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Strata CTX IP Frequently Asked Questions – Version 1

This is the first version of Frequently Asked Questions on Strata CTX IP. This will be published periodically and will include updated information as new questions come up.

Q: Does an IPT1020-SD support the same features as the DKT3000 series digital telephone?

A: The IPT1020-SD IP telephone supports almost all the same Strata CTX features as 3000 series digital telephones, extending the functionality of the Strata CTX to any location supported over an IP network. The only feature the IPT1020-SD telephone does not support is Speaker Off-Hook Call Announce, but it does support Off-Hook Call Announce over the handset.

Q: What IP protocol does the Strata CTX use?

A: The Strata CTX uses an industry standard IP communication protocol, RFC3015 Media Gateway Control (MEGACO+). Toshiba choose the MEGACO+ protocol for call control because it provides better stimulus response that makes the telephone work efficiently over the IP local area network or wide area network (LAN or WAN). In fact Toshiba uses an enhanced version of MEGACO+ that enables the Strata CTX to provide all the feature functionality of DKT3000-series telephones to IP telephone users much better than could be done using other protocols.

Q: Does the protocol matter?

A: Some manufacturers will want to argue which protocol is best to support telephony over IP networks. None of these manufacturers support all the IP protocol standards (MGCP/MEGACO, H.323, SCCP, and SIP). They will simply argue that whichever one they support is better than the others. The truth is, the breadth of IP telephone functionality is determined by what the manufacturer does with it, not the protocol format itself. The bottom line is that telephone functionality is what matters, not the IP protocol used to deliver the features.

Q: How many IP Telephones are supported on a Strata CTX100 and Strata CTX670?

A: The Strata CTX100 supports 72 IP Telephones and the Strata CTX670 supports 560 IP Telephones.

Q: How many IP Telephones are supported on the BIPU-M interface PCB?

A: The BIPU-M is a 16 port IP interface PCB and supports 16 IP Telephones.

Q: How is the IPT1020-SD powered?

A: The IPT1020-SD can be powered via the LAN using Power Over LAN products from PowerDsine or via local power. PowerDsine Power Over LAN products are purchased directly from PowerDsine.

Q: What is required to power the IPT1020-SD locally?

A: The AC adapter (model BADP120-1A) is supplied with every IPT1020-SD. As well, IPT1020-SDs do not use the CTX power supply, so there is no power restriction to limit the number of IP Telephones that can connect to an individual Strata CTX cabinet.

Q: What codecs are supported on the IPT1020-SD?

A: The IPT1020-SD contains two types of codecs: G.711 and G.729A. G.711 requires the most bandwidth and provides the best voice quality. G.729A requires less bandwidth, but it does not provide the best voice quality. The desired codec is selectable for each IP telephone.

Q: What type of network facilities are supported when connecting IP telephones remotely?

A: IPT remote connections can be enabled using DSL, cable, high speed T1, fibre and ATM. When using DSL or cable end to end QoS is not supported, as DSL and cable services use the Internet.

Q: How much bandwidth is required for an IP conversation (via QSIG or the IPT1020-SD)?

A: Excellent voice quality requires about 100kbps at G.711 per conversation. Good voice quality requires 22kbps at G.729A per conversation.

Q: Do all conversations need to be compressed?

A: Conversations do not need to be compressed. If there is enough bandwidth available on the network then you can use G.711 (which does not compress voice).

Q: Are there any distance limitations for a VoIP application?

A: There are really no distance limitations for a VoIP application. You can have a telephone system in Toronto connected to an IP telephone anywhere in the world. One thing to keep in mind is that an IP phone needs to be within 328 feet of a network switch/router due to CAT 5 cabling limitations.

Q: How is IP licensed? Are port licenses required for the IP sets? Are port licenses required for the IP QSIG application?

A: IP specifically does not require a license. IP QSIG requires the same licenses as PRI QSIG, a QSIG license and port licenses for the BIPU-Q (IP QSIG I/F). IP specific port licenses are not required for IP sets. The only license required is a port license for the IP phone.

Q: What network equipment (at the user's home) is required for the teleworking application?

A: The type of network equipment is dependant upon the type of network facilities that the user has in place. It is recommended to always use data equipment that provides QoS. However, typically a teleworker is using a broadband connection, either cable or home DSL. These types of connections are "Internet" based and do not provide end to end QoS. Using network equipment that provides QoS with an "Internet" connection will not offer true QoS, as the Internet is a public domain and not all equipment on the Internet offers QoS (your call will pass through equipment that does not support QoS thus eliminating the QoS capabilities on the teleworker network equipment). Given the high probability that the home connection will be "Internet" based broadband, a quality network router (Linksys, SMC, D-Link, NetGear, Cisco, 3Com, etc.) that supports NAT or VPN are recommended. ***Toshiba has used various Linksys, SMC, NetGear and D-Link routers in the teleworker broadband application.***

Q: What type of voice quality can be expected over a broadband Internet connection?

A: Voice quality over an Internet connection can be quite good. However, since the Internet is a public domain and not all connections on the Internet support QoS, business quality voice cannot be guaranteed a 100% of the time. Depending on the network conditions and data requirements, voice packets can be subject to delay, resulting in garbled voice or clipping.

Q: Can the IPT1020-SD be used while web surfing (downloading or uploading)?

A: Yes. The IP Telephone can be used while the teleworker is surfing the web. However, since in most home applications, QoS is not available, high bandwidth data transmission, ie downloading music can have a temporary effect on voice quality.

Q: Can the IPT1020-SD be portable? Can it be taken from location to location without any reprogramming?

A: For the IPT1020-SD to be portable the BIPU-M needs to be connected to a Global IP (a public internet address). For example, you can take the IPT1020-SD from your home office and plug it into a hotel room IP port, without any reprogramming (As long as the hotel has a DHCP server). The IPT1020-SD will retain all programming, LCR assignments and directory assignments and will be able to make and receive calls through the Strata CTX regardless if it is located at the home office or the hotel room.

Q: Is QoS/voice prioritization important?

A: In any telephone system, deploying many IP telephones on a data LAN can have some unexpected pitfalls if the network does not have the bandwidth and speed required to handle VoIP traffic. To prevent delay, jitter and data loss for VoIP traffic and retain the performance of your other business-critical network applications a Network Voice Readiness Assessment must be completed before installing VoIP.

More information about Voice Readiness Assessment can be found at <http://www.netiq.com/products/vm/whitepapers.asp>.

Q: How does the intercom numbering plan work in an IP QSIG application?

A: The numbering plan works the same in an IP QSIG application and a TDM (PRI) QSIG application. Coordinated dialing, centralized voice mail and attendant are all supported in an IP QSIG application.

Q: How does the intercom numbering plan work with the IPT1020-SD?

A: The IPT1020-SD is a direct extension off of the Strata CTX, similar to an OPX or an MCK Digital EXTender. The IPT1020-SD is a station port off of the Strata CTX.

Q: How are 911 calls handled on a remote IPT1020-SD or IP QSIG?

A: 911 calls on a remote IPT1020-SD will be processed through the main switch, thus 911 location information will be of the Strata CTX, not the IPT1020-SD. If a 911 call needs to be placed the call needs to be placed through a local telephone that has local lines terminated.

911 calls in an IP QSIG application will provide proper location information for the remote nodes as long as local lines are terminated in the remote nodes.

Q: What version of software is required to support the IPT1020-SD and IP QSIG on the Strata CTX?

A: Release 2.1 software is required on the Strata CTX. CTX100 and CTX670 processors are upgradeable to Release 2.1 or later with a simple upgrade procedure.

Q: Does any hardware in the Strata CTX, other than the processors, need to be upgraded to support the IPT1020-SD and IP QSIG?

A: To provide optimum voice quality of IP telephones on Strata CTX systems, there are some compatibility requirements that need to be followed when using analog CO line cards in the system. Toshiba recommends only using RCOU3A, RCOS3A, REMU2A (available soon), REMU1C (fourwire), RDDU2A, and RGLU3A (available soon) analog CO line interfaces in IP telephone applications. These PCBs provide optimum speech quality for IPT1020-SD IP telephone connections.

Do not use RCOU1A, RCOS1A, REMU1C (two-wire), RDDU1A, RGLU1A, or RGLU2A analog CO line interfaces in IP telephone applications. These PCBs will work but will cause IP telephone users to experience unacceptable voice quality and echo return loss.

Q: How much time is required to install IP?

A: Installation time is dependant upon the ability of the installing dealer/technician with data networks. Most network routers/switches provide plug and play options that expedite installation.

Q: Is a VPN connection required?

A: If a BIPU has been given a Public (Global) IP then the network may not require a VPN. A global IP address is accessible from any computer. It is like Toshiba's web site address, which is a public IP address that can be accessed from any computer. If the BIPU is on a public IP address then a VPN is not required. If the BIPU has been given a Private IP address then the network will require a VPN (A VPN is a utility that provides remote network devices with access to devices located on private networks).

Q: When does it make sense to propose the IP QSIG application versus IP Telephones?

A: The IP QSIG application should be proposed if the customer requires:

- External Paging
- Door Phones
- Fax Machines/SLT integration
- Local Lines – Remote Location is Long Distance
- Local Lines – Remote Location dials or receives local calls