

# Magellan™ SDN Orchestrator

Software Control System for Hybrid Baseband/IP Facilities



As media companies embrace the technology evolution that will lead to the transformation of their facilities from baseband to IP, they face investment, operational and workflow challenges. Enabling a smooth transition to an IP-based future is the Imagine Communications' Magellan™ SDN Orchestrator – an overarching software control system for managing hybrid baseband and IP networks.

Even as the transition path is being defined, media companies have one basic requirement for both IP and SDI — ensure and maintain the integrity of all content being created, processed and distributed. Incorporating the Magellan SDN Orchestrator control layer into any hybrid network allows the entire bit flow to be software-defined, significantly improving the way valuable, high-quality video is managed throughout the broadcast facility. This delivers complete visibility of the entire network, offering a management view for optimal operational monitoring.

By facilitating the seamless integration of IP technology with legacy systems, the Magellan SDN Orchestrator protects your existing infrastructure investments, allowing you to maintain operational and workflow integrity in a hybrid environment, while on the path to an all-IP network.

Developing and introducing this innovative solution is yet another way Imagine Communications is leading the industry in providing a bridge to next-generation infrastructures. From the earliest demonstrations of IP transport of television signals to the development of the latest SMPTE standards, Imagine Communications is involved in every step of the media industry's migration to IP.

## Benefits

- Makes IP network look like SDI – Easy to manage/operate
- Works within existing workflow – No operational disruptions
- Delivers scalability, efficiency of IP-based systems – Maximizes infrastructure investments
- Utilizes COTS IP switching – Leverages latest generation of IP routers
- Manages new IP and legacy SDI devices – Protects existing investment while transitioning
- Provides an easy, viable transition path – Enables a phased approach to an all-IP future

## Features

- Supports IP/SDI hybrid networks
- Features a mix of physical and virtual processing functions
- Provides control framework for hybrid SDI/ASI/IP facilities
  - Utilizes current routing protocols and control panels
- Controls and monitors the virtual plant, providing operational visibility

- Presents a unified control environment for operations
- Offers compatibility with automation, tally, multiviewer, other devices in the facility
- Manages IP switching and connectivity
- Supports switching of compressed and uncompressed signals per SMPTE 2022 standards
- Delivers high availability through 1+1 redundant configuration
- Enables clean switching of uncompressed IP sources
- Facilitates seamless redundancy switching in main and backup network configuration (SMPTE 2022-7)

## Details

### COTS IP Switches

Key to the cost-effective and easy adoption of Magellan SDN Orchestrator into any network is that it instantiates predefined workflows through commercial off-the-shelf (COTS) IP switches, providing professional broadcast performance for all connections. And by leveraging the ever-evolving, data center-grade COTS switching technology, the Magellan SDN Orchestrator enables media companies to ride the improving cost/performance curve of the IT industry, while facilitating seamless on-ramps and off-ramps between legacy and IP networks.

### Software-Defined Workflows

Operators now have the opportunity to design and develop a software-defined model best suited for their network, and via the Magellan SDN Orchestrator, establish a customized network configuration that enables them to map both the hardware elements and software services into an SDN framework. Additionally, operators can set up specific routes through the network to define how the bits will flow – based on ‘virtual tie-lines’ – effectively mapping the current operating model of a broadcast center into the next generation of all-IP and hybrid-IP networks.

### Integration and Migration

The Magellan SDN Orchestrator enables the integration of physical operator control panels and traditional routing control devices, including automation systems, multiviewers, master control panels and other devices in the facility.

More than 100 third-party systems have integrated with industry-recognized Imagine Communications control protocols, easing the way for any facility to begin a phased addition of IP technology into its workflow with the Magellan SDN Orchestrator. Utilizing dynamic signal-flow connections, and managing signal mappings, addressing and translations between legacy protocols and IP, the Magellan SDN Orchestrator ensures the dual-environment workflow is never disrupted during migration.

Now, media companies have the assurance they demand, and are able to focus on creating, managing and delivering content more easily and economically than ever before.

## Ordering Information

MSDNO-SVR	Magellan SDNO Server - 1RU with Redundant hot swappable PSU, 8 Ethernet Ports
MSDNO-IP-RTR	Magellan SDN Orchestrator IP Routing Control Feature License
MSDNO-IP-RTR-R	Magellan SDN Orchestrator IP Routing Control Feature Redundant License
MSDNO-SDI-RTR	Magellan SDN Orchestrator SDI Routing Control Feature License
MSDNO-SDI-RTR-R	Magellan SDN Orchestrator SDI Routing Control Feature Redundant License
MSDNO-VReEntry	Magellan SDN Orchestrator Virtual RE-Entry Feature License
MSDNO-VReEntry-R	Magellan SDN Orchestrator Virtual RE-Entry Feature Redundant License
MSDNO-3RD-DRV	Magellan SDN Orchestrator 3rd Party End-Point Device Driver License
MSDNO-3RD-DRV-R	Magellan SDN Orchestrator 3rd Party End-Point Device Driver Redundant License
MSDNO-IP-END-1	QTY 4 IP End-Point Devices – Valid for 4-40 Devices in a single SDNO System
MSDNO-IP-END-2	QTY 4 IP End-Point Devices – Valid for 41-80 Devices in a single SDNO System
MSDNO-IP-END-3	QTY 4 IP End-Point Devices – Valid for 81+ Devices in a single SDNO System
MSDNO-IP-END-2IO	Capacity License For 1 End-Point Device with Up To 2 IP Inputs or Outputs

Magellan SDNO

[Fault Log](#) [Configure System](#) [Hi Administrator](#) [Help](#) [About](#)

SDNO System
Active System Faults 37 Major 1 Minor

Routing System Devices

View: [List](#) [Faults](#)

Controller (1 item)

**SDNO Controller** ID: 0

IP Address: 192.168.0.1

Status: Active 0 Major/0 Minor Faults [Open Controller](#)

Controller: Primary Secondary

Redundancy: Disabled Data Synced: ●

Platinum Frames (2 items)

**IP3 Frame 1** IP3 28RU

IP Address: 10.10.20.110

Status: Active 3 Major/0 Minor Faults [Go to Frame](#)

Firmware Version: 1.8.0 Resource Card: Primary Secondary

Frame: Power Supply Fans Status

**PVX 1** IP3-Frame

IP Address: 172.25.50.128

Status: Inactive Major/ Minor Faults [Go to Frame](#)

Firmware Version: Resource Card: Primary Secondary

Frame: Power Supply Fans Status

IP Addresses

IP 1:

IP 2:

Power Supply Status

	1	2	3	4
Internal (top)	● zone 1	● zone 2	●	●
External 1 (redundant)	●	●	●	●
Internal (bottom)	● zone 3	● zone 4	●	●
External 2 (redundant)	●	●	●	●

Chassis Fan Status

	Front Top	Front Bottom	Back
1	●	●	●
2	●	●	●
3	●	●	●
4	●	●	●
5	●	●	●
6	●	●	●
7	N/A	N/A	●

Legend: ● Healthy ● Alarm ● Not Present

SDNO Routing System Configuration
Close

← System Configuration
Database Foundry
Database Editor

Selected View: IP3 Database
Save
Validate
Resync
More...

Sources
Destinations
X
Undo
Redo
Add
Insert
Update
Remove

#	Name	Alias	Long Name	Description	Type	Location	Source #	Breakaway Sources
1	Sr 1				HD Embedded	IP3 Frame 1 IN:Slot 1:Port 1		<input type="checkbox"/>
2	Sr 2				HD Embedded	IP3 Frame 1 IN:Slot 1:Port 2		<input type="checkbox"/>
3	Sr 3				HD Embedded	IP3 Frame 1 IN:Slot 1:Port 3		<input type="checkbox"/>
4	Sr 4				HD Embedded	IP3 Frame 1 IN:Slot 1:Port 4		<input type="checkbox"/>
5	Sr 5				HD Embedded	IP3 Frame 1 IN:Slot 1:Port 5		<input type="checkbox"/>
6	Sr 6				HD Embedded	IP3 Frame 1 IN:Slot 1:Port 6		<input type="checkbox"/>
7	Sr 7				HD Embedded	IP3 Frame 1 IN:Slot 1:Port 7		<input type="checkbox"/>
8	Sr 8				HD Embedded	IP3 Frame 1 IN:Slot 1:Port 8		<input type="checkbox"/>
9	Sr 9				HD Embedded	IP3 Frame 1 IN:Slot 1:Port 9		<input type="checkbox"/>
10	Sr 10				HD Embedded	IP3 Frame 1 IN:Slot 2:Port 1		<input type="checkbox"/>
11	Sr 11				HD Embedded	IP3 Frame 1 IN:Slot 2:Port 2		<input type="checkbox"/>
12	Sr 12				HD Embedded	IP3 Frame 1 IN:Slot 2:Port 3		<input type="checkbox"/>
13	Sr 13				HD Embedded	IP3 Frame 1 IN:Slot 2:Port 4		<input type="checkbox"/>
14	Sr 14				HD Embedded	IP3 Frame 1 IN:Slot 2:Port 5		<input type="checkbox"/>
15	Sr 15				HD Embedded	IP3 Frame 1 IN:Slot 2:Port 6		<input type="checkbox"/>
16	Sr 16				HD Embedded	IP3 Frame 1 IN:Slot 2:Port 7		<input type="checkbox"/>
17	Sr 17				HD Embedded	IP3 Frame 1 IN:Slot 2:Port 8		<input type="checkbox"/>

  

Status Name	Alias	Long Name	Description	Type	Location	Level	XY Index
Sr 1				Video	IP3 Frame 1 IN:Slot 1:Port 1:Video 1	0	0
Sr 1A1				Audio	IP3 Frame 1 IN:Slot 1:Port 1:Audio 1	1	0
Sr 1A2				Audio	IP3 Frame 1 IN:Slot 1:Port 1:Audio 2	2	0
Sr 1A3				Audio	IP3 Frame 1 IN:Slot 1:Port 1:Audio 3	3	0
Sr 1A4				Audio	IP3 Frame 1 IN:Slot 1:Port 1:Audio 4	4	0