BROADCAST CONTROLLER IP

Live IP flow routing for IP-based live broadcast facilities.
EVS S-CORE MASTER is a routing system for live media production in an IP world.

IP is a powerful enabler for live media operations. In order to fully leverage the potential of IP, it is necessary to benefit from a layer of orchestration. S-CORE MASTER interacts with the nodes connected to the network in order to dynamically expose their capabilities. It uses SDN methods to control the IP Fabric and guarantee execution of the flows.

MAIN FEATURES

- Flow admission control
- Switch APIs (Cisco DCNM, Arista, Openflow)
- Destination switching (make before break and break before make)
- Flow agnostic (SMPTE 2110, SMPTE 2022-6, AES67, and more)
- Support for SMPTE 2022-7 hitless merge
- Endpoint management (NMOS and proprietary APIs)
- Real-time flow analysis via S-CORE EDGE
- Clean-switching & Flow NATing as a service via S-CORE EDGE
- Configuration and monitoring from a single web application
MAKE IT SIMPLE

An IP Fabric is not media-aware, it essentially knows about IP packets. On the other hand, live media operations require ‘sources’, ‘destinations’ and predictable system behavior.

S-CORE MASTER hides the complexity of nodes and network management and provides simple and intuitive web interfaces to enable live media productions.

NODE MANAGEMENT

S-CORE MASTER maintains an inventory of the nodes connected to the network (replay servers, mixers, encoders, decoders, multiviewers, etc). Vendor agnostic, S-CORE MASTER follows industry specifications like NMOS to control the nodes as well as vendor specific API’s when it is required. It provides a single point of interface for IP configuration of the nodes.

SDN PER-FLOW CONTROL

S-CORE MASTER tightly controls the IP Fabric. It uses per-flow routing: each flow is specifically routed on request with deterministic network path, bandwidth awareness and a level of priority. It provides a very tight control on the network infrastructure and drastically enhances the reliability and efficiency of the network fabric. S-CORE MASTER supports multiple network sizes and topologies. With control of the endpoints and control of the IP Fabric, S-CORE MASTER removes the complexity inherent to IP and provides an uncluttered interface for routing and monitoring of flows.

FAMILIAR SYSTEM MONITORING

S-CORE MASTER makes sure the IP network doesn’t feel like a foreign domain for broadcast engineers and makes it easy to monitor the infrastructure. With visual patching and probing of flows, monitoring in between the fabric and endpoints becomes easy. S-CORE MASTER puts you in control by providing an easy overview of the network state.

DO MORE WITH S-CORE EDGE

An S-CORE MASTER add-on, S-CORE EDGE makes the network smarter and capable of executing more functions – whether your needs include Network Address Translation (NAT) for external flows or clean-switched endpoints created.
SDN-BASED CONTROL
S-CORE MASTER supports multiple switch APIs:
/ Cisco DCNM
/ Arista native API
/ Openflow

TIGHT CONTROL OF THE NETWORK
No flows are admitted on the network without S-CORE MASTER having specifically authorized it. S-CORE MASTER also determines the best network path and keeps track of the bandwidth of the flow.

It provides an exhaustive real-time view of the traffic on an IP Fabric.
S-CORE MASTER manages the level of priority of each flow individually. Assigning priority levels to individual flows can be used in a variety of ways.
By default, all streams have the same level of priority.

ADMISSION CONTROL
While, normally, the IP Fabric is designed in order to satisfy any connection request from operations, it may happen that, because of a network failure, or a wrongly configured node, the IP Fabric does not have sufficient bandwidth to satisfy a request.

As S-CORE MASTER knows about all activity on the network, it can tell whether there is sufficient bandwidth available to establish a new connection. If there isn’t, S-CORE MASTER denies the new connection and issues an alarm.
INTEGRATION WITH ROUTER CONTROL SYSTEM
It is possible to control a S-CORE MASTER instance from a 3rd party control system. Control is achieved via:

/ Ember+
   (integration with VSM Broadcast control and Monitoring System)
/ Native HTTP API

MANAGEMENT OF THE NODES
S-CORE MASTER relies on NMOS on other vendor-specific APIs in order to identify and configure the nodes connected to the IP Fabric.
S-CORE MASTER is built with interoperability in mind and is able to accept a large variety of nodes.

DESTINATION SWITCHING
S-CORE MASTER supports ‘make-before-break’ and ‘break-before-make’ destination switching implementations. It is configured independently for each receiver, so various configuration can coexist on a given system.

RESILIENCY

GRACEFUL NETWORK RESILIENCE
Network failures happen. When it happens, S-CORE MASTER detects the failure and issues an alarm. It also automatically re-assigns the interrupted streams on different network routes while taking care of not over-loading any link.

HITLESS MERGE (SMPTE 2022-7)
SMPTE 2022-7 is a technic allowing a node to send the same source packaged in 2 different streams travelling on 2 different network routes to the same destination. S-CORE MASTER, in collaboration with the nodes, offer a support for hitless merge.

SYSTEM RESILIENCY
S-CORE MASTER supports active-active redundancy. The slave is ready to take control of the system should the master interrupts.
EVS Broadcast Equipment is continuously adapting and improving its products in accordance with the ever changing requirements of the Broadcast Industry.

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ORDERING OPTIONS

- S-CORE MASTER sw (per active flows)
- S-CORE MASTER resilience
- S-CORE MASTER HW
- S-CORE EDGE SW
  - clean-switch, NATing
  - probing
- S-CORE EDGE HW
- Service: setup fee (consultancy and commissioning)

EVS provides consultancy on network topology and provides BOM of third-party network switches to purchase.