MITEL MiVOICE BUSINESS 3300 CONTROLLERS

Mitel® MiVoice Business (formerly Mitel Communications Director) deployed on Mitel 3300 Controller provides businesses with a feature-rich IP communication solution, with embedded advanced user applications and ample connections to address the business's connections and device needs.

MITEL 3300 CONTROLLERS

SPECIFICATION	3300 CX II / 3300 CXI II	3300 MXe III STANDARD	3300 MXe III EXPANDED	3300 AX
Maximum number of devices (including softphones and Contact Center agents)[1]	150	350	1,500	400[1,2]
Maximum number of IP phones[1]	150	300	1,400	125[1,2]
Maximum number of SIP devices / users	150	300	1,000	100
Maximum ACD Agents[1]	50	100	350	50
Maximum 5550 IP consoles	8	16	24	8
Maximum number of analog phones[3]	150	350	1,500	288
Shipped with	2 x ADI 21363 DSP modules Power Supply 32 Echo Cancellers AMB	1 Quad DSP Module Power Supply 64 Echo Cancellers AMB	1 Quad DSP Module Power Supply 128 Echo Cancellers AMB	1 Quad DSP Module Power Supply 40 Echo Cancellers
Main Software Storage Media	16 GB SATA Solid State Drive	32 GB Solid State Drive or 160GB SATA Hard Drive	32 GB Solid State Drive or 160 GB SATA Hard Drive	2 GB Flash Drive, 4 GB Flash Drive for Voice Mail
Installed RAM	512 MB	512 MB	512 MB	512 MB
Available MMC Slots	3	6	5	2
MMC Slots for	Quad CIM, Single T1/E1, Quad BRI, and DSP II	Dual FIM, Quad CIM, Single and Dual T1/E1, Quad BRI, Quad DSP, DSP II and Echo Canceller	Dual FIM, Quad CIM, Single and Dual T1/E1, Quad BRI, Quad DSP, DSP II and Echo Canceller	Single and Dual T1/E1, Quad BRI, Quad DSP, DSP and Echo Canceller
Maximum embedded T1/E1 digital trunk modules	2 (Does not support Dual trunk modules)	3	4	1
Maximum embedded BRI modules	2 (Does not support Dual trunk modules)	3	4	1

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MITEL 3300 CONTROLLERS (CONT'D)

SPECIFICATION	3300 CX II / 3300 CXI II	3300 MXe III STANDARD	3300 MXe III EXPANDED	3300 AX
10/100/1000 MB Ethernet ports	See CXi Controller Data connectivity section	2	2	2 (10/100 only)
Maximum Quad DSP or DSP II modules	0 (1)	3 (2)	3 (2)	2 (1)
Maximum Echo Canceller Channels	96	64	192	128
Maximum G.729a compression channels (DSP II=128, Quad DSP=32 Dual DSP=16)	64 with DSP II	128	192	128
Maximum T38 channels	8	32	32	32
Maximum number of NSU's	0	8	8	2 (R2 NSU only)
Maximum number of digital links (except BRI)	2	16	16	4
Maximum Embedded BRI interfaces (2 channels per interface)	8	12	12	4
Maximum number of Dual FIM modules	0	4	4	1
Dual FIM can be used to connect	0	NSU, DSU, Peripheral Cabinets, Triple FIM card and SX200 Bay	NSU, DSU, Peripheral Cabinets, Triple FIM card and SX200 Bay	R2 NSU
Analog Main Board[4,5]	6 LS trunks, 4 ONS ports	6 LS trunks, 4 ONS ports	6 LS trunks, 4 ONS ports	0
Analog Option Board[4,5]	6 LS trunks, 4 ONS ports	0	0	0
Analog Line card slots[6]	0	0	0	12
Maximum number of CIM connected ASU's	3	12	12	0
Maximum number of Fiber and Copper connected SX200 Bays	0	7	7	0
Tone generators	128	128	128	128
Tone detector circuits	32	32	32	32
E2T Channels	64	64	128[7]	128
DTMF Receivers	128	128	192	128
IP Networking – maximum IP trunks between MiVoice Business systems	2000	2000	2000	2000
IP Networking – total max IP trunks	2000	2000	2000	2000
SIP Trunking – total maximum SIP trunks	2000	2000	2000	2000
SIP trunking – max SIP trunks between peers	2000	2000	2000	2000
Maximum controllers in a cluster[8]	999	999	999	999
STP and RSTP	YES	YES	YES	YES

VOICE MAIL SPECIFICATIONS

SPECIFICATION	3300 CX II / 3300 CXI II	3300 MXe III STANDARD	3300 MXe III EXPANDED	3300 AX
Embedded voice mail ports as standard	16	20	20	20
Maximum embedded Voice mail ports	16	30	30	20
Maximum mailboxes[9]	750	750	750	750
Storage hours	30 with SSD 130 with HDD	130 with SDD 130 with HDD	130 with SDD 130 with HDD	25
Maximum messages per mailbox	100	100	100	100

[1]Engineering rules apply.

[2]For low traffic solutions, like Hospitality systems, up to a maximum of 576 devices will be supported, 288 analog devices and up to 288 IP devices. For systems of this size please refer to Mitel system engineering.

[3]The Maximum Analog device limit is a nominal figure that depends on the Hardware used to connect the Analog devices. Options include the ASU II and the SX200 Peripheral Bay Cabinet.

[4]Includes Music-on-Hold (1 source supported), Paging (1 paging zone), System Fail Transfer (2 circuits).

[5]Analog trunks support CLASS Signaling for North America and Latin America, ETSI Class for international markets.

[6]The Analog Line card is available in two variants; the 24 ONS circuit card and the 4 LS trunks and 12 ONS extension card. Note the 4+12 Card supports 4 SFT circuits.

[7]Supports up to 192 ET2 channels when being used in a Trunking Gateway configuration.

[8]Up to 999 controllers can be clustered as a single system to support over 65,000 IP ports. Mitel's MiVoice Business System Data Synchronization technology is used to enable feature transparency across a cluster of controllers.

[9]Up to 748 mailboxes can be used for users or multi-level auto attendant. Two mailboxes are reserved for Administration.

MITEL 3300 CXI II CONTROLLER DATA CONNECTIVITY

Integral 16-port powered Layer 2 10/100 Ethernet switch with embedded 802.af support.

HAS AN ADDITIONAL GIGE CAPABLE LAN PORT

· Provides connection to additional switch ports and router

ALSO HAS A 10/100 WAN PORT THAT IS AN "INTERNET GATEWAY"

· WAN port provides connection to an ISP for Internet access (e.g., DSL or cable)
· WAN port provides NAT and firewall capabilities
· WAN port does not support IP networking

USE EXTERNAL ROUTER FOR IP NETWORKING

· Same as you would with a CX II, MXe III, AX Controller

SIP LINESIDE AND TRUNKING SPECIFICATIONS

Please see the SIP CoE MCD RFC specifications document on Mitel OnLine for up to date SIP specification support.

DIGITAL TRUNK CONNECTIVITY

DUAL EMBEDDED DIGITAL TRUNK MODULE (MXE III CONTROLLER AND AX CONTROLLER)
· Each module has two E1/T1 trunk interfaces (links)
· Provides PRI / QSIG / T1-D4 / DASS II / DPNSS / IDA-P protocol through the controller (No NSU required)
· Each interface can run a different protocol, either PRI,
· QSIG, or T1-D4

DOES NOT SUPPORT:
· Min / Max, NFAS, D-Channel Backup or TDM XNET (Hybrid XNET is supported).

SINGLE EMBEDDED DIGITAL TRUNK MODULE (CX II / CXI II / MXE III / AX CONTROLLERS)
· Each module has a single E1 / T1 trunk interface (link)
· Provides PRI / QSIG / T1-D4 / DASS II / DPNSS / IDA-P protocol through the controller (No NSU required)
· Resiliency (switches to secondary controller)

DOES NOT SUPPORT:
· Min / Max, NFAS, D-Channel Backup or TDM XNET (Hybrid XNET is supported).

EMBEDDED BRI MODULE (CX II / CXI II / MXE III / AX CONTROLLERS)
The Embedded BRI module has four Basic Rate Circuits (total 8 – 64kbs channels)

EACH CHANNEL MAY BE CONFIGURED AS EITHER A:
· T (trunk) interface for links from a BRI Central Office (CO)
· S (subscriber) interface for connecting up to eight BRI devices.

Note: S interfaces support only basic call features such as calling number display for BRI devices (BRI call handling such as Hold or Transfer are not supported). BRI devices are not line powered from the embedded BRI module.

Note: This module does not support U interfaces.

MITEL STREAMLINE (24-PORT OR 48-PORT VERSIONS)
· Ethernet services over two-wires
· Power over Ethernet
· Cat 3 or better cabling
· Up to 1200 ft
· Simple deployment with a station-side dongle, delivering Ethernet services and power

DIMENSIONS

SPECIFICATION	3300 CONTROLLER	ANALOG SERVICES UNIT (ASU)	NETWORK SERVICES UNIT (NSU)	STREAMLINE
Height	CX II / CXi II / MXe III – 3.5 in. (8.9 cm.) (2U) AX – 13.35 in. (39.90 cm.) (7 U)	ASU – 1.75 in. (4.454 cm.) (1 U) ASU II – 3.3 in. (8.4 cm.) (2 U)	1.75 in. (4.454 cm.) (1 U)	1.75 in. (4.454 cm.) (1 U)
Width	CX II / CXi II / MXe III 17.75 in. (45.1 cm.) (19 in. rack mountable) AX – 17.4 in. (44.20 cm.)	17.75 in. (45.1 cm.) (19 in. rack mountable)	17.75 in. (45.1 cm.) (19 in. rack mountable)	17.13 in. (43.5 cm.) (19 in. rack mountable)
Depth	CX II / CXi II – 16.5 in. (41.9 cm.) MXe III – 20.25 in. (51.4 cm.) AX – 13.87 in. (35.23 cm.)	ASU – 15.5 in. (39.4 cm.) ASU II – 13.3 in. (33.8 cm.)	15.5 in. (39.4 cm.)	9.92 in. (25.2 cm.)
Weight	CX II / CXi II – 19.8 lb. (8.98 kg.) MXe III – 28 lb. (12.7 kg.) AX – 39.70 lb. (18.01 kg.)	ASU – 10.61 lb. (4.81 kg.) ASU II – 14.1 lb. (6.4 kg.)	8.41 lb. (4.27 kg.)	7.96 lb. (3.61 kg.)

OPERATIONAL ENVIRONMENT

SPECIFICATION	3300 CONTROLLER	ANALOG SERVICES UNIT (ASU)	NETWORK SERVICES UNIT (NSU)	STREAMLINE
Temperature	40° to 122°F (4° to 50°C)	40° to 122°F (4° to 50°C)	40° to 122°F (4° to 50°C)	(10°C to 50°C)
Humidity	5% to 95% relative humidity, non-condensing	5% to 95% relative humidity, non-condensing	5% to 95% relative humidity, non-condensing	10% to 95% relative humidity, non- condensing
Max. Heat Dissipation – fully loaded	CX II / CXi II – 170 BTUs per hour MXe III– 750 BTUs per hour AX – 1024 BTUs per hour	ASU – 170 BTUs per hour ASU II – 260 BTUs per hour	60 BTUs per hour	24-Port: 61 BTUs per hour 48-Port: 81 BTUs per hour
Air Flow	46 cubic ft. / min. at maximum output of fans AX – 110 cubic ft.	—	—	—
Acoustic Emissions	Max 50dBA continuous, 75dBA intermittent (<10% duty cycle)	—	—	—

Conversion factors: One watt is equal to 3.412 BTUs per hour. One ton of refrigeration is equal to 12,000 BTUs per hour or 3.516 Kilowatts, and 0.75 kilowatt-hour is equal to one ton of refrigeration.

SYSTEM INPUT POWER REQUIREMENTS

SPECIFICATION	3300 CONTROLLER	ANALOG SERVICES UNIT (ASU)	NETWORK SERVICES UNIT (NSU)	STREAMLINE
Input / Disconnect	IEC320-C14 Class 1 AC Receptacle 2 AC Receptacles on AX and MXe III with redundant power	IEC320-C14 Class 1 AC Receptacle	IEC320-C14 Class 1 AC Receptacle	IEC320-C14 Class 1 AC Receptacle
Input Voltage / Frequency Rating	100 – 240 VAC 50 / 60 Hz	100 – 240 VAC 50 / 60 Hz	100 – 240 VAC 50 / 60 Hz	100 – 240 VAC 50 / 60 Hz
Input Power	CX II / CXi II – 250 W MXe III – 200 W MXe III Expanded – 250 W AX – 300 W	ASU – 75 W max ASU II – 125 W max	NSU – 20 W R2 NSU – 30 W	24-Port: 16.5W 48-Port: 22W
AC Source	90 – 264 VAC	90 – 264 VAC	90 – 264 VAC	90 – 264 VAC
Frequency Range	47 – 63 Hz	67 – 63 Hz	67 – 63 Hz	67 – 63 Hz

[9]For more technical specifications on the StreamLine, please refer to the StreamLine Data Sheet at mitel.com/streamline.

GLOSSARY

ACD	Automatic Call Distribution	**NSU**	Network Services Unit
ASU	Analog Services Unit	**OPS**	Off Premises, long loop analog PBX ports
BRI	Basic Rate Interface	**PRI**	Primary Rate Interface, ISDN
BTU	British Thermal Unit	**QSIG**	Q-Signaling Protocol
CAS	Channel Associated Signaling	**RSTP**	Rapid Spanning Tree Protocol
CCS	Common Channel Signaling	**SIP**	Session Initiation Protocol
CIM	Copper Interface Module	**STP**	Spanning Tree Protocol
CLASS	Custom Local Access Signaling Services	**T38**	ITU protocol to send FAX transmission across IP Networks
DASSII	Digital Access Signaling System #2		
DID / DDI	Direct Inward Dial / Direct Dial In	**VM**	Voice Mail
DNI	Digital Network Interface	**XNET**	Switched Networking
DPNSS	Digital Private Network Signaling System	**TRUNKING**	
DSP	Digital Signal Processor	**GATEWAY**	A 3300 Controller used specifically to land PSTN trunks and route them onto a User Gateway
DTMF	Dual Tone Multi-Frequency		
FIM	Fiber Interface Module	**USER**	
IP	Internet Protocol	**GATEWAY**	A 3300 Controller / Server used specifically to manage and control Telephones. External traffic is routed via a Trunking Gateway
ISDN	Integrated Services Digital Network		
LS	Loop Start Trunk		
MMC	MITEL Mezzanine Card	**3300**	
MOH	Music on Hold	**CONTROLLER**	Mitel's telephony platform that runs Mitel MiVoice Business (formerly Mitel Communications Director (MCD))
MSDN	Mitel Superswitch Digital Network		
NFAS	Non-Facilities Associated Signaling		

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