



MITEL

3300 IP Communications Platform

Providing feature-rich IP communication and advanced user applications to corporate local and wide area networks

Controllers

	3300 CX / CXi	3300 MxII Standard	3300 MxII Expanded	3300 MxII Server	3300 AX
Maximum number of devices – including software agents ¹	150	350	1,500	5,000	300 ²
Maximum number of IP phones ³	100	300	1,400	5,000	100 ⁴
Maximum number of SIP devices / users	100	300	1,000	3,000	100
Maximum ACD Agents ⁵	50	100	350	350	50
Maximum 5550 IP consoles	8	16	24	24	8
Maximum number of analog phones	150	350	580	–	288
Shipped with:	1 Dual DSP module (integrated) AMB Hard Disk Drive Power Supply 10 Echo Cancellers	1 Quad DSP module (integrated) AMB Hard Disk Drive Power Supply 64 Echo Cancellers	1 Quad DSP module (integrated) AMB Hard Disk Drive Power Supply 128 Echo Cancellers	1 Quad DSP module (integrated) RAID Controller Dual HDD Drives Dual Power Supplies 256 Echo Cancellers	1 Quad DSP module (integrated) Flash Drive Power Supply 42 Echo Cancellers

^{1/3/5} Engineering rules apply

^{2/4} 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

Controllers (cont'd)

	3300 CX / CXi	3300 Mx II Standard	3300 Mx II Expanded	3300 Mx II Server	3300 AX
Available MMC Slots	3	6	5	4	2
MMC Slots for:	Quad CIM Single T1 / E1 Quad BRI Dual and Quad DSP and DSP II	Dual FIM Quad CIM Single and Dual T1 / E1 Quad BRI, Quad DSP, DSP II, Echo Canceller	Dual FIM, Quad CIM Single and Dual T1 / E1, Quad BRI, Quad DSP, DSP II, Echo Canceller	Quad DSP, DSP II Echo Canceller	Single and Dual T1 / E1 Quad BRI Quad DSP, DSP II, Echo Canceller
Maximum embedded T1 / E1 digital trunk modules	2	3	3	–	1
Maximum embedded BRI modules	2	3	3	–	1
10 / 100 / 1000 MB Ethernet ports	See CXi Controller Data connectivity section	2	2	2	2 (10 / 100 Base T only)
Maximum Dual DSP Modules	1 ⁶	–	–	–	–
Maximum Quad DSP or (DSP II Modules)	1 (1)	3 (2)	3 (2)	3 (2)	2 ⁷ (1)
Maximum Echo Canceller Channels	64	64	192	256	128
Maximum G.729a compression channels (DSP II = 128, Quad DSP = 32, Dual DSP = 16)	64 with DSP II 16 with Dual DSP	128	192	256	64
Maximum T38 channels	16	32	32	–	32
Maximum number of NSU's	–	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	–	4	4	–	1
Dual FIM can be used to connect:	–	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 ⁸	6 LS trunks ⁹ 4 ONS ports	6 LS trunks 4 ONS ports	6 LS trunks 4 ONS ports	–	–
Analog Option Board	6 LS trunks 4 ONS ports	–	–	–	–
Analog Line card slots ¹⁰	–	–	–	–	12

⁶⁷ Engineering rules apply

⁸ Includes Music-on-Hold (1 source supported), Paging (1 paging zone), System Fail Transfer (2 circuits)

⁹ Analog trunks support CLASS Signaling for North America and Latin America

¹⁰ 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.

Controllers

	3300 CX / CXi	3300 MXe II Standard	3300 MXe II Expanded	3300 MXe Server	3300 AX
Maximum number of CIM connected ASU's	3	12	12	–	–
Maximum fiber connected peripheral nodes (with peripheral expander)	–	6 (12)	6 (12)	–	–
Maximum number of fiber and copper connected SX200 Bays	–	7	7	–	–
Tone generators	128	128	128	–	128
Tone detector circuits	32	32	32	–	32
E2T Channels	64	64	128 ¹¹	256 ¹²	128
DTMF Receivers	128	128	192	–	128
IP Networking – maximum IP trunks between controllers	200	200	200	200	200
IP Networking – total max IP trunks	2,000	2,000	2,000	2,000	2,000
SIP trunking – total maximum SIP trunks	2,000	2,000	2,000	2,000	2,000
SIP trunking – max SIP trunks between peers	400	400	400	400	400
Maximum controllers in a cluster ¹³	999	999	999	999	999
STP and RSTP	Yes	Yes	Yes	Yes	Yes
Embedded Voicemail ports as standard	4	20	20	–	–
Maximum embedded voicemail ports ¹⁴	16	30	30	–	20
Maximum mailboxes	750	750	750	–	750
Storage hours	450	450	450	–	70
Maximum messages per mailbox	100	100	100	–	100

¹¹ Supports up to 192 ET2 channels when used in a Trunking Gateway configuration.

¹² Supporting conference, music on hold and paging functions only.

¹³ Up to 999 controllers can be clustered as a single system to support over 65,000 IP ports. Mitel's System Data Synchronization technology is used to enable feature transparency across a cluster of controllers.

¹⁴ Requires DSP on CX, and CXi and an additional 4 GB flash drive on AX Controller.

Mitel 3300 CXi Controller Data Connectivity

Integral 16-port powered L2 10 / 100 Ethernet switch

Has additional 10 / 100 / 1000 Ethernet uplink port

- Provides connection to additional switch ports and router

Also has 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, MXe, AX Controller

Embedded ACD

- 1,181 agent IDs
- Maximum of 350 total logged-in agents
- 999 paths
- 128 agent groups (500 agent IDs per group)

Embedded Wireless Phones

- SpectraLink 802.11b* or Mitel IP-DECT wireless phones supported
- 802.11b or IP-DECT access points supported
- Custom integration with SpectraLink and IP-DECT MiNet wireless phones

* 802.11b access points must be SpectraLink SVP compliant

SIP Trunking

- Supports G.711 and G.729 compression
- SIP Trunking license required for each SIP channel
- Supports RFCs
 - RFC 3261 – SIP Session Initiation Protocol
 - RFC 3262 – Reliability of provisional responses in Session Initiation Protocol (SIP)
 - RFC 3263 – Locating SIP servers
 - RFC 3264 – An offer answer model with session description protocol

- RFC 3515 – The Session Initiation Protocol (SIP) refer method
- RFC 2976 – The SIP info method
- RFC 3325 – Private extensions to the Session Initiation Protocol (SIP)
- RFC 1321 – The MD5 message digest algorithm
- RFC 2833 – RTP payload for DTMF digits, telephony tones and telephony signals (section 3.10)

SIP Line Side

- Supports G.711 and G.729 compression
- SIP Line license required for each SIP device connection
- Supports RFCs
 - RFC 1321 – The MD5 message digest algorithm
 - RFC 2976 – The SIP info method
 - RFC 3261 – SIP Session Initiation Protocol
 - RFC 3262 – Reliability of provisional responses in SIP
 - RFC 3263 – Locating SIP Servers
 - RFC 3265 – Specific event notification
 - RFC 3311 – The Session Initiation Protocol update method
 - RFC 3515 – The Session Initiation Protocol refer method
 - RFC 3891 – The Session Initiation Protocol replaces header
 - RFC 4028 – Session timers in the Session Initiation Protocol
 - RFC 3680 – A Session Initiation Protocol event package for registrations
 - RFC 3842 – A message summary and message waiting indication event package SIP
 - RFC 2327 – SDP: Session description protocol
 - RFC 3264 – An offer / answer model with SDP
 - RFC 2833 – RTP payload for DTMF digits, telephony tones and telephony signals

Digital Trunk Connectivity

Universal NSU (MXe II Controller)

- Connects to controller via a FIM link
- A second NSU can be daisy chained from the first NSU via CIM (allows two NSUs per FIM link)
- Each NSU supports two digital links
- Both links in an NSU must run the same protocol (T1-D4 or MSDN / DPNSS or PRI / QSIG)

Supports:

CAS (T1-D4) – digital E&M, digital CO, digital DID, IDA-P
T CCS – Primary Rate ISDN, XNET over PRI, QSIG, MSDN / DPNSS
1 – QSIG, Euro ISDN, XNET over PRI, DASSII, MSDN / DPNSS

R2 NSU (MXe II and 3300 AX Controller)

- Each R2 NSU supports two links
- Connects to controller via a FIM link
- A second NSU can be daisy chained from the first NSU via CIM (allows two NSUs per FIM link)

Dual Embedded Digital Trunk Module (MXe II / AX)

- 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 / CXi / MXe II / 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 / CXi / MXe II / 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.

Dimensions

	3300 Controller	Analog Services Unit (ASU)	Network Services Unit (NSU)	Peripheral Cabinet
Height	CX / CXi / MXe II / MXe Server – 3.5 in (8.9 cm) (2U) AX – 13.35 in (39.90 cm) (7U)	ASU – 1.75 in (4.454 cm) (1U) ASU II – 3.3 in (8.4 cm) (2U)	1.75 in (4.454 cm) (1U)	19.0 in (48.0 cm)
Width	CX/CXi/MXe II/MXe Server 17.75 in (45.1 cm) – 19" rack mountable AX – 17.4 in (44.20 cm)	17.75 in (45.1 cm) (19" rack mountable)	17.75 in (45.1 cm) (19" rack mountable)	18.0 in (45.8 cm)
Depth	CX / CXi – 16.5 in (41.9 cm) MXe II / MXe Server – 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)	19.0 in (48.0cm)
Weight	CX / CXi – 19.8 lb (8.98 kg) MXe II – 28 lb. (12.7 kg) MXe Server – 33 lb (15 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)	71.8 lb (32.6 kg)

Operational Environment

	3300 Controller	Analog Services Unit (ASU and ASU II)	Network Services Use (NSU)	Peripheral Cabinet
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)	40° to 122°F (4° to 50°C)
Humidity	5%-95% relative humidity, non-condensing	5%-95% relative humidity, non-condensing	5%-95% relative humidity, non-condensing	5%-95% relative humidity, non-condensing
Max Heat Dissipation – fully loaded	CX / CXi –170 BTUs per hour MXe II – 750 BTUs per hour MXe Server – 1000 BTUs per hour AX – 1024 BTUs per hour	ASU – 170 BTUs per hour ASU II – 260 BTUs per hour	60 BTUs per hour	724 BTUs per hour
Air Flow	46 cubic ft/min at maximum output of fans AX – 110 cubic ft			150 cubic ft/min at maximum output of fans
Acoustic Emissions	Max 50dBA continuous, 75dBA intermittent (<10% duty cycle)			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

	3300 Controller	Analog Services Unit (ASU and ASU II)	Network Services Use (NSU)	Peripheral Cabinet
Input / Disconnect	IEC320-C14 Class 1 AC Receptacle 2 Receptacles on AX and MXe II / MXe II Server 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	102-120 VAC 50 / 60 Hz MP914AA PSU Variant 200-240 VAC 50/60 Hz MP914AD PSU Variant
Input Power	CX / CXi 250 W MXe II – 200 W MXe II Expanded – 250 W MXe II Server – 300 W AX – 300 W	ASU – 75 W max ASU II – 125 W max	Universal NSU – 20 W R2 NSU – 30 W	200 W typical (ONS and DNI Mix) 300 W typical (all DNI) 540 W Max (input surge, all DNI)
AC Source	90-264 VAC	90-264 VAC	90-264 VAC	102-132 VAC MP914AA 187-264 Hz MP914AD
Frequency Range	47-63 Hz	67-63 Hz	67-63 Hz	47-63 Hz

Glossary

ACD	Automatic Call Distribution	NFAS	Non-Facilities Associated Signaling
ASU	Analog Services Unit	NSU	Network Services Unit
BRI	Basic Rate Interface	OPS	Off Premises, long loop analog PBX ports
BTU	British Thermal Unit		
CAS	Channel Associated Signaling	PRI	Primary Rate Interface, ISDN
CCS	Common Channel Signaling	QSIG	Q – Signaling Protocol
CIM	Copper Interface Module	RSTP	Rapid Spanning Tree Protocol
CLASS Services	Custom Local Access Signaling	SIP	Session Initiation Protocol
DASSII	Digital Access Signaling System #2	STP	Spanning Tree Protocol
DID / DDI	Direct Inward Dial / Direct Dial In	T38	ITU protocol to send FAX transmission accross networks
DNI	Digital Network Interface	Trunking Gateway	A 3300 controller used specifically to land PSTN trunks and route them onto a user gateway
DPNSS System	Digital Private Network Signaling	User Gateway	A 3300 controller / server used specifically to manage and control telephones. External traffic is routed via a Trunking Gateway
DSP	Digital Signal Processor	VM	Voice Mail
DTMF	Dual Tone Multi-Frequency	XNET	Switched Networking
FIM	Fiber Interface Module		
IP	Internet Protocol		
Integrated 3300	A 3300 controller that manages both telephones and external call routing		
ISDN	Integrated Services Digital Network		
LS	Loop Start Trunk		
MMC	MITEL Mezzanine Card		
MOH	Music on Hold		
MSDN	Mitel Superswitch Digital Network		

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