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IP Softphone V5.0 / Communication Assistant V6.0

- Summary -

Rev1.0 NOV. 2020

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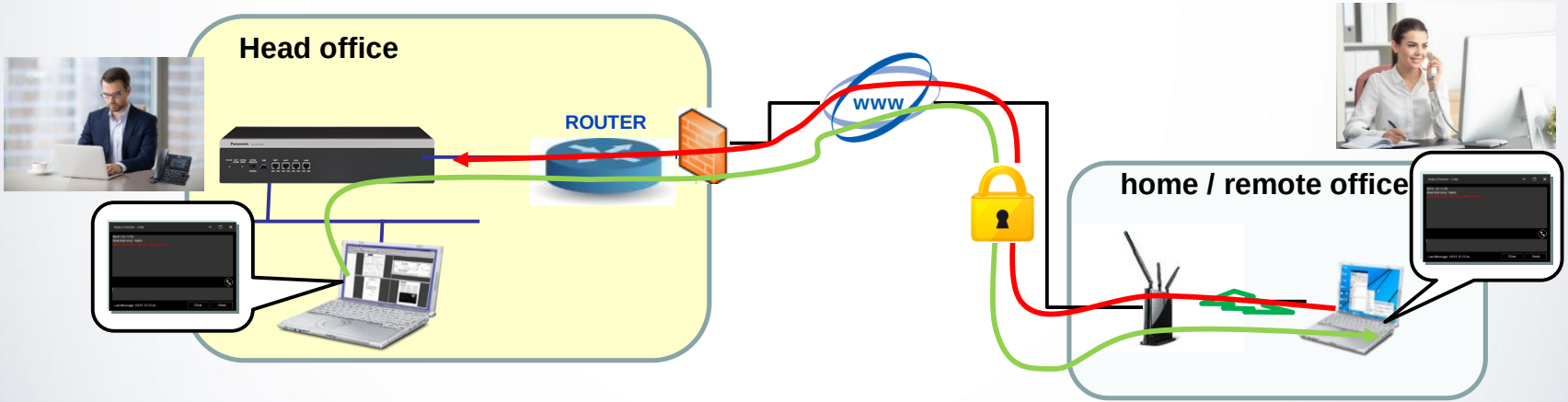
Contents

CA V6 / IP Softphone V5 – Remote Working

Following improvements made to CA and IP softphone for PC:
- **TLS encrypted communication with remote CA clients and IP Softphone (VPN-less)**
- **SRTP Encrypted VoIP with remote IP Softphone.**
- **CA Chat over remote connection without VPN (via PBX)**



Also available from CA V5.1 / IP Softphone V4.3:
- **First/Second PBX IP Address configuration**
- **FQDN PBX IP Address configuration**

TLS / SRTP / Remote Chat

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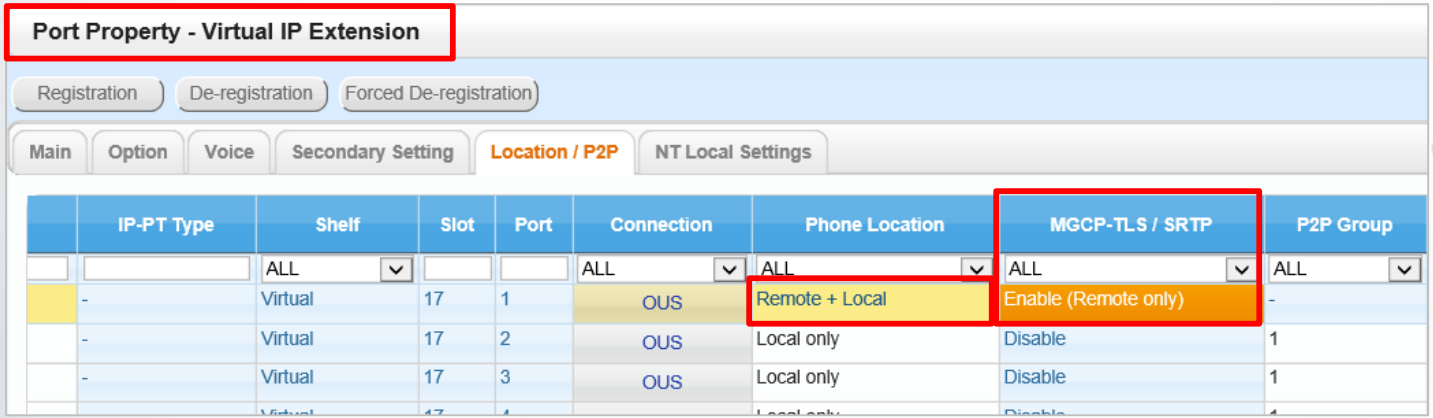
IP Softphone V5 – TLS/SRTP

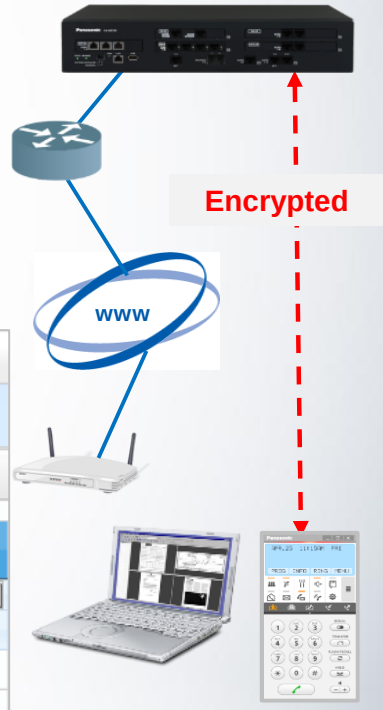
IP Softphone V5 MGCP-TLS/SRTP

- **No additional set up required for IP Softphone MGCP-TLS/SRTP operation.**
- **Configuration as per NT6 series MGCP-TLS/SRTP MRG connection.**
- **Set the IP-PT Extension Ports > Location > Phone Location to Remote + Local for all remote extension devices.**

Set MGCP-TLS/SRTP to Enable for encrypted communication, if required .

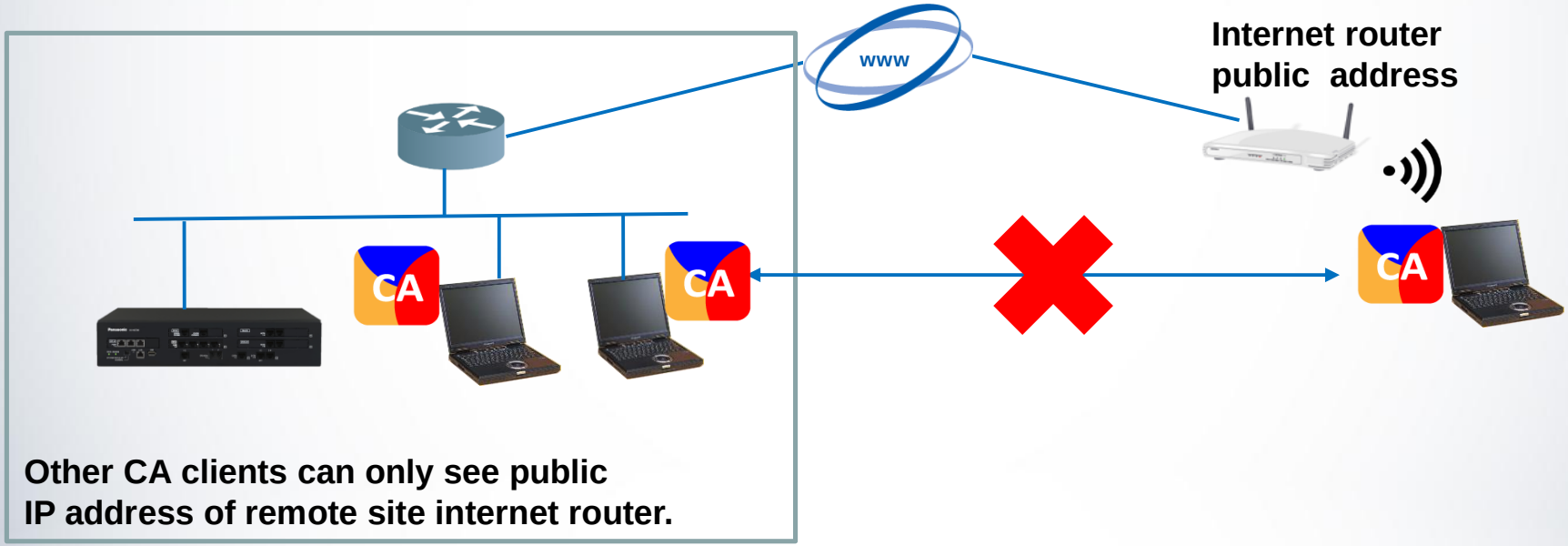


	IP-PT Type	Shelf	Slot	Port	Connection	Phone Location	MGCP-TLS / SRTP	P2P Group
		ALL			ALL	ALL	ALL	ALL
	-	Virtual	17	1	OUS	Remote + Local	Enable (Remote only)	-
	-	Virtual	17	2	OUS	Local only	Disable	1
	-	Virtual	17	3	OUS	Local only	Disable	1



Communication Assistant – Remote Chat

Prior to CA V6.0, Chat is Peer to Peer between CA clients. Consequently, CA client in remote locations (without VPN) cannot send Chat message to other CA clients.



CA V6 – TLS/Remote Chat

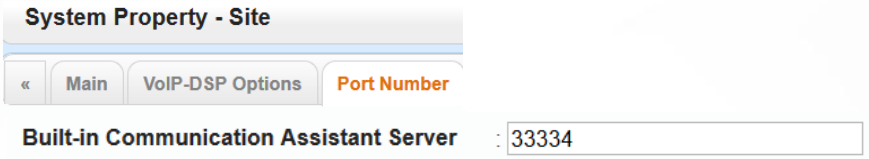
TLS mode and Remote Chat support are controlled by Reserved Bit "23-6"

(Sales company mode login is required to change the setting).

Reserved Bit	Default	Specification when the bit is enabled
23-6	Enabled *	• TLS applied to Panasonic CA. Chat also works via PBX instead of P2P for remote users without VPN. • CA client must be version 6.0 or later • Only supported with CA client direct PBX connection (CA clients connecting to CA Server software do not support TLS or VPN-less Chat) (NOTE: external CA Server software not supported on NSV/NSX)

If existing PBX is upgraded, reserved bit 23-6 will be "Disabled". If initialized at then default is "Enabled" (Applies to NS v8.3, NSX v5.3 and NSV v4.21)

Built-in CA Server port number needs to be configured for port forwarding/open port at PBX side router/firewall.



There is no other special additional configuration required for CA over TLS connection.

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CA V6 – TLS/Remote Chat

CA V6 client must also be installed for these features to be supported and operate correctly.

PBX Firmware Version	CA Client Version	Specifications
NS V8.2x NSX V5.2 NSV V4.2 (or earlier)	V6.x (or later)	CA works but no encryption or remote chat feature
Existing/configured system, updated to: NS V8.3x NSX V5.3 NSV V4.21 (or later)	V6.x (or later)	
New or initialized system with: NS V8.3x NSX V5.3 NSV V4.21 (or later) **Or Manually Enable Bit 23-6**	V6.x (or later)	CA with TLS encryption and remote CHAT feature supported

PBX IP Address settings

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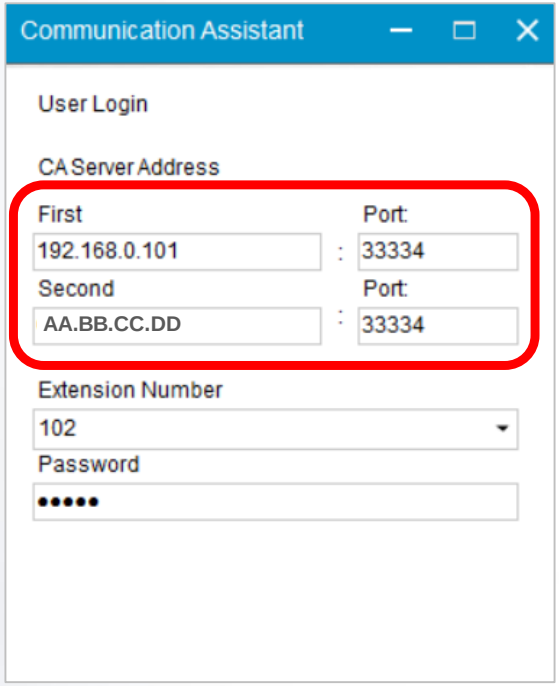
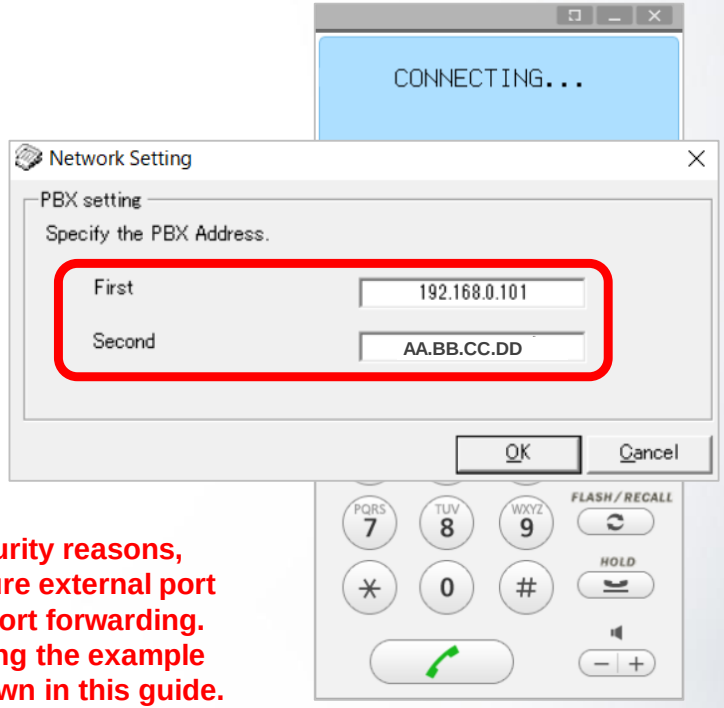
PBX IP Address Settings

Client supports First/Second or Local/Remote PBX IP Address.





NOTE: For security reasons, always use obscure external port numbers when port forwarding. Please avoid using the example port numbers shown in this guide.

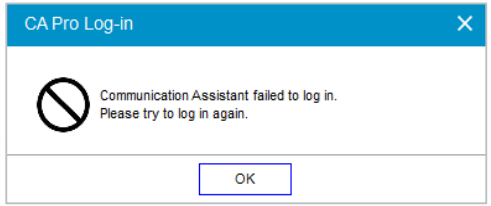
Communication Assistant **IP Softphone**

PBX IP Address Settings

CA client connection behaviour

Status	Communication Assistant
Starting up	First -> Second
Re-connecting	

If client fails to connect to “First” address after retry 3 times (4, 8, 15 sec after first attempt) then client attempts connection to “Second” address.
If both “First” and “Second” connection fails, error message is displayed:



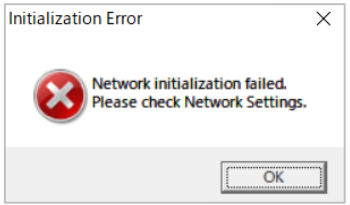
Number of retry attempts and retry interval are fixed.
“First -> Second” process occurs only once, it is not repeated.

PBX IP Address Settings

IP Softphone connection behaviour

Status	IP Softphone
Starting up	First -> Second
Re-connecting	

If client fails to connect to “First” address after retries then client attempts connection to “Second” address.
If both “First” and “Second” fail, error message displayed:



Number of retry attempt can be changed by parameter setting “parameters.txt” file in installation folder.

```
01
:
:
22   6   - Quantity of packet resend messages to First IP address
23   6   - Quantity of packet resend messages to Second IP address
```

Values can be changed

Resend message interval is preset to: 0.5s → 1s → 2s → 4s → 8s → 8s (repeated 8s interval)
E.g. if “quantity of packets” is set to “4” then resend message occurs at 0.5s → 1s → 2s → 4s before “fail to connect”.

Retry interval is pre-defined and not possible to change.
“First -> Second” process occurs only once, it is not repeated.

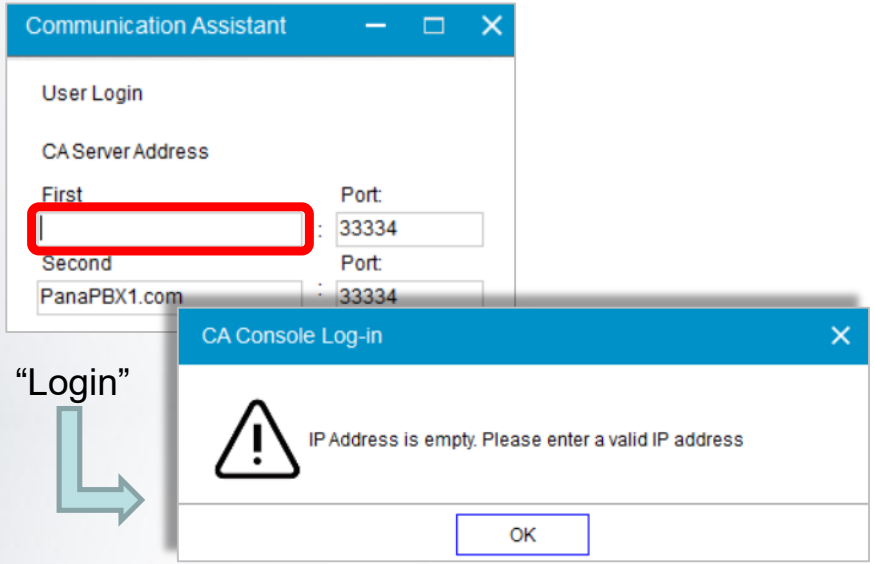
PBX IP Address Settings

Programming tip

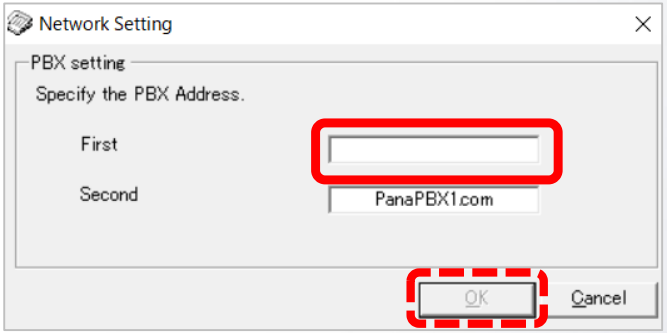
First address field cannot be empty

If the “First” address is empty:

- CA - Login button can be pressed, but error message is shown
- IP Softphone - OK button is greyed-out/disabled.



“Login”



“OK” button disabled

PBX IP Address Settings - Conditions

Connection behavior is applied to application launching (starting up) and re-connecting.

Re-connection occurs in the following situations:

- “PBX connection is disconnected”
- “Return from PC sleep mode”
- “Change from Wired LAN to Wi-Fi”, etc.

CA / IP Softphone client will always attempt to connect to “First” IP address if available, so recommended IP address settings are:

- For office workers:	First: Local PBX address	Second: Router WAN address
- For remote workers:	First: Router WAN address	Second: Local PBX address

NOTE: For security reasons, always use obscure external port numbers when port forwarding. Please avoid using the example port numbers shown in this guide.

FQDN Support

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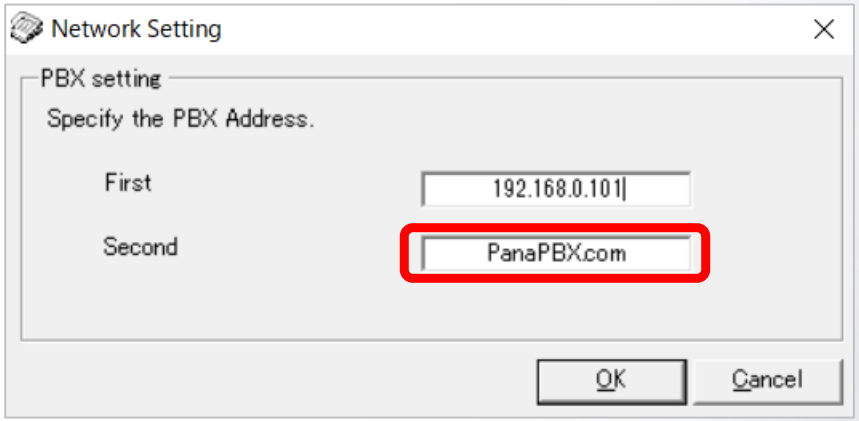
FQDN Support

FQDN (Fully Qualified Domain Name) is supported for PBX address setting.
Domain name should be registered in public and valid DNS setting is required for address resolution.

Communication Assistant

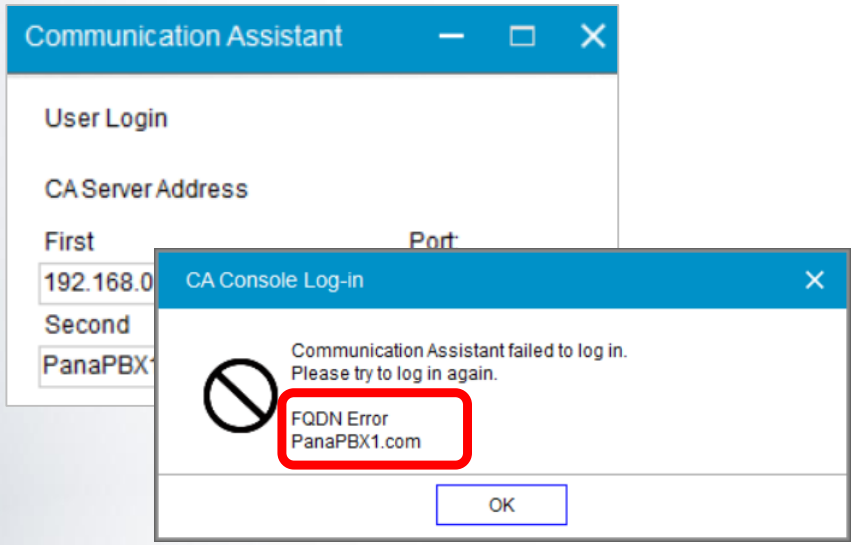
FQDN can be used for both First and Second.



IP Softphone

FQDN Support - Conditions

When “FQDN” is entered, client application will attempt to resolve the domain name to IP address. If the DNS lookup fails, an error message is displayed and client returns to login screen (CA) / connection screen (IP Softphone), even if correct IP address or domain name is set in the other address field.



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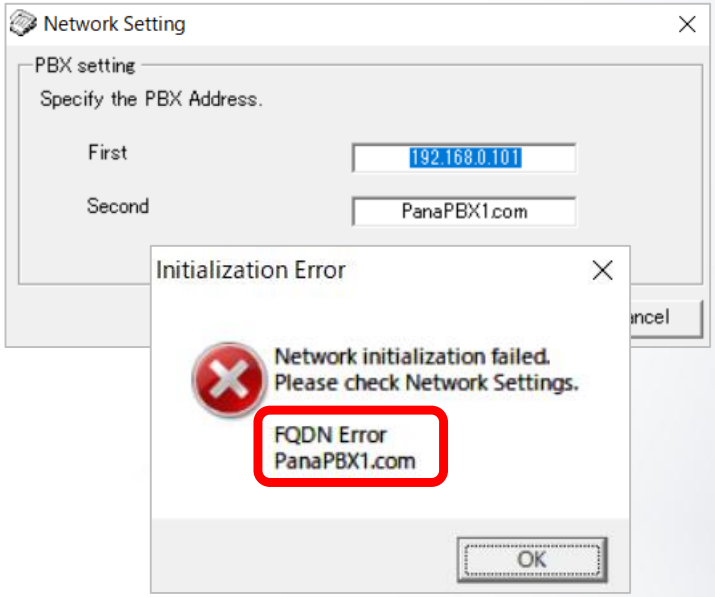

IP Softphone

Appendix

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Fixing known network related issue (IP Softphone)

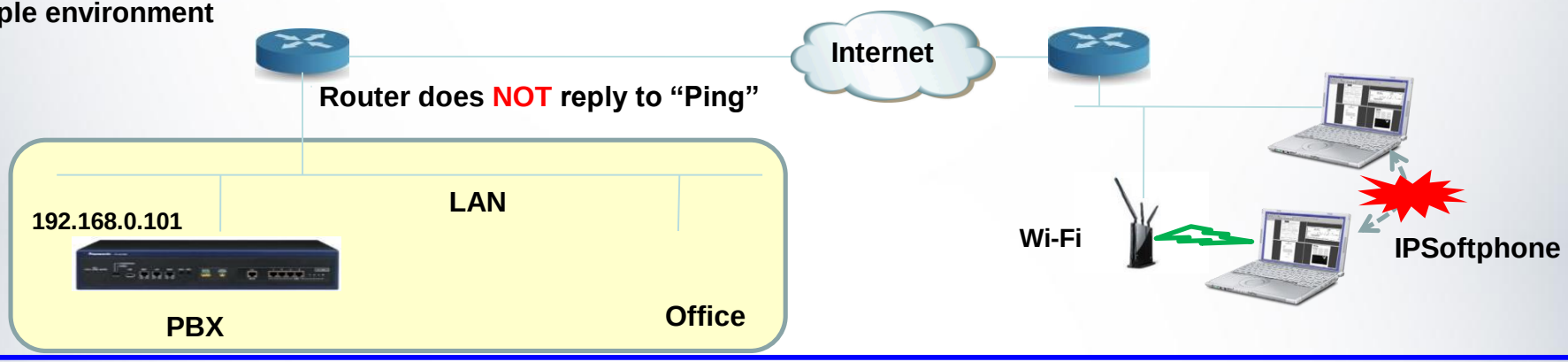
This version of IP Softphone also includes the resolution for the following known issue:

IP Softphone is connected through MRG and edge router at PBX side doesn't reply to PING, then in some cases (e.g. initiating / disconnecting call) Softphone doesn't respond/freezes for a certain period (PING response timeout: about 20sec).
IP Softphone use PING response as quality indication of communication with PBX (this indication is only used in PT GUI mode. PING is also used to check communication recovery after disconnection.

Countermeasure:

- PING not used for communication recovery check - application layer protocol used instead.
- Disable PING in IP Softphone client as default setting.
- Change PING timeout from 20sec to 1 sec.

Sample environment



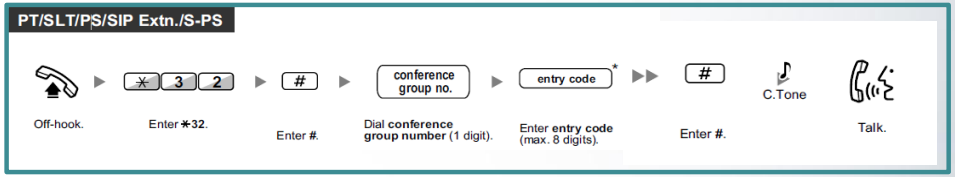
Communication Assistant – known issue 1

Conference Group feature – “Join” doesn’t work when using TLS mode.

Condition : TLS connection mode, regardless of clients location (remote/local).
or Non-TLS remote connection (without VPN).

Phenomenon : When CA client user attempts to join existing Conference Group call by pressing “Join” button, error message is displayed and fails to join.

When user needs to join to existing conference, call in with entry code from extension (->).
Or, call in via trunk (through DISA).



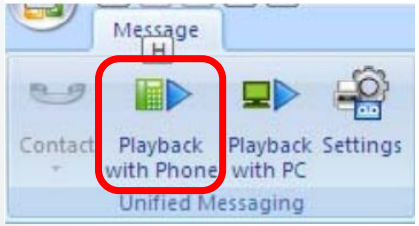
Communication Assistant – known issue 2

CA Outlook toolbar for UM (IMAP integration) - UM message "Playback with Phone" doesn't work correctly

Condition : Remote connection (without VPN).

Phenomenon : CA client user attempts to playback UM message by pressing "Playback with Phone" button in outlook toolbar for UM, error message is displayed and fails. Playback with PC works correctly.

Voice message attached



Error message is displayed.
"Call connection failed. Call connection timeout."

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