

# C2200 SSU SERVER

## Data Sheet 10/17



### OVERVIEW

Scilla C2200 SSU Server is a DSM-CC carousel server that plays out SSU carousels and proprietary transport streams.

The server support both DVB-SSU simple profile and enhanced profile. For enhanced profile carousels, SSU files are played out sharing same PIDs while related UNT tables with relevant scheduling and target descriptors are generated automatically based on externally provided scheduling information..

### MAIN FEATURES

- ◆ Generation of SSU carousels
- ◆ Scheduled playout of carousels
- ◆ Automatic generation of UNT tables
- ◆ PID grouping with independent bandwidth management
- ◆ Bandwidth Scheduling

#### Data carousel generator

DSM-CC data carousels are generated from the files and configuration data in the built-in carousel repository. The generated data carousel stream is forwarded to the software based multiplexing engine.

#### SSU carousel repository

SSU carousels are retrieved from uploaded Transport Streams and stored in an SSU carousel repository. The SSU carousels are two layer DSM-CC data carousels that are used for delivering system software updates. Each carousel consists of groups that each contain one or more files. The carousel groups contain additional target information that

provides the receivers with information to identify which specific manufacturer and hardware model each group of files is targeted for.

#### PSI/SI Generator

The PSI/SI generator generates all DVB mandatory tables (PAT, PMT, NIT, SDT, EIT and TDT) as well as Update Notification Tables for SSU enhanced profile carousels. Update Notification Tables are generated based on scheduling information and metadata in the SSU carousel repository.

### SUPPORTED FILE FORMATS

Transport Streams containing:

- ◆ SSU carousels and signalling conformant with SSU simple profile
- ◆ SSU carousels and signalling conformant with SSU enhanced profile
- ◆ Proprietary Transport Streams for OTA firmware upgrade of legacy set-top boxes

Firmware files:

- ◆ Single firmware files
- ◆ Multipart firmware files with manifest data

### STREAM OUTPUT

- ◆ Multiprogram Transport Stream (MPTS)
- ◆ ASI interface
- ◆ TS over IP (RTP or raw UDP)
- ◆ Unicast and multicast

## MANAGEMENT

Scilla C2200 SSU Server provides an SNMP Agent and secure web service for managing and monitoring the stream processor. A Network Management System (NMS) can be used to manage and control the complete playout chain.

MIB files provide configuration information for controlling the stream processor.

Additionally user selected log information can be sent to as SNMP traps, to a Syslog service or as emails using SMTP.

### Highly accurate stream output

The overall performance of the software based multiplexing engine is highly accurate and the generated MPEG-2 transport stream exceeds ETSI TR 101 290 Priority level 1, 2 and 3 compliancy requirements.

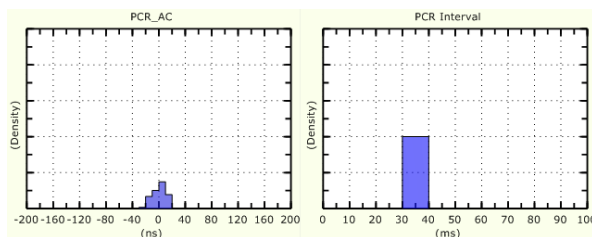
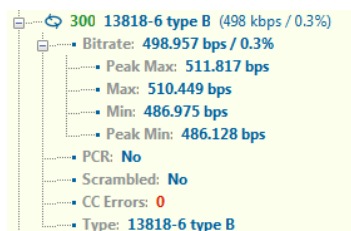


Figure 1: PCR jitter is less than 20 ns.

Stream output is also accurate at PID level. Maximum bit rate deviation is below 15 kbps ( $\pm 10$  TS packets) at any bit rates above 100 Kbps.

Figure 2: Bit rate accuracy at PID level



The level of accuracy, normally not available on standard PC hardware, is achieved by highly optimized multiplexing algorithms and use of precise clock information.

Multiplexer output format is MPTS. Maximum output on ASI is 213 Mbps. Maximum output on Gigabit Ethernet is >800 Mbps.

### Active Drift Cancellation

The built-in software based multiplexing engine uses a number of drift cancellation techniques to minimize both short-term and long-term variations in clock reference information. Optionally the multiplexer can take a PPS signal as external reference.

## OPERATING SYSTEM

Scilla stream processors and carousel servers can be installed on the following Linux distributions:

- ♦ Red Hat Enterprise Linux 7
- ♦ CentOS 7

## HARDWARE REQUIREMENTS

Single unit server recommendations:

- ♦ HP ProLiant DL360 G8-G9
- ♦ IBM System x3550 M4

High-availability servers (NEBS certified):

- ♦ HP Carrier Grade Platform ProLiant DL360 G6

Please consult your local supplier for suitable support service and maintenance agreements ServicePack (IBM) and Care Packs (HP).

## CONFORMANCE TO STANDARDS

### DVB-SI

- ♦ ETSI EN 300 468 v1.15.1 Specification for Service Information (SI) in DVB systems
- ♦ ETSI TR 101 211 v1.12.1 Guidelines on implementation and usage of Service Information (SI)

### DVB-DATA

- ♦ ETSI EN 301 192 v1.4.2 Specification for data broadcasting
- ♦ ETSI TR 101 202 v1.2.1 Specification for data broadcasting; Guidelines for the use of EN 301 192

### DVB-SSU

- ♦ ETSI TS 102 006 v1.3.2 Specification for System Software Update in DVB Systems

### DVB-MPEG

- ♦ ETSI TS 102 154 v1.9.1 Implementation Guidelines for the use of MPEG-2 Systems, Video and Audio in Contribution Applications

### DVB-PI

- ♦ EN 50083-9 v3 (CENELEC) Interfaces for CATV/SMATV Headends and similar Professional Equipment

### DVB-IP

- ♦ ETSI TS 102 034 v1.4.1 Transport of MPEG-2 Based DVB Services over IP Based Networks

### FEC

- ♦ Pro-MPEG Forum Code of Practice #3 release 2