

# IPedge™ System Product Bulletin

PB-0160 June 2011

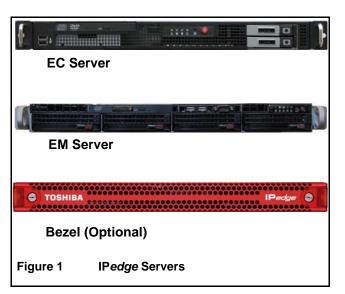
# Introducing IPedge – Toshiba's Next Generation IP Communication System

Toshiba is proud to announce the release of IPedge, a pure IP system. The IPedge system performs call processing, voice mail, unified messaging, media processing which includes conferencing and paging, meet-me conferencing with web collaboration<sup>1</sup>, centralized management, Call Manager unified communications, and more. IPedge uses Red Hat Enterprise Linux 5.4 for the base operating system that provides a high level of scalability and security.

Networking between IPedge servers and/or Strata CIX systems is enabled via IPedge Net using one IP address.

The IPedge solution is easy to install and is initially available in two different sizes depending on the number of users, applications, and conferencing needs. At this time Toshiba will release two server sizes – one for applications up to 200 users and the other for up to 1,000 users; the EC and EM size servers (shown right). In the future, the system size will grow by adding more servers.

IPedge can also connect to a MAS or MicroMAS to run ACD and TASKE, and it can connect to uMobility and other external applications.



## Product Line Strategy

With the launch of IPedge, Toshiba will be carrying and supporting two separate and complimentary product lines, IPedge and Strata CIX systems. IPedge is a software centric platform designed for customers who want to deploy on an all IP network infrastructure to realize the savings of managing a single network. Strata CIX40, CIX100, CIX200, CIX670 and CIX1200 systems continue to provide excellent converged solutions for customers who want a mix of IP, digital, and analog endpoint devices connected to their system along with IP telephony applications. IPedge and Strata CIX solutions can also work together as networked systems.

1. IPedge Meeting software is integrated into the IPedge system. License activation is available Summer 2011 with announced upgrade.

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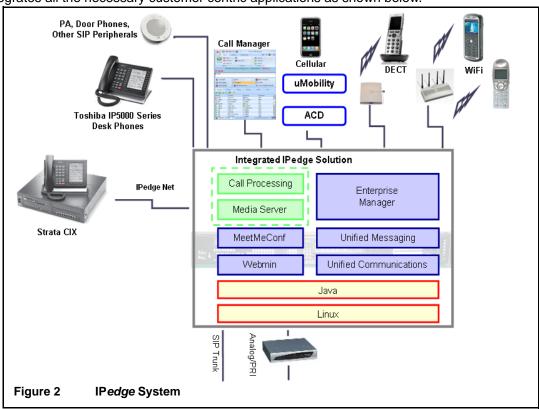
Toshiba America Information Systems, Inc.

#### **Basic Characteristics**

EC Server	EM Server
Rackmount; 1U; 15" Deep; 19" Wide	Rackmount; 1U; 25.6" Deep; 19" Wide
1 x Core 2 Quad x 2.6GHz Processor, 4GB DRAM	2 x Quad Core x 2GHz Xeon Processors,12GB DRAM
1 x 160GB HDD	2 x 300GB HDDs (RAID 1 standard)
Up to 200 Users	Up to 1,000 Users

## **Description**

Toshiba's IPedge server is an all IP system designed for ease of installation, use and maintenance. It integrates all the necessary customer centric applications as shown below.



#### IPedge Solutions

On a single server, IPedge provides the following:

- Call Processing IPedge provides the basic and advanced call processing features with a single IP interface.
- Voice Mail / Unified Messaging Voicemail is built in and can be configured as either a single
  centralized voicemail system for the entire enterprise or as a distributed voicemail system for each
  site.
- Unified Communications Unified Communications is built in and provides Call Control from PC, Chat and Presence on the desktop (Call Manager). There are two levels of IPedge Call Manager:
  - Call Manager Standard version is free to all users of the IPedge system. The license (I-CM-STD1) for Call Manager Standard is included in the user license bundle at no additional charge.

- Call Manager Advanced version provides enhanced functionality, including full Unified Communications (UC). Purchase Call Manager Advanced license (I-CM-1) when full UC capabilities are required.
- Existing users of the powerful Strata Call Manager (SCM) will continue to enjoy all the features of the SCM in the new IPedge Call Manager. The smart installation procedure will install CM or SCM based on which system the client will connect to.
- Meet-me Conference and Web Collaboration
  - Having a built in conferencing and web collaboration eliminates costly monthly subscription fees.
     The integrated conferencing and web collaboration tool boasts an extensive list of features including the following all on a simple and easy-to-use GUI.
  - On Demand Conferencing
  - Scheduling One-time Calls
  - Scheduling Recurring Calls
  - Web-based Reporting
  - Telephony User Interface (TUI) for Moderator and Participants
- Centralized Management for Multiple Sites The Enterprise Manager resides on the IPedge Server
  and enables an administrator to manage all trunks and stations in all the servers of the enterprise,
  using one consolidated view. From one central location, the administrator can backup and restore
  configurations of all sites, and update the firmware on any or all phones in the enterprise.

In addition to the above, the IPedge server can connect to a separate MAS or MicroMAS server to include:

- ACD, Networked ACD (ACD + Unifier), and Call Center Reporting (TASKE or Insight)
- uMobility<sup>TM</sup>

## **Selling Advantages**

The key selling advantages of IPedge are as follows:

- Run multiple communication applications built in to one server platform
  - Call processing
  - Voice mail
  - · Unified messaging
  - Meet-me conferencing and web collaboration (future availability, Summer 2011)
  - Call Manager unified communications with Presence, IM, call control from PC, CRM screen-pop integration, outbound dialing from any application, electronic document launch
  - Enterprise Manager web-based centralized system administration is integrated with browser access from your PC
  - Simplifies and integrates multiple forms of communications to optimize business processes
- Leverage server-based technologies
  - Low-profile 1U chassis offers a sleek look and occupies minimum rack space
  - Standard Rack-mount allows mounting on an existing standard 19 inch server rack

- Survivability within or across the network providing business continuity when there is a hardware or network failure, and by allowing IP telephones to fail over to an active server at another location
- Redundant Power Supplies and hard disk drives (RAID) on the EM model ensure business continuation after a single point of hardware failure
- Expanded memory and Ethernet capacity to allow for multiple advanced applications
- LINUX Operating System
  - Provides a high level of scalability and security and is more resistant to virus attacks than common desktop operating systems. However, a secure network with proper monitoring capability is still recommended.
- Session Initiation Protocol (SIP)
  - Open interface to external devices and applications.
  - SIP based gateways are available to connect IPedge to analog and digital interfaces (FXS/FXO/T1/PRI).
  - Gateways are not required for SIP trunking.
  - A variety of SIP endpoints are available for specific needs including wireless, smartphone, door phone, paging, etc.
- NAT Traversal allows VoIP calls to take place easily while each telephone device and the telephone system are all safely behind firewalls.
- Ease of installation and administration using Enterprise Manager
  - An administration software is built into the platform
  - Administration is accessed by web browser
  - Centralized management of all locations, saving time, providing consistency, and eliminating potential mistakes.
  - One administration interface manages both PBX and voice mail, enabling new systems to be setup quickly with less labor and training required
- Strata CIX systems can be networked with IPedge systems via IPedge Net to either add a system to the network, or use the Strata CIX system as a gateway to IPedge for continued use of digital telephones and trunks connected to the Strata CIX system.

# **Features**

Below is a list of Call Processing, Messaging, Call Manager and Meeting features.

Call Processing Features			
Account Codes Transfer (Unscreened) Flexible Line Ringing			
Verified /Non-verified Account Codes	Transfer to Voice Mail	Flexible Numbering	
Forced Account Codes	Call Waiting	Coordinated Numbering Plan	
Add-on Module (ADM)	Caller Identification	Handsfree Answerback	
Advisory Messages	Camp on	Headset	
Alarm Notification	Automatic Camp On	Hearing Aid Compatible	
Alternate Answer Point	Off-hook Camp On	High Call Volume Buttons	
Automatic Busy Redial	Camp On Busy	Hold	
Automatic Call Distribution (ACD) Server	Cancel Button	Automatic Hold	
Basic ACD Features	Classes of Service (COS)	Call Hold	
Enhanced ACD Features	Conference Calls	Consultation Hold	
Web-based Contact Center	Conference On-Hold	Exclusive Hold	
Automatic Callback (ACB)	Join Button	Hold Recall	
Automatic Line Selection (ALS)	Split/Join/Drop	Hot Dialing	
Background Music (BGM)	Voice Mail Conference	Hot Desking/IP User Mobility	
Call Completion	Credit Card Calling	Hotline Service	
Call Forward	Day/Night Mode	IPedge Net	
System Call Forward	Dial Directory	Line Buttons	
Station Call Forward	Direct Inward Dialing (DID)	Pooled CO Line Button	
Call History	Dialed Number Identification Service (DNIS)	Group CO Line Button	
Call Park	Directory Numbers	Live System Programming	
Call Park Orbits	Primary [DN] Buttons	Message Waiting	
Park and Page	Phantom [DN] Buttons	Music/Messaging on Hold	
Call Pickup	Pilot [DN]	Multiple Call/Delayed Ringing	
Group Pickup	Direct Station Selection (DSS)	Off-Hook Call Announce (OCA)	
Ringing, Page or Held Call Pickup	Distinctive LED Indicator	Override	
Call Transfer	Distinctive Ringing	Class Of Service Override	
Music or Ringing Option	Do Not Disturb (DND)	Do Not Disturb (DND) Override	
Transfer with Camp On	Emergency Call	Executive Override	
Transfer Immediate	Enhanced 911 (E911)	Privacy Override	
Transfer Privacy	Emergency Ringdown	Paging	
Transfer (Screened)	Feature Prompting with Soft Keys	Telephone Group Paging	

Call Processing Features (continued)			
Emergency Page	Serial Hunting	Backup and Restore	
Power Failure Protection	Circular Hunting	Maintenance and Administration	
Privacy	Distributed Hunting	Software Upgrade	
Privacy Override	Camp on to Hunt Groups	Tenant Services	
Remote Update	Station Message Detail Recording (SMDR)	Traffic Measurement	
Repeat Last Number Dialed	Survivability	Traffic Reports	
Ringing	System Fault Finding and Diagnostics	Uniform Call Distribution	
Ring Over Busy	Alarm Indication of System Faults	Unified Communications	
Ringing Cadence	Fault Detection and Error Logs	VLAN Tagging	
Speed Dial	Event and System Administration Logs	Voice or Tone Signaling	
One Touch Buttons	Automatic Fault Recovery	Volume Control	
Station Hunting			

Messaging Features			
Automated Attendant First-time User Tutorial (Mailbox Set-up) Messaging as a POP Server			
Departments	Forward/Rewind	Multi-site Networking	
Department Partitioning	Future Delivery	VPIM	
Departmental Time Zone	Hospitality Mailbox	Administration	
Directory Assistance	Mailbox Owner Language Selection	Callout Length	
Do Not Disturb	Mailbox Time Zone	Class of Service (COS)	
Follow-Me	Message Call Back	Housekeeping	
Follow-Me Connect Verification	Message Cascading	Import Data	
Follow-Me Record to Mailbox	Message Delete Confirmation	Mailbox Mapping	
Follow-Me Transfer Back	Message Waiting Indication	Mailbox Password	
Holiday/Date-Based Greeting	Notification of Non-Receipt	Mailbox Role	
No Response Destination	Octel® Prompt Emulation	Mailbox Search	
Operation Mode	Park and Page	Mailbox Status	
Simple Single-Digit Dialing	Pause Message	Mailbox Swap	
Time of Day Greeting	Personal Assistant	Mailbox Transfer	
Voice Messaging	Personal Automated Attendant	Maximum Greeting Length	
Ad-Hoc Groups	Play New Messages Automatically	Maximum Message Length	
Archive Mailbox	Priority Message	Maximum Messages	
Automatic Message Copy	Programmable Menu Time out	Maximum Silence Timer	
Call Queuing	Redirecting Messages	Message Playback Order	
Call Record to Voice Mail	Retrieve a Deleted Message	Minimum Message Length	
Call Screening	Return Receipt	Push Mailbox	
Caller ID (CID) Routing	Review Saved Messages	Quick Glance	
Cancel Operation	Speed Control	System Backup	
Change Message Time	Soft Key Control of Voice Mail	System Monitor	
Check Message Count	Subscriber's Menu	Transfer Supervision	
Codec Support	System and Department Language Selection	Variable Password Length	
Confidential Message	Variable Extension Length	Web Controller	
Delete from Subscriber's Mailbox	Variable Mailbox Length	Reporting	
Direct Transfer to Voice Mailbox	Volume Control	Full Report	
Distribution Groups	Wake-Up Call	Mailbox List	
End Recording Key	Unified Messaging	Mailbox Usage by Date	
Envelope Information	Integration with Email Clients	Mailbox Usage Daily	
External Message Notification	Messaging as an IMAP Server	Message by Mailbox	

Messaging Features (continued)		
Message Activity	System Hourly Statistics	Limited Password Entry Attempts
Outbound calls	System Statistics	Mailbox Lock and Administrator Notification
Port Statistics	Unattended Mailboxes	Secure Authentication for Outgoing Email
Scripts	Security	
System Group List	Limited Dial-Out Digits	

Call Manager Features			
Companion Applications	Action Variables	Using Companion Applications	
Screen Colors <sup>1</sup>	Personal Call Handler	Contacts	
Using Call Manager Features	Creating Personal Call Handling Rules	History	
Call Handling Features <sup>1</sup>	Like Matches	ACD Viewer	
Call Center Features	Unlike Matches	Chat	
Preferences	Export Rules	Dialer	
Config Settings <sup>1</sup>	Importing Rules	Presence	
Setting Up Hot Key Dialing & Popup of Call Manager window <sup>1</sup>	Using Microsoft Outlook	Web Browser	
Tab Settings	Dialing from within Outlook Contacts <sup>1</sup>	OAISYS Tracer Integration	
Programmable Buttons <sup>1</sup>	Incoming Calls	Online Help	
Actions	While on a Call	CRM Integration with Screen Pops	
Creating Actions	Integrating with Outlook Calendar		

<sup>&</sup>lt;sup>1</sup> Available in Call Manager Standard

Meeting Features			
Audio and Web Conferencing	Conducting Web Conferences	Using the Participants List	
Creating Users	Starting a Web Conference	Inviting Additional Participants	
Working with Users	Joining a Web Conference	Managing Participant Private Chat Permissions	
Using Conferences	Performing the Web Meeting Startup Check	Changing Presentation Control	
Defined Conferences Page	Understanding the Web Meeting Interface	Setting Your Display Name and Mood	
Add Conference Page	Installing Screencaster	Removing a Participant from the Meeting	
The Edit Conference Page	Sharing Your Desktop	Extending a Meeting	
Inviting Users to Your Conference	Sharing the Whiteboard	Administrative Tools	
Accepting an Invitation	Whiteboard Navigation	Leaving or Ending the Meeting	
Conducting Audio Conferences	Sharing Documents	RealView	
Joining a Conference	Document Navigation	Viewing Real Time Activity	
Controlling Your Conferences Via The Phone	The Documents Menu	Controlling Conferences with RealView	
Collecting Votes	Using the Annotation and Presentation Tools	Reports	
Viewing the End of Conference Summary Report	Public Chat		

# **Operating Environment**

	EC Server	EM Server
Operating Temperature	50°F ~ 95°F; 10°C ~ 35°C	50°F ~ 95°F; 10°C ~ 35°C
Operating Humidity	8% ~ 90% (non condensing)	8% ~ 90% (non condensing)
Storage Temperature	-20 ~ +60°C	-20 ~ +60°C
Power	100 ~ 240 VAC; 50 ~ 60 Hz;4 ~ 2 Amp	100 ~ 127 / 200 ~ 240 VAC; 50/60 Hz, 8/4 Amp The IPedge EM server has two redundant, hot-swap power supplies. The server can run indefinitely on one supply.
Heat	785 BTUs	778 BTU/hour. 867 BTUs max.

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#### **Software**

The following software is included and installed on the IPedge server:

- Linux Operating System
- Java, Apache TomCat, MySQL platform software
- IPedge Core (Call Processing, Media Server)
- Voicemail / Unified Messaging
- Call Manager / Unified Communications
- Meeting / Meet Me Conferencing
- Enterprise Manager / Web-based administration

## **Deployment**

The administration software, Enterprise Manager is built into the platform which reduces installation time. The Enterprise Manager can be securely accessed from any PC with a web-browser. The administrator can view all the servers and all stations connected to each server in the enterprise in one consolidated view which aids in planning the numbering scheme.

A single IP Address is required for IPedge Net routing configuration. IPedge Net configuration is improved with the use of "Quick Access Guides" to all the programs required to configure IPedge Net. It guides the administrator step-by-step through the configuration.

#### **Administration**

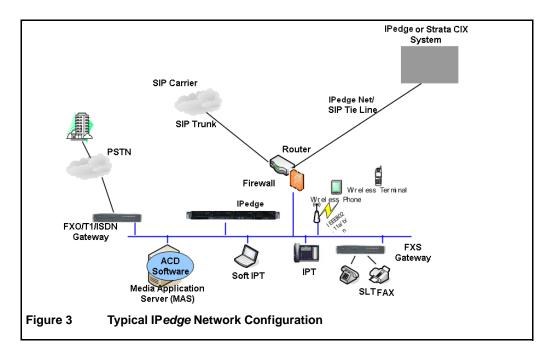
IPedge Enterprise Manager provides a web interface for users to configure data, manage, control and maintain all components of these applications, and to coordinate the configuration of all IPedge Solutions in an Enterprise System. The system can be administered remotely over the Internet. No administration application is required on the user's PC.

In a networked multi-site system, all nodes are administered through a single location which provides centralized administration and database backup for the entire system.

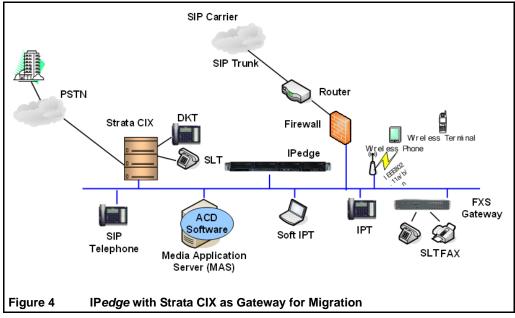
# Configuration

In a typical network configuration with IPedge, the IPedge server is placed behind the NAT firewall and given a private IP address.

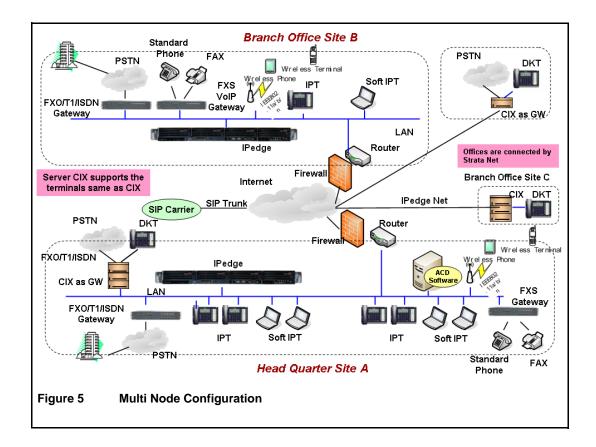
IPedge provides SIP trunking for incoming and outgoing calls. On the LAN, IPedge works with the Soft IPT and IP telephones. An FXO/T1/ISDN gateway is used to connect the all IP IPedge solution to PSTN networks.



Strata CIX system users can migrate to IPedge and minimize their investment by using their Strata CIX system as a gateway for PSTN interfaces and DKT telephones. The Strata CIX system with MIPU cards is networked to IPedge system through IPedge Net.



Multi-node IPedge and Strata CIX systems can be networked together using IPedge Net.



# **Supported Telephones/Endpoints**

The IPedge system supports the following telephones:

- IP telephones that use Megaco +
  - IP-5000 with/without LM5110 or IDM5060, Soft IPT
- Application that uses Megaco +
  - Call Manager
  - PC Attendant Consoles
- 3rd Party SIP telephones See table below.
- The following endpoints are supported through a Strata CIX system using IPedge Net.
  - Single Line Telephone
  - Digital Telephones DP5000 and DKT3000 models
  - T1
  - Analog CO
  - PRI

## **Third Party Devices**

The table below contains a list of external devices that can connect to the IPedge system.

Third Party	Product Name	Product Type
Audiocodes	See "Audiocodes Part Numbers" on page 22	
CyberData	VoIP Intercom	Door Phone
Motorola	EWP1000/EWP2000	SIP WLAN Phone
	IP321, IP331, IP430, IP450, IP550, IP560, IP650	Desk Phone
	IP670	Color Desk Phone
Polycom	IP6000, IP7000	Conference Phone
	Spectralink 8002, 8020, 8030	SIP WLAN Phone
	KIRK 2010/4040/5020/5040	SIP DECT Phone
Varaha	uMobility	Select Android, Blackberry, iPhone, Nokia and Windows Mobile devices.

# **Capacities**

The following tables contain IPedge capacities.

Table 1 Station/Peripherals System Capacities

Stations	EC Server	EM Server
PC Attendant consoles	2	6
IP5000-series stations, SIP stations, Voicemail and Meeting	200 per System	1,000 per System
DSS Consoles	5 per Station 24 per System	8 per Station 24 per System
Add-on modules - LM5110, KM5020	160	800
Simultaneous calls	148	576

Table 2 Trunk Capacities

Trunks	EC Server	EM Server
IPedge Net IP channels	96	440
SIP Trunk channels	96	440
Total Analog, T1, and ISDN trunk channels connected by gateways.	96	440
Channel Groups	220	220

Table 3 IP Telephone Station Buttons

Station Buttons per System	EC Server	EM Server
Call Forward, Personal CF Buttons	160	1,000
Caller ID (CLID) button (IP telephone only)	160	1,000
Group CO (GCO) Line Buttons <sup>1</sup>	96	440
Pooled CO Line Buttons <sup>2</sup>	50	220
CO Group and Pooled Line Buttons <sup>2</sup>	440	440
Flexible Telephone Buttons	48,000	48,000
Line and DN Buttons in use at the same time	6,000	6,000
Message Waiting Registration (DNs with MW)	1,344	1,344
Multiple Appearances of DNs on Telephones	27,000	27,000
Night Transfer Buttons	192	192
One Touch Buttons	24,000	24,000
Primary Directory Numbers [PDNs] per system	200	1,000
Phantom Directory Numbers [PhDNs] per system	4,000	4,000
[PhDNs] with Message Waiting Indication LED	192	192

This is the total number of all GCO or Pooled Line Buttons allowed in a system. Example: If the GCO1 button appears on 10 telephones, it counts as 10 buttons.

Table 4 System Feature Capacities

Features	EC Server	EM Server
Pilot DNs	256	256
Advisory LCD Messages (Set on a Telephone)	1	1
Advisory LCD Messages Lists (per System)	10	10
Attendant Groups	1	1
Call Accounting SMDR Interface <sup>1</sup>	1	1

Table 4 System Feature Capacities(continued)

Features	EC Server	EM Server
Call Forward, System CF Patterns	48	48
Call Park Orbits (General)	96	96
Call Park Orbits (Individual)	576	576
Minimum / Maximum Caller ID per Station	Min:0, Step:5	Min:0, Step:5
Max means max records of a station	Max:200	Max:200
Maximum number of Stations that can have Caller ID/ANI/	600	600
DNIS Numbers stored (Call History records)	3,000	3,000
CO Line Groups - Incoming Line Groups (ILG)	220	220
CO Line Groups - Outgoing Line Groups (OLG)	220	220
Outgoing Line Groups (OLG) Members per system (Trunks + ISDN Line Service Index)	660	660
Conference Channels	24	96
Conferencing (three-parties simultaneously) <sup>2</sup>	installed channels/3	installed channels/3
Conferencing (eight-parties simultaneously) <sup>2</sup>	installed channels/8	installed channels/8
Conference Party types (up to 8 total lines + stations) <sup>2</sup>	8	8
Two-CO Line simultaneous Connection <sup>2</sup> (Two party only, no telephone or VM channel)	48	220
DID Numbers for Calling Number ID/system	1,500	1,500
DNIS/DID Incoming Numbers (1~7)	3,000	3,000
DNIS/DID Routing Destination Numbers (1~6 digits) <sup>3</sup>	9,000	9,000
DNIS/DID Routing Destination Numbers (7~32 digits) <sup>3</sup>	1,500	1,500
Network DNs	6,000	6,000
Uniform Numbering Plan	30,000	30,000
E911 Groups	128	128
Emergency Call Groups	128	128
Hunt Groups (Serial/Circular/Distributed combined)	1,100	1,100
Hunt Group Size (DNs per group)	160	1,000
Hunt Group Stations (per system)	5,000	5,000
ISDN Line Service Indexes	220	220
Multiple Call Ring Group	96	96
Off-hook Call Announce to Telephone Speakers <sup>4</sup>	200	1,000
Page Groups (Phones with or without External Zones)	24	24
Paging – (Group Page – simultaneous stations paged)	120	120
Pickup Groups	48	48
Ring Tones (External Call Ring Tones for IP telephones)	10	10
Ring Tones (Internal Call Ring Tones for IP telephones)	10	10
Speed Dial - Station SD numbers per system <sup>5</sup>	8,400	8,400
Speed Dial - System SD numbers per system	800	800
Tenants	8	8
Destination Restriction Level (DRL) Classes	16	16
Verified Account Codes	4,000	4,000
Voice Mail SMDI Interface <sup>1</sup>	1	1

Table 4 System Feature Capacities(continued)

Features	EC Server	EM Server
SIP URI per system	1,000	1,000
SIP Trunk service Index	128	128
LCR Exception Table Size	2,500	2,500
MAX digit number for LCR Route Plans	19	19
MAX Number of LCR Route Plans	128	128
CSTA Device Monitors	1,152	1,152
CSTA Call Monitors	560	560

<sup>&</sup>lt;sup>1</sup> SMDI and SMDR require a LAN interface.

#### **Application Capacities**

Table 5 Media Server

	EC Server	EM Server
Resources	216	480

Table 6 Meeting

	EC Server	EM Server
Audio Channels	24	48
Web Sessions	24	48
Conference Record	4	8

Table 7 Call Manager

	EC Server	EM Server
Users with Call Manager	200	360

Table 8 Messaging

	EC Server	EM Server
Departments	999	999
Mailboxes (basic or UM)	5,000	10,000
Script Mailboxes	20	20
Simultaneous Calls	32	80
Hours of Storage	4,000 hours	7,000 hours

Conference channels are used dynamically, so the maximum number of simultaneous conferences is affected by the number of conference members in each conference. The total number of members in simultaneous conferences cannot exceed the total number of conference channels. Each conference can have up to eight members. Two CO line connections do not require a conference channel.

Third party SIP endpoints cannot be the originator of a conference call.

<sup>&</sup>lt;sup>3</sup> Each DNIS/DID Number uses up to three Routing Destination Numbers (Day1, Day2 and Night) in any combination of (1~6) and (7~32) digit numbers.

<sup>&</sup>lt;sup>4</sup> This is not the number of simultaneous OCA but the terminal number of OCA available. (Simultaneous number is limited by maximum capacity of line and call).

<sup>&</sup>lt;sup>5</sup> Up to 100 Station SD numbers, allocated in increments of 10, can be programmed per station.

## **Network Requirements**

Listed below are the requirements for a successful IPedge implementation.

#### LAN Requirements

- Network Assessment (Pathview and/or AppCritical or Similar)
- Network topology diagram
- Network Reliability (at the server level not at the phone level): 99.999%
- POE for IP telephones is recommended
- Layer 3 voice prioritization strongly recommended
  - Layer 3: DiffServ:Enabled
  - Type:DSCP / DSCP for Voice: 46
- Layer 2 can also be supported per network requirements
  - Layer 2: 802.1p/802.1q(VLAN)
     802.1p/802.1q support requires networking equipment for IPedge server and is supported by the IP 5000 series phones.
- 88kbps (G.711 audio) in each direction per simultaneous call
- 32kbps (G.729 audio) in each direction per simultaneous call
- Jitter: 10mS or less (+/- 5mSec)
- Packet Loss: <0.1%.</li>
- Full Duplex Ethernet on all ports
- Target MOS (Mean Opinion Score) is 4.0
- Network monitoring with a tool such as WhatsUp Gold, OpenNMS, and Zenoss<sup>®</sup>.
- For SIP trunking a SIP application layer gateway is required in the firewall

#### **VolP Requirements for Remote Users**

- Network Reliability on the link that's in the customer's control 99.99%
- Layer 3 voice prioritization recommended
  - Layer 3: DiffServ:Enabled / ToS Type:DSCP / DSCP for Voice: 46
- 88kbps (G.711 audio) in each direction per simultaneous call

#### Note Media traffic is Peer-to-Peer

- Less than 80 ms latency recommended
- Jitter: 20mS or less (+/- 10mSec)
- Packet Loss: < 1%.</li>

#### **VoIP Requirements for WiFi Users**

- VoIP Products and Applications
  - PC's with SoftIPT, Call Manager
  - Polycom 8000 series WiFi phones
  - Motorola TEAM application and phones
  - uMobility on iPhone, Windows Mobile, Android, Blackberry
- QoS
  - 802.11e/WMM recommended
  - Layer 3 DiffServ/DSCP/ToS 46
- Network Reliability: 99.99%
- 88kbps (G.711 audio) in each direction per simultaneous call
- 32kbps (G.729 audio) in each direction per simultaneous call

#### Note Media traffic is Peer-to-Peer

- Less than 80 ms latency recommended
- Jitter: 20ms or less (+/- 10mSec)
- Packet Loss: < 1%</li>
- Support for 802.11b,g,a & n

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# **Pricing**

## **New IP5000-series Telephone Pricing**

With the launch of the IP*edge* product line the IP5000-series telephones can be used on different platforms. Toshiba is lowering the price of the telephones when purchased separately so that they may be stocked and used with any system. The IP5000 telephones can still be purchased at promotional prices when bundled with licenses for the Strata CIX. See the on-line Price Book on FYI for details.

#### **New Quote**

There is a new version of our configuration and quoting tool, now just called Quote, that can be used to generate quotes for IPedge or Strata CIX. After you start up quote you can select Quote > New IPedge Quote or Quote > New Strata CIX Quote. For IPedge quotes, there is also a new tab called Defined Users. This tab allows you to define a user type, for example "Staff", enter the number users with this configuration, select the type of IP5000 telephone, add on module, and license-features. This allows you to Quote IPedge systems in a way that ties more closely to how the customers provide the information.

Table 9 Part Numbers

Part Number	Description
I-EC-1A	IPedge EC model rack mount server. Factory equipped with a Linux operating system, single 160GB SATA hard drive, 4GB RAM, and all the necessary software to support IPedge features. Optional 4-post and 2-post rail kits sold separately. Requires I-SYS-EC license.
I-EC-BZL-1A	Optional custom red front bezel with Toshiba and IPedge logos for I-EC-1A server.  Provides a sleek look and secures accessibility. Includes two keys. (Buy extra bezel keys using the I-BEZEL-KEY part number).
I-EC-HDD <sup>1</sup>	Spare 160GB SATA hard drive for IPedge model I-EC-1A servers.
I-EC-PWR SUPPLY	Spare power supply for IPedge model I-EC-1A server.
I-EC-RL2-1A	Two post rail kit to mount IPedge server model I-EC-1A server in a two post server rack.
I-EC-RL4-1A	Four post rail kit to mount IPedge server model I-EC-1A server in a four post server rack.
I-EM-1A	IPedge EM model rack mount server. Factory equipped with a Linux operating system, two 300GB SAS hard drives in RAID1 configuration, 12GB RAM, dual redundant power supplies, and all the necessary software to support IPedge features. System ships with one 4-post rail kit. Requires I-SYS-EM license.
I-EM-BZL-1A	Optional custom red front bezel with Toshiba and IPedge logos for I-EM-1A server. Provides a sleek look and secures accessibility. Includes two keys. (Buy extra bezel keys using the I-BEZEL-KEY part number).
I-EM-HDD	Spare 300GB SAS hard drive for IPedge model I-EM-1A servers.
I-EM-PWR SUPPLY	Spare power supply module for IPedge model I-EM-1A server.
I-EC-HDD	Spare 160GB SATA hard drive for IPedge model I-EC-1A servers.
I-EC-PWR SUPPLY	Spare power supply for IPedge model I-EC-1A server.
I-EM-HDD	Spare 300GB SAS hard drive for IPedge model I-EM-1A servers.
I-EM-PWR SUPPLY	Spare power supply module for IPedge model I-EM-1A server.
I-BEZEL-KEY	One spare key for the bezel locks for I-EC and I-EM custom bezels. Key fits both locks. As needed for spares.

Table 9 Part Numbers (continued)

License Part Numbe	rs
I-CM-1	IPedge Call Manager Advanced provides all Call Manager capabilities. VoIP voice plug-in is sold separately per user.
I-CM-STD1	IPedge Call Manager Standard version provides the screen based telephony and Outlook Contact dialing. Bundled with IPedge user license and not required to purchase.
I-CM-V1	IPedge Call Manager voice plug-in license to add VoIP per user. Requires I-CM-1
I-CP-AUX	IPedge Auxiliary Channel license for each channel of Attendant Console, or ACD Voice Announcement channel.
I-CP-CSTA	IPedge CSTA license - per application
I-CP-SOFTIPT	One required for each SoftIPT user on IPedge. Also requires a user license (I-CP-USR-EM or I-CP-USR-EC).
I-CP-IPENET	One required for each IPedge Net channel.
I-CP-TRUNK	IPedge Trunk - per channel of SIP, PRI or Analog Gateway
I-CP-USR2	Provides IPedge license for 2 SIP Lines on a single device.
I-CP-USR-EC	IPedge user or endpoint license - per endpoint on EC server
I-CP-USR-EM	IPedge user or endpoint license - per endpoint on EM server
I-MS-1	IPedge Media Server resource license. One required for each channel of Music-On-Hold, Group Paging, and Call Progress Ring Tones.
I-MSG-ADV	IPedge IP Messaging Advanced User - per user. This license includes basic voicemail features plus unified messaging.
I-MSG-ADV UP	IPedge IP Messaging Advanced User upgrade- per user. This license requires the I-MSG-BAS and adds unified messaging.
I-MSG-BSC	IPedge IP Messaging Basic User - per user. This license includes basic voicemail features.
I-MSG-CH	One IP edge Messaging simultaneous channel license required for each simultaneous call into voicemail.
I-MSG-DEPT	One IP edge Messaging department license required to enable each department or auto attendant group.
I-MSG-SCRPT	One IPedge Messaging Script license required per script running on the system.
I-MT-A	IPedge Meeting meet-me conferencing audio channel License. One required for each simultaneous meet-me audio conferencing participant. Minimum 4.
I-MT-RCD	IPedge Meeting Audio Conference Record License. One required for each simultaneous channel of audio conference recording.
I-MT-W	IPedge Meeting Web Conference Application - per concurrent user IPedge Meeting meet-me conference web collaboration channel license. One required for each simultaneous web collaboration session participant.
I-SYS-EC-DSCNT	IPedge System License for EC server. One required for each system. Special price with bundled licenses: 24 I-CP-USR-EC, 12 I-CP-TRUNK, 13 I-MS-1, 24 I-MSG-ADV, 1 I-MSG-DEPT, 6 I-MSG-CH, 1 I-SYS-PLTFM-EC. This is the discount price version of I-SYS-EC. Also bundled with 24 I-CM-STD1 Call Manager Standard Edition.
I-SYS-EC	IPedge System License for EC server. One required for each system. Bundled licenses include: 24 of I-CP-USR-EC, 12 of I-CP-TRUNK, 13 of I-MS-1, 24 of I-MSG-ADV, 1 of I-MSG-DEPT, 6 of I-MSG-CH, and 1 of I-SYS-PLTFM-EC.
I-SYS-EM-DSCNT	IPedge System License for EM server. One required for each system. Special price, with bundled licenses: 32 I-CP-USR-EC, 16 I-CP-TRUNK, 18 I-MS-1, 32 I-MSG-BSC, 8 I-MSG-CH, 1 I-MSG-DEPT, 1 I-SYS-PLTFM-EM. This is the discount price of I-SYS-EM. Also includes 32 of the I-CM-STD1 Call Manager Standard.

Table 9 Part Numbers (continued)

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I-SYS-EM	IPedge System License for EM server. One required for each system. Bundled licenses include: 32 of I-CP-USR-EC, 16 of I-CP-TRUNK, 18 of I-MS-1, 32 of I-MSG-ADV, 8 of I-MSG-CH, 1 of I-MSG-DEPT, and 1 of I-SYS-PLTFM-EM.
I-SYS-PLTFM-EC	IPedge EC system Redhat Linux OS and database MySQL and base platform software license. One required per system. Usually purchased as part of the I-SYS-EC bundle. (Not purchasable in FYI as it is included in the bundles).
I-SYS-PLTFM-EM	IPedge EM system Redhat Linux OS and database MySQL and base platform software license. One required per system. Usually purchased as part of the I-SYS-EM bundle. (Not purchasable in FYI as it is included in the bundles).
I-CP-ACD	IPedge ACD application License (External ACD)
LIC-ACD	ACD license. Required to activate ACD support in an IPedge or Strata CIX system (one license is included in ACD turnkey packages and software packages). One license is required for each system in the network ACD system. Also required for Tracer and Talkument system if ACD or Net Phone is not installed. On IPedge an I-CP-AUX license is required for each voice announce channel. On Strata CIX, a basic port license is required for each voice announce channel.
I-CP-ATT	IPedge Attendant Console License - per console
LIC-ATT	One license is required to activate each Attendant Console on an IPedge or Strata CIX or CTX system. This license is also bundled with Toshiba supplied Attendant Console PCs IPATTCONS, CIX-IPATTCONS and CTX-ATTCONSOLE2 so it is NOT necessary to order the LIC-ATT for these parts. LIC-ATT should only to be ordered separately when using a Dealer or customer supplied PC for the Attendant Console. This license can be used for the Attendant Console with an IP or Digital talk path on Strata CIX And CTX. Attendant Console Software and Documentation is available for download on TSD FYI. On IPedge I-CP-AUX is also required, on Strata CIX or CTX a Basic Port license is required.
SUS	Software Support and Upgrade Service (SUS) token. This part is required when purchasing Software Support and Upgrade Service for a system which has a Multi-Year Support Agreement. Quote and FYI will calculate the quantity to be purchased and FYI will prompt the Dealer at time of license generation. Dealer will use this "SUS" license part number to complete the license generation process.
User License Bundles	
I-USR-ADV-EC	IPedge EC Advanced UC User Bundle IPedge - with user license, advanced (unified) messaging, call manager, and call manager voice. Includes I-CP-USR-EC, I-MGS-ADV, I-CM-1 and I-CM-V1.
I-USR-ADV-EM	IPedge EM Advanced UC User Bundle IPedge - with user license, advanced (unified) messaging, call manager, and call manager voice. Includes I-CP-USR-EM, I-MGS-ADV, I-CM-1 and I-CM-V1.
I-USR-BASIC-EC	IPedge EC Basic User Bundle with voicemail. Includes I-CP-USR-EC and I-MSG-BSC.
I-USR-BASIC-EM	IPedge EM Basic User Bundle with voicemail. Includes I-CP-USR-EM and I-MSG-BSC.
I-USR-DSKPC-EC	IPedge EC Desk and PC User Bundle with unified messaging and call manager. Includes I-CP-USR-EC, I-MSG-ADV and I-CM-1.
I-USR-DSKPC-EM	IPedge EM Desk and PC User Bundle with unified messaging and call manager. Includes I-CP-USR-EM, I-MSG-ADV and I-CM-1.
I-USR-DSKVM-EC	IPedge EC User Bundle with Call Manager and basic voicemail. Includes I-CP-USR-EC, I-CM-1 and I-MSG-BSC.
I-USR-DSKVM-EM	IPedge EM User Bundle with Call Manager and basic voicemail. Includes I-CP-USR-EM, I-CM-1 and I-MSG-BSC.
I-USR-STD-EC	IPedge EC User bundle with Call Manager Standard. Includes I-CP-USR-EC and I-CM-STD1.

Table 9 Part Numbers (continued)

I-USR-STD-EM	IPedge EM User bundle with Call Manager Standard. Includes I-CP-USR-EM, I-CM-STD1.
I-USR-STDUM-EC	IPedge EC User bundle with call Manager Standard and Unified Messaging. Includes I-CP-USR-EM, I-CM-STD1 and I-MSG-ADV.
I-USR-STDUM-EM	IPedge EM User bundle with Call Manager Standard and Unified Messaging. Includes I-CP-USR-EM, I-CM-STD1 and I-MSG-ADV.
I-USR-STDVM-EC	IPedge EC User with Call Manager Standard and Basic Voicemail. Includes I-CP-USR-EC and I-MSG-BSC.
I-USR-STDVM-EM	IPedge EM User bundle with Call Manager Standard and Basic Voicemail. Includes I-CP-USR-EC, I-CM-STD1 and I-MSG-BSC.
I-USR-UM-EC	IPedge EC User bundle with Unified Messaging. Includes I-CP-USR-EC and I-MSG-ADV.
I-USR-UM-EM	IPedge EM User bundle with Unified Messaging. Includes I-CP-USR-EM and I-MSG-ADV.

Toshiba strongly recommends that dealers carry at least one spare hard drive to support their installed base. Hard drives are field replaceable.

Table 10 Audiocodes Part Numbers

Part Number	Description
MP1122SSIP-BDL	Bundles the MP112/2S/SIP gateway + Audiocodes Enhanced Technical Support + Hardware Replacement Warranty.  MediaPack 112 Analog VoIP Gateway, 2 FXS, SIP Package including 2 FXS analog lines, single 10/100 BaseT, AC power supply, G.711/723.1/726/727/729AB Vocoders, SIP. Bundle-includes MP112/2S/SIP Gateway + Ext. Support + AWR. (Can only be purchased as a bundle which includes Enhanced Technical Support and Hardware Warranty Replacement. THERE IS NO OUT-OF-WARRANTY REPAIR available for this item. Unit must be in warranty to qualify for replacement coverage in case of defects. FYI will send a reminder to the dealer to reactivate the warranty for an additional year).
MP1142SOSIP-BDL	Bundles the MP114/2S/2O/SIP gateway + Audiocodes Enhanced Technical Support + Hardware Replacement Warranty.  MediaPack 114 Analog VoIP Gateway, 2 FXS, 2 FXO SIP Package including 2 FXO and 2 FXS analog lines, single 100/10 BaseT, AC power supply, including G.711/723.1/726/727/729AB Vocoders, SIP. (Can only be purchased as a bundle which includes Enhanced Technical Support and Hardware Warranty Replacement. THERE IS NO OUT-OF-WARRANTY REPAIR available for this item. Unit must be in warranty to qualify for replacement coverage in case of defects. FYI will send a reminder to the dealer to reactivate the warranty for an additional year).Bundle-includes MP114/2S/2O/SIP Gateway + Ext. Support + AWR
MP114/4SSIP-BDL	Bundles the MP114/4S/SIP gateway + Audiocodes Enhanced Technical Support + Hardware Replacement Warranty.  MediaPack 114 Analog VoIP Gateway, 4 FXS, SIP Package including 4 FXS analog lines, single 10/100 BaseT, AC power supply, life line support (requires additional life line cable), G.711/723.1/726/727/729AB Vocoders, SIP. (Can only be purchased as a bundle which includes Enhanced Technical Support and Hardware Warranty Replacement. THERE IS NO OUT-OF-WARRANTY REPAIR available for this item. Unit must be in warranty to qualify for replacement coverage in case of defects. FYI will send a reminder to the dealer to reactivate the warranty for an additional year).

Table 10 Audiocodes Part Numbers (continued)

MP1144OSIP-BDL	Bundles the MP114/4O/SIP gateway + Audiocodes Enhanced Technical Support + Hardware Replacement Warranty.  MediaPack 114 Analog VoIP Gateway, 4 FXO SIP Package including 4 FXO analog lines, single 10/100 BaseT, AC power supply, life line support (requires additional life line cable), G.711/723.1/726/727/729AB Vocoders, SIP. (Can only be purchased as a bundle which includes Enhanced Technical Support and Hardware Warranty Replacement. THERE IS NO OUT-OF-WARRANTY REPAIR available for this item. Unit must be in warranty to qualify for replacement coverage in case of defects. FYI will send a reminder to the dealer to reactivate the warranty for an additional year).
MP1184S4O-BDL	Bundles the MP118/4S/4O/SIP gateway + Audiocodes Ext. Technical Support + Advance Warranty Replacement.  MediaPack 118 Analog VoIP Gateway, 4 FXS, 4 FXO SIP Package including 4 FXO and 4 FXS analog lines, single 100/10 BaseT, AC power supply, including G.711/723.1/726/727/729AB Vocoders, SIP. (Can only be purchased as a bundle which includes Enhanced Technical Support and Hardware Warranty Replacement. THERE IS NO OUT-OF-WARRANTY REPAIR available for this item. Unit must be in warranty to qualify for replacement coverage in case of defects. FYI will send a reminder to the dealer to reactivate the warranty for an additional year).
MP1188SSIP-BDL	Bundles the MP118/8S/SIP gateway + Audiocodes Enhanced Technical Support + Hardware Replacement Warranty.  MediaPack 118 Analog VoIP Gateway, 8 FXS, SIP Package including 8 FXS analog lines, single 10/100 BaseT, AC power supply, life line support (requires additional life line cable), including G.711/723.1/726/727/729AB Vocoders, SIP. (Can only be purchased as a bundle which includes Enhanced Technical Support and Hardware Warranty Replacement. THERE IS NO OUT-OF-WARRANTY REPAIR available for this item. Unit must be in warranty to qualify for replacement coverage in case of defects. FYI will send a reminder to the dealer to reactivate the warranty for an additional year).
MP1188OSIP-BDL	Bundles the MP1188OSIP gateway + Audiocodes Enhanced Technical Support + Hardware Replacement Warranty.  MediaPack 118 Analog VoIP Gateway, 8 FXO, SIP Package including 8 FXO analog lines, single 10/100 BaseT, AC power supply, life line support (requires additional life line cable), including G.711/723.1/726/727/729AB Vocoders, SIP. (Can only be purchased as a bundle which includes Enhanced Technical Support and Hardware Warranty Replacement. THERE IS NO OUT-OF-WARRANTY REPAIR available for this item. Unit must be in warranty to qualify for replacement coverage in case of defects. FYI will send a reminder to the dealer to reactivate the warranty for an additional year).
M1K-D1-BDL	Bundles the M1K-D1 gateway + Audiocodes Enhanced Technical Support + Hardware Replacement Warranty.  Mediant 1000 VoIP Gateway, 1 E1/T1, SIP package including single module of 1 span E1/T1, dual 10/100BaseT Ethernet, and single AC power supply. Supports mixed configurations of Analog and Digital voice modules. Control protocol: SIP, including G.711/723 (Can only be purchased as a bundle which includes Enhanced Technical Support and Hardware Warranty Replacement. THERE IS NO OUT-OF-WARRANTY REPAIR available for this item. Unit must be in warranty to qualify for replacement coverage in case of defects. FYI will send a reminder to the dealer to reactivate the warranty for an additional year).

Table 10 Audiocodes Part Numbers (continued)

M1K-D2-BDL	Bundles the M1K-D1 gateway + Audiocodes Enhanced Technical Support + Hardware Replacement Warranty.  Mediant 1000 VoIP Gateway, 1 E1/T1, SIP package including single module of 1 span E1/T1, dual 10/100BaseT Ethernet, and single AC power supply. Supports mixed configurations of Analog and Digital voice modules. Control protocol: SIP, including G.711/723 (Can only be purchased as a bundle which includes Enhanced Technical Support and Hardware Warranty Replacement. THERE IS NO OUT-OF-WARRANTY REPAIR available for this item. Unit must be in warranty to qualify for replacement coverage in case of defects. FYI will send a reminder to the dealer to reactivate the warranty for an additional year).
M1K-D3-BDL	Bundles the M1K-D3 gateway + Audiocodes Enhanced Technical Support + Hardware Replacement Warranty.  Mediant 1000 VoIP Gateway, 4 E1/T1, SIP Package including single module of 4 spans E1/T1, dual 10/100BaseT Ethernet, and single AC power supply. Supports mixed configurations of Analog and Digital voice modules. Control protocol: SIP, including G.711/723.1/726/727/729AB Vocoders. (Can only be purchased as a bundle which includes Enhanced Technical Support and Hardware Warranty Replacement. THERE IS NO OUT-OF-WARRANTY REPAIR available for this item. Unit must be in warranty to qualify for replacement coverage in case of defects. FYI will send a reminder to the dealer to reactivate the warranty for an additional year).
M1K-D4-BDL	Bundles the M1K-D4 gateway + Audiocodes Enhanced Technical Support + Hardware Replacement Warranty.  Mediant 1000 VoIP Gateway, 1 Fractional Span SIP Package including a single module of 1 Fractional span E1/T1 (15 voice channels), dual 10/100BaseT Ethernet, and single AC power supply. Supports mixed configurations of Analog and Digital voice modules. Control protocol: SIP, including G.711/723.1/726/727/729AB Vocoders. (Can only be purchased as a bundle which includes Enhanced Technical Support and Hardware Warranty Replacement. THERE IS NO OUT-OF-WARRANTY REPAIR available for this item. Unit must be in warranty to qualify for replacement coverage in case of defects. FYI will send a reminder to the dealer to reactivate the warranty for an additional year).

# Warranty, Software Support and Upgrades

With IPedge we are introducing new programs for warranty and software support and upgrades. These programs are designed to carry on Toshiba traditions for quality and low total cost of ownership, while recognizing the expansion from the hardware-centric converged systems to software-centric, server-based unified communications platforms.

#### Warranty

IPedge servers include a standard 1 year limited warranty on hardware that includes advance replacement. This warranty can be extended for a period of 2 or 3 years. This warranty includes advanced replacement of equipment.

The IP5000-series telephones have a standard 2 year warranty which can be extended up to 7 years.

Refer to Toshiba's third-party warranty for third-party products.

#### **Software Support with Upgrade Service**

The purchase of a new IPedge system includes 1 year of software support with upgrades. This annually renewed program includes technical support, problem fixes, as well as minor and major software releases. The Software Support and Upgrade program should be renewed on an annual basis, if not renewed, a reinstatement fee of 25% will be applied. Please refer to the IPedge General Description for more details.

#### **Documentation**

Internet site FYI (http://fyi.tsd.toshiba.com) contains all current IPedge documentation and enables you to view, print and download current publications. On FYI, see IPedge > Documentation for:

- IPedge General Description
- IPedge Installation Manual
- IPedge Telephone, Messaging, and Call Manager User Guide
- IPedge Feature Description and Implementation
- IPedge IP5000-Series Telephone Quick Reference Card

## **Availability**

The IPedge is currently available. Dealer Sales and Technical Training and Certification is required to purchase the IPedge system(s).

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