ST20XX SIP
New Features
# (SG vx.68.5)

Contents

1 Overview

This document describes a set of new features included in ST2030 and S2022 SIP V2.68.5 and 4.68.5 respectively in order to improve their usability in different environments.

2 Hua Wei SoftSwitch

Starting with this new release, ST20xx have implement Softswitch (Hua Wei SoftX3000 V300R006) PSTN call handling including call waiting and switching.

Flow descriptions:

Below is to list out a flow which shows PSTN 1 call to IP phone B in conversation, then PSTN 2 call to IP phone B.

Server	Phone B
INVITE (with SDP1) →	
← 100 Trying	
← 180 Ringing	
← 200 OK (with SDP1)	
ACK →	PSTN1 and phone B are in conversation
INFO →	INFO: tone-type, duration, gap, times
← 200 OK	Phone will play the beep sound
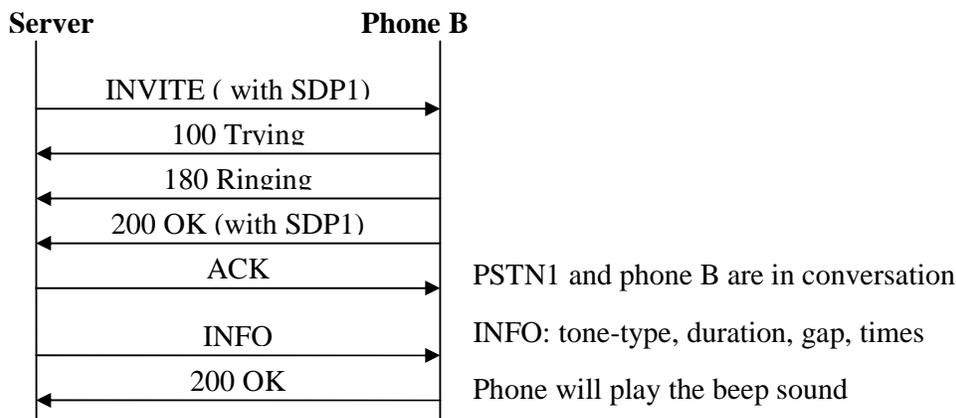
[**Answer**] and [**Reject**] softkey displays on the screen.

ST2030s (Phone B)

Date	Hour	Icons
01 PSTN Call		
Answer	**Reject**	

ST2022s (Phone B)

01		
Answer	**Reject**	

Server	Phone B
← INFO	Press [Answer] to take the PSTN 2 call.
200 OK →	INFO: flashhook when press [Answer]
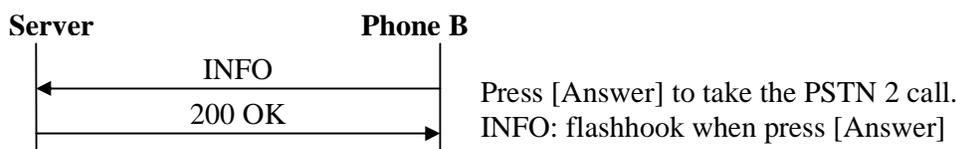
Remark: Go back to previous screen when [**Reject**] is pressed.

```
    Server              Phone B

              INVITE (no SDP)
        ├─────────────────────────►
              200 OK (with SDP)
        ◄─────────────────────────┤
              ACK (with SDP)              PSTN1 is on hold and B stops the call waiting tone
        ├─────────────────────────►

                  INFO                     INFO: tone-type, duration, gap, times
        ├─────────────────────────►
                 200 OK
        ◄─────────────────────────┤

                  INFO                     Phone sends INFO to take the call, INFO: digit =2
        ◄─────────────────────────┤
                 200 OK
        ├─────────────────────────►

           INVITE (with SDP2)
        ├─────────────────────────►
              100 Trying
        ◄─────────────────────────┤
           200 OK (with SDP2)              Phone is able to talk with PSTN 2
        ◄─────────────────────────┤
```
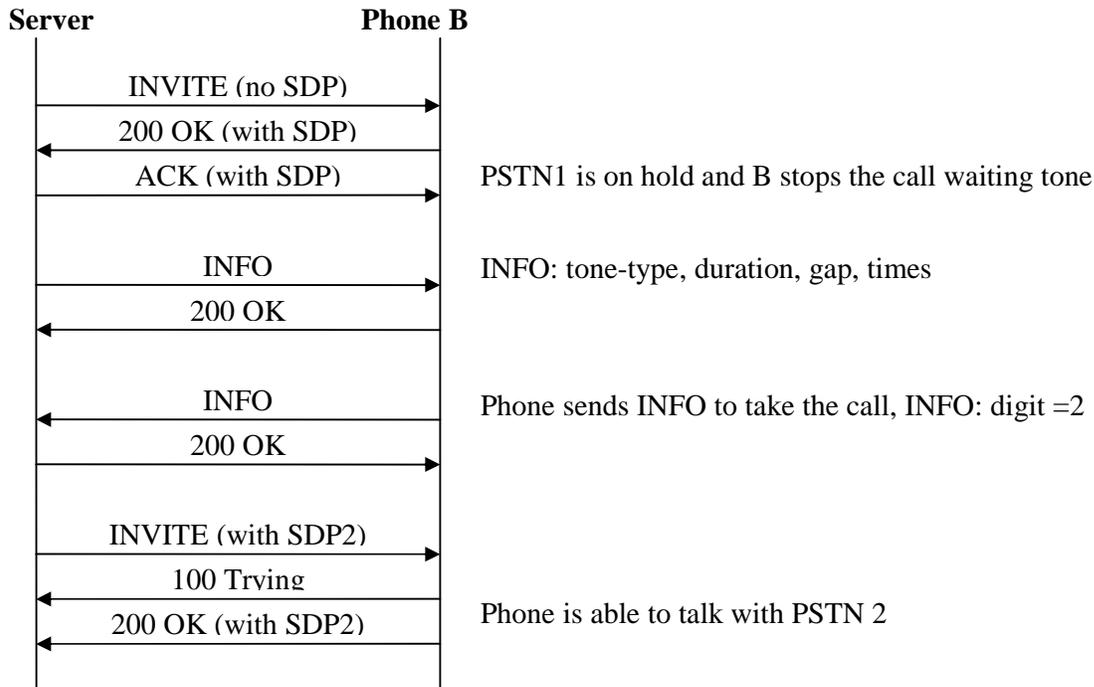
ST2030s (Phone B)

Date	Hour	Icons
01 PSTN Call/phone number		
Taking	Duration	
Hold	**Switch**	**Conf**

ST2022s (Phone B)

01 PSTN Call/phone number		
Talking	Duration	
Hold	**Switch**	**Conf**

Remark: Pressing [**Hold**], [**Conf**] and [**Transfer**] will keep the same as current implementation.

Switch implementation
Requirement
-      [**Switch**] softkey is required to caller parties to switch between caller during conversation

Below is to list out a flow which shows IP Phone B call to IP phone A in conversation, then PSTN 1 call to IP phone B. B and PSTN 1 are in conversation. Phone B presses [**Switch**] back to phone A and start conversation.

Flow descriptions:
Phone A ◄ ► Phone B, operate in normal SIP protocol
PSTN 1 ➔ phone B, call waiting tone is played, same as the call waiting flow above ➔ call activated
Phone B presses [**Switch**] to talk back with phone A

(PSTN 1 and Phone B are in conversation)

ST2030s (Phone B)   ST2022s (Phone B)

Date	Hour	Icons
01 PSTN Call/phone number		
Taking		Duration
Hold	**Switch**	**Conf**

Transf >

01 PSTN Call/phone number		
Talking		Duration
Hold	**Switch**	**Conf**

Transf >

When [**Switch**] is pressed, switching is processed.

Server   **Phone B**

| INFO → (Server ← Phone B) | Phone B press [Switch] to start switching to other party |
| 200 OK → (Phone B → Server) | INFO: flashhook |

INVITE (no SDP) → (Server → Phone B)	PSTN1 is on hold and B stops the call waiting tone
200 OK (with SDP) ←	
ACK →	
INFO ←	INFO: Tone-type=specialdial, dial-timer=0
200 OK →	
INFO ←	Phone send "2" to enable the take the call,
200 OK →	INFO: digit =2

Phone A   **Server**   **Phone B**

INVITE (with SDP2) ←		*Server invites phone A*
200 OK (with SDP2) →		
ACK ←		
	INVITE (with SDP2) →	*Server invites phone B*
	200 OK (with SDP2) ←	
	ACK →	
BYE →		Phone A hang up the call
200 OK ←		
	INFO →	*INFO: tone-type=busy*
		Phone B know that the waiting
	200 OK ←	phone is hang up and the
		[Switch] soft key should be
		changed back to [Transf]

ST2030s (Phone B)

Date	Hour	Icons
01 PSTN Call/phone number		
Taking		Duration
Hold	**Transf**	**Conf**

ST2022s (Phone B)

01 PSTN Call/phone number		
Talking		Duration
Hold	**Transf**	**Conf**

2.1 Feature Activation

A. Via APS

APS in [sys] section of both Common and Specific-MAC config files with the new parameter – **MGC_service**.

MGC_service = **0** disable (default)
MGC_service = **1** Hua Wei Softswitch PSTN handling

```
[sys]
…
MGC_service=0                                    // Disable (default)
…
```

B. Via Telnet

To configure, open a command line console, and telnet the phone:

Example:
1. MGC_service is set to disable (**sys set mgc_service 0**)

```
[administrator]# sys set mgc_service 0
[OK] Set OK

[administrator]#
```

2. MGC_service is set to Hua Wei Softswitch PSTN handling (sys set mgc_service 1)

```
[administrator]# sys set mgc_service 1
[OK] Set OK

[administrator]#
```

Then type **commit** and then **activate** to apply the change.

3 Config without reload

Starting from this version changing config/setting in SIP Signalling, Option Configure, Call feature and Advanced Web page, ST20XX do not need to reboot.
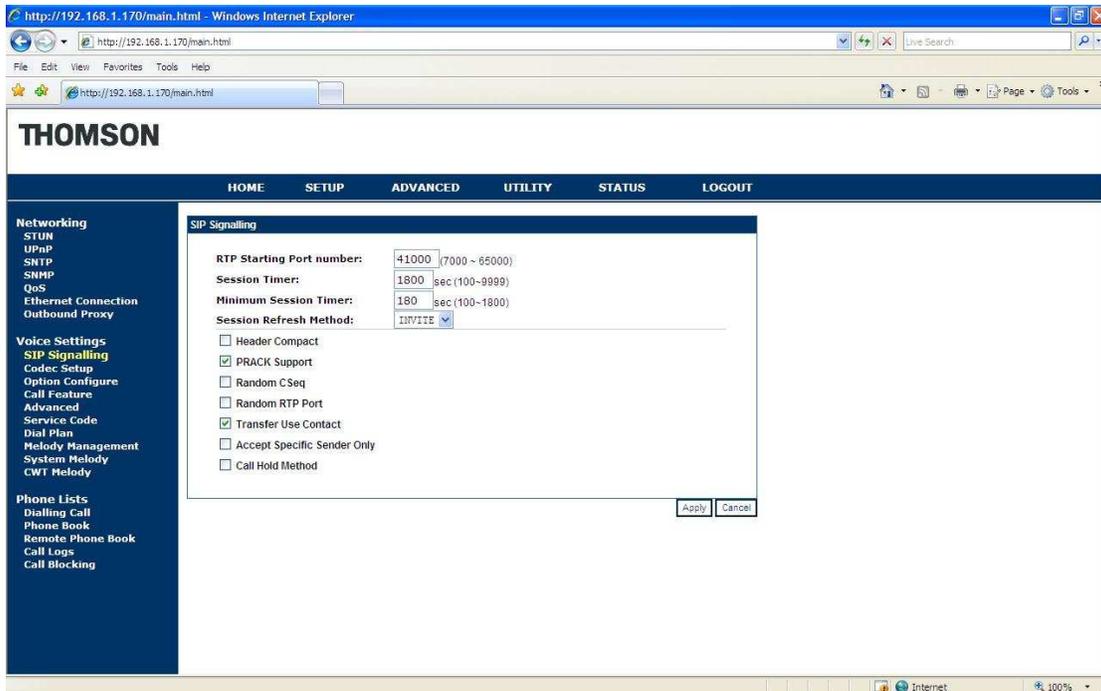
Except "RTP Starting Port Number" and "Minimum Session Timer", all parameter changed in SIP Signalling page are configured without reload.
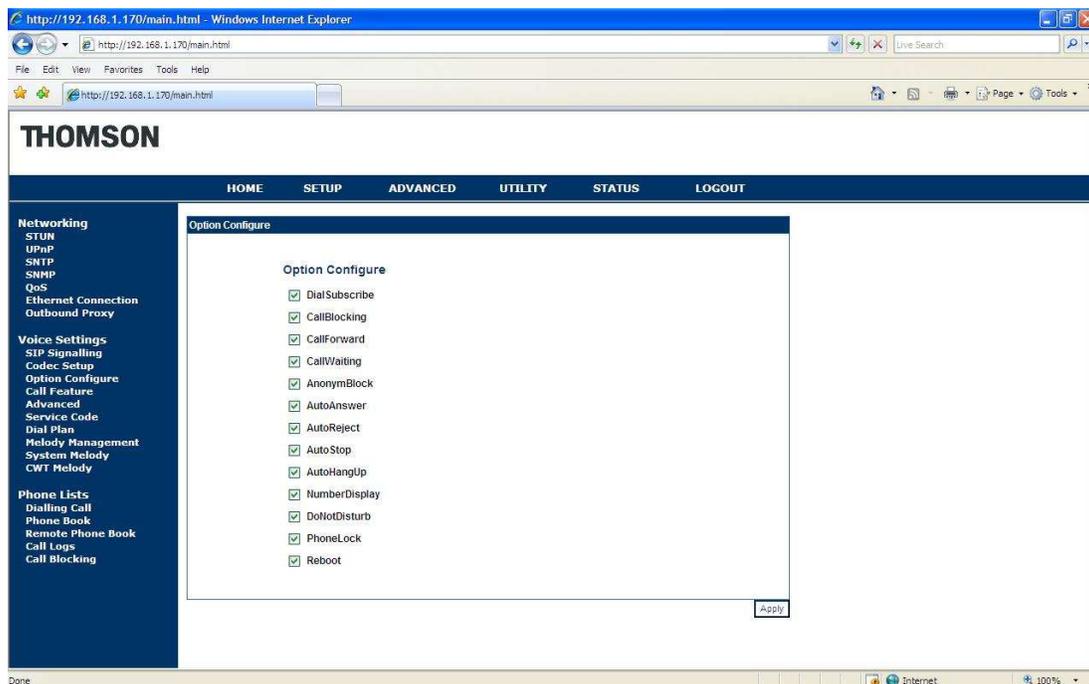
All parameters changed in Option Configure page are configured without reload.
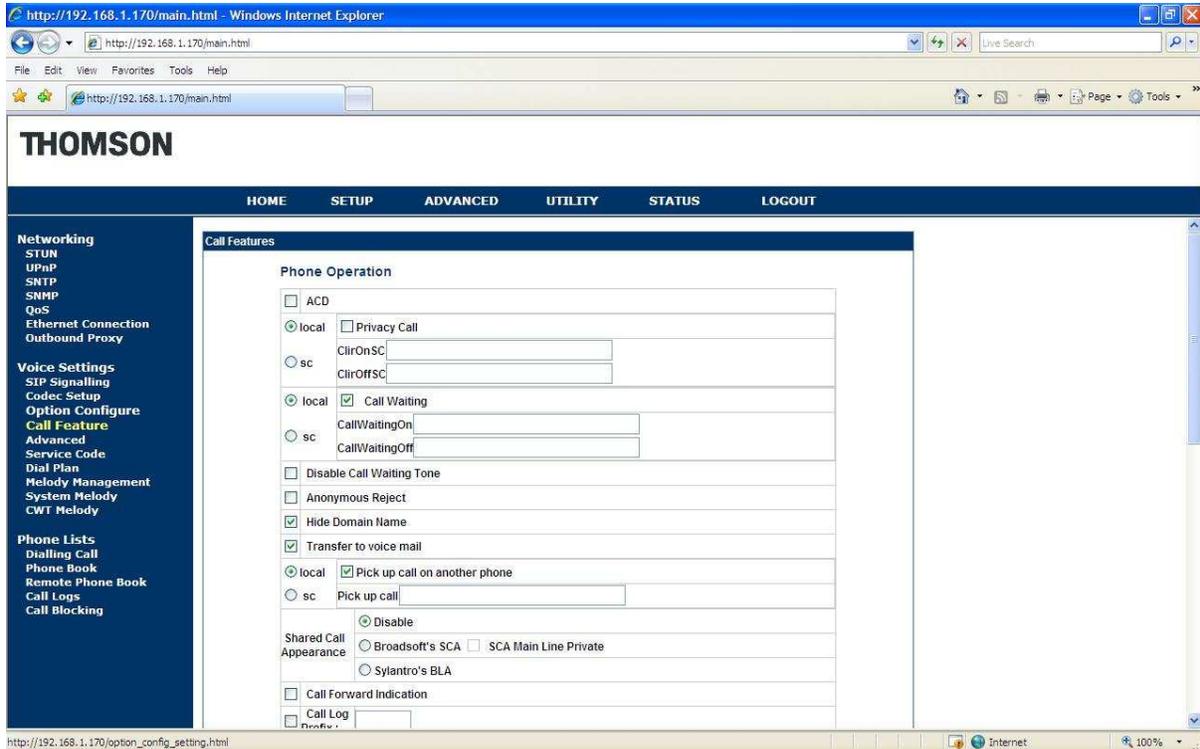
Except "ACD", "Shared Call Appearance", "Conference Mode", "Start Spare FK" and "BLF Type", all parameters changed in Call Features page are configured without reload.
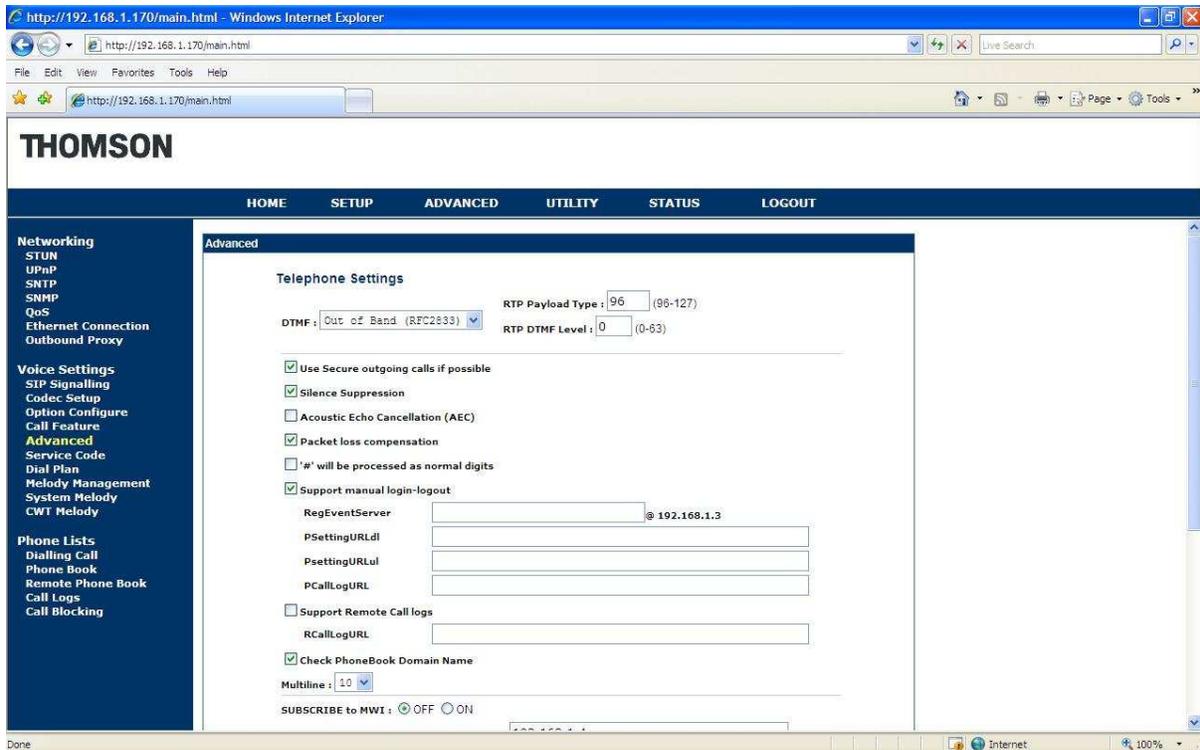
Apart from "Use Secure outgoing calls if possible", "Silence Suppression", "Acoustic Echo Cancellation (AEC)", "Packet Loss Compensation", all parameters changed in Advance page are configured without reload.

4 CCBS Enable/Disable

A new parameter is added for CallBack feature. This parameter is configurable in common config file and telnet.

auto_cb = 0/1

// 1: Enable CallBack feature

Date	Hour	Icons
	Remote Unavailable!	
	XXXXXXXX	
CBack		**Back**

// 0: Disable CallBack feature

Date	Hour	Icons
	Remote Unavailable!	
	XXXXXXXX	
		Back

The default value is 1.

C. *Via APS*

APS in [ipp] section of both Common and Specific-MAC config files with the new parameter – **auto_cb**.

```
 [ipp]
…
auto_cb=1                                    // Enable (default)
…
```

D. *Via Telnet*

To configure, open a command line console, and telnet the phone:

Example:
1. Auto_cb is set to enable (**lcdui set auto_cb 1**)

```
[administrator]# lcdui set auto_cb 1
LcdUi Set Command OK!

[administrator]#
```

2. Auto_cb is set to disable. (**lcdui set auto_cb 0**)

```
[administrator]# lcdui set auto_cb 0
LcdUi Set Command OK!

[administrator]#
```

Then type **commit** and then **activate** to apply the change.

End of document