

Information Note

FXS Call Waiting



When a second call is sent to an FXS interface on the Vega, instead of the call being rejected with a called party 'busy' indication, by enabling the FXS Call Waiting supplementary service the caller can be placed on hold, and the called party notified of the new call. By pressing hookflash (recall) the called party can switch between the original caller and the new caller.

Further presses of hookflash allow the called party to switch between parties and also a command mode where callers can for example be cleared, or callers can be conferenced together.

Vega configuration


On the web browser:

1. Create appropriate dial plans.
 - dial plans are needed to route incoming calls to the appropriate telephony interfaces

N.B. For call waiting to operate on calls connected between telephone interfaces on the same Vega, dial plans to route calls from one telephony interface on the Vega to another telephony interface on the same Vega must not route calls directly between the interfaces, but must route calls via the SIP interface (routing the call to the Vega's own IP address) – the Supplementary Service handling code is built into the SIP handler, hence "within unit" calls must be routed via the SIP handler.

2. In the Supp. Services page
 - select Enable
 - select Call Waiting enable
3. In each POTS > Port Configuration page
 - ensure that Call Waiting is selected as 'on'
4. in the POTS, Advanced POTS, General Configuration section
 - Poll Timer = 15
5. in the POTS, Advanced POTS, FXS Configuration, Hardware Profile Configuration section
 - Hookflash Debounce Time = 30
 - Hookflash Time = 500

6. In the Advanced, Advanced Media page
- un check Direct TDM Enable

 WARNING!	Disable Call Waiting on FXS ports to which you are going to connect fax machines or modems. The receipt of a call waiting beep during a fax or modem transfer will adversely affect that fax / modem call.
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Calling party experience

When calling a person who is already on the phone, instead of hearing busy tone the calling party will hear ringback tone.

Note: If a third person tries to call a person on the phone then they will receive busy tone; only 1 person can be waiting for the called party at any one time.

When the called party selects to speak to this party they can carry out normal conversations, if put on hold, then they will hear silence.

Called party experience

Whilst talking on the phone, if a second call arrives a call waiting 'beep' will be heard by the person being called.

By pressing recall the called party can switch to speaking to the waiting party.

Subsequent presses of recall will cycle through the following sequence.

- Press recall
- 'stuttered dial tone' indicates you are in command mode
- Press recall
- talk to the original party
- Press recall
- 'stuttered dial tone' indicates you are in command mode
- Press recall
- talk to the call waiting caller

During command mode press * 5 2 (the Call Clear Code) to clear down the party you were last connected to.

During command mode press * 9 9 (the Consultative Transfer Code) to connect the other 2 parties together and drop yourself out of the call.

If you have spoken to both parties and you clear down then both party's will also clear.

If you have a call waiting that you have not connected to and you clear down, as soon as the handset is put down it will start ringing to indicate that there is a call to be answered.

Annex 1

Supplementary service profile parameters

Supplementary Services Profiles	
Supplementary Services Profile 1	
Recall	!
Transfer On Hangup	<input checked="" type="checkbox"/>
Call Waiting	<input checked="" type="checkbox"/>
Dial Timeout (seconds)	10
Dial Termination Digit(s)	#
Blind Transfer Code	*98*
Consultative Transfer Code	*99
Call Cycle Code	!
Call Clear Code	*52

Call Waiting - when checked, this means that Call Waiting is enabled

When in command mode the following parameters are also applicable:

Supplementary Services Profiles	
Supplementary Services Profile 1	
Recall	!
Transfer On Hangup	<input checked="" type="checkbox"/>
Call Waiting	<input checked="" type="checkbox"/>
Dial Timeout (seconds)	10
Dial Termination Digit(s)	#
Blind Transfer Code	*98*
Consultative Transfer Code	*99
Call Cycle Code	!
Call Clear Code	*52

- Dial Timeout (seconds) - time to wait after DTMF entry to see if another DTMF character is to be keyed. After the timeout expires the received DTMF characters are processed
- Dial Termination Digit(s) - key (or key sequence) that indicates DTMF input is complete – this avoids having to wait for the Dial Timeout to expire
- Consultative Transfer Code - key sequence to press when in command mode to join the other two parties together.
- Call Cycle Code - never change this, this indicates that hookflash swaps the transferor between command mode and the call(s) on hold
- Call Clear Code - use this key sequence in command mode to clear the party last spoken to

Annex 2

POTS > Port Configuration

POTS > Port 1

Modify Port	
Port ID	1
Enable	<input checked="" type="checkbox"/>
Layer1	g711Alaw64k ▾
Caller ID	on ▾
Call Waiting	on ▾
FXS	1
TX Gain	0 ▾
Hardware Profile	1

For all FXS POTS interfaces that are to support Call Waiting, ensure that in the **Modify Port** section Call Waiting is configured as 'on'.

Annex 3

Debug to see operation of call waiting

On a command line interface enter the following debug commands:

- debug enable _pots it234
- debug enable _pots *suppserv
- debug enable _def 4
- debug enable router rs
- debug on
- sip monitor on

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