



OpenScape Branch V7

Start with the right platform.

Leveraging the benefits of an open architecture in a Voice-over-IP enterprise communication environment, the OpenScape Branch is a SIP-based server that dramatically increases business continuity while lowering operational costs.

Remote Branch Office

OpenScape Branch assures continued communication services - while providing a feature-rich set of survivability capabilities at a remote branch location - during the loss or degradation of service between the remote branch and the main office.

OpenScape Branch is offered on several hardware platforms, allowing a wide range of maximum user capacity: up to 24, 48, 80, 250, 500, 1000 and 6000 registered lines. It can also be delivered as a virtual application independent of underlying hardware.

The OpenScape Branch includes survivability features, Proxy, Media Server, Session Border Controller (SBC), and Branch SIP Trunking functionalities, while the OpenScape Branch 50i and 500i provide the additional functionality of integrated PSTN Gateway (GW) and Analog Terminal Adapter (ATA).

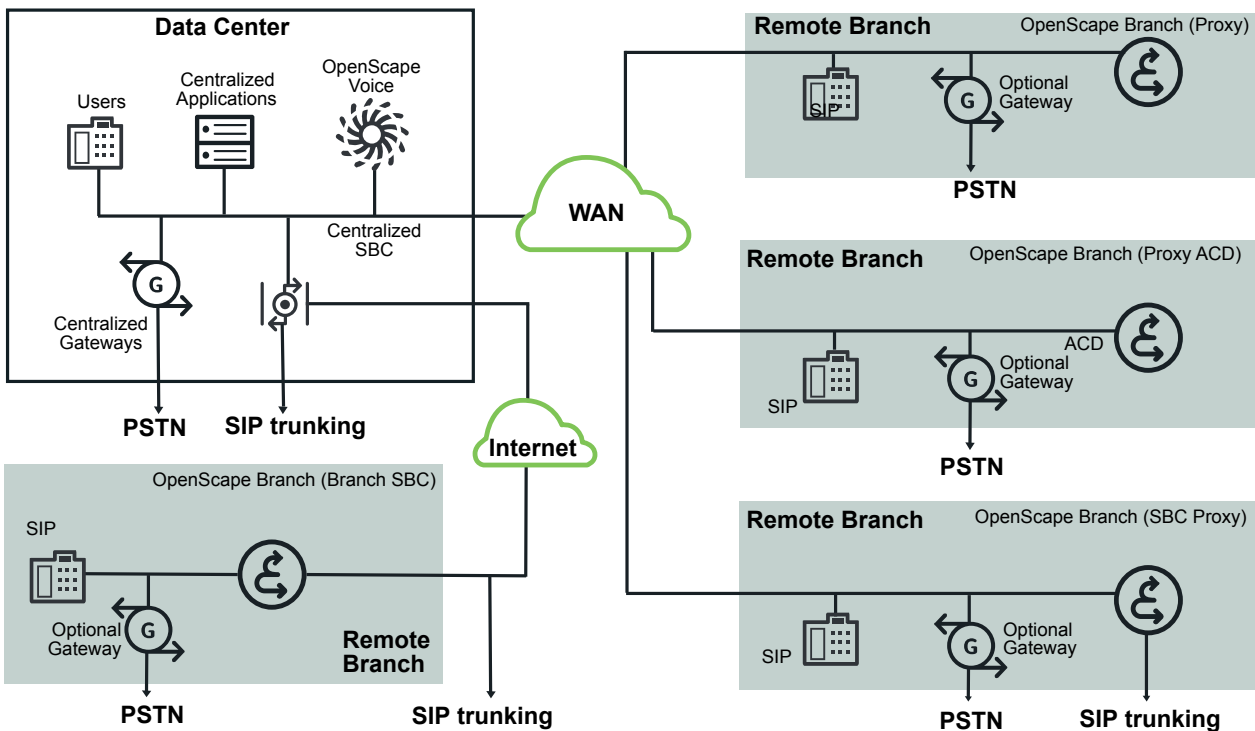
The local Media Server supports tones, announcements and conferencing reducing the bandwidth needed to provide the same resources from a central location. This yields direct operational cost savings.

The Session Border Controller (SBC) provides security functions like Firewall, and Virtual Private Network (VPN).

The OpenScape Branch is fully manageable via the Common Management Portal (CMP) as a single network element, lowering operational costs and making it "zero touch" when it comes to maintenance.

The OpenScape Branch has the flexibility to support, depending on the network topology, four deployment scenarios:

- Proxy
- Proxy ACD
- SBC Proxy
- Branch SBC



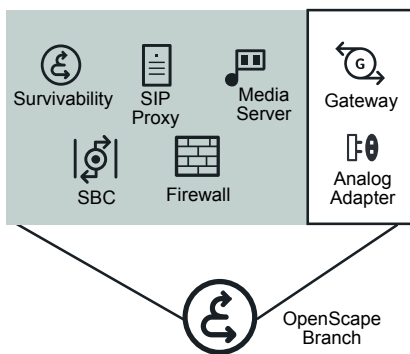
OpenScape Branch in the network

The OpenScape Branch is a fully RFC 3261-compliant SIP device and provides:

- Proxy/Registrar
- Call routing functionality
- Survivable Proxy
- Alternative routing capabilities in case of network outages
- TLS/TCP/UDP connections
- Local announcement capabilities to reduce the WAN usage
- Full management integration in OpenScape Voice management
- SBC functionality
- PSTN Gateway support
- Analog Adapter support
- Billing/CDR capabilities in survivability mode
- OpenScape UC Geo-Redundancy support
- High serviceability for installation, upgrade, and configuration

OpenScape Branch provides a secure and reliable branch configuration by supporting:

- VPN, IPSec
- State-of-the-art Firewall with Layer 7 classification (SIP and MGCP awareness)
- Encrypted SIP signaling
- Encrypted management protocols
- VRRP-like redundancy



Voice Features

- Proxy
- SIP Proxy Server (RFC 3261)
- SIP Registrar
- SIP Redirect/Routing Server
- SIP TLS
- OpenScape Voice-controlled Media Server for announcements and conference

SBC

- SBC Header manipulation for topology hiding
- SIP Session aware RTP Proxy for VoIP NAT support
- SBC trunk to SIP service providers, including Skype

Media Server

- Media Server for announcements, tones, and conference

Survivability

- Multi-line Hunt Group support
- Call forward and call transfer
- Media Server for tones, announcements, and conferencing
- CDR creation, storage, and transmission
- Basic Automatic Call Distribution (ACD)
- Digit manipulation
- Emergency call support for multiple numbers, based on subnet with LIN or CPM support
- Auto Attendant
- Backup data channel via PSTN
- Meshing of multiple OpenScape Branch in a branch
- Music on Hold

Security Features

Firewall

Stateful inspection Firewall NAT/PAT, supporting:

- Intrusion detection
- Protocols DNS, SFTP, SSH, HTTPS, HTTP, NTP, SNMP
- Strict TCP validation to ensure TCP session-state enforcement, validation of sequence and acknowledgment numbers, rejection of bad TCP flag combinations
- TCP reassembly for fragmented packet protection
- Malformed packet protection
- Protocol anomaly protection
- Media Stream Security supporting sRTP Mikey/SDES

VPN

- IPSec
- Key generation is based on OpenSSL
- For message digest: MD2, MD5, MDC2, RMD-160, SHA, SHA-1, SHA-224, SHA-256, SHA-384, SHA-512
- For encoding and cipher: Base64 Encoding, Blowfish, CAST, CAST5, DES, Triple-DES, IDEA, RC2, RC4, RC5

SIP Signaling

- TLS
- Key and certificate generation is based on OpenSSL
- For message digest: MD2, MD5, MDC2, RMD-160, SHA, SHA-1, SHA-224, SHA-256, SHA-384, SHA-512
- For encoding and cipher: Base64 Encoding, Blowfish, CAST, CAST5, DES, Triple-DES, IDEA, RC2, RC4, RC5

Management

- SSH2, HTTPS, sFTP
- For PHP authentication, CRYPT MD5 is used with a SALT of 12 characters

Management/Alarming Features

The OpenScape Branch supports the following management interfaces:

- SOAP-based OpenScape UC CMP/Assistant GUI
- Local PHP-based WebGUI
- Software download via sFTP
- SNMP V2 support
- Continuous tracing OSV-TM
- Backup/Restore of configuration database
- Software installation:
Easy installation,
Full installation,
Upgrade,
Update
- Assistant profiles

General Features

Routing

- Priority-based routing
- Static routing
- Source-based routing
- VRRP-like redundancy support
- SIP error code routing
- Auto Attendant

QoS/Traffic Control

- DSCP settings for Signaling, Media, and Management traffic

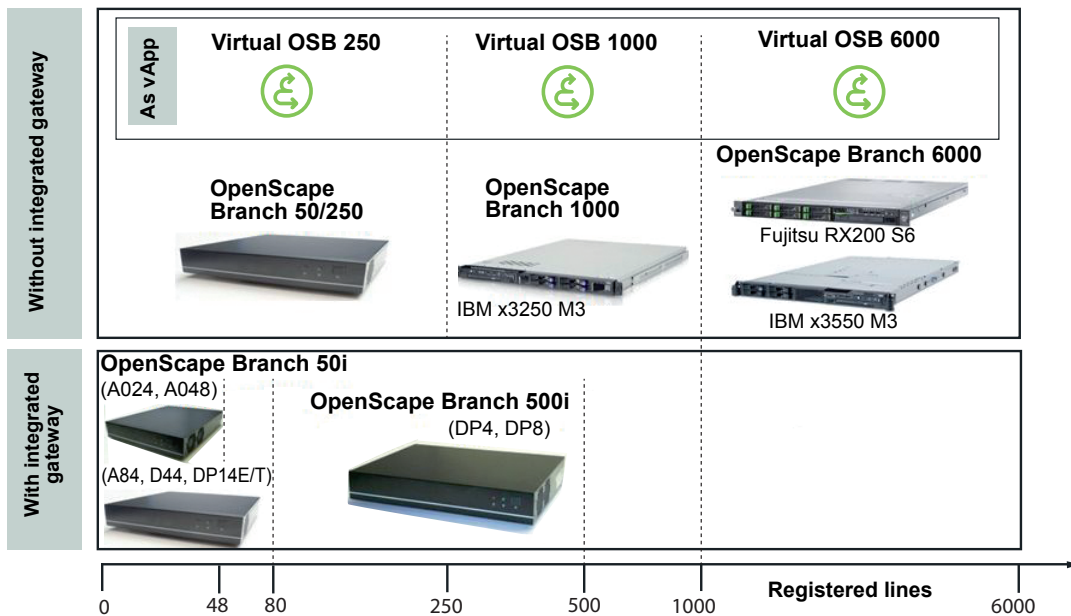
Networking

- DHCP Server
- DNS Server/Client
- NTP Server/Client
- Support of geo-separated OpenScape Voice server deployment
- Local storage space for phone software redistribution

Logging

- Log data collection for all services
- Call trace data collection
- RapidStat collection

OpenScape Branch Model Landscape



OpenScape Branch without integrated PSTN Gateway

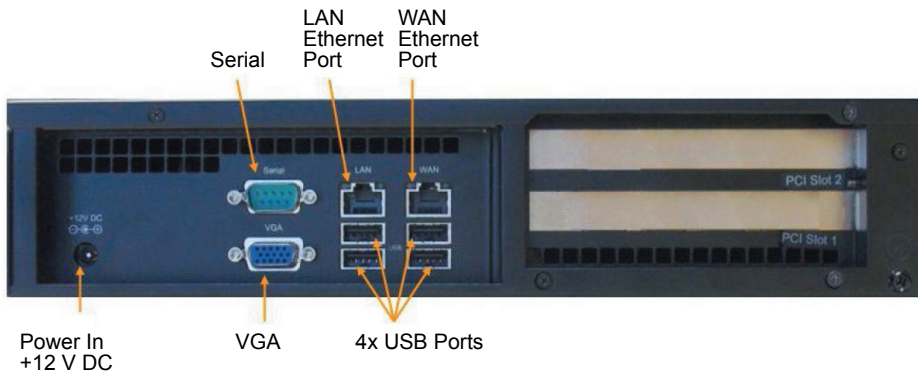
Performance	OpenScape Branch 50/250	OpenScape Branch 1000	OpenScape Branch 6000
Max. number of SIP registered lines ^a	250	1000	6000
Max. number of concurrent sessions	50	200	2400
Max. number of calls per second (continuous)	3	5	30
Max. registrations per second (background)	10	20	40
Max. registrations per second (peak)	250	1000	6000
Max. number of announcement ports	7	16	50
Max. number of conference ports	28	32	60
Max. number of SIP trunks	1	10	10
Max. number of SIP trunking sessions	30	120	400
Max. number of management sessions	5	5	5

^a Registered lines include primary lines, secondary call appearances and phantom lines

OpenScope Branch 50/250



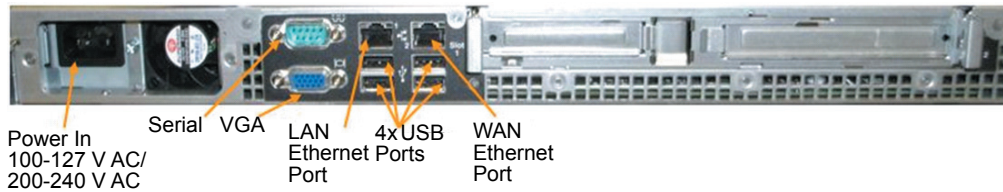
Based on:	Advantech SYS-2USM02-6M01E Server
Physical size (W x H x D):	300 x 65 x 300 mm (11.8 x 2.6 x 11.8 inches)
Weight:	up to 4.5 kg (9.9 lb)
Rated power:	100-240 V AC, 50-60 Hz, 60 W
Average power consumption:	18 W
Rated heat emission:	216.2 kJ/h (204.8 BTU)
Operating temperature:	0-40 °C (32-104 °F)
Part number:	L30220-D600-A567



OpenScope Branch 1000



Based on:	IBM x3250 M3 Server
Physical size (W x H x D):	440 x 43 x 559 mm (17.32 x 1.69 x 22.01 inches)
Weight:	up to 12.7 kg (28.0 lb)
Rated power:	100-127 / 200-240 V AC, 50-60 Hz, 351 W
Average power consumption:	75 W
Rated heat emission:	1263.7 kJ/h (1197.7 BTU)
Operating temperature:	10-35 °C (50-95 °F)
Part number:	L30220-D600-A568



OpenScope Branch 6000

Offered on two platforms:



Based on:	IBM x3550 M3 Server
Physical size (W x H x D):	440 x 43 x 711 mm (17.32 x 1.69 x 27.99 inches)
Weight:	up to 15.4 kg (34.0 lb)
Rated power:	100-127 / 200-240 V AC, 50-60 Hz, 351 W
Average power consumption:	180 W
Rated heat emission:	1263.7 kJ/h (1197.7 BTU)
Operating temperature:	10-35 °C (50-95 °F)
Part number:	L30220-D600-A569



LAN Ethernet Port WAN Ethernet Port VGA Serial 2x USB Ports Power In 100-127 / 200-240 V AC



Based on:	Fujitsu Primergy RX200 S6 Server
Physical size (W x H x D):	431 x 43 x 762 mm (16.97 x 1.69 x 30.00 inches)
Weight:	up to 17 kg (37.5 lb)
Rated power:	100-127 / 200-240 V AC, 50-60 Hz, 549 W
Average power consumption:	193 W
Rated heat emission:	1976.4 kJ/h (1873.3 BTU)
Operating temperature:	10-35 °C (50-95 °F)
Part number:	L30220-D600-A570



Power In 100-127 / 200-240 V AC 3x USB Ports VGA Serial WAN Ethernet Port LAN Ethernet Port

OpenScape Branch with integrated PSTN Gateway

In addition to integrated Proxy, Survivability, Session Border Controller (SBC), SIP Trunking, and Media Server functionalities, the OpenScape Branch 50i also provides the functionality of PSTN Gateway (GW) and Analog Terminal Adapter (ATA). It is available in the follows models:

- OpenScape Branch 50i A84 (8 FXO ports + 4 FXS ports)
- OpenScape Branch 50i D44 (4 BRI ports + 4 FXS ports)
- OpenScape Branch 50i DP14E (1 E1 PRI port + 4 FXS ports)
- OpenScape Branch 50i DP14T (1 T1 PRI port + 4 FXS ports)

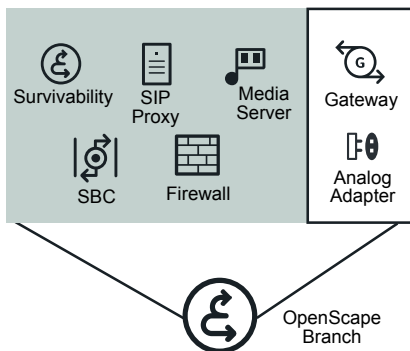
There is also the ATA variant that only provides the Analog Terminal Adapter functionality but in higher density. These two models are

- OpenScape Branch 50i A024 (24 FXS ports)
- OpenScape Branch 50i A048 (48 FXS ports)

For higher PRI capacity, the OpenScape Branch 500i is the best choice. It is available in the two models:

- OpenScape Branch 500i DP4 (4 E1/T1 PRI ports)
- OpenScape Branch 500i DP8 (8 E1/T1 PRI ports)

This additional integration of Analog Terminal Adapter and PSTN Gateway functionality provides a better value as it requires smaller footprint and less power to operate. That results in direct operational savings and a greener solution.



Gateway

PSTN Interface (FXO)

- 8 RJ11 connectors
- Trunk type: Loop Start
- Nominal impedance
- Software-configurable AC and DC impedances to support most countries worldwide
- Caller ID: FSK or country-specific DTMF
- Ring detection
- Answer (loop supervision, battery reversal)
- Disconnect support (loop supervision and country-specific busy detection)
- Software-adjustable audio input and output level

Basic Rate Interface (BRI)

- 4 RJ45 connectors
- Trunk support (EuroISDN):
Layer 1: ETS 300 012-1 (ITU-T I.430)
Layer 2: ETS 300 402-1/2 (ITU-T Q.921) - Data Link
Layer 3: ETS 300 403-1/2 (ITU-T Q.931) - Signaling Network
Layer 4: ETS 300 102-1/2 (ITU-T Q.931) - Basic Call Control
Point to Point and Point to Multi-Point operation

Primary Rate Interface (PRI)

- 1 RJ45 connector
- Available with E1 or T1 interface
- E1 protocol support
EuroISDN
- T1 protocol support
NI2
- E1/T1 interface:
Layer 1: ETS 300 012-1 (ITU-T I.431)
Layer 2: ETS 300 402-1/2 (ITU-T Q.921) - Data Link
Layer 3: ETS 300 403-1/2 (ITU-T Q.931) - Signaling Network
Layer 4: ETS 300 102-1/2 (ITU-T Q.931) - Basic Call Control
- Framing types:
Superframe (D4)
Channel Associated Signaling (CAS)
- Coding types:
Alternative Mark Inversion (AMI)
Bipolar with 8 Zeros Substitution (B8ZS)
High Density Bipolar of Order 3 Code (HDB3)
Optional Cyclic Redundancy Check 4 (CRC4)

- CAS E1 protocol support
ITU-T Q.421
MFC-R2 - Brazil, Mexico
- Compliance
TBR 4, Net 5

Analog Terminal Adapter

Interface (FXS)

- 4 RJ11 connectors
- Trunk type: Kewl Start
- Software-configurable AC and DC impedances to support most countries worldwide
- Ringer support of 3 REN (with Caller ID)
- Caller ID: FSK or country-specific DTMF
- Country-specific tones support
- Software-adjustable audio input and output level

Fax Support

Automatic selection between voice and fax:

- Protocols:
Group 3 Fax,
Clear channel - G.711,
T.38 Real-time
- Fax transmission (up to 9600 kbps)
- DSP-based DTMF tone detection
- 16-digit DTMF decoding (0 to 9, *, #, A, B, C, D)
- RFC 2833 support (configurable)
- Echo cancellation up to 32 ms

Performance	OSB 50i A84	OSB 50i D44	OSB 50i DP14E	OSB 50i DP14T	OSB 50i A024	OSB 50i A048	OSB 500i DP4	OSB 500i DP8
Max. supported number of SIP registered lines ^a	80	80	80	80	0	0	500	500
Max. number of concurrent sessions	40	40	40	40	24	40	120	240
Max. number of calls per second (continuous)	1	1	1	1	1	1	4	4
Max. registrations per second (background)	5	5	5	5	5	5	10	10
Max. registrations per second (peak)	50	50	50	50	24	48	500	500
Max. number of concurrent announcement ports	4	4	4	4	0	0	10	10
Max. number of concurrent conference ports	12	12	12	12	0	0	30	30
Max. number of SIP trunking sessions	20	20	20	20	0	0	60	60
Number of FXO ports	8	0	0	0	0	0	0	0
Number of BRI ports	0	4	0	0	0	0	0	0
Number of E1/T1 PRI ports	0	0	1	1	0	0	4	8
Max. number of concurrent integrated gateway calls	8	8	30	23	0	0	120	240
Number of analog terminal adapter ports (FXS)	4	4	4	4	24	48	0	0
Max. number of management sessions	5	5	5	5	5	5	5	5

^a Registered lines include primary lines, secondary call appearances and phantom lines

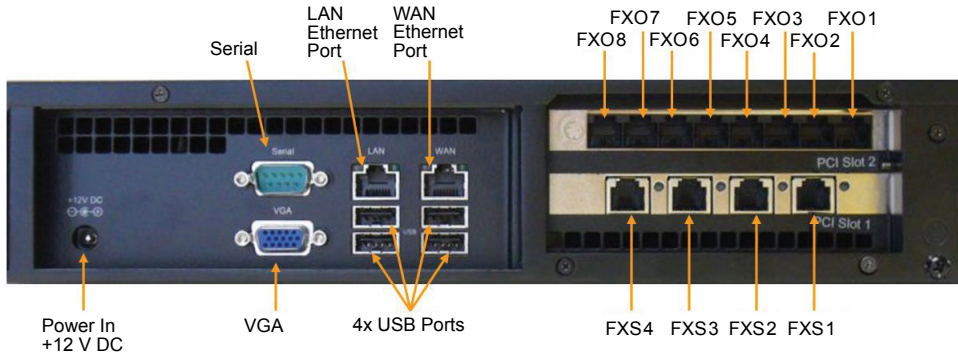
OpenScape Branch 50i models



Based on:	Advantech SYS-2USM02-6M01E Server
Physical size (W x H x D):	300 x 65 x 300 mm (11.8 x 2.6 x 11.8 inches)
Weight:	up to 4.5 kg (9.9 lb)
Rated power:	100 V-240 V AC, 50/60 Hz, 60 W
Average power consumption:	25 W
Rated heat emission:	216.2 kJ/h (204.8 BTU)
Operating temperature:	0-40 °C (32-104 °F)

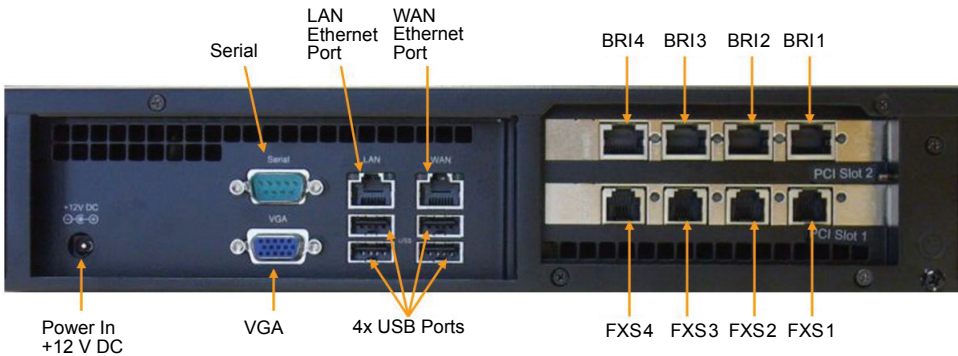
OpenScape Branch 50i - A84

Analog - 8 ports FXO + 4 ports FXS (L30220-D600-A561)



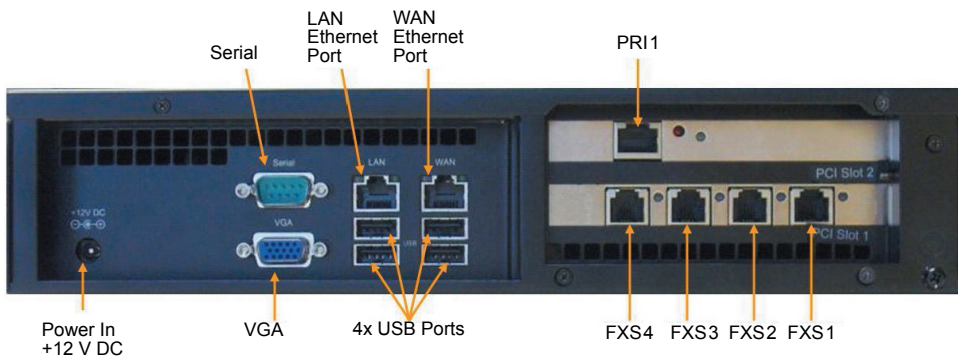
OpenScape Branch 50i - D44

Digital - 4 ports BRI + 4 ports FXS (L30220-D600-A562)



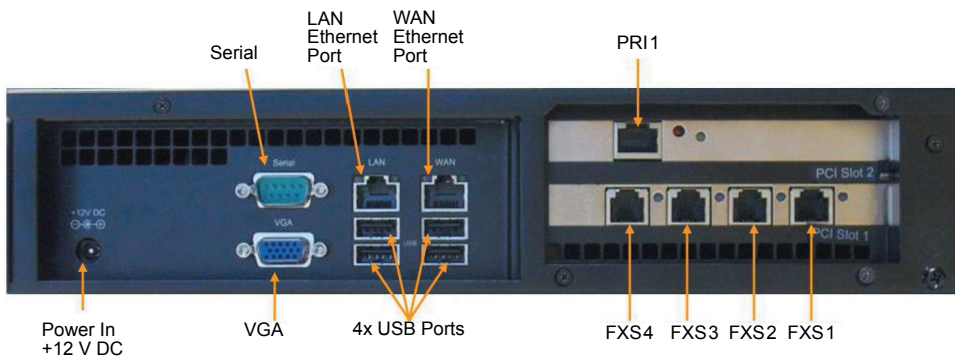
OpenScape Branch 50i - DP14E

Digital PRI - 1 port E1 PRI + 4 ports FXS (L30220-D600-A563)



OpenScope Branch 50i - DP14T

Digital PRI - 1 port T1 PRI + 4 ports FXS (L30220-D600-A564)



OpenScope Branch 50i Analog Terminal Adapter Models



Based on:

Physical size (W x H x D):

Weight:

Rated power:

Rated heat emission:

Operating temperature:

Advantech SYS-2USM01-6M01E Server

300 x 65 x 400 mm (11.8 x 2.6 x 15.8 inches)

up to 6.44 kg (14.2 lb)

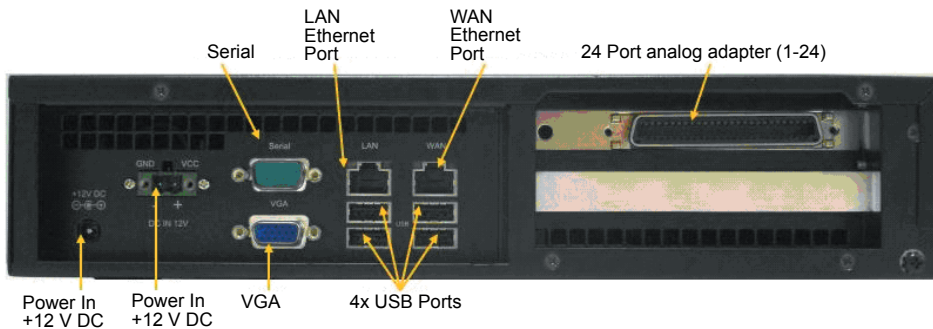
100 V-240 V AC, 50/60 Hz, 140 W

504 kJ/h (477.7 BTU)

0-40 °C (32-104 °F)

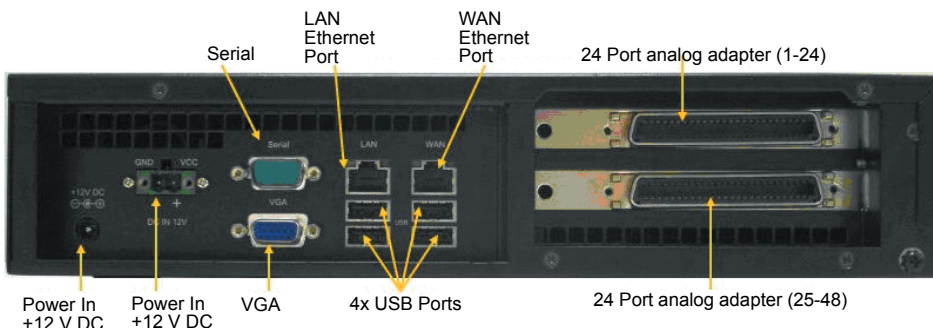
OpenScope Branch 50i - A024

Analog - 0 ports FXO + 24 ports FXS (L30220-D600-A565)



OpenScope Branch 50i - A048

Analog - 0 ports FXO + 48 ports FXS (L30220-D600-A566)



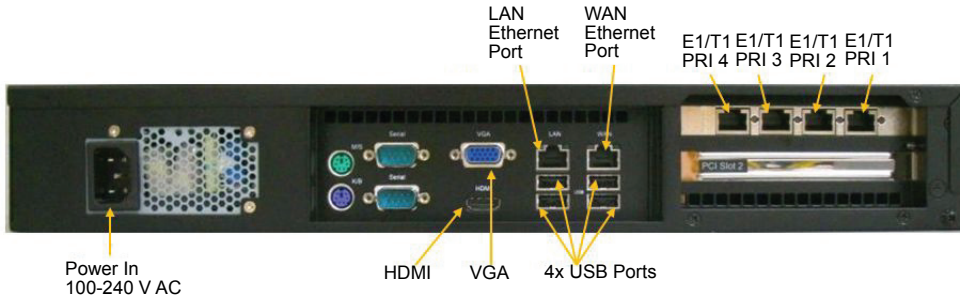
OpenScope Branch 500i Models



Based on:	Advantech SYS-2USM03-6M01E Server
Physical size (W x H x D):	425 x 65 x 320 mm (16.8 x 2.6 x 12.9 inches)
Weight:	up to 4.99 kg (11.0 lb)
Rated power:	100 V-240 V AC, 50/60 Hz, 180 W
Average power consumption:	41 W
Rated heat emission:	147.6 kJ/h (139.9 BTU)
Operating temperature:	0-40 °C (32-104 °F)

OpenScope Branch 500i - DP4

Digital PRI - 4 ports E1/T1 PRI (L30220-D600-A571)



OpenScope Branch 500i - DP8

Digital PRI - 8 ports E1/T1 PRI (L30220-D600-A572)

