

Initial configuration

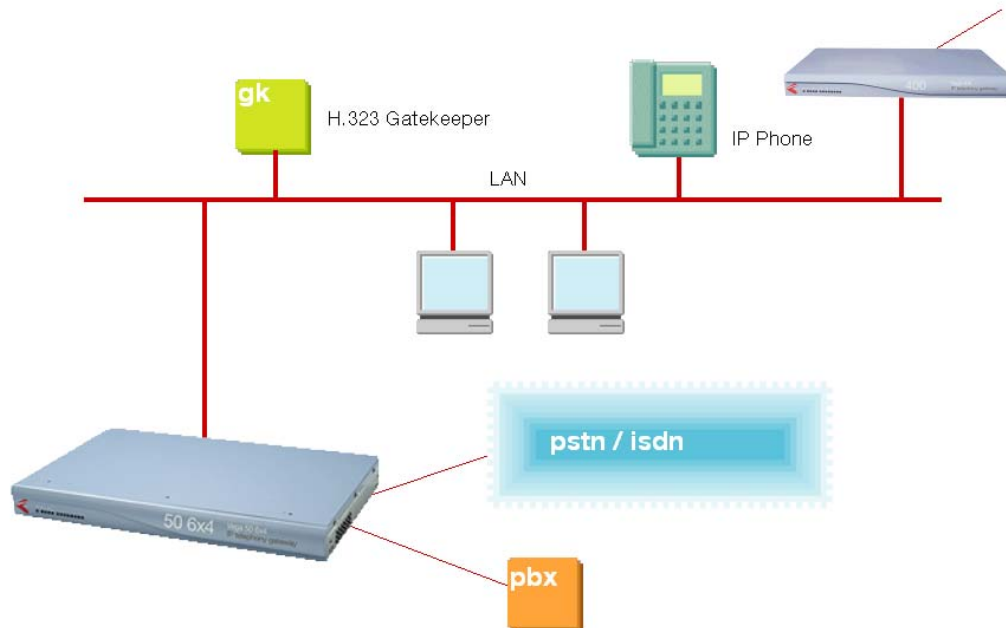
Vega 50 6x4 BRI (H.323) – R8.0



This document describes how to configure the BRI ports on a Vega 50 6x4 gateway, using the web browser interface. The configuration described will allow the Vega to be rapidly installed and tested.

The instructions below will configure the Vega 50 6x4 to operate as follows:

- Calls made from the PBX or PSTN to the Vega will be forwarded using the gatekeeper. The telephone number passed to the Vega will be forwarded unchanged to the gatekeeper.
- Calls made from the gatekeeper to the Vega will be forwarded to the PSTN or to the PBX based on the leading two digits of the telephone number passed. A leading 0301 or 0303 will cause the call to be routed to the PSTN, and a leading 0302 or 0304 will cause the call to be routed to the PBX. The digits following the first four digits (0301 / 0302 / 0303 / 0304) will be passed as the dialed digits.



Although the Vega 50 6x4 supports two LAN interfaces, in this example configuration, only one LAN interface, LAN 1, will be used.

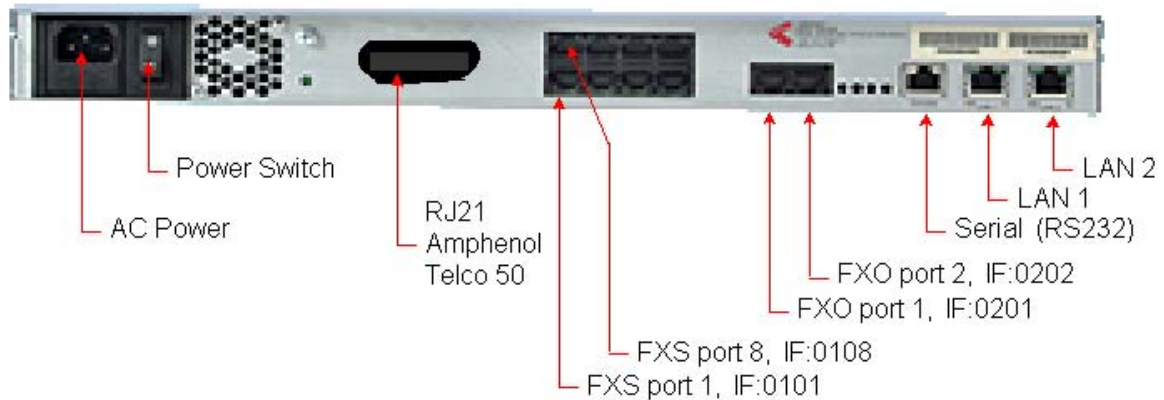
The configuration process is broken down into 10 stages as follows:

- 1 Connect your Vega to LAN, Telephone and Power
- 2 Configure the basic LAN parameters
- 3 Configure password and login timeout
- 4 Check and configure LAN settings and Host name
- 5 Configure the Dial Plan
- 6 H.323 and Gatekeeper configuration
- 7 Configure Audio parameters
- 8 Configure DSLs
- 9 Save Changes
- 10 Archive Vega Configuration

Please also see:

- 11 Technical Support
- 12 Advanced configuration

1. Connect your Vega to LAN, Telephone and Power




Before installing your Vega, ensure that you read the VegaStream VoIP Gateways Safety and Compliance Information document.

LAN:

Using the yellow booted cable(s) connect the LAN port(s) on the Vega to a standard or fast Ethernet hub or switch (10 baseT or 100 baseTx). The connector nearest the ferrite core should be plugged into the Vega.

For this configuration just connect the LAN 1 interface to the hub or switch.



If both LAN interfaces, LAN 1 and LAN 2 are to be used, the interfaces must be on separate subnets.

WARNING!

Telephony:

The BRI connections are only available on the RJ45 connectors.

Note the port numbers on the RJ45 connector block increase in an anticlockwise direction from the bottom left corner.

IF 8 IF:0308	IF 7 IF:0307	IF 6 IF:0306	IF 5 IF:0305
IF 1 IF:0301	IF 2 IF:0302	IF 3 IF:0303	IF 4 IF:0304

FXO 1 IF: 0201	FXO 2 IF: 0202
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See the 'Vega 50 6x4 product details' document for pinouts and cabling.



WARNING!

Take care connecting to the Amphenol connector when BRI ports are fitted. Two of the four BRI signals are brought out to the associated RJ21 / Amphenol / Telco 50 connector pins. In this situation DO NOT connect anything to these pins on the RJ21 / Amphenol / Telco 50 connector.

Power:

Insert the power cable into the AC power inlet on the Vega and switch on. The power LED on the front panel will illuminate.

LAN LEDs will also illuminate indicating 10 (baseT) or 100 (base TX) connection. The LAN LEDs are duplicated on the front and rear of the Vega. The LEDs blink off to indicate LAN activity.

After a short while the Vega Ready LED will illuminate – the Vega is ready to be configured.

2. Configure the basic LAN parameters

If a DHCP server is available, by default, the Vega will automatically pick up an IP address. If you know the IP address served to the Vega, skip this section and start at section [3](#).

If DHCP is not to be used to provide the Vega with an IP address, or you need to check the IP address provided to the Vega, connect the serial interface of the Vega to a PC serial interface using the supplied RJ45 to 9 way female D-Type connector cable.

Configure a terminal emulator program (such as Microsoft's HyperTerminal) for:

- Speed = 115200 baud
- Data bits = 8
- Parity = none
- Stop bits = 1
- Flow Control = none

Press <Enter> to get the Username: prompt

At the prompts enter the default user name and password

```
Username: admin
Password: admin
```

If this is your first login you will be presented with the opportunity to select the firmware to run (SIP or H.323):

```
=====
CHANGE ACTIVE PARTITION:

Partition 1: SIP Firmware (ACTIVE)
              Version: 08.00 for hardware type 11
              Image: VEGA-6x4_R080S012

Partition 2: H.323 Firmware
              Version: 08.00 for hardware type 11
              Image: VEGA-6x4_R080H012

Type PART2 to activate partition 2, or EXIT to leave unchanged.
=====
```

- Ensure that the partition marked as ACTIVE is the H.323 partition, if it is not, then select the other partition as instructed and reboot the Vega¹.
- If the H.323 partition is already marked as ACTIVE, then type EXIT

Once the firmware has been selected and activated, from the command prompt, display the current IP address by typing:

- `show lan.if.1.ip`

¹ If the partition is changed, after the reboot perform a 'factory reset' before continuing configuration.

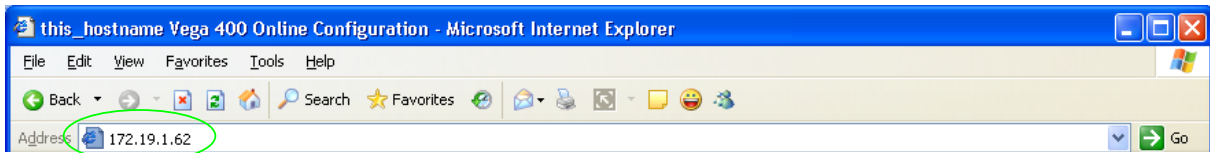
If this is not the IP address required, it can be overridden, together with other LAN parameters by typing:

- set lan.if.1.use_dhcp=0
- set lan.if.1.ip=aaa.bbb.ccc.ddd
- set lan.if.1.subnet=eee.fff.ggg.hhh
- set lan.gateway.ip=iii.jjj.kkk.lll
- set lan.gateway.dhcp_if=0
- set h323.if.1.lan_profile=1
- set lan.lan_profile=1
- save
- reboot system

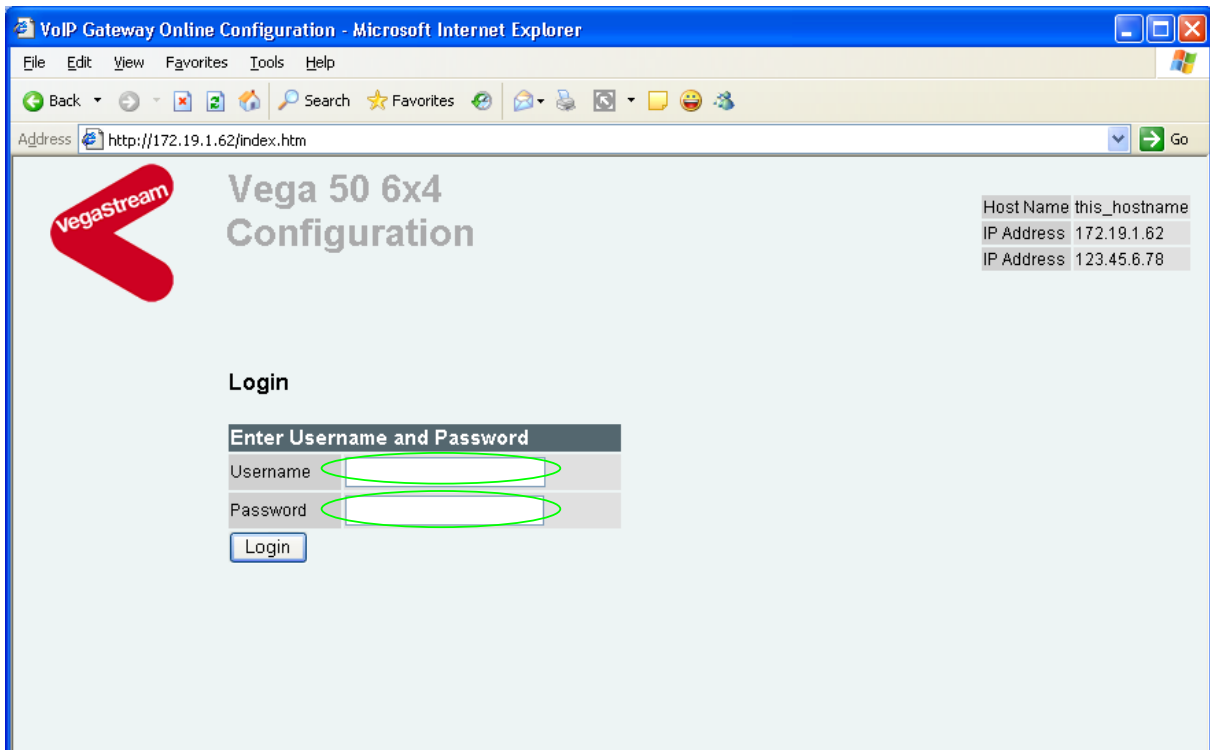
3. Configure password and login timeout

Now configuration will be carried out using a web browser.

- Enter the IP address of the Vega into the “Address” field of your web browser.



You will then be presented with the login page:



Enter the default Username and Password

- Username: admin
- Password: admin
- Select

If you have not already selected the firmware to run (SIP or H.323) the boot manager will automatically be displayed allowing you to select the code to run, SIP or H.323.

Boot Manager

Please check the current active firmware version below, and select a different partition if required. If a new partition is selected then a reboot system will be needed to activate that version.

Change Active Partition

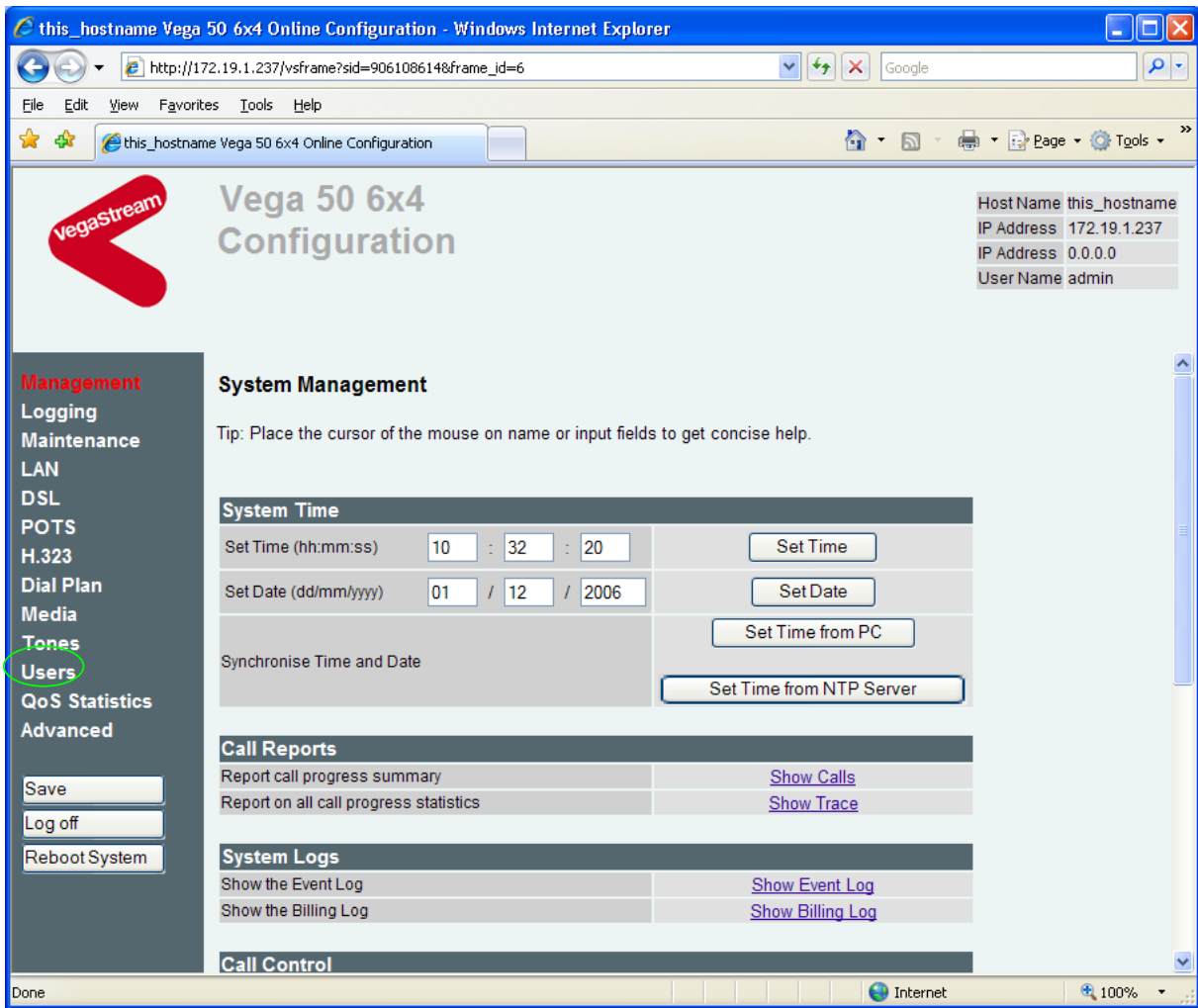
- Partition 1 SIP Version 08.00 for hardware type 11
VEGA-6x4_R080S005a Aug 7 2006 09:23:31
- Partition 2 H323 Version 08.00 for hardware type 11
VEGA-6x4_R080H005 Aug 10 2006 09:04:28

- Ensure that the partition selected is the H.323 partition, if it is not, then select it
- Press

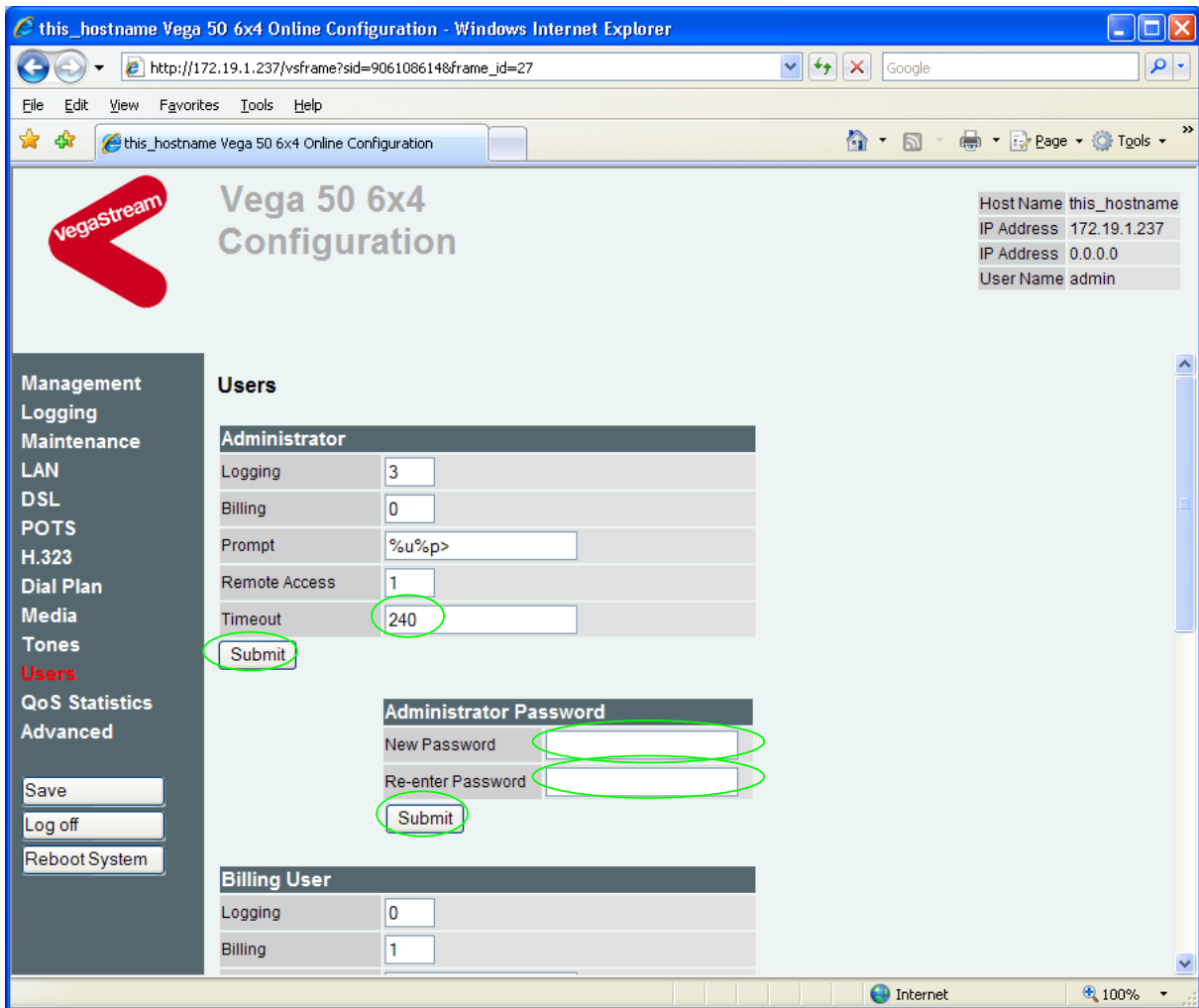
If the partition is changed then the Vega will automatically reboot; in this case you will need to log in again once the reboot is complete².

If the partition is not changed then the management page will be displayed.

² If the partition is changed, after the reboot perform a 'factory reset' before continuing configuration.



- On the left hand side menu select [Users](#)



Recommended: Change the password

- enter New Password and Re-enter Password then
- select and then click "[here](#)" to return

Optional: Change the timeout³ – default is 240 seconds;

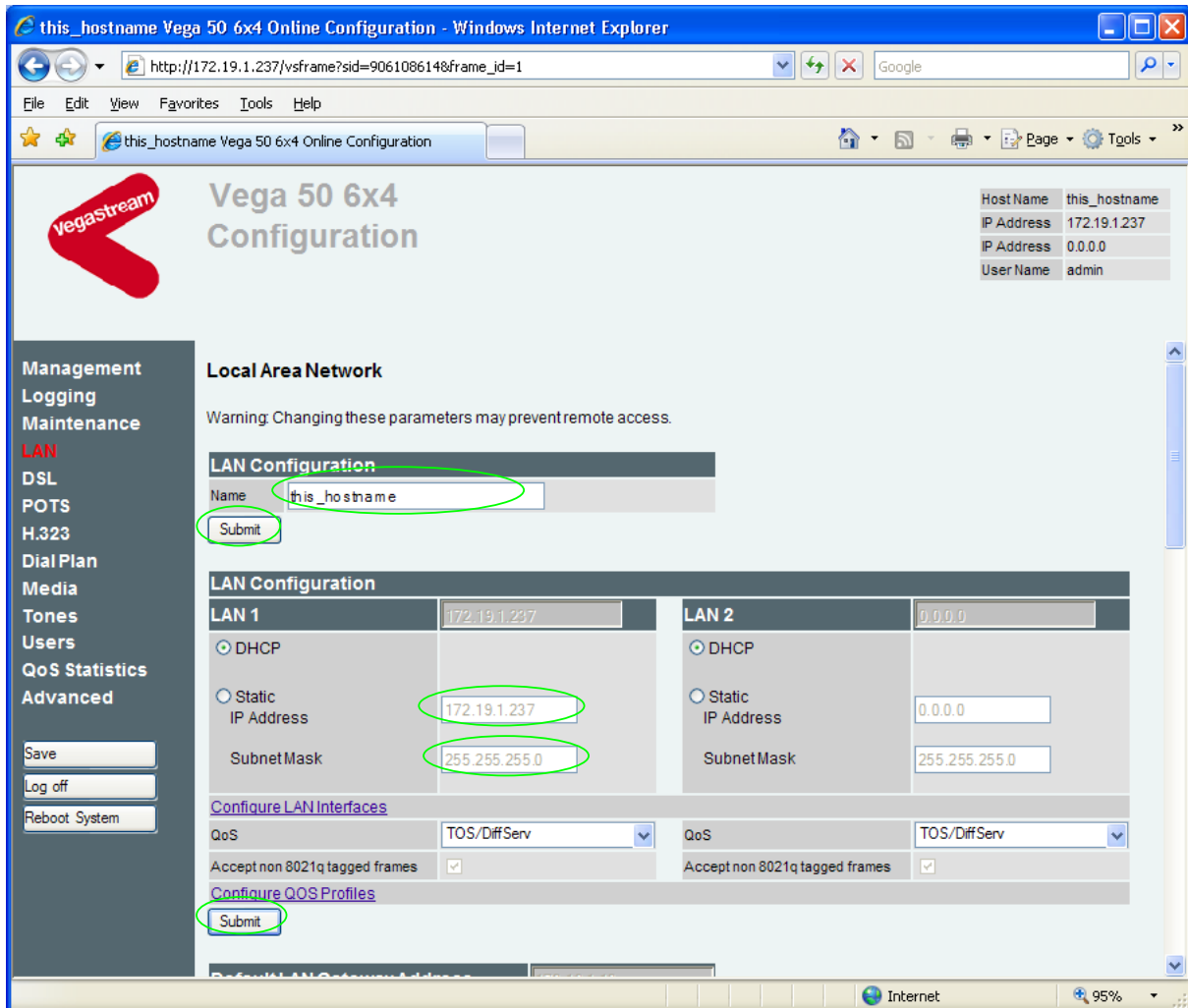
this can be extend to 7200 seconds (2hrs)

- select and then click "[here](#)" to return

³ If the web browser interface is not used for this length of time the Vega will automatically log off the session. This change is only activated by logging out and back into the web browser session.

4. Check and configure LAN settings and Host name

- On the left hand side menu select [LAN](#)



In this configuration scenario we are just going to use LAN interface 1, so in the next steps we will configure both calls and management traffic to be routed via LAN interface 1.

- If the Vega has a DNS name associated with its IP address, in the **LAN Configuration** section:
 - set Name = <the DNS name of the Vega>
- select and then click "[here](#)" to return

In the **LAN Configuration, LAN 1** section

Ensure that the IP address and subnet mask are configured correctly. With DHCP enabled the current values collected by DHCP are shown 'greyed out'

- If static configuration of the IP information is required select 'Static IP Address' and configure the values as required.
- If changed select and then click "[here](#)" to return

In the **LAN Configuration, LAN 1** section

- Select [Configure LAN Interfaces](#)

LAN > LAN Interfaces


LAN Configuration			
LAN 1	172.19.1.51	LAN 2	0.0.0.0
Physical Layer		Physical Layer	
Enable Full Duplex	<input type="checkbox"/>	Enable Full Duplex	<input type="checkbox"/>
Enable 10baseT	<input checked="" type="checkbox"/>	Enable 10baseT	<input checked="" type="checkbox"/>
Enable 100baseTX	<input checked="" type="checkbox"/>	Enable 100baseTX	<input checked="" type="checkbox"/>
<input type="button" value="Submit"/>			

Recommended: In the **Physical Layer** section for **LAN 1**, leave ticked only 100baseTx or 10 baseT (not both) – whichever is appropriate

Optional: In the **Physical Layer** section, ticked 'Full Duplex' to allow the Vega to attempt to negotiate a full duplex LAN connection (*this gives increased bandwidth on the LAN link*)

- select and then click "[here](#)" to return

If you are planning to use LAN interface 2 – check its configuration too.

	If both LAN interfaces, LAN 1 and LAN 2 are to be used, the interfaces must be on separate subnets.
WARNING!	

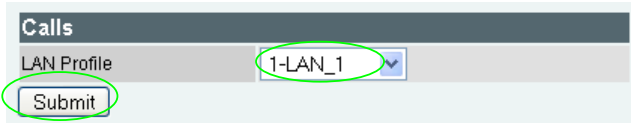
Now continue configuring the other LAN parameters:

- On the left hand side menu select [LAN](#)
- Scroll down to the **Default LAN Gateway Address** section

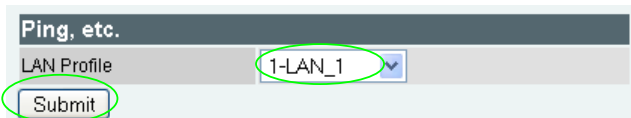
Default LAN Gateway Address	172.19.1.10
<input checked="" type="radio"/> DHCP From server on LAN interface	1-LAN1
<input type="radio"/> Static Address	172.19.1.10
<input type="button" value="Submit"/>	

- If DHCP is selected, the interface ID pull down defines the LAN interface (and hence the DHCP server) to get the gateway's IP address from – leave it as 1-LAN1
- If a static IP address is required configure it here, either as a DNS name, or a dotted decimal IP address.
- If changed, select and then click "[here](#)" to return

- Scroll down to the **Calls** section



- Ensure that the LAN profile is 1-LAN_1
- If it needs changing, change it, then select **Submit** and then click "[here](#)" to return
- Scroll down to the **Ping, etc.** section

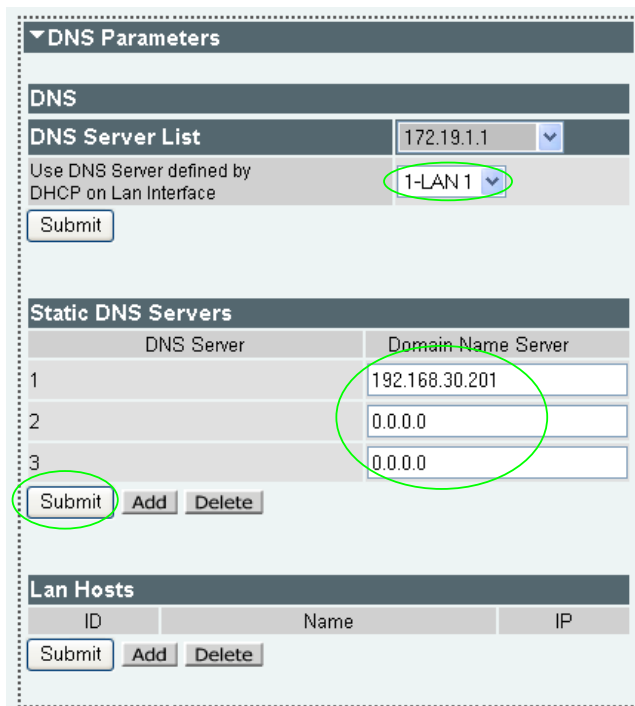


- Ensure that the LAN profile is 1-LAN_1
- If it needs changing, change it, then select **Submit** and then click "[here](#)" to return

Now scroll to the relevant sections on the page that need configuring:

DNS parameters

- Scroll to the **DNS Parameters** section and expand the box



DNS Server	Domain Name Server
1	192.168.30.201
2	0.0.0.0
3	0.0.0.0

DNS server IP addresses can be set up using both DHCP served DNS servers and also statically defined DNS Servers.

- Ensure that 'Use DNS Server defined by DHCP on Lan Interface' = 1-LAN 1
 - If it needs changing, select **Submit** and then click "[here](#)" to return
- Optional:** If static DNS servers are to be defined,
- configure their IP addresses in the Static DNS Servers section
- (Press **Add** if more than 3 static entries are required)
- Select **Submit** and then click "[here](#)" to return

The current list of DNS Server IPs to use can be found by clicking on the pull down tab on the greyed out DNS Server list combo box.

DNS Parameters

DNS

DNS Server List 172.19.1.1

Use DNS Server defined by DHCP on Lan Interface 172.19.1.1
172.19.1.2
192.168.30.201

Static DNS Servers

DNS Server	Domain Name Server
1	192.168.30.201
2	0.0.0.0
3	0.0.0.0

Lan Hosts

ID	Name	IP
----	------	----

(Note, the DHCP supplied DNS server will be used in preference to statically defined servers, unless the DHCP defined server is also statically defined, when the static order will be used.)

Telnet, ssh, Web browser, https access parameters

- Scroll to the **Management Access** section and expand the box

Management Access

	LAN Profile	LAN Port	Enabled
Telnet	3-LAN_1&2	23	<input checked="" type="checkbox"/>
SSH	Same as telnet	22	<input type="checkbox"/>
Web Server	1-LAN_1	80	<input checked="" type="checkbox"/>
HTTPS	Same as Web server	443	<input type="checkbox"/>

- Set Telnet LAN Profile = 1-LAN_1
- Set Web Server LAN Profile = 1-LAN_1
- Select **Submit** and then click "[here](#)" to return

FTP and TFTP parameters

- Scroll to the **FTP/TFTP Parameters** section and expand the box

▼ FTP/TFTP Parameters

FTP / TFTP

Default File Transfer Method FTP TFTP

[Submit](#)

FTP Parameters

FTP Server IP Address 0.0.0.0

Static Address 0.0.0.0

LAN Profile 1-LAN_1

[Configure FTP](#)

[Submit](#)

TFTP Parameters

TFTP Server IP Address 172.19.1.53

DHCP From server on LAN interface 1-LAN_1

Static Address 172.19.1.53

LAN Profile 1-LAN_1

[Configure TFTP](#)

[Submit](#)

- Select the preferred (default) method for performing file transfers – typically use TFTP if you are on the same site as the Vega, or use FTP if you are of a different site
- Select [Submit](#) and then click [here](#) to return

To configure FTP:

FTP Parameters

FTP Server IP Address 0.0.0.0

Static Address 0.0.0.0

LAN Profile 1-LAN_1

[Configure FTP](#)

[Submit](#)

- set up Static IP Address (*either as a DNS name or as a dotted decimal IP address*)
- select [Submit](#) and then click [here](#) to return

- Select [Configure FTP](#)

[LAN](#) > FTP Parameters

FTP Parameters	
Login	
<input checked="" type="radio"/> Anonymous Login	
<input type="radio"/> Username Login	
FTP Username	whatever
Password
FTP Ping Test	<input checked="" type="checkbox"/>
FTP Timeout	20
FTP port	21
Abort Socket Before Closing	<input type="checkbox"/>
<input type="button" value="Submit"/>	

Optional: If username login (rather than anonymous login) is required

- select 'Username Login'
- enter FTP username
- enter Password
- select and then click "[here](#)" to return

To configure TFTP:

TFTP Parameters	
TFTP Server IP Address	172.19.1.53
<input checked="" type="radio"/> DHCP From server on LAN interface	1-LAN_1
<input type="radio"/> Static Address	172.19.1.53
LAN Profile	1-LAN_1
Configure TFTP	
<input type="button" value="Submit"/>	

Optional: If a static IP address is required

- select 'Static Address'
- set up Static IP Address (*either as a DNS name or as a dotted decimal IP address*)
- Ensure that the LAN profile is 1-LAN_1
- select and then click "[here](#)" to return

NTP parameters

Set up NTP to get time updates for the real time clock – this keeps the clock accurate over long periods of time.

- Scroll to the **NTP Parameters** section and expand the box

The screenshot shows the 'NTP Parameters' configuration page. The 'NTP Server IP Address' field is set to 0.0.0.0. The 'DHCP From DHCP server on LAN interface' is selected, and the interface is set to 1-LAN_1. The 'Static Address' field is also set to 0.0.0.0. The 'LAN Profile' is set to 1-LAN_1. The 'Configure NTP' and 'Submit' buttons are highlighted with green circles.

Optional: If a static IP address is required

- select 'Static Address'
- set up Static IP Address (*either as a DNS name or as a dotted decimal IP address*)
- Ensure that the LAN profile is 1-LAN_1
- select and then click ["here"](#) to return

- Select [Configure NTP](#)

The screenshot shows the 'LAN > NTP Parameters' configuration page. The 'NTP Port' is set to 123. The 'Poll Interval' is set to 0. The 'Local Offset' is set to 0000. The 'Submit' button is highlighted with a green circle.

Optional: to set Vega to update its clock once per 24 hours and to have a time zone offset of -1hr

- set Poll interval = 2400
(*format is HHMM*)
- set Local Offset = -0100
(*format is -HHMM or HHMM ... time difference from UTC*)
- select and then click ["here"](#) to return

5. Configure the Dial Plan

- On the left hand side menu select [Dial Plan](#)

Host Name this_hostname
IP Address 172.19.1.237
IP Address 0.0.0.0
User Name admin

Dial Planner

Del?	Profile ID	Enabled	Name	Plans	Chg?
<input type="checkbox"/>	1	1	FXO_to_H323	====>	Modify
<input checked="" type="checkbox"/>	2	0	H323_to_FXO_0201	====>	Modify
<input checked="" type="checkbox"/>	3	1	BRI_to_H323	====>	Modify
<input checked="" type="checkbox"/>	4	0	H323_to_BRI_0301	====>	Modify

Delete Add

Planner Groups

Del?	ID	Name	Cause	Active times	Priority	Chg?
<input type="checkbox"/>	1	default	0	0000-2359	0	Modify

Delete Add

Call Presentation Groups Configuration

[Call Presentation Groups](#)

▶ Whitelists

▶ Post Profiles

In the **Profiles** section:

- Tick the Del? Tick box against Profile IDs 2,3,4
- Select **Delete**



➤ Select

Profiles						
Del?	Profile ID	Enabled	Name	Plans	Chg?	
<input type="checkbox"/>	1	1	FXO_to_H323	===>	Modify	

In the **Profiles** section, Profile ID 1

➤ Select [Modify](#)

[Dial Planner](#) > Profile 1

Modify Profile

Profile ID	1
Enabled	<input checked="" type="checkbox"/>
Name	<input type="text" value="FXO_to_H323"/>

Plans in this Profile

Del?	Plan ID	Name	Src	Dest	Cost	Group	Chg?
<input type="checkbox"/>	1	FXO_to_H323	IF:02<.>	IF:0501,TEL:1234<1>	0	0	Modify

➤ Set Name = BRI_to_Gatekeeper

➤ select and then click "[here](#)" to return

[Dial Planner](#) > Profile 1

Modify Profile

Profile ID	1
Enabled	<input checked="" type="checkbox"/>
Name	<input type="text" value="BRI_to_Gatekeeper"/>

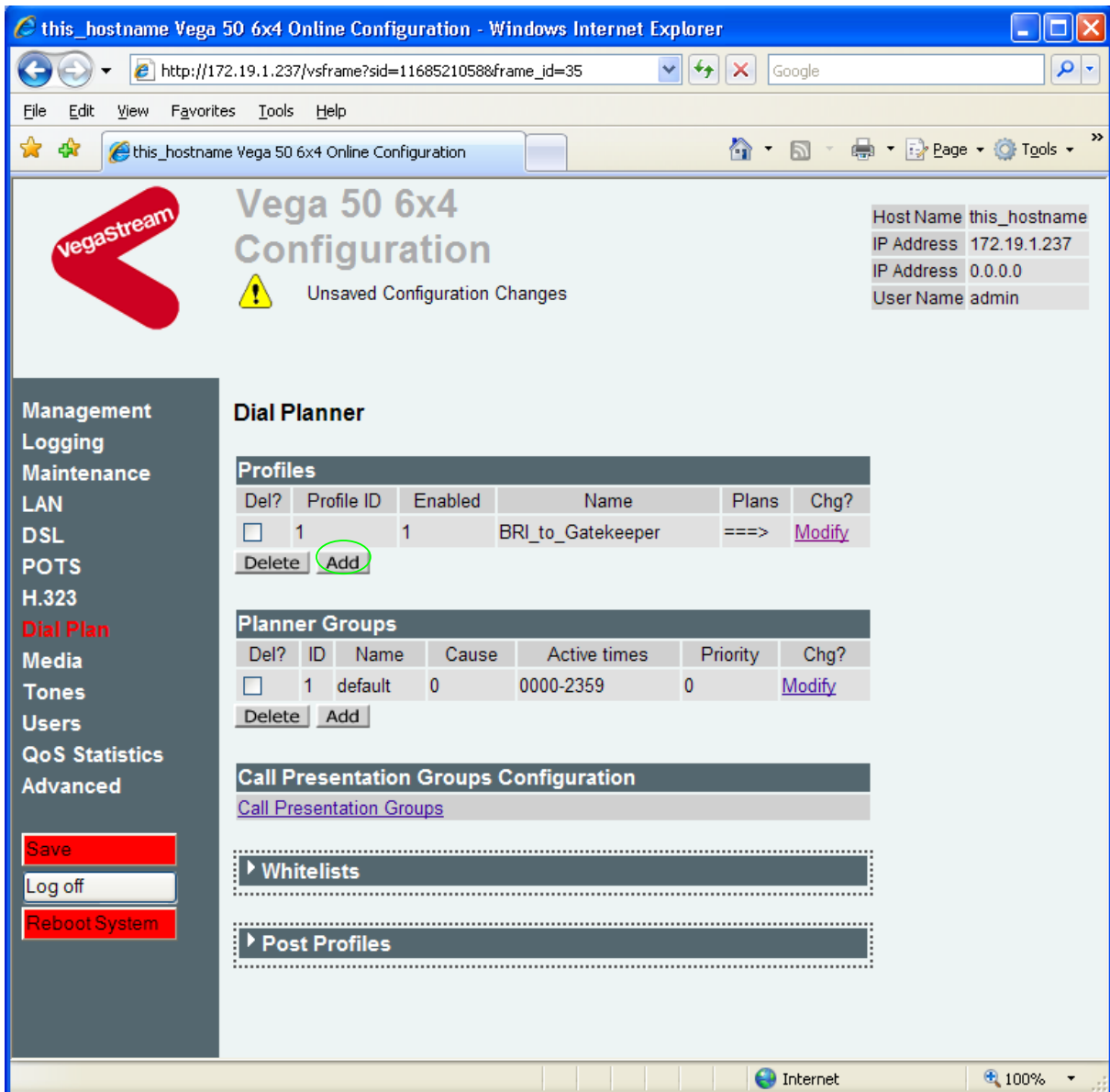
Plans in this Profile

Del?	Plan ID	Name	Src	Dest	Cost	Group	Chg?
<input type="checkbox"/>	1	FXO_to_H323	IF:02<.>	IF:0501,TEL:1234<1>	0	0	Modify

In the **Plans in this Profile** section, Plan ID 1:

➤ Select [Modify](#)

- Set Name = BRI_to_Gatekeeper
- Set Source = IF:03... ,TEL:<. *> *(This takes a call from any of the BRI interfaces and stores the telephone number dialled in store <1>)*
- Set Destination = IF:0501 ,TEL:<1> *(This routes the call to IF:0501 (the LAN) and passes the received telephone number on as the destination telephone number)*
- Set Group = 0 - no group
- select **Apply** and then click "[here](#)" to return
- On the left hand side menu select [Dial Plan](#)



Now create a new profile and in it create a dial plan entry to handle calls being received inbound from the Gatekeeper:

In the **Profiles** section

- select **Add**

In a similar manner to configuring profile 1, configure profile 2

In the **Modify Profile** section

- set Name = Gatekeeper_to_PSTN_or_PBX
- select **Submit** and then click "[here](#)" to return

Modify the first plan for Profile 2:

- set Name = From_Gatekeeper
- set Source = IF:05... , TEL:<...>. * > (For calls from IF:05xx (LAN), take the first four digits presented and store them in

- set Destination = IF:<1>, TEL:<2>
store <1>; take any further digits and store them in store <2>
(The first four digits presented define the interface – 0301, 0302, 0303, 0304 – and the remainder of the digits are passed on as the telephone number)
- select and then click "[here](#)" to return

Note: *The gatekeeper must choose the appropriate interface on the Vega to dial out from; when the gatekeeper presents a call to the Vega, the telephone number field must contain iiiittt...t, where iii is the interface number 0301 to 0304, and ttt...t is the telephone number to dial.*

For more details on the operation of the dial planner, including the various tokens that may be used, see the section “The Dial Planner” in the Vega Primer and also the Introduction to Vega dial plans document – both available on www.VegaAssist.com.

Standalone / non-proxy installations: Where a Gatekeeper is not used add a TA: token to dial plans that send calls to VoIP (i.e. to IF:0501), e.g. if the destination device is at IP address 192.168.1.54 then the dial plans above become:

Profile 1 plan 1 (change to 'Destination'):

- Set Name = BRI_to_Gatekeeper
- Set Source = IF:03.., TEL:<.*>
- Set Destination = IF:0501, TEL:<1>, **TA:192.168.1.54**
- Set Group = 0 - no group

Profile 2 plan 1 (no differences from above):

- set Name = From_Gatekeeper
- set Source = IF:05.., TEL:<...><.*>
- set Destination = IF:<1>, TEL:<2>

6. H.323 and Gatekeeper configuration

On the left hand side menu select [H.323](#)

Management
Logging
Maintenance
LAN
DSL
POTS
H.323
Dial Plan
Media
Tones
Users
QoS Statistics
Advanced

Save
Log off
Reboot System

H.323

Current Mode: Standalone Mode

Change to Gatekeeper mode Gatekeeper Mode

Interfaces

ID	Interface	Max calls	Profile	Supplementary Services Profile	LAN Profile	Setup Mapping Index	Incoming Cause Mapping Index	Outgoing Cause Mapping Index	Default Destination	Default Port	SIP Port
1	0501	26	1	0	1	0	0	0	0.0.0.0	1720	6

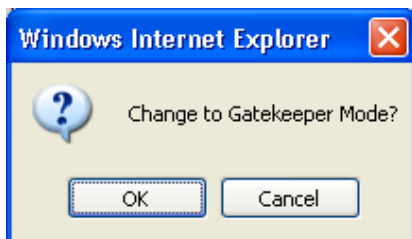
Supplementary Services Profiles

ID	Name	H450.2 Call Transfer	H450.3 Call Diversion	Call transfer Caller ID
1	enabled	1	1	transferred_party

Profiles

ID	Use Fast Start	Accept Fast Start	H245 After Fast Start	Use Early H245	Accept Early H245	Force Early H245	Use H245 Tunnel	Accept H245 Tunnel	TX Media Before Connect	Round Trip Delay [secs]	Round Trip Retries	Send Setup Info in UUIE	Capability Set	Fast Start Capability Set	O/B/D Me...
1	1	2	1	0	1	1	1	1	0	0	2	0	2	1	1

➤ Select



➤ Select

Host Name this_hostname
 IP Address 172.19.1.237
 IP Address 0.0.0.0
 User Name admin

H.323

Current Mode: Gatekeeper
 Change to Standalone Mode

Interfaces

ID	Interface	Max calls	Profile	Supplementary Services Profile	LAN Profile	Setup Mapping Index	Incoming Cause Mapping Index	Outgoing Cause Mapping Index	Default Destination	Default Port	Signal Port Range	Chg?
1	0501	26	1	0	1	0	0	0	0.0.0.0	1720	6	Modify

Supplementary Services Profiles

ID	Name	H450.2 Call Transfer	H450.3 Call Diversion	Call transfer Caller ID	Chg?
1	enabled	1	1	transferred_party	Modify

Profiles

ID	Use Fast Start	Accept Fast Start	H245 After Fast Start	Use Early H245	Accept Early H245	Force Early H245	Use H245 Tunnel	Accept H245 Tunnel	TX Media Before Connect	Round Trip Delay [secs]	Round Trip Retries	Send Setup Info in UUIE	Capability Set	Fast Start Capability Set	Out Of Band DTMF Method	Chg?
1	1	2	1	0	1	1	1	1	0	0	3	0	2	1	signal	Modify

In the **Profiles** section, profile ID 1:

- Select [Modify](#)

Host Name this_hostname
IP Address 172.19.1.237
IP Address 0.0.0.0
User Name admin

H.323 > Profile 1

H.323 Profile 1	
Use Fast Start	<input checked="" type="checkbox"/>
Accept Fast Start	<input type="radio"/> no <input type="radio"/> after connect <input checked="" type="radio"/> after alert <input type="radio"/> after proceeding
H245 After Fast Start	<input checked="" type="checkbox"/>
Early H245	<input type="checkbox"/> Use <input checked="" type="checkbox"/> Accept <input checked="" type="checkbox"/> Force
H245 tunnelling	<input checked="" type="checkbox"/> Use <input checked="" type="checkbox"/> Accept
TX media before connect	<input type="checkbox"/>
Round Trip Delay	0 Delay 3 Retries
Setup Info In UI	<input type="checkbox"/>
Call Capabilities	2 General 1 Fast Start
Out Of Band Signalling Method	signal

Submit

- *Consider:* disable all advanced H.323 features by un-ticking entries or selecting no. If using Vega to Vega, or Vega to another H.323 device which supports all the H.323 advancements leave items as default.
- If changes are made, select and then click "[here](#)" to return
- On the left hand side menu select [H.323](#)
- Scroll to the bottom

- Either configure the H.323 Gatekeeper “Default Gatekeeper” with the IP address of the Gatekeeper, or tick Auto Discover.
- select **Submit** and then click [here](#) to return

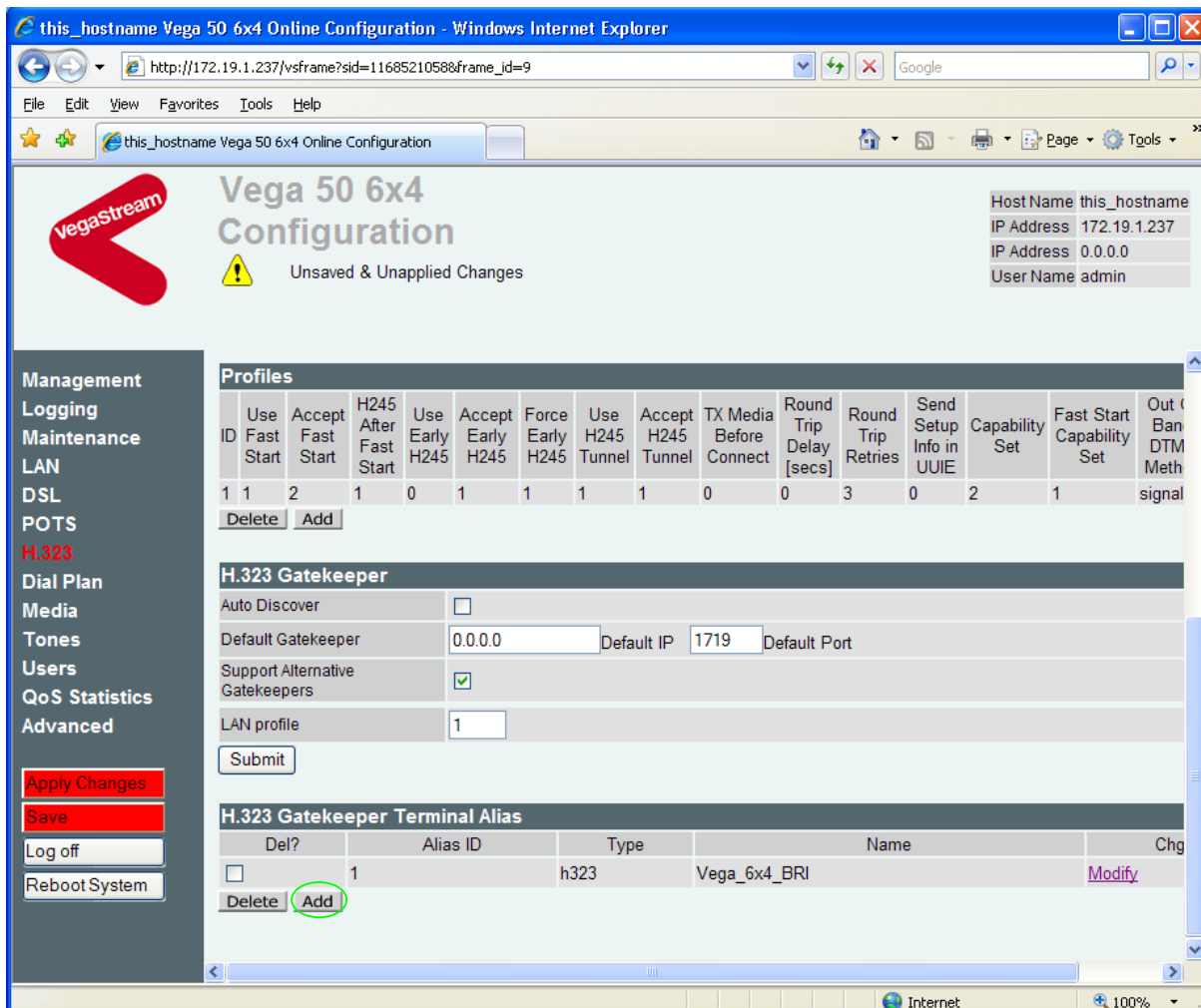
Configure the gatekeeper Terminal alias – this needs to match the gatekeeper’s expectations. e.g. set it to an H.323 type alias “Vega_6x4_BRI”.

In the **H.323 Gatekeeper Terminal Alias** section

- select [Modify](#)

- Set Name = Vega_6x4_BRI
(hint: use _ instead of space as spaces are not allowed)

- select **Submit** and then click "[here](#)" to return
- On the left hand side menu select [H.323](#)
- Scroll to the bottom



If more than one alias is required then select **Add** and configure as required.

7. Configure Audio parameters

The availability and priority of codecs offered and accepted by the Vega 50 6x4 is defined by Media Capability Sets. Two sets need to be defined, one for faststart negotiations and one for non-faststart negotiations.

Faststart negotiations should only include voice codecs, non-faststart may include voice and data codecs.

- On the left hand side menu select [Media](#)

Management
Logging
Maintenance
LAN
DSL
POTS
H.323
Dial Plan
Media
Tones
Users
QoS Statistics
Advanced

Apply Changes
Save
Log off
Reboot System

Media

Media Capability Sets

Capability Set	Name	Capability Indices	Chg?
1	voice	6,7,2,3	Modify
2	voice+t38Udp	6,7,5,2,3	Modify
3	voice+t38Tcp	6,7,9,2,3	Modify

Add Delete

Media Capability

Capability	Codec	Codec Profile	Chg?
1	g7231	1	Modify
2	g711Alaw64k	1	Modify
3	g711Ulaw64k	1	Modify
4	g711Ulaw64k	2	Modify
5	t38udp	1	Modify
6	g729	1	Modify
7	g729AnnexA	1	Modify
8	g711Alaw64k	2	Modify
9	t38tcp	1	Modify
10	octet	1	Modify

Add Delete

The different codecs and their indices are specified in the **Media Capability** section.

Check that either capability set 1 contains the voice codecs to be handled and that capability set 2 contains the voice and data codecs that are required. Note, these capability sets define both the list

of codecs to used and their preferred order of use. (The Vega will use the first codec in the list that it can negotiate.)

To change the media capability set contents, in the **Media Capability Sets** section:

- Select [Modify](#)

e.g.

[Media](#) > **Capability Set 1**

Capability Set 1	
Name	voice
Capability Indices	6,7,2,3
<input type="button" value="Submit"/>	

In the **Capability Set x** section, in Capability Indices

- List the codec indices in the required order (comma separated)
- select and then click "[here](#)" to return

- On the left hand side menu select [H.323](#)
- Scroll down to the **Profiles** section

this_hostname Vega 50 6x4 Online Configuration - Windows Internet Explorer

http://172.19.1.237/vsframe?sid=1168521058&frame_id=9

File Edit View Favorites Tools Help

this_hostname Vega 50 6x4 Online Configuration

VegaStream Vega 50 6x4 Configuration

Host Name this_hostname
IP Address 172.19.1.237
IP Address 0.0.0.0
User Name admin

Unsaved & Unapplied Changes

Management
Logging
Maintenance
LAN
DSL
POTS
H.323
Dial Plan
Media
Tones
Users
QoS Statistics
Advanced

Apply Changes
Save
Log off
Reboot System
reboot the system

1	0501	26	1	0	1	0	0	0	0	0.0.0.0	1720	6	Modify
---	------	----	---	---	---	---	---	---	---	---------	------	---	------------------------

Supplementary Services Profiles

ID	Name	H450.2 Call Transfer	H450.3 Call Diversion	Call transfer Caller ID	Chg?
1	enabled	1	1	transferred_party	Modify

Profiles

ID	Use Fast Start	Accept Fast Start	H245 After Fast Start	Use Early H245	Accept Early H245	Force Early H245	Use H245 Tunnel	Accept H245 Tunnel	TX Media Before Connect	Round Trip Delay [secs]	Round Trip Retries	Send Setup Info in UUIE	Capability Set	Fast Start Capability Set	Out Of Band DTMF Method	Chg?
1	1	2	1	0	1	1	1	1	0	0	3	0	2	1	signal	Modify

Delete Add

H.323 Gatekeeper

Auto Discover

Default Gatekeeper 0.0.0.0 Default IP 1719 Default Port

Support Alternative Gatekeepers

LAN profile 1

➤ Select [Modify](#)

Host Name this_hostname
IP Address 172.19.1.237
IP Address 0.0.0.0
User Name admin

H.323 > Profile 1

H.323 Profile 1	
Use Fast Start	<input checked="" type="checkbox"/>
Accept Fast Start	<input type="radio"/> no <input type="radio"/> after connect <input checked="" type="radio"/> after alert <input type="radio"/> after proceeding
H245 After Fast Start	<input checked="" type="checkbox"/>
Early H245	<input type="checkbox"/> Use <input checked="" type="checkbox"/> Accept <input checked="" type="checkbox"/> Force
H245 tunnelling	<input checked="" type="checkbox"/> Use <input checked="" type="checkbox"/> Accept
TX media before connect	<input type="checkbox"/>
Round Trip Delay	0 Delay 3 Retries
Setup Info In UI	<input type="checkbox"/>
Call Capabilities	2 General 1 Fast Start
Out Of Band Signalling Method	signal

Submit

In the H.323 Profile 1 section, for Call Capabilities

- Set General = a codec capability set containing both voice and data codecs (if required)
- Set Fast Start = a codec capability set containing just voice codecs
- select and then click "[here](#)" to return

8. Configure DSLs

- On the left hand side menu select [DSL](#)

Host Name this_hostname
IP Address 172.19.1.237
IP Address 0.0.0.0
User Name admin

Management
Logging
Maintenance
LAN
DSL
POTS
H.323
Dial Plan
Media
Tones
Users
QoS Statistics
Advanced

Apply Changes
Save
Log off
Reboot System

DSL Configuration

Network Topology S0

Submit

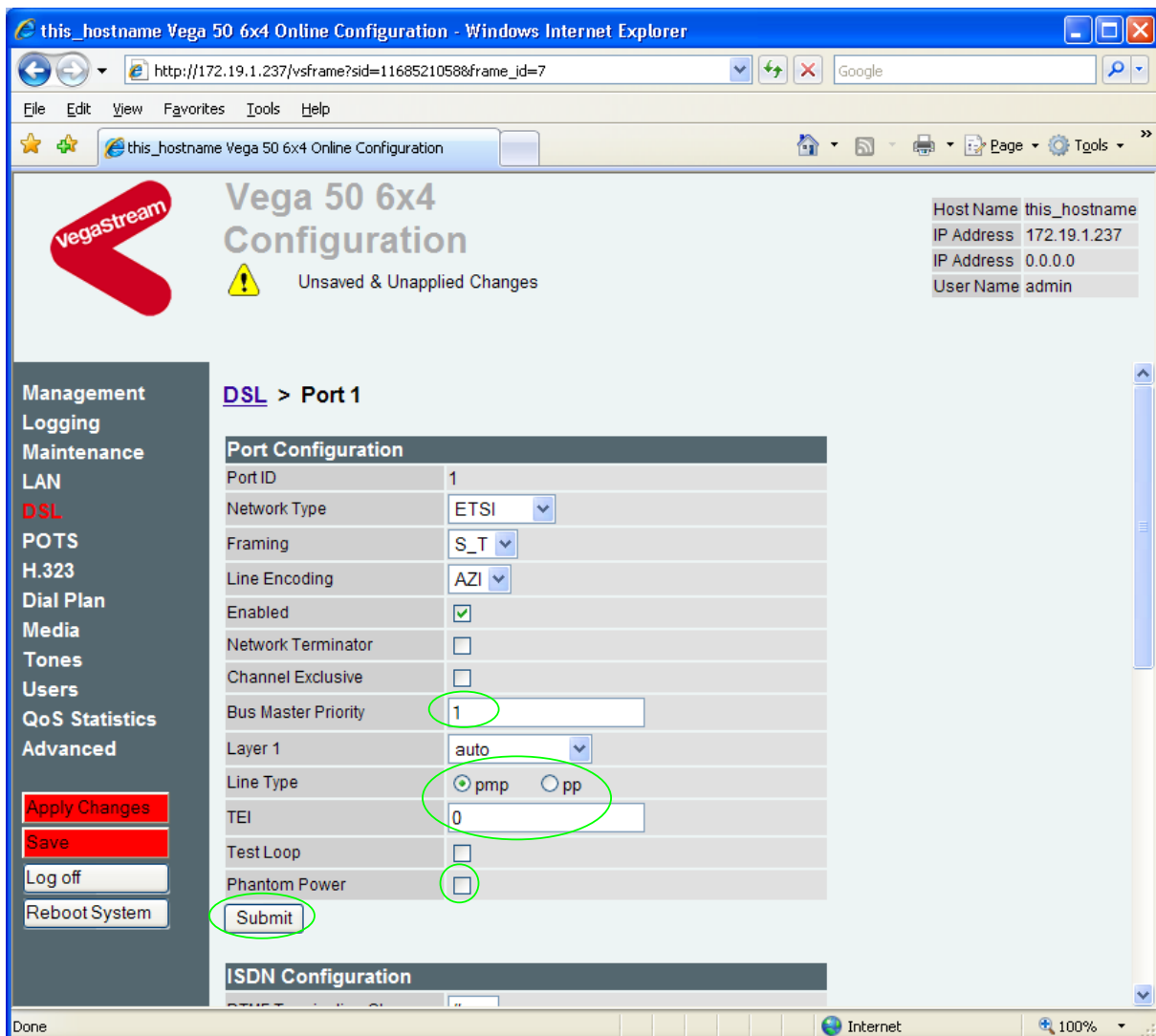
PORT Configuration

PORT ID	Enabled	Network	Framing	Line Encoding	NT	Channel Exclusive	Bus Master Priority	Layer 1	Test Loop	Line Type	Tei	NT Phantom Power	ISDN	Groups	Chg?
1	1	etsi	s_t	azi	0	0	1	auto	0	pmp	0	0	====>	====>	Modify
2	1	etsi	s_t	azi	1	0	0	auto	0	pmp	0	0	====>	====>	Modify
3	1	etsi	s_t	azi	0	0	1	auto	0	pmp	0	0	====>	====>	Modify
4	1	etsi	s_t	azi	1	0	0	auto	0	pmp	0	0	====>	====>	Modify

Delete Add

In the **Port Configuration** section, for PORT ID 1

- Select [Modify](#)



Bus Master Priority needs to be configured so that the Vega chooses and appropriate TE trunk to synchronise its internal clock from. The priority set up will be trunk 1 is preferred clock source and trunk 3 is secondary clock synchronisation source.

- For DSL 1 set Bus Master Priority = 1
- Select pp (point-to-point) or pmp (point-to-multipoint) mode to match the far end device that this Vega DSL is connected to.
- If pp is selected, set TEI = same value as the far end device TEI value
(pmp mode auto-negotiates TEI, and so in pmp mode the TEI value is ignored)

For the configuration indicated in the initial diagram DSL1 and DSL3 are connected to the PSTN and DSL 2 and DSL 4 are connected to a PBX. So the Vega needs DSL 1 and 3 configured as TE, and DSL 2 and 4 configured as NT.

These are the default settings of the Vega and so no changes are required to the Network Terminator (NT) setting. If the values for NT are changed on any of the DSLs, then typically if NT is ticked then Clock Master should also be ticked. If NT is un-ticked (TE mode) then typically Clock Master should also be un-ticked.

Optional: Tick Phantom Power if the device attached wants the Vega to provide power to the line. (This is useful for powering ISDN handsets, but is also used by some PBXs to indicate that there is a valid connection to their signalling interface)

- Select and then click "[here](#)" to return

Repeat the configuration for the other DSLs

DSL	Bus Master Priority	pp / pmp	TEI
2	0	As required	As required
3	2	As required	As required
4	0	As required	As required

Recommended: Configure the Vega to allow the attached device to take down layer 2 between calls. Many BRI devices do this and if not configured in the Vega, the Vega will try and bring back layer 2 immediately after it is taken down. This may be observed using a log display on, seeing repeated 'layer-1 active' and 'Link up' messages when the link is supposed to be idle. (If layer 2 is taken down between calls it is brought back up as the new call SETUP is presented).

On the left hand side menu select [Advanced](#), and scroll to the CLI Command section:



- `set _advanced.isdn.invite.restart_l2_after_disc=0`
- Select and then close the CLI command window

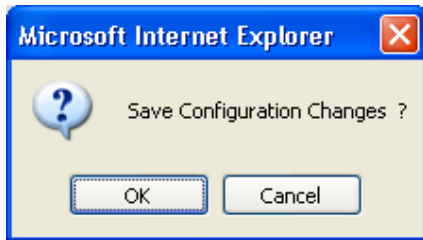
NOTE

If layer 2 is taken down between calls the DSL L2 (layer 2) LEDs will flash when there is no call in progress (indicating no layer 2 connection). As a call starts the flashing led will turn on solidly indicating that layer 2 has been brought up.

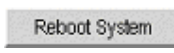
9. Save Changes

The changes to the configuration must be saved and activated. This is carried out as follows:

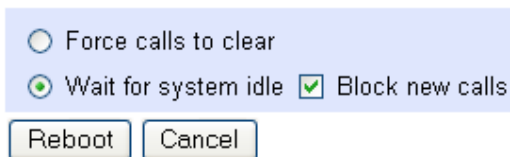
- On the left hand side menu select [Save](#)



- Select  and after the configuration has been saved click "[here](#)" to return

- On the left hand side menu select 

Reboot



- select 

The Vega will reboot and once back on-line, it will be ready to take its first call.

10. Archive Vega Configuration

Once configured it is recommended that the configuration is archived to an external server.

To do this check that the tftp address is configured to point to a tftp server (in the [LAN](#) page), then on the left hand side menu select [Advanced](#), and scroll to the CLI Command section:

CLI Command	
<input type="text"/>	<input type="button" value="Submit"/>

- in the text entry box type `PUT tftp:initial_cfg.txt`
- Select .

This will send all the configuration parameters to the tftp server and save them as the file “initial_cfg.txt”. (Note: you may want to choose a unique name rather than “initial_cfg.txt”, especially if you are configuring more than 1 unit).

The Vega configuration can be archived to an ftp server instead of a tftp server by configuring the ftp server address in the [LAN](#) page and then typing the CLI command “PUT FTP:initial_cfg.txt”. (Again a unique name can be used in place of “initial_cfg.txt”)

If the ftp server requires a login username and password:

- On the left hand side menu select [LAN](#)
- Scroll down to the **FTP Parameters** section

FTP Parameters	
Server IP	<input type="text" value="0.0.0.0"/>
FTP Port	<input type="text" value="21"/>
FTP Ping Test	<input checked="" type="checkbox"/>
FTP Timeout	<input type="text" value="20"/>
Anonymous Login	<input checked="" type="checkbox"/>
FTP Username	<input type="text" value="whatever"/>
FTP Password	<input type="password" value="••••••••"/>
LAN Profile	<input type="text" value="1"/>
Abort Socket Before Closing	<input type="checkbox"/>
Use DHCP Settings From Interface	<input type="text" value="1"/>
<input type="button" value="Submit"/>	

- Un-tick Anonymous Login
- Set FTP Username = <ftp username>
- Set FTP Password = <ftp password>
- Check Use DHCP Settings From Interface = 1
- select and then click [here](#) to return

11. Technical Support

Support information can be found on the VegaStream Support web site www.VegaAssist.com

If you require help from VegaStream support personnel, please use the serial interface or telnet into the unit, log in and then type:

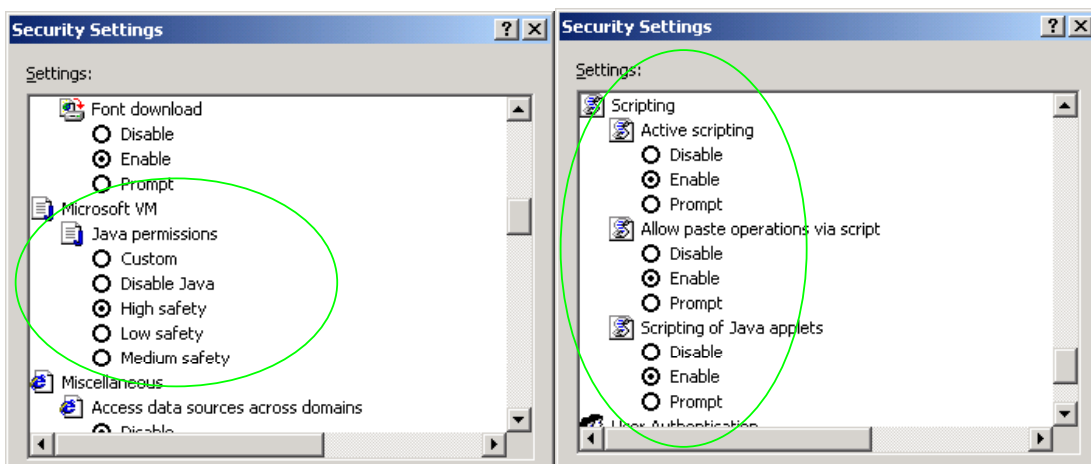
- show support
- log display on

Carry out the interaction you want explained, then copy the information provided by the Vega and e-mail it to support@VegaStream.com together with your question.

If it is an H.323 interoperation problem, please also include an Ethereal / Wireshark trace.

Notes:

1. If the screens do not appear as indicated, check that Java is enabled on your web browser (Tools>internet options>Security, select internet and custom level and configure Microsoft VM Java permissions and Scripting parameters as indicated below.



2. Where there are multiple sections – each with a button – entries must be made to one section at a time, and those entries confirmed by the button before the next section is altered. Each button only confirms entries for its own section. Any changes in other sections will be discarded when the is pressed.
3. H.323 supports two methods for transmitting call setup details. There is a standard method and then Fast Start. To allow the Vega to accept calls using the Fast Start technique ensure “Accept Fast Start” is enabled ... see section 6

For the Vega to initiate calls using Fast Start ensure that “Use Fast Start” is enabled ... see section 6.

12. Advanced configuration

Vega 50 6x4 units have further configurable parameters that may be desirable to configure in order to fully integrate them into the attached infrastructure.

12.1 Country specific ring tones

See IN_16 Progress Tones and IN_29 Country Tones for details on configuration.

12.2 ISDN Channel Allocation Strategies

The Vega allows configuration of the channel allocation strategy to be used for each DSL on outgoing calls. Four options are available,

- i) *Linear_down* – where the Vega will use the highest available free channel to make the outbound call ... use this mode when the attached device is configured to make outbound calls using *Linear up*.
- ii) *Linear_up* – where the Vega will use the lowest available free channel to make the outbound call ... use this mode when the attached device is configured to make outbound calls using *Linear down*.
- iii) *Round_robin* – in this mode the Vega remembers the last allocated channel and then tries to use the next channel up from this for the next outbound call. (After reaching the highest channel ID it restarts at the lowest channel again.) ... use this mode when the attached device is configured to make outbound calls using *Round_robin* mode.
- iv) *Default* – if the DSL is configured as NT then the Vega will use the *Linear_up* scheme, and if the DSL is configured as TE then the Vega will use *Linear_down*.

By default the Vega has `chan_alloc set=Default`

Using the web browser interface:

- On the left hand side menu select [DSL](#)
- Then select the PORT ID to alter, select [Modify](#)
- Scroll to the bottom of the page

Host Name this_hostname
 IP Address 172.19.1.237
 IP Address 0.0.0.0
 User Name admin

Setup Mapping Off
 Incoming Cause Mapping Off
 Outgoing Cause Mapping Off
 Submit

US BRI Configuration

Spid1 1001
 Spid2 1002
 Registered dn 5551000
 Call Appearance 1
 Submit

Groups

Group ID	Interface ID	DN	First Channel	Last Channel	Alloc Channel	Tunnel Mode	Tunnel IEs	Chg?
1	0301	*	1	2	default	off	0	Modify

Delete Add

Management
 Logging
 Maintenance
 LAN
 DSL
 POTS
 H.323
 Dial Plan
 Media
 Tones
 Users
 QoS Statistics
 Advanced

Apply Changes
 Save
 Log off
 Reboot System

In the **Groups** section:

- Select [Modify](#)

[DSL](#) > [Port 1](#) > [Group 1](#)

Modify Port Group	
Group ID	1
Port ID	1
Interface ID	<input type="text" value="01"/>
Cost Index	<input type="text" value="1"/>
DN	<input type="text" value="*"/>
First Channel	<input type="text" value="1"/>
Last Channel	<input type="text" value="2"/>
Alloc Channel	<input type="text" value="Default"/>
<input type="button" value="Submit"/>	<ul style="list-style-type: none">DefaultLinear UpLinear DownRound Robin

- Select the desired channel allocation strategy from the Alloc Channel pull down.
- select and then click "[here](#)" to return

- Save and reboot system to activate the change

12.3 User progress tones on TE interface

For ISDN to VoIP calls, by default if the Vega DSL is configured as TE it will connect media through before or at alerting so that progress tones are passed through from end to end (i.e. for the ISDN caller to hear ringback and other progress tones the audio must be received over the VoIP interface).

If it is required that the Vega generates these progress tones on the TE ISDN interface, then at the CLI prompt type:

- Set `_advanced.isdn.user_progress=1`
- Save and reboot system to activate the change

Notes:

1. If the Vega DSL is configured as NT it will always generate the call progress tones. E.g. ringback and disconnect tones.
2. Typically `wait_for_connect` and `user_progress` configuration parameters should either both set to 1 or both set to 0.

12.4 In-band audio indication for alerting

For VoIP to ISDN calls, by default the Vega will act upon the in-band audio indicator in the alerting message and if present will connect the media path.

If it is required that the Vega should ignore the in-band audio indicator, and so not pass on the in-band tone, then at the CLI prompt type:

- Set `_advanced.isdn.alert_with_progress=0`
- Save and reboot system to activate the change

If it is required that the Vega should always cut through the audio whatever the value of the in-band audio indicator, then at the CLI prompt type:

- Set `_advanced.isdn.alert_with_progress=2`
- Save and reboot system to activate the change

Further details on Vega parameters and configuration may be found in the Vega Primer and other documents available on www.VegaAssist.com.

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