



ERICSSON NPR1200

MULTI-SCREEN NETWORK PROCESSOR

The Ericsson NPR1200 is a highly flexible network processor designed to bridge the broadcast and IT worlds in order to deliver linear TV content to connected devices using HTTP Adaptive Streaming technology.

Providing a highly efficient segmentation, encryption and publishing solution, the Ericsson NPR1200 ingests the multiple profiles per service needed for HTTP Adaptive Streaming and segments them using the HLS (HTTP Live Streaming) and Smooth Streaming formats. It can encrypt using a variety of DRM systems, and can then publish onto multiple delivery networks, including an operator's own on-net HTTP delivery network or a global third-party CDN (Content Delivery Network).

The Ericsson NPR1200 is a core product of the Ericsson Multi-screen Video Processing solution. It also perfectly complements the Ericsson SPR1200 Multi-screen Stream Processor, which offers market-leading density and hence solves the inherent scaling issue that arises in the move from a world with a single stream per service to one with multiple streams per service.

Available in two configurations, Base and High Throughput, the Ericsson NPR1200 is part of Ericsson's Multi-screen Video Processing solution for linear multi-screen TV delivery and more widely of Ericsson's end-to-end full ecosystem proposition.

ERICSSON NPR1200 BENEFITS

Highly Integrated with the Multi-screen Ecosystem

Multi-screen is inherently about ecosystems. The Ericsson NPR1200 fits perfectly into Ericsson's complete end-to-end multi-screen offering, including content acquisition, delivery and back-office/portal management. In addition, the Ericsson NPR1200 is integrated with a diverse range of external ecosystem partners, such as DRM vendors and global CDNs.

Software-based Architecture for Responsiveness and Future-proofing

Every multi-screen system will be different, and the Ericsson NPR1200's software-based architecture enables the flexibility necessary to adapt to every customer network architecture. In addition, it allows new formats to be added without changing the video processing head-end. The software architecture also perfectly complements the high density, optimised hardware-based platform of the Ericsson SPR1200 Multi-screen Stream Processor.

A Two-box Solution for Adaptability to Any Network

Together, the Ericsson SPR1200 and Ericsson NPR1200 form a two-box multi-screen solution. This allows packaging to be at the optimal point in the delivery network, for example decentralised from the compression head-end, in order to support multicast-capable networks or to mix national and regional content.

Increase Revenues by Mixing On- and Off-Net Strategies

Adding off-net to a multi-screen strategy increases revenue opportunities, by allowing services to be offered to both existing users when they are away from home, and to potential new users outside an operator's current network footprint. The Ericsson NPR1200 is well-placed to enable such strategies by offering multiple publication points and intelligent manifest file manipulation.

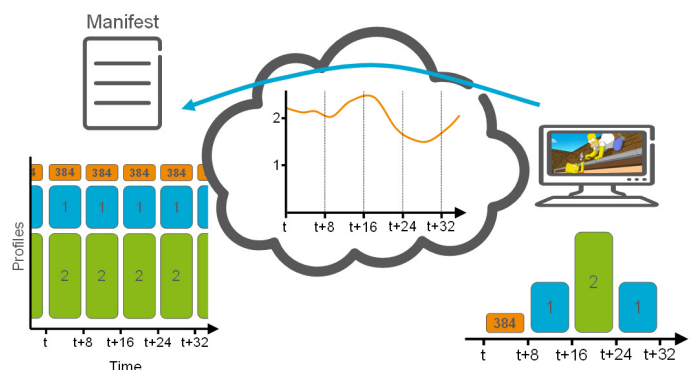
APPLICATION OVERVIEW

HTTP Adaptive Streaming

HTTP Adaptive Streaming is a technology for delivering Linear and VOD content over HTTP networks. Inherently such networks have varying bandwidth availability, meaning video used to have to rely on large buffers or very low encoding quality to provide continuous playback.

HTTP Adaptive Streaming overcomes this by generating multiple profiles per service. Each profile represents a quality level that corresponds to different encoding bit rates and resolutions.

Each profile is generated by a multi-screen transcoder, such as the Ericsson SPR1200. The set of profiles representing a service must then be broken up into small (<10 seconds duration) file segments, by a segmenter such as the Ericsson NPR1200. Each client can then seamlessly jump between quality levels as the local bandwidth availability varies, to ensure an uninterrupted playback experience.



PLATFORM PROCESSING CAPABILITIES

Input

- Ingest multi-profile services using MPEG-TS
- Out-of-the-box compatibility with Ericsson SPR1200 Multi-screen Stream Processor and Envivio 4Caster C4 Gen III
- Segmentation boundaries marked using Ericsson Mezzanine Format (EMF)

Processing

- Support for HTTP Live Streaming (HLS) and Smooth Streaming
- Closed Captions:
 - Pass-through of closed captions
 - Conversion of DVB Teletext or closed captions into DFXP timed-text for insertion into an fMP4 sparse track (Smooth Streaming)

Content Protection

- Support for HLS encryption and Microsoft PlayReady (including internal key generation)
- External Key Management Servers: integration to wide variety of partners (please contact Ericsson for the latest information)

Output

- Throughput: max 1Gbit/s (Base Platform) or up to 3Gbit/s (High Throughput Platform)
- HLS manifest file manipulation to generate playlist variations (example: limit HD to premium subscribers)
- Support for multiple publication points to support parallel on-net and off-net delivery models
- Pre-integrated with all leading CDNs

Control and Monitoring

- Web GUI for device set-up
- Monitoring via nCompass Control by Ericsson

SYSTEM CONTEXT

The Ericsson NPR1200 is a core component of the Ericsson Multi-screen Video Processing solution. This solution is applicable to multiple deployment scenarios, including digital turnaround; as an extension to existing head-ends; and in green-field applications.

The Ericsson NPR1200 forms part of the Multi-platform Stream Processors family that also features two high-density transcoder products, the Ericsson SPR1200 Multi-screen Stream Processor and the Ericsson SPR1100 Broadcast Stream Processor.

PLATFORM CONFIGURATIONS

Ericsson NPR1200 Base Platform

- 1RU Chassis
- Gigabit Ethernet (100/1000BaseT) on all interfaces

Standalone configuration

NPR12/BAS/AC, FAZ 101 0191/1

- Dual AC power supplies

NPR12/BAS/DC, FAZ 101 0191/2

- Dual DC power supplies

Redundant Pair 1+1 configuration

Pair of units for 1+1 active/active redundancy

NPR12/BAS/AC/R, FAZ 101 0191/5

- Dual AC power supplies

NPR12/BAS/DC/R, FAZ 101 0191/6

- Dual DC power supplies

Ericsson NPR1200 High Throughput Platform

- 1RU Chassis
- Output interface upgraded to 10 Gigabit Ethernet (10GBaseT)
- Optional licensable throughput extensions to increase throughput capacity from 1Gbit/s to up to 3Gbit/s

Standalone configuration

NPR12/BAS/H/AC, FAZ 101 0191/3

- Dual AC power supplies

NPR12/BAS/H/DC, FAZ 101 0191/4

- Dual DC power supplies

Redundant Pair 1+1 configuration

Pair of units for 1+1 active/active redundancy

NPR12/BAS/H/AC/R, FAZ 101 0191/7

- Dual AC power supplies

NPR12/BAS/H/DC/R, FAZ 101 0191/8

- Dual DC power supplies

SPECIFICATIONS

Input Interfacing

2x Electrical Ethernet (10/100/1000BaseT)

Output Interfacing

Base Platform: 2x Electrical Ethernet (10/100/1000BaseT)

High-Throughput Platform: 2x Electrical Ethernet (10GBaseT)

Key Management Interfacing

4x Electrical Ethernet (10/100/1000BaseT) allowing for two dedicated, redundant Key Management networks
(for simplicity, Key Management servers may also be optionally connected via the Control network)

Management

2x Electrical Ethernet (10/100/1000BaseT)

User management via web browser

nCompass Control by Ericsson for monitoring alarms (optional)

Physical and Power

Dimensions (H x W x D)

1.70 x 16.78 x 27.25 inches (4.32 x 42.62 x 69.22 cm) (without bezel)

1.70 x 16.78 x 27.89 inches (4.32 x 42.62 x 70.85 cm) (with bezel)

Weight

16.5 kg (36.3 lbs)

Input Voltage

100 VAC to 240 VAC, 50/60 Hz

Input Power

750W (AC PSU) or 1200W (DC PSU)

Environmental Conditions

Operating Temperature

10°C to +35°C (50°F to 95°F)

Storage Temperature

-30°C to +60°C (-22°F to 140°F)

Relative Operating Humidity

10% to 90% (non-condensing)

Compliance

CE marked

EMC Compliance

CISPR 22; EN55022; EN55024; ICES-003; CNS13438; GB9254; K22; K24; EN61000-3-2; EN61000-3-3; FCC CFR47 Part 15B Class A

Safety Compliance

EN60950-1, IEC60950-1, UL60950-1