

# Nimbra 600 Series

High-capacity virtual function platform for any media workflow over any network.



## Nimbra 600 Series Modular Chassis Options

Chassis Options	Dimensions		Module Slots	Chassis Switch Capacity	Power Dissipation	Chassis Redundancy Options	
	RU	2.5				Power	Yes
Nimbra 640	RU	2.5	4	40Gbps in, 40Gbps out. Non-blocking.	<400W fully equipped	Power	Yes
	HxWxD Including PSU	110mm(4.3") x 445mm(17.5") x 335mm(13.2")				Node Controller	No
						Switch	No
Nimbra 680	RU	6U	8	80Gbps in, 80Gbps out. Non-blocking	<480W fully equipped	Power	Yes
	HxWxD	267mm(10.5") x 445mm(17.5") x 240mm(9.4")				Node Controller	Yes
						Switch	Yes
Nimbra 688	RU	10	16	160Gbps in, 160Gbps out. Non-blocking.	<1200W fully equipped.	Power	Yes
	HxWxD	445mm(17.5") x 445mm(17.5") x 240mm(9.4")				Node Controller	Yes
						Switch	Yes

## Operating System Overview: NimOS

The latest generation of the highly available, secure and lightweight Nimbra operating system (NimOS) unifies the power of the Nimbra 600 and Nimbra 1000 Series' chassis, acceleration modules, virtual functions and non-virtual functions.

Feature	Description
Performance Monitoring	NimOS provides a comprehensive integrated performance monitoring layer across all services. Unique to NimOS is the integration of real time performance data into applications and services at the data plane level. Without the need for additional service or network level probes, NimOS provides real-time, non-simulated performance monitoring.
Media & Network Service Protection	NimOS uniquely provides a flexible and scalable media and network service protection framework over-and-above what each application and acceleration module can provide. Between virtual function and non-virtual function modules and applications, media and network services can be unicast, multicast as well as protected with fully Hitless 1+1 or Standby 1+1 protection schema. These protection schema work both locally within the device as well between devices that are distributed across vast distances and ultra-scale WAN networks.

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Interoperability Framework	NimOS ensures a common interoperability framework that delivers cost-efficient media network designs and forwards compatibility with standards based and third-party applications. The interoperability framework operates between virtual functions, non-virtual functions and their respective application host modules. This unrivalled flexibility allows for different acceleration modules and applications to be combined in ever-increasing new ways.
Application & Device Management	All applications and services can be in-depth configured, monitored and managed natively in NimOS Web-based UI, Element Manager. All inventory in the device, from chassis to power supply, SFPs, acceleration modules as well as selected pre-integrated third party devices, can be monitored and administered from the same NimOS' Element Manager UI.

## Compatible Acceleration Modules

### Virtual Function Modules

Product Name	Description
IF628 Media Acceleration Module	High-capacity FPGA-based acceleration module for resource demanding virtual media and network applications.  IF628 MAM: 8 x 10G.  SFP, SFP+, Video SFP, emSFP.  MSA & non-MSA Host.
IF630 Media Processing Module	High capacity x86-based acceleration module for software-based virtual media, network and Cloud applications.  Two-port SFP+ access and two-port RJ45 10/100/1000BASE-T access.

### Non-Virtual Function Modules

Product Name	Description
IF601 OC-48/STM-16 Trunk Module	Application integrated host module for the operation of up to four parallel OC-48/STM-16 WAN links.
IF603 OC-192/STM-64 Trunk Module	Application integrated host module for the operation of one OC192-/STM-64 WAN link.
IF606 OC-3/STM-1 Trunk Module	Application integrated host module for the operation of up to four OC3-/STM-1 WAN links.
IF607 OC-12/STM-4 Trunk Module	Application integrated host module for the operation of up to four OC12-/STM-4 WAN links.
IF610 GE Access Module	Application integrated host module for the operation of an eight-port virtual Layer-2 Gigabit Ethernet Switch instance.
IF618 IP/Ethernet Trunk Module	Application integrated host module for the operation of up to six Gigabit Ethernet WAN links.
IF623 Video Access Module	Application integrated host module for multi-function video adaption and encoding. Up to eight-port ASI/SDI access with up to four-channel JPEG 2000 encoding or decoding.  Eight-port BNC I/O.
IF624 SFP Video Access Module	Application integrated host module for multi-function video adaption and encoding. Up to eight-channel ASI/SDI access with up to four-channel JPEG 2000 encoding or decoding.  Eight-port video SFP I/O.

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IF625 1/10GE Access/Trunk Module	Application integrated host module with dual operation modes. WAN mode allows for the operation of 10 Gigabit Ethernet WAN links. LAN mode allows for the operation a 10 Gigabit virtual Layer-2 Ethernet Switch instance.
IF626 Audio Access Module	Application integrated host module with dual operation modes. AES/EBU mode allows for eight-channel AES/EBU adaption to/from wide area networks. MAD1 mode allows for seven-channel MAD1 adaption from wide area networks.

## Compatible Applications

### Virtual Function Applications

VF Module	Application	Description
IF628 Media Acceleration Module	ASI, SDI, JPEG 2000	Multi-function application for video adaption and compression. Parallel operation of up to sixteen-channels of ASI, SD-SDI, HD-SDI or 3G-SDI access and up to sixteen-channels of low latency JPEG 2000 4:2:2 10-Bit encoding or decoding. UHD-4K, frame synchronization and multi-stream alignment support.  Video SFP and emSFP I/O.
	MPEG H.264	Video and audio compression application that allows for MPEG H.264 4:2:2 10-Bit or 4:2:0 8-Bit video compression of up to eight-channels of SD, HD and FHD. MPEG Layer II or AAC compression of up to eight stereo-pairs of audio channel compression per video channel.  Video SFP and emSFP I/O.
	Ethernet Switch	Virtual Ethernet Switch application. Allows for the creation of Gigabit and 10 Gigabit Ethernet distributed LAN and WAN virtual Ethernet service networks. Lossless processing, strict traffic policing, end-to-end service isolation and fine-grained service prioritization. Supports per-service Hitless 1+1 unicast and Hitless 1+1 multicast protection switching for all virtual Ethernet services. 80 Gbps non-blocking application switching.  Eight-port SFP and SFP+ host.  SFP, SFP+ and emSFP I/O.
IF630 Media Processing Module	IP Gateway	Multiservice Gigabit and 10 Gigabit IP/Ethernet WAN "Trunk" application. Provides for the aggregation, protection, QoS-assured delivery and end-to-end performance monitoring over LAN and WAN. Compatible with all service types, both media and data, across all Virtual Function Applications.  SFP and SFP+ I/O.
		Multi-function application for IP-based media format conversion and protection. Parallel operation of VSF TR-01 and SMPTE ST2022-2 flow encapsulation and decapsulation. Up to twelve TR-01 flows or up to sixty ST2022-2 flows. SMPTE ST2022-1 and ST2022-7 configurable per flow  SFP+ and 10/100/1000BASE-T I/O.

*New Virtual Functions added regularly. Contact an official Nimbra expert for the latest pre-release information.*

## Compatible Orchestration, Control, Assurance & Management Applications

### End-to-End Business Resource Analysis & Optimization

Pre-Integration	ScheduALL
Open Integration	Nimbra Vision REST API

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<b>Orchestration</b>	
Pre-Integration	ScheduALL
Open Integration	Nimbra Vision REST API
<b>Control</b>	
Network Controller	Nimbra Vision
Broadcast Controller	Nimbra Vision
	Touch & Switch
Open Integration	Nimbra Vision REST API
<b>Assurance</b>	
End-to-End Service Monitoring	Nimbra Vision
Local Device & Application Monitoring	NimOS
<b>Management</b>	
Local and remote access via in-band and out-of-band communication.	
Centralized Management	Nimbra Vision
Centralized Management: Open Integration	Nimbra Vision REST API
Local Device Management: Web-based access	NimOS Element Manager
Local Device Management: CLI	NimOS CLI Access
Local Device Management: Open Integration	SNMP v1/v2c/v3

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