC audio decode.

HD Transcoding

AVP2/SWO/VP/HD

Requires a Media Processing module AVP2/HWO/EI9201. Maximum 4 HD licenses per Media Processing module.

Enables the transcoding of a single HD input, MPEG-2 or MPEG-4 AVC, 4:2:0 or 4:2:2 to a single HD output, MPEG-2 or MPEG-4 AVC 4:2:0. Also enables 4 stereo pairs of MPEG-1 LII audio decode and re -encode.

Additional Audio Licenses

AVP2/SWO/DOLBY/DEC
Dolby Digital or Dolby Digital Plus 2,0 decode (3 licenses needed for 5,1)

AVP2/SWO/DOLBY
Dolby Digital or Dolby Digital Plus 2,0 encode (3 licenses needed for 5,1)

AVP2/SWO/M1L2
MPEG-1 LII 2,0 encode

SPECIFICATIONS

Base Chassis

Management

2x Ethernet (100/1000BASE-T)

SNMP v1/v2 for alarm traps

User management via stand alone web browser

IP v4

IGMP v1/v2/v3

Input / Output Interfacing

Data Interface

4x I/O ports, arranged as 2 pairs for data input and/ or output

Pair 1: 2 x 10GigE (10GBASE– SR/LR) on SFP+ or 2 x 10GigE/1GigE (10GBASE-T / 1000BASE-T) on RJ45

Pair 2: 2 x 10GigE / 1GigE (10GBASE-T / 1000BASE-T) on RJ45

Each pair individually configurable as input, output or bi-directional

Each pair individually configurable to work standalone or as a redundant pair

Content Protection

2x Ethernet (100/1000BASE-T)

standalone or as a redundant pair

ASI Input/Output

6 ASI inputs per ASI I/O Module each individually configurable to be an input or an output. Up to 6 modules can be fitted.

Stream Processing

Service re-multiplexing

Component re-multiplexing

PID remapping

PID replication (up to 32)

PID monitoring

MPTS and SPTS support

Multicast to unicast conversion

Content Protection

DVB-CSA v1 (48 bit) scrambling

DVB-CSA v2 (64 bit) scrambling

DVB-CSAv3 (128 bit) scrambling
(In development and will require a DVB-CSA V3 scrambling module to be fitted)

Up to 300 scrambled services

Up to 2 Gbps scrambled components
(future expansion to 4 Gbps)

Transcoding

Requires EI9201 Media Processing Module.
Up to 6 per chassis.

Input
MPEG-2 transport stream (MPTS & SPTS)
Video: HD MPEG-2 or MPEG-4 AVC 4:2:2 or 4:2:0
Audio MPEG-1 LII or Dolby Digital (AC-3)

Video Encoding
4 HD Services per card
MPEG-2 or MPEG-4 AVC
CBR or VBR (internal statistical multiplexing)
ABR: up to 10 profiles per service

Audio Encoding
Up to 16 audio services per card
Codec: MPEG-1 LII, Dolby Digital (AC-3), Dolby Digital Plus (E-AC3), AAC-LC

Ancillary Data
Closed captions
SCTE-35 pass through

Physical and Power

Dimensions (W x H x D)

Including handles and end feet
43.6 x 8.61 x 69.50 cm (17.16 x 3.39 x 27.36 inches)

Weight

13.3 kg (29.3 lbs) with a dual AC PSU

20 kg (44lbs) with a dual AC PSU and
6 x Media Processing Modules AVP2/HWO/EI9201

Input Voltage

100V AC to 240V AC, 50/60 Hz

100V AC to 200V AC, 50/60 Hz Maximum QTY of AVP2/HWO/EI9201 = 2
200V AC to 240V AC, 50/60 Hz Maximum QTY of AVP2/HWO/EI9201 = 6

Power Consumption

Max power 355W with a dual AC PSU

Max power 1,600W with a dual AC PSU and 6 x Media Processing Modules AVP2/HWO/EI9201

Environmental Conditions

Operating Temperature

-10°C to +50°C (14°F to 122°F)

0°C to +45°C (14°F to 113°F) with Media Processing Modules AVP2/HWO/EI9201

Storage Temperature

-40°C to +85°C (-40°F to 185°F)

Relative Operating Humidity

10% to 90% (non-condensing)

Compliance

CE marked in accordance with EU Low Voltage and EMC Directives

EMC Compliance

EN55022, EN55024, AS/NZS3548, EN61000-3-2, EN61000-3-3 and FCC CFR47 Part 15B Class A

Safety Compliance

EN60950-1, IE60950-1, UL60950-1 and NRTL listed

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