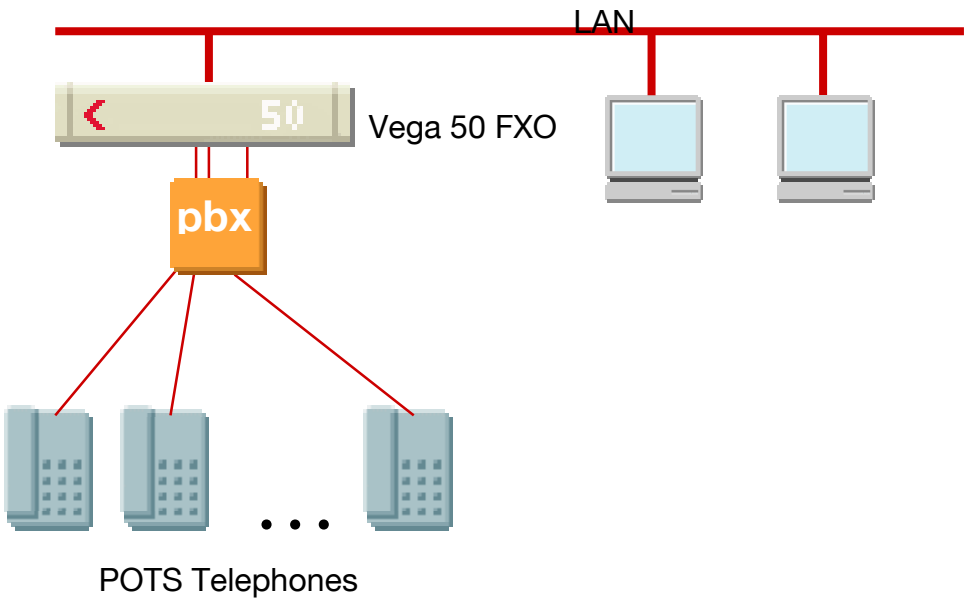
# Initial configuration
## Vega 50 FXO (H.323)
## Standalone mode – R5.1

This document describes how to configure a Vega 50 FXO H.323 unit using the web browser interface. The configuration described will allow the Vega to be rapidly installed and tested.

The instructions below configure the Vega 50 FXO (connected to 8 extension ports of a PBX or a CO Switch) as follows:

- Calls presented to the Vega from the PBX or CO switch will be routed to a pre-defined IP address based upon the physical port on the Vega on which the call arrived. (IP addresses 192.168.1.100 to 192.168.1.107)
- Calls received by the Vega on the H.323 interface will be routed to the telephony interface. The physical interface over which the call is routed will be defined by the IP address of the H.323 device making the outbound call. The telephone number that will be dialled will be the number presented by the H.323 device.





For use with Vega 50 FXO – H.323 version 04.01.05.1 T017 or greater.
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The configuration process is broken down into 11 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 H.323 parameters
6 Configure the Dial Plan
7 Configure audio parameters
8 Configure POTS parameters
9 Configure pointer to CD ROM documentation
10 Save Changes
11 Archive Vega Configuration

Please also see:
12 Technical Support


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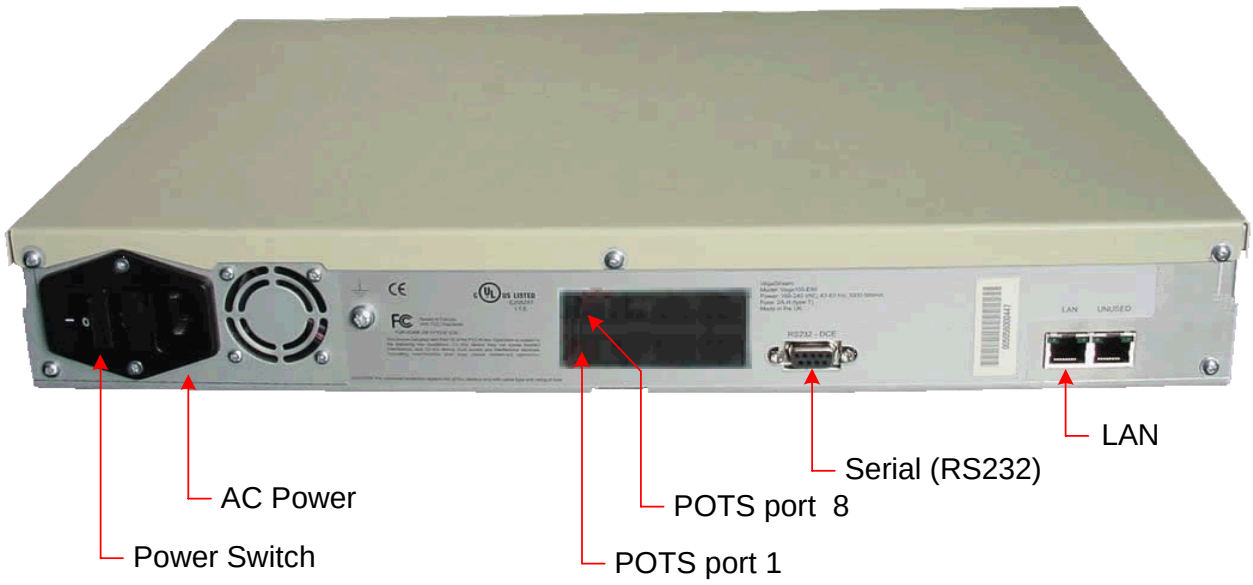
# 1. Connect your Vega to LAN, Telephone and Power




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

**LAN:**

Using the yellow booted cable connect the LAN port 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.

**Telephony:**

Connect the PBX or CO switch to the 8 POTS ports. Note the port numbers (interface Ids) increase in an anticlockwise direction from the bottom left corner. Interface IDs are as follows:

| | | | |
|---|---|---|---|
| 13 | 12 | 11 | 10 |
| 06 | 07 | 08 | 09 |

**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.

The LAN LEDs will also illuminate indicating 10 (baseT) or 100 (baseTx) connection, and the FDX LED will illuminate if Full Duplex mode has been negotiated.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## 2. Configure the basic LAN parameters

If a DHCP server is available, by default, the Vega will automatically pick up an IP address. If the Vega has an LCD display, or you know the IP address served to the Vega, skip this section and start at 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 a 9 way male to female straight through 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`

To display the current IP address, type:

- `show lan.ip`

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

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


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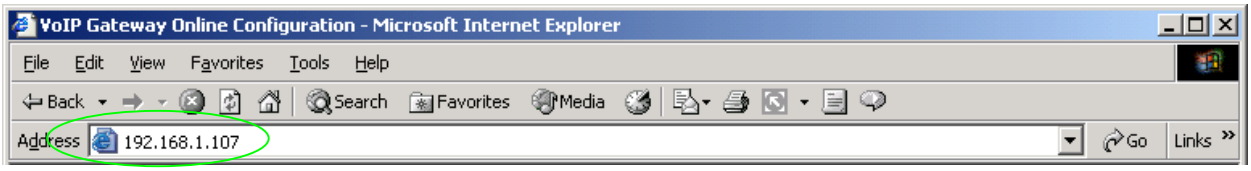
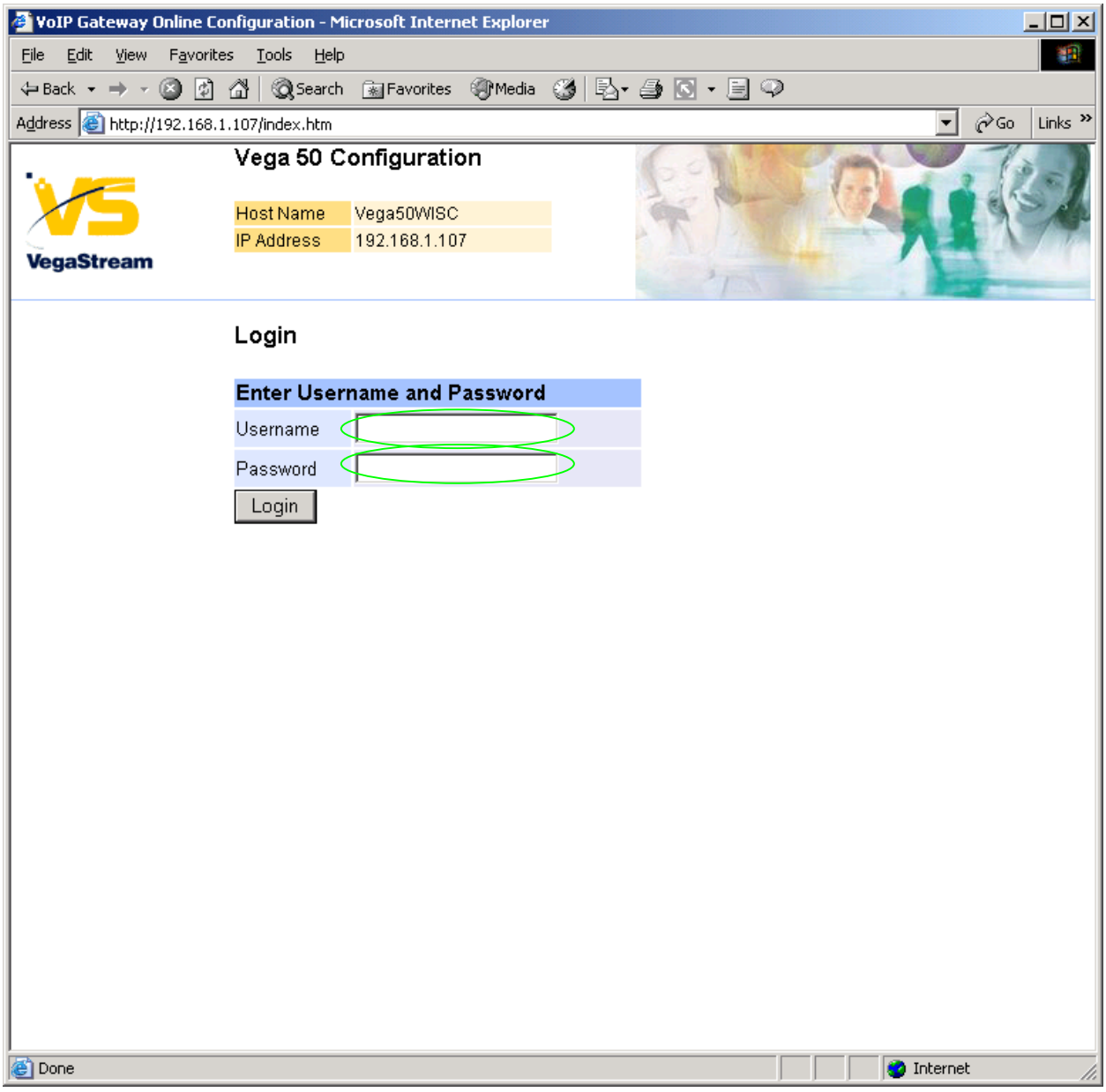
# 3. Configure password and login timeout

*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:





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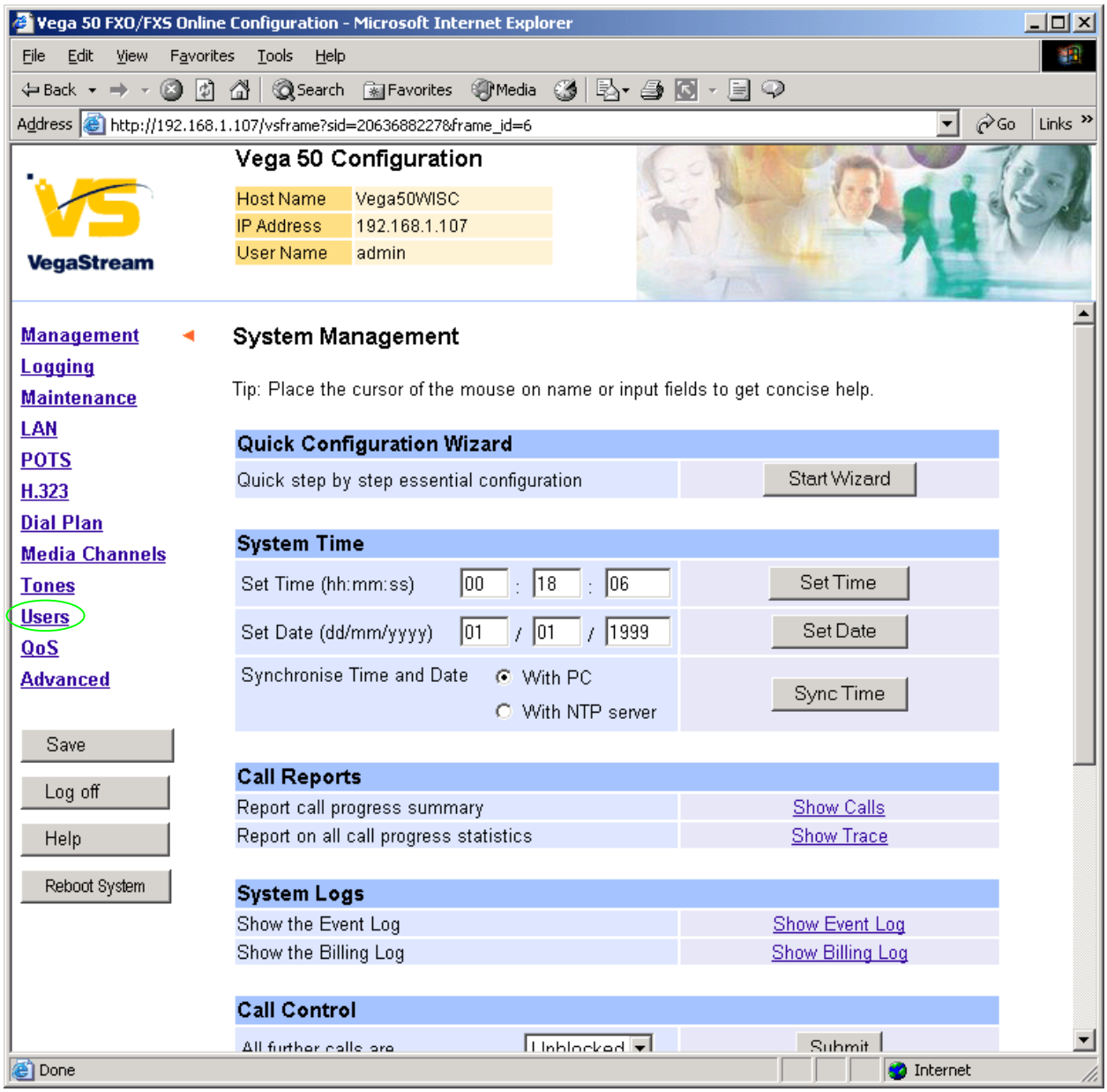
Enter the default Username and Password

- Username: `admin`
- Password: `admin`
- Select Login




- On the left hand side menu select Users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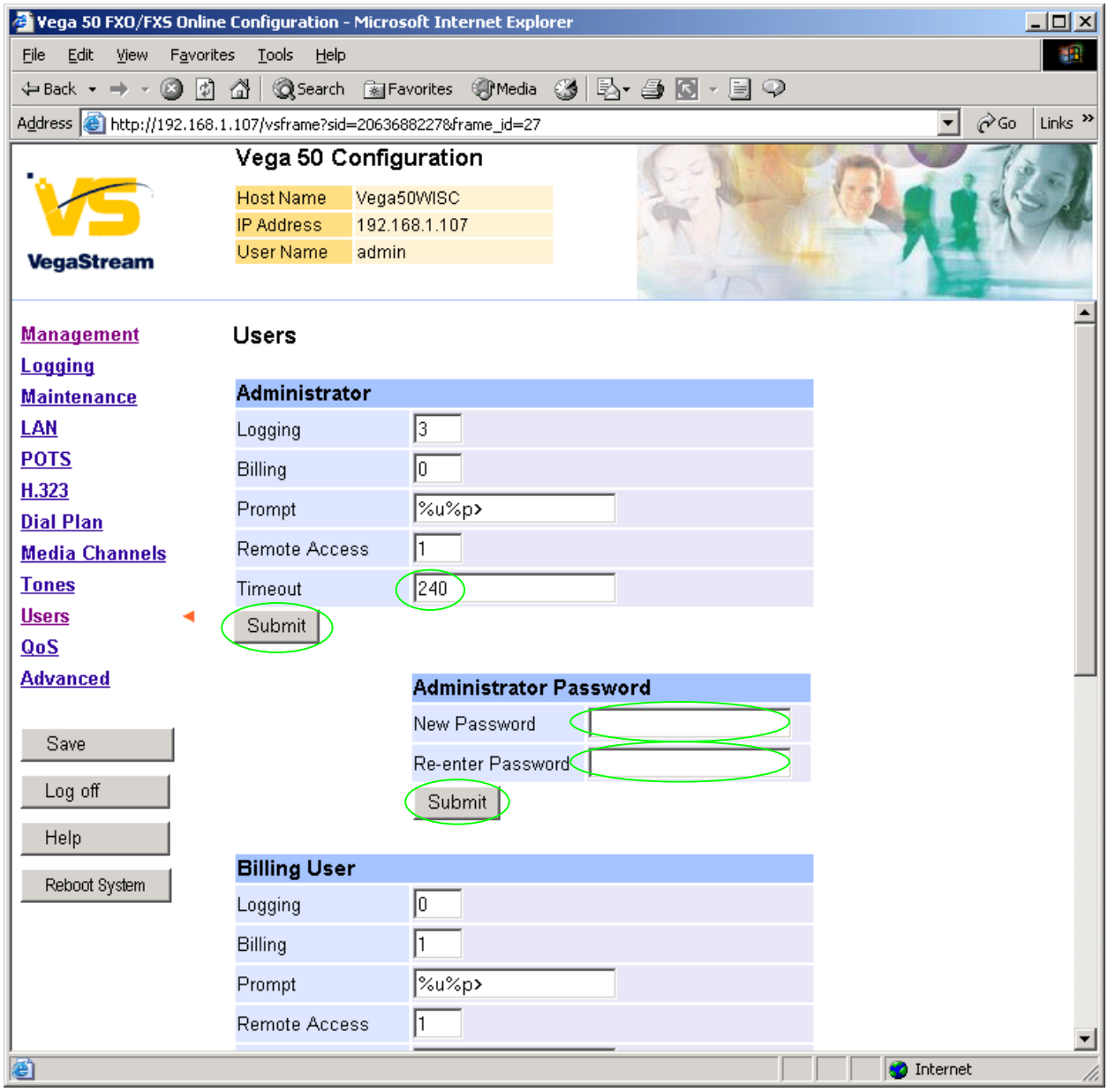


***Recommended:*** Change the password

- enter New Password and Re-enter Password then
- select Submit and then click "here" to return

***Optional:*** Change the timeout[1] – default is 240 seconds; can extend to 7200 seconds (2hrs)

- select Submit and then click "here" to return

[1] If the web 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 browser session.


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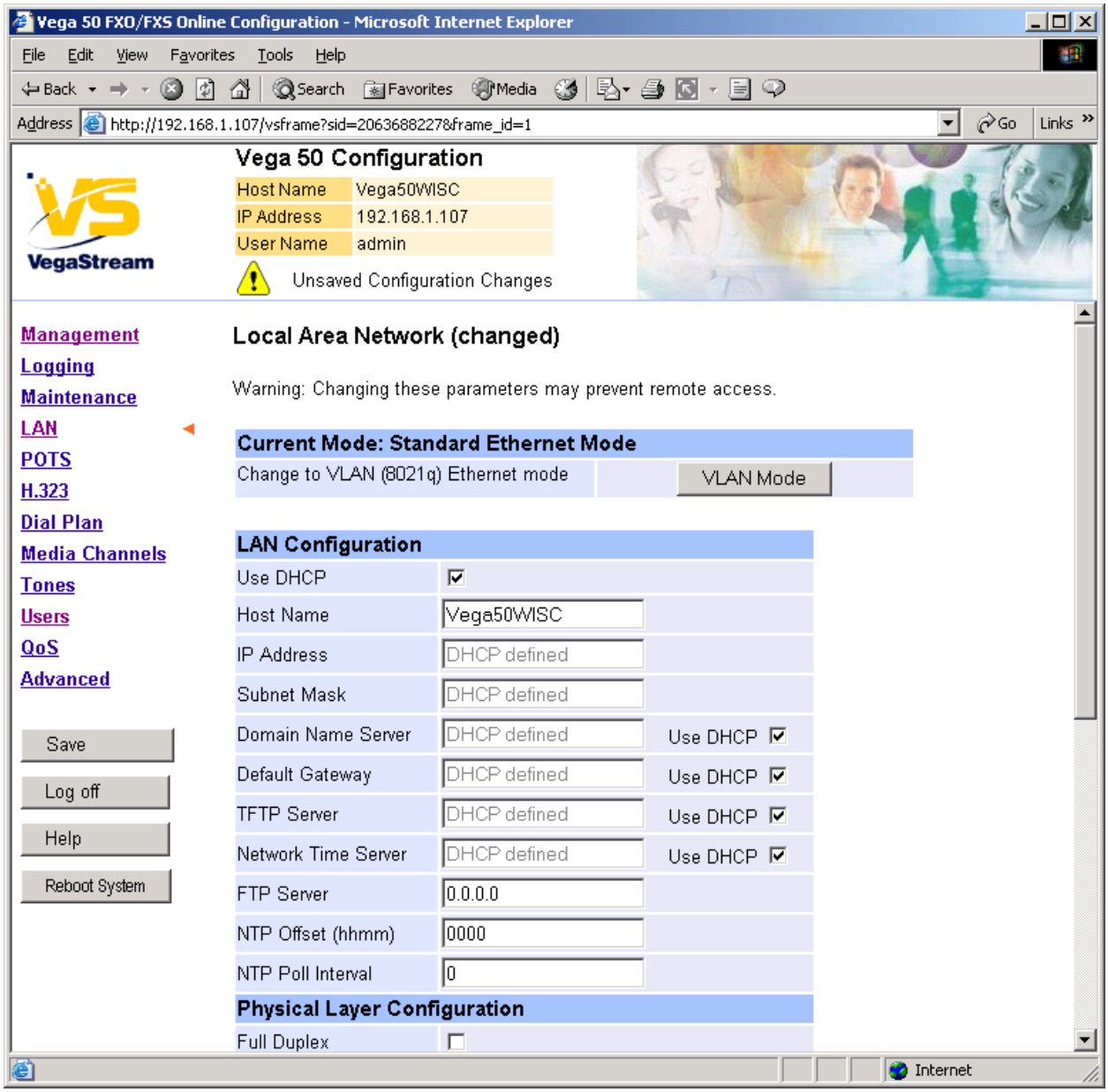
# 4. Check and configure LAN settings and Host name

- On the left hand side menu select LAN




***Optional:*** If there are any LAN values that need to be set up (e.g. NTP server or tftp server) set them up now, then

- Select Submit and then click "here" to return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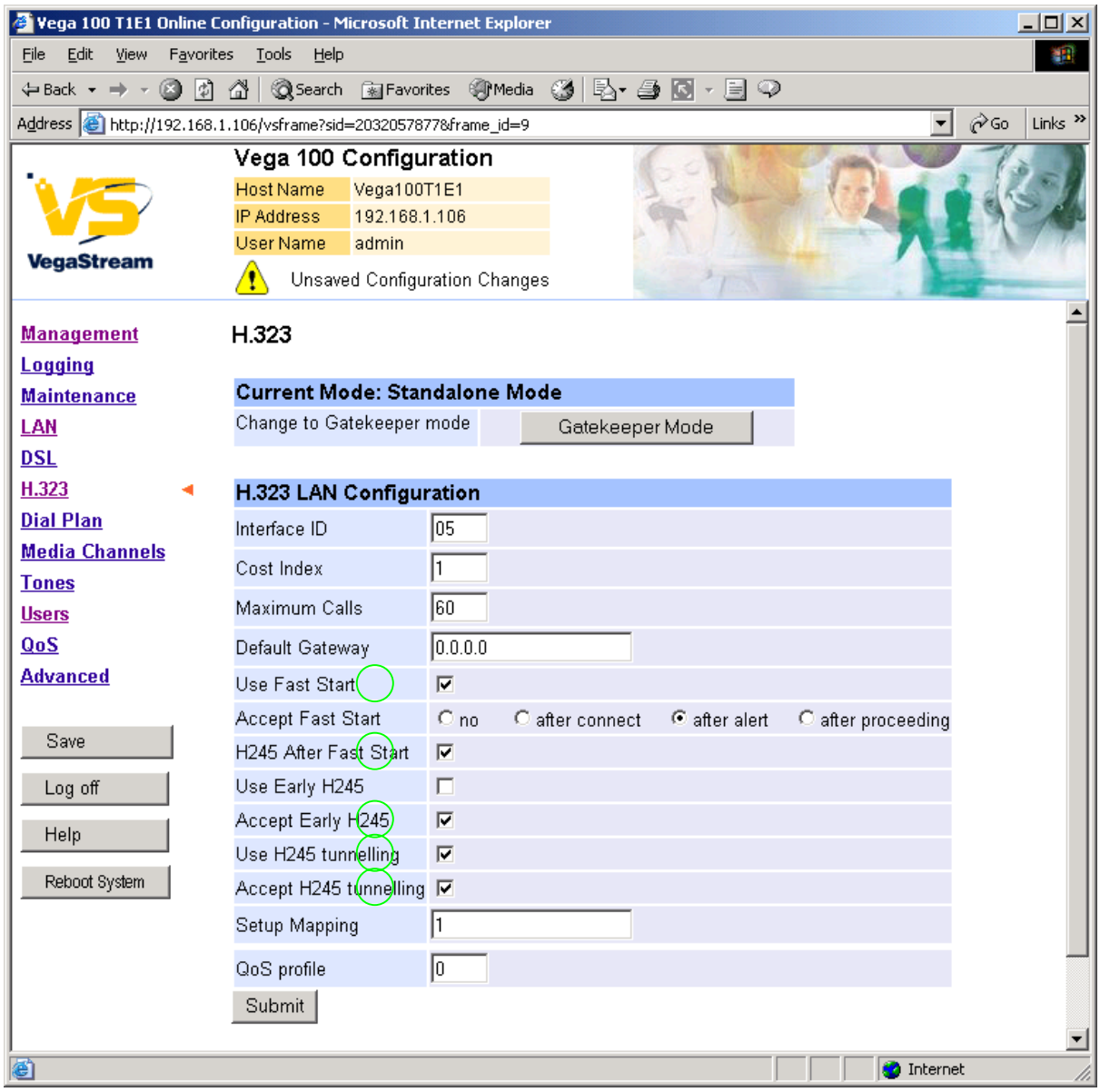
# 5. Configure H.323 parameters

➢ On the left hand side menu select H.323




*If this Vega is to be inter-working with another Vega leave the **H.323 LAN Configuration** alone, if it is to work with other manufacturer's devices, it is often best to untick the indicated items – as these are advanced H.323 features that are not always supported by other manufacturers. Once the Vega and the other device are working in the basic H.323 mode, try enabling other features – back towards this configuration, as this will improve call setup times.*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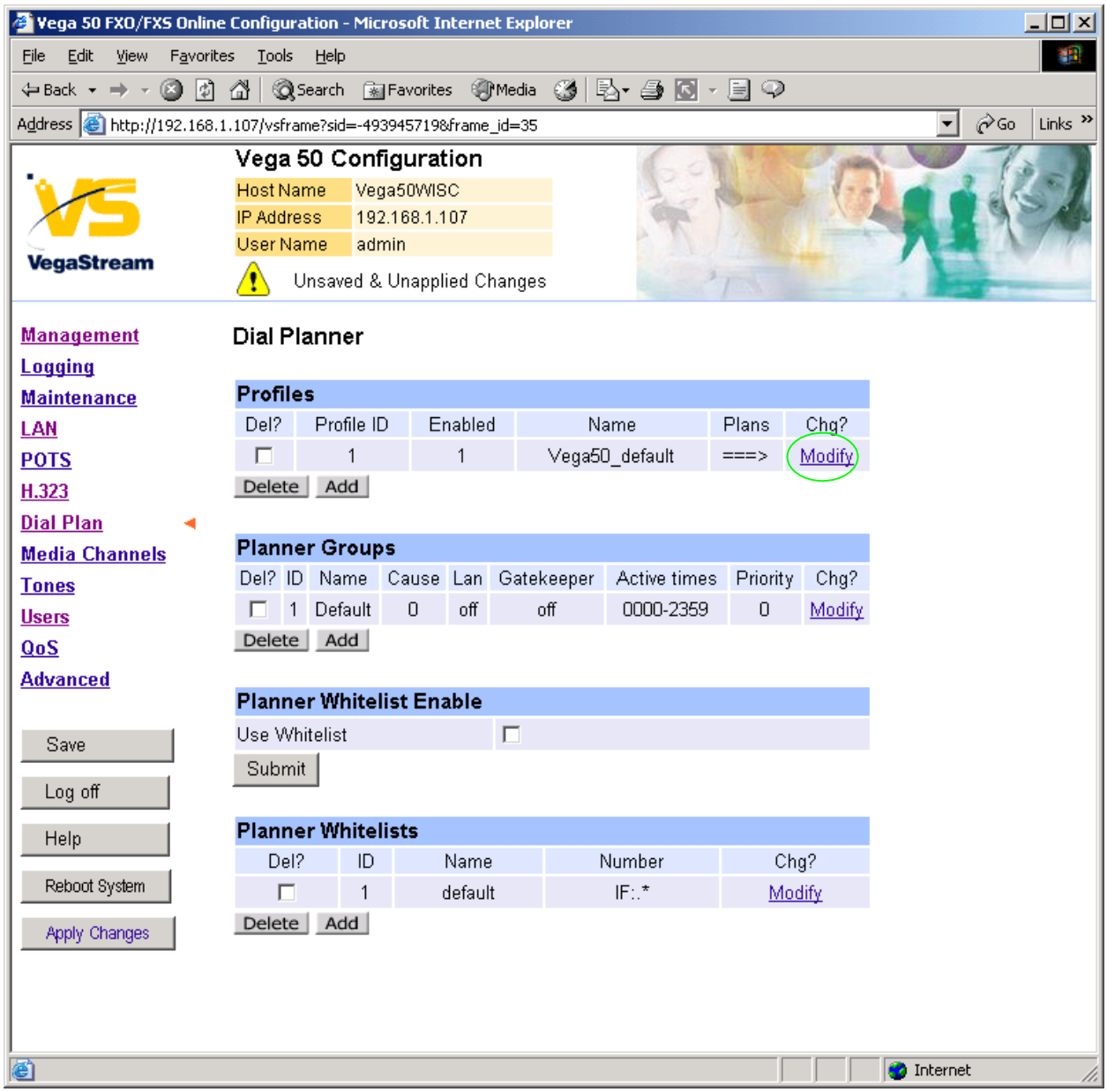
# 6. Configure the Dial Plan

- On the left hand side menu select Dial Plan




*Firstly, turn off the default profile:*

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

- Select Modify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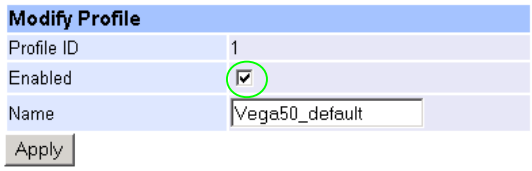
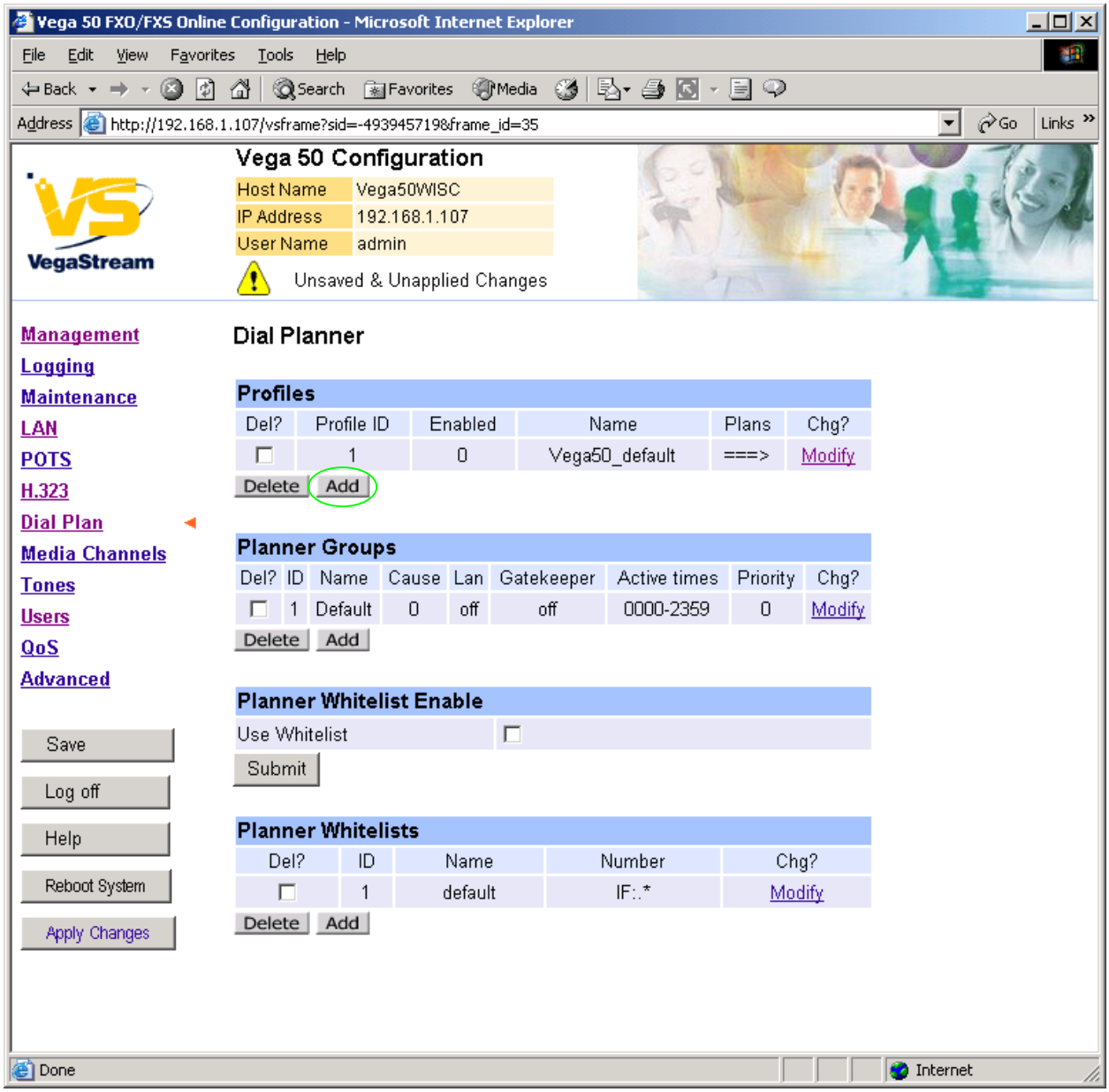
**Profile**




- disable (un-tick) Enabled, then
- select Submit and then click "here" to return




*Now create a new profile and in it create dial plan entries to handle calls being sent from the PBX / CO switch to the LAN:*

In the **Profiles** section

- Select Add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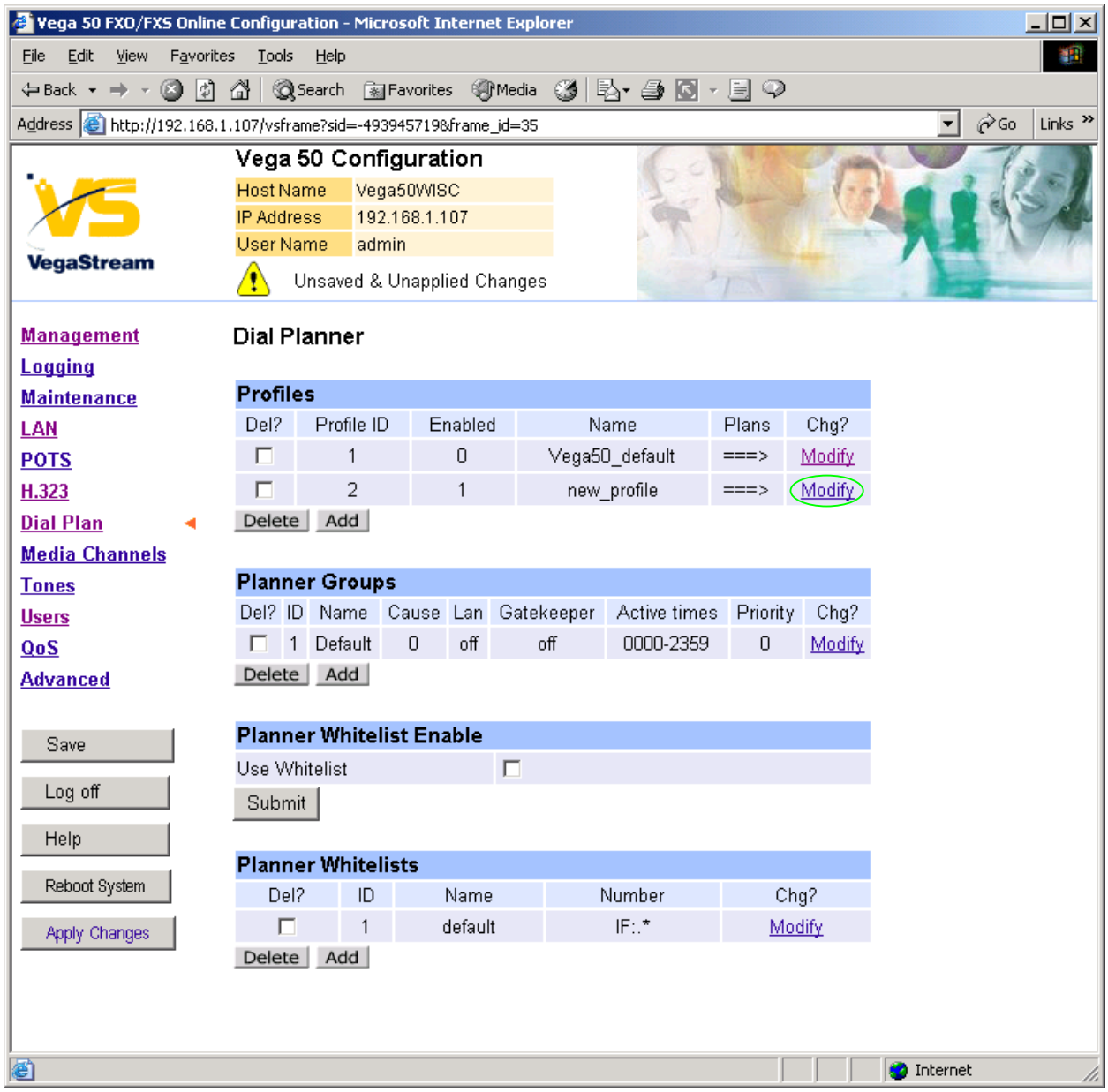


In the **Profiles** section for Profile 2 (the new profile):

- Select Modify

**Profile**

- Set Name = `Outbound_To_LAN`
- select Submit and then click "here" to return


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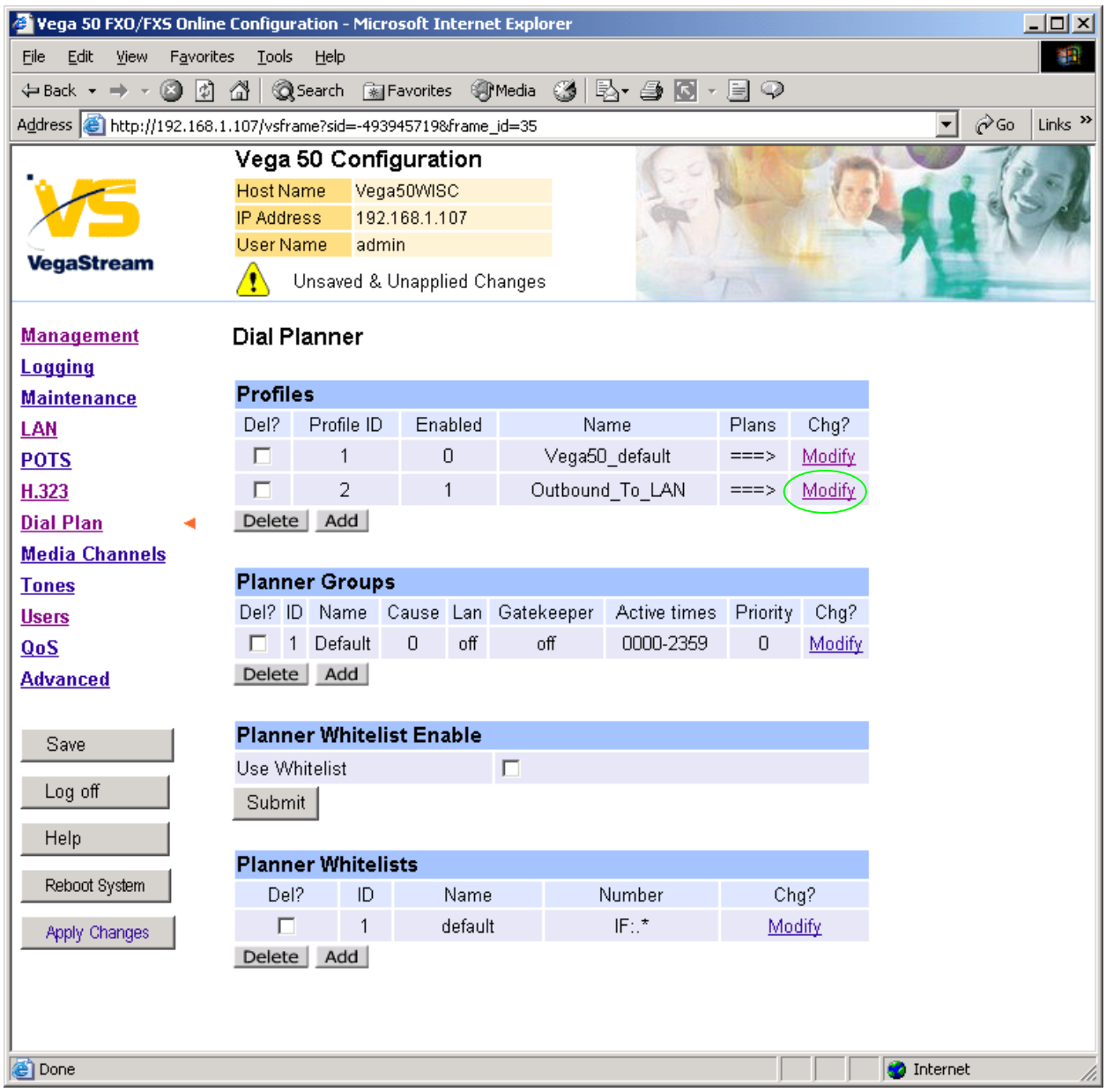
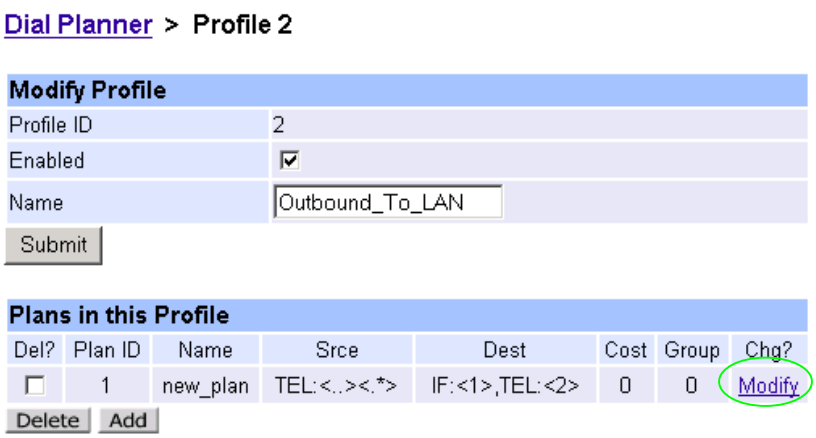



In the **Profiles** section for Profile 2 (Outbound_To_LAN):

- Select Modify





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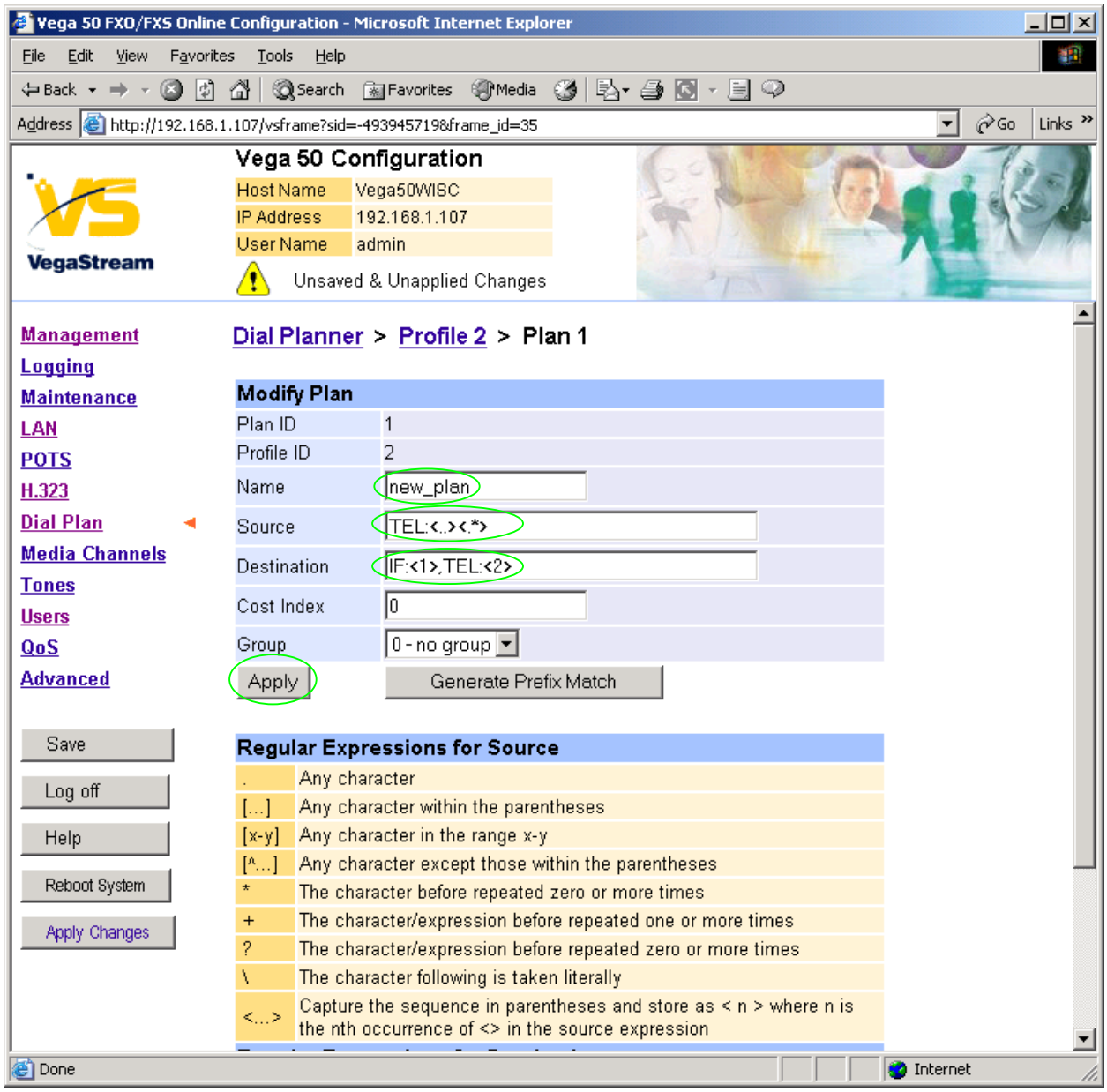
In the **Plans in this Profile** section for Plan ID 1:

- Select Modify




- Set Name = `IF_06_To_LAN`
- Set Source = `IF:<06>` *(This takes a call from IF 06 (marked CH1 on the rear of the Vega) and stores the interface ID on which the call arrived in store <1>)*
- Set Destination = `IF:05,TEL:2<1>,TA:192.168.1.100` *(This routes the call over the LAN (IF:05) to IP address 192.168.1.100. It presents a dialled telephone number 206 (2 preceding the interface ID))*
- select Apply and then click "here" to return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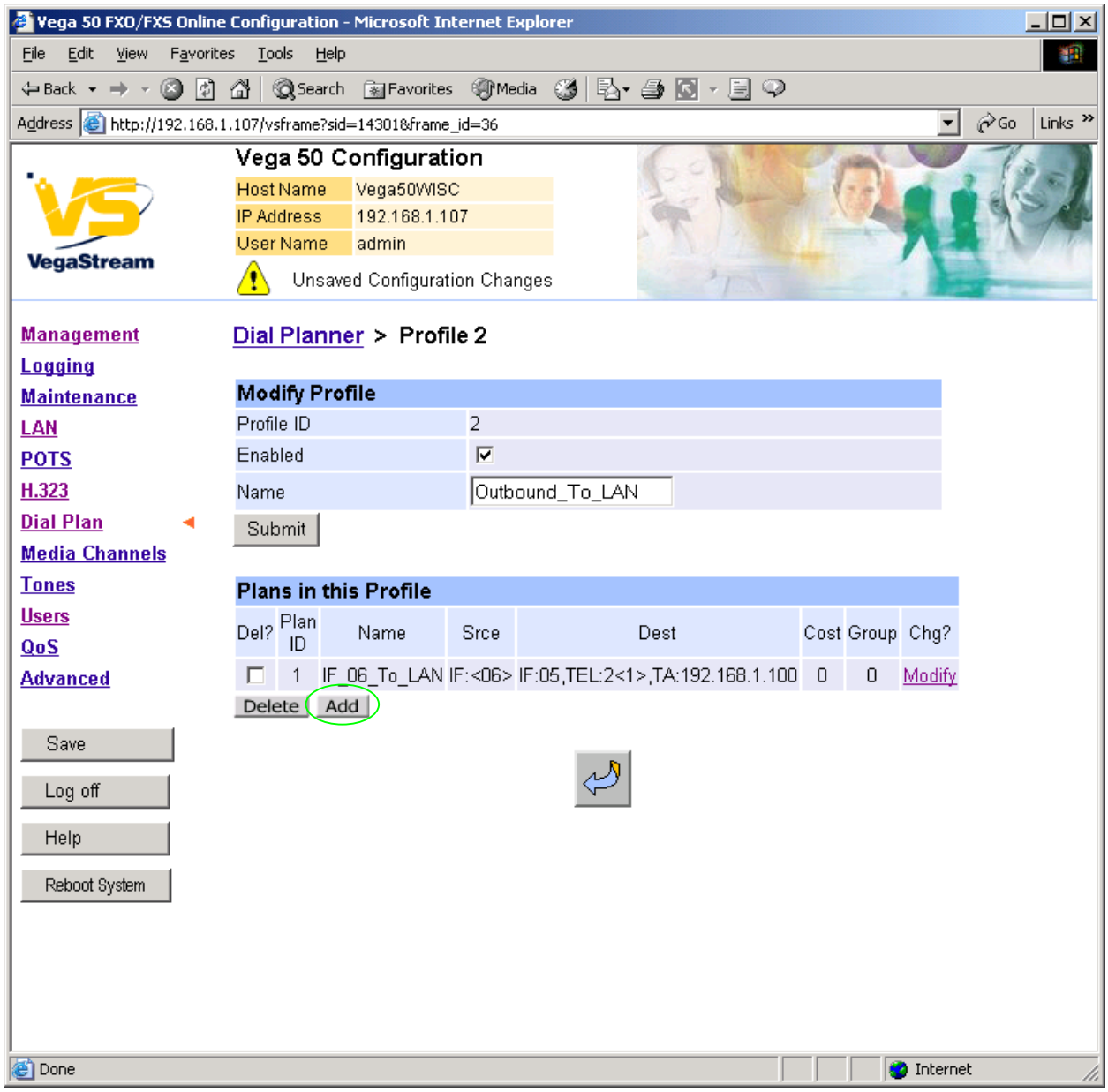


*Add a new plan to Profile 2 and configure as follows:*

- Set Name = `IF_07_To_LAN`
- Set Source = `IF:<07>` *(This takes a call from IF 07 (marked CH2 on the rear of the Vega) and stores the interface ID on which the call arrived in store <1>)*
- Set Destination = `IF:05,TEL:2<1>,TA:192.168.1.101` *(This routes the call over the LAN (IF:05) to IP address 192.168.1.101. It presents a dialled telephone number 207 (2 preceding the interface ID))*
- select Apply and then click "here" to return

*… repeat for interfaces 08 to 13. This will result in the following:*


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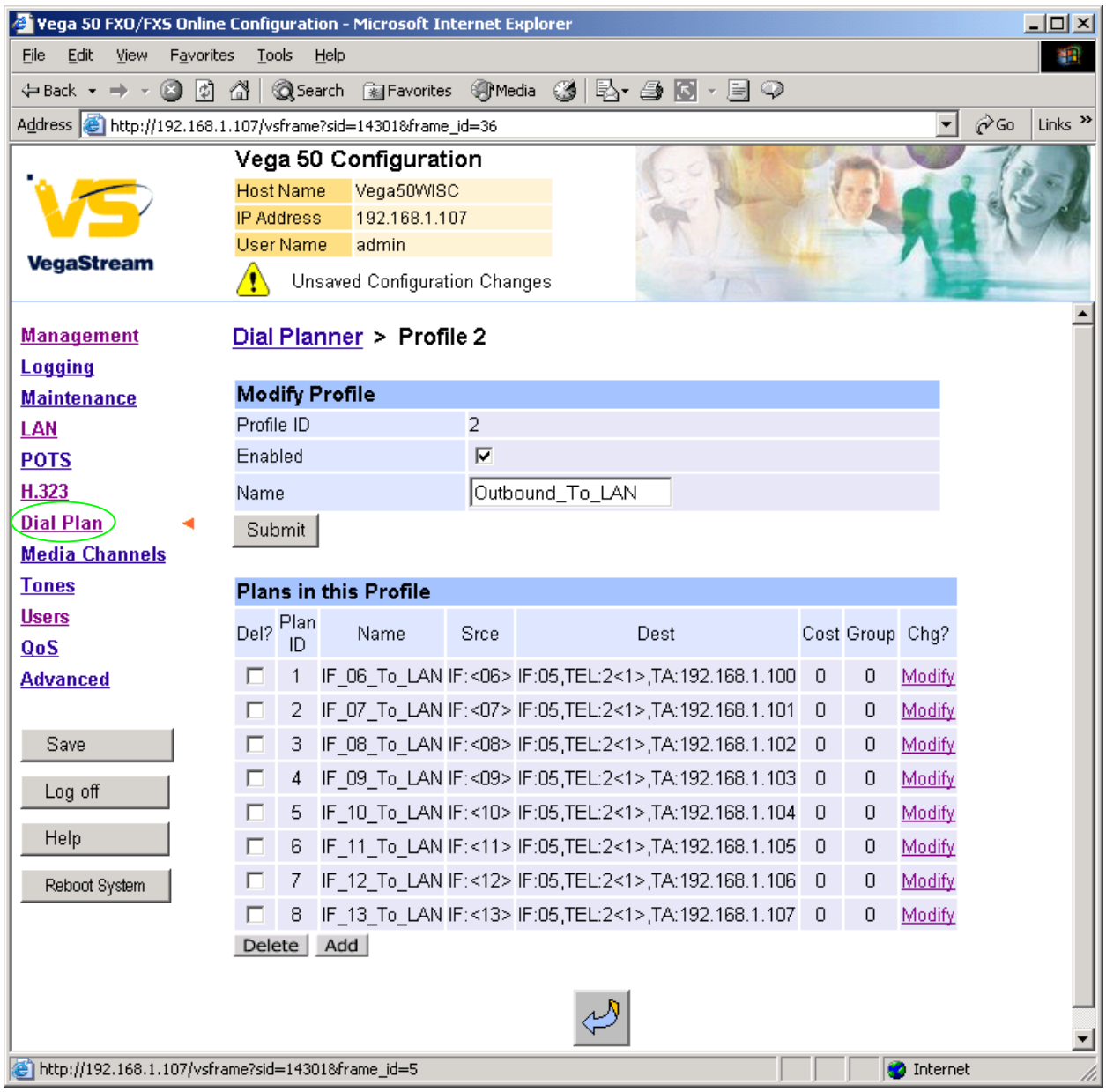


- On the left hand side menu select Dial Plan


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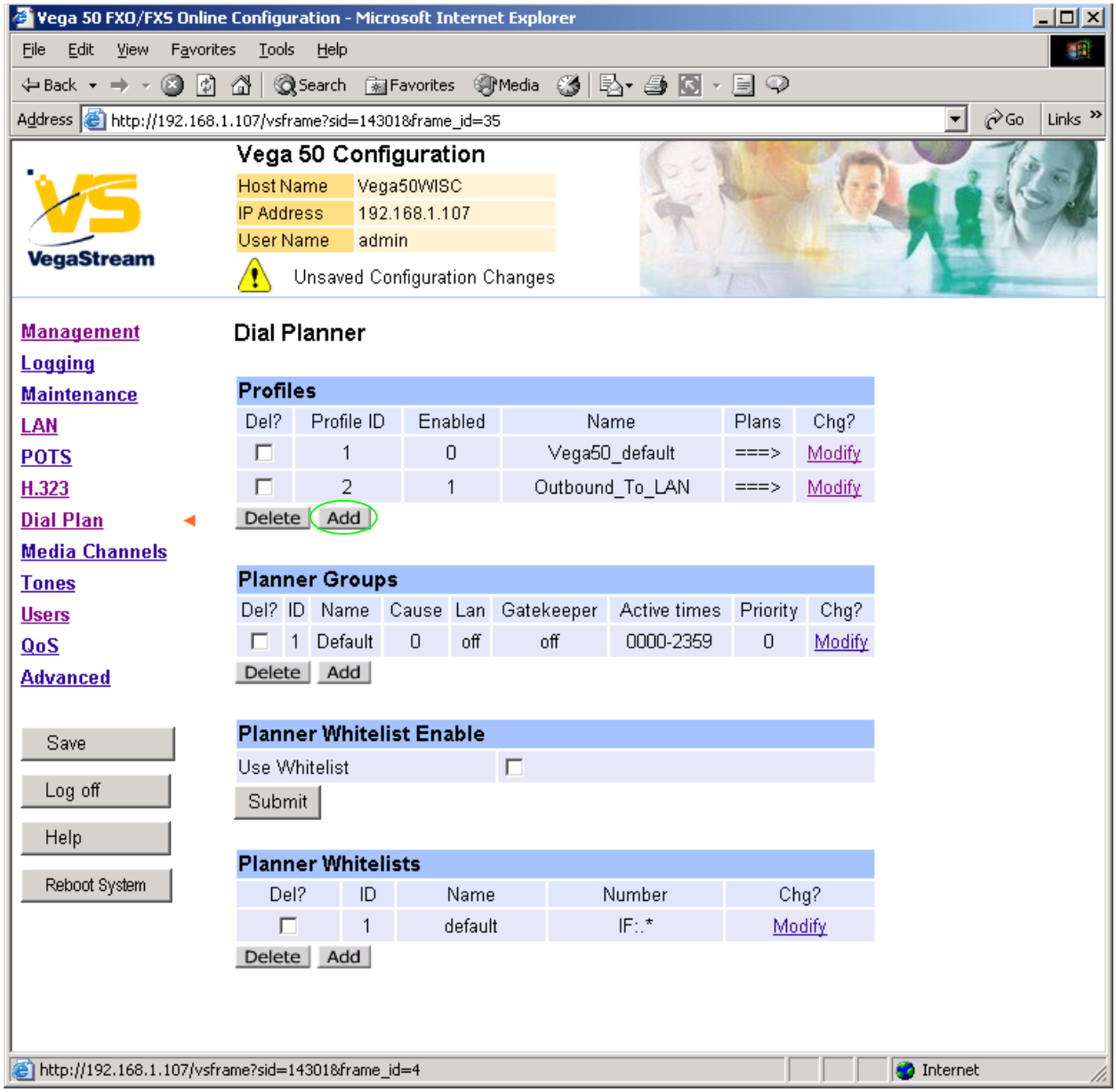


*Now create a new profile and in it create a dial plan entry to handle calls being received inbound from the LAN:*

In a similar manner to adding profile 2 add another profile, profile ID 3,

- Set Name = `Inbound_from_LAN`


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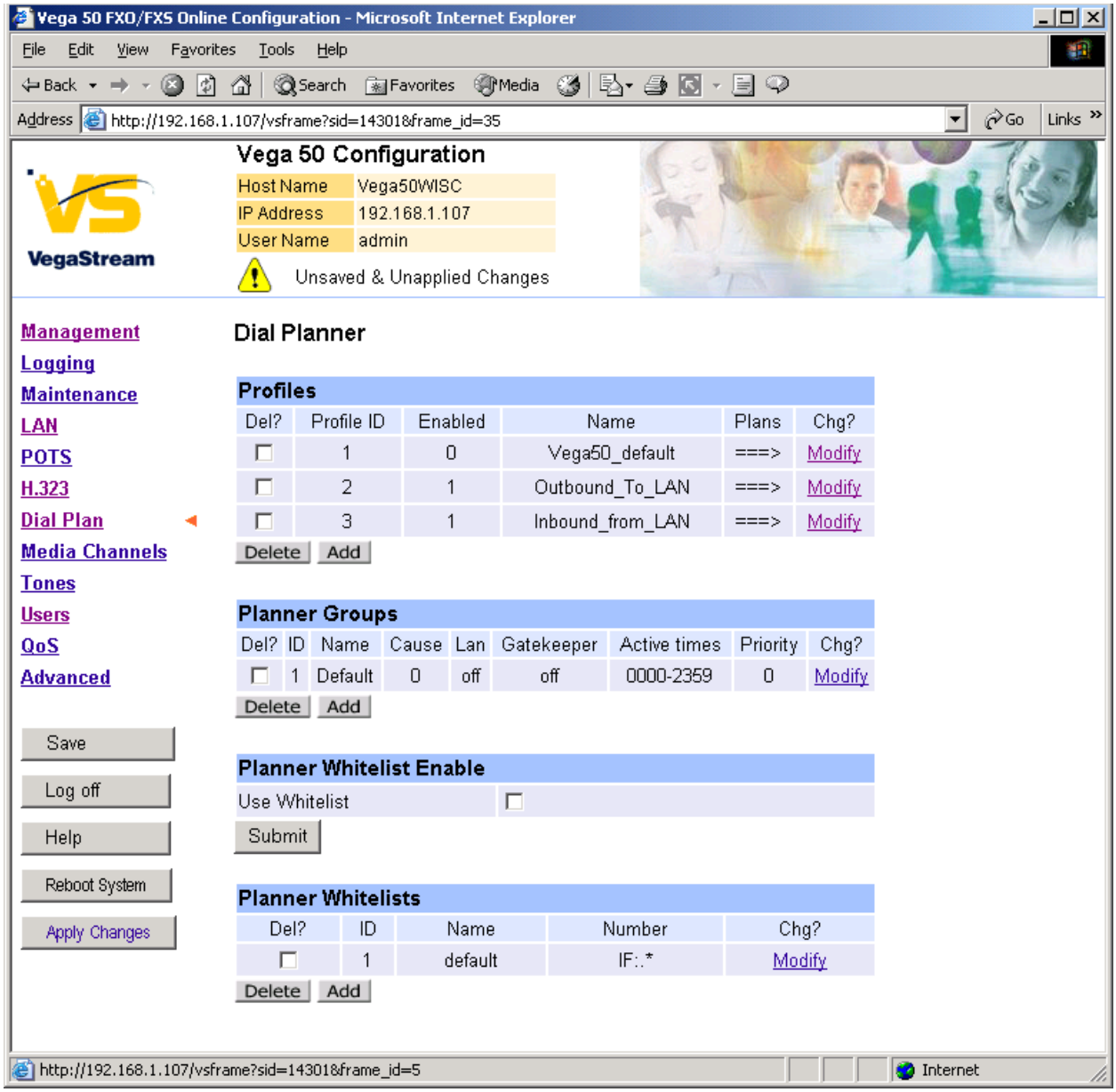


Modify the first plan for Profile 3:

- Set Name = `From_LAN_to_IF_06`
- Set Source = `IF:05,TAC:192.168.1.100,TEL:<.*>` *If a call arrives from IP address 192.168.1.100 then take the presented number and store it in store <1>*
- Set Destination = `IF:06,TEL:<1>` *Dial out of telephony interface 06 the dialled digits stored in store <1>*
- select Apply and then click "here" to return

*… repeat for interfaces 07 to 13. This will result in the following:*


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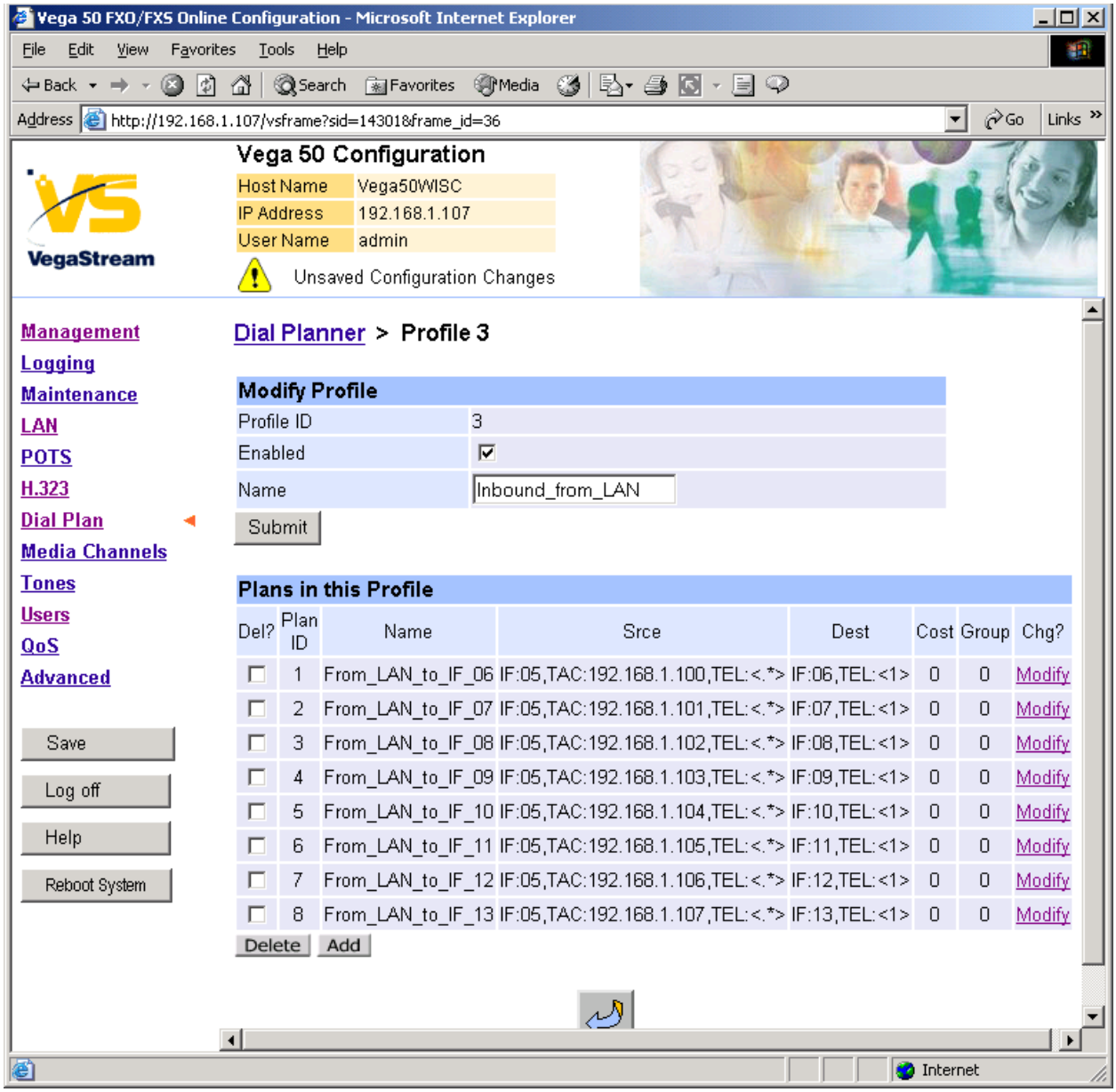


***For more details on the operation of the dial planner, including the various tokens that may be used, see the section "The Dial Planner" in the Vega Primer.***


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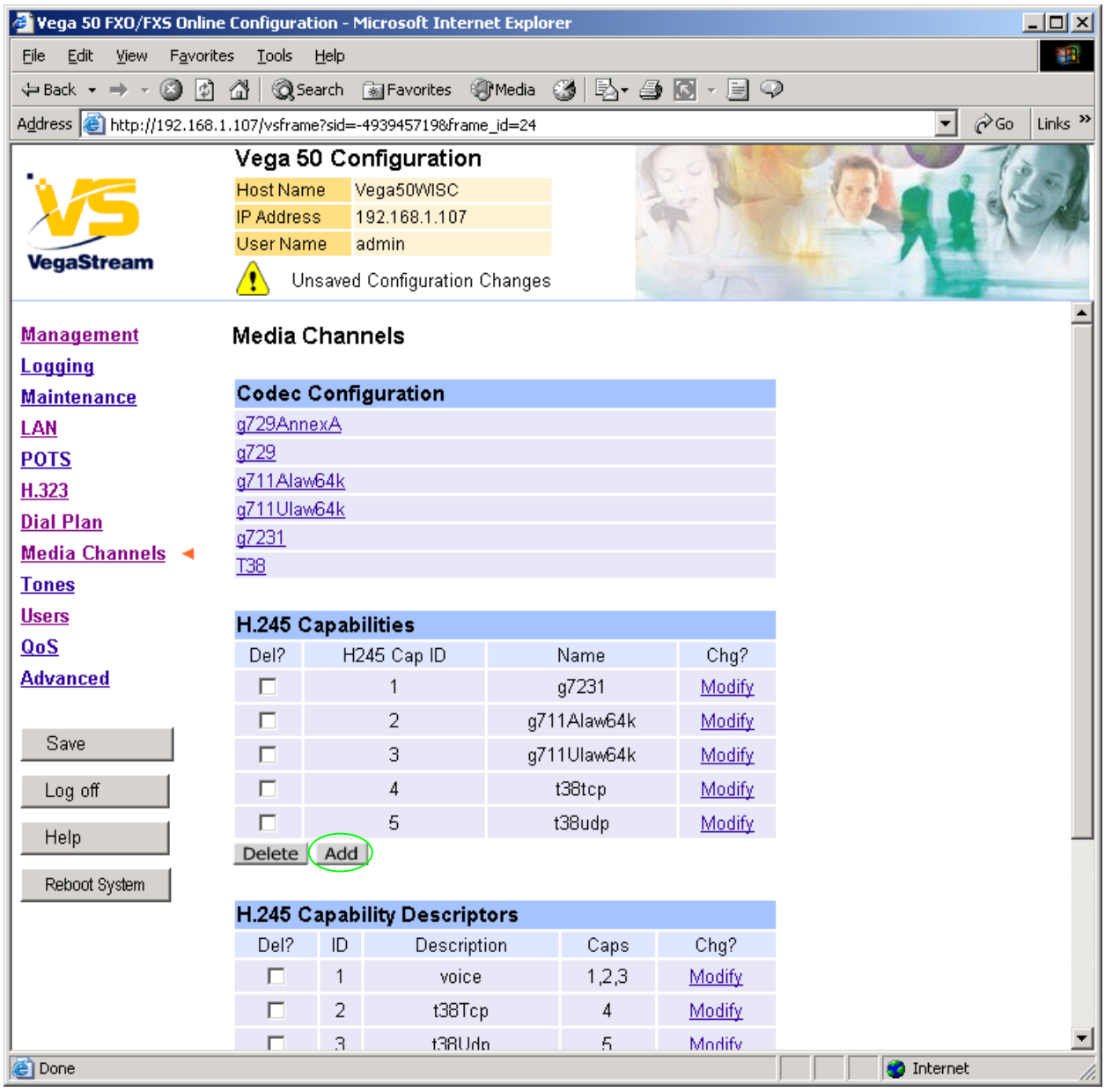
# 7. Configure audio parameters

- On the left hand side menu select Media Channels




*Add more codecs so that by default the Vega will handle calls with any of the codecs it supports.*

In H.245 Capabilities

- Select Add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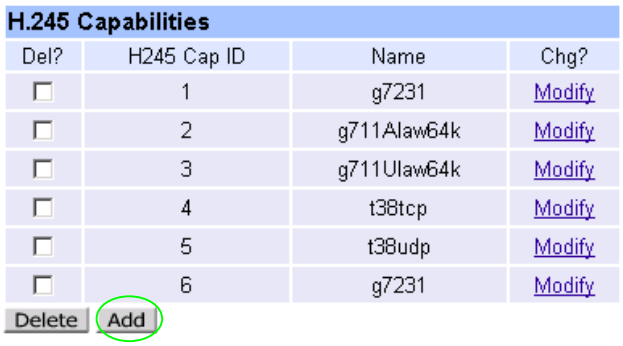
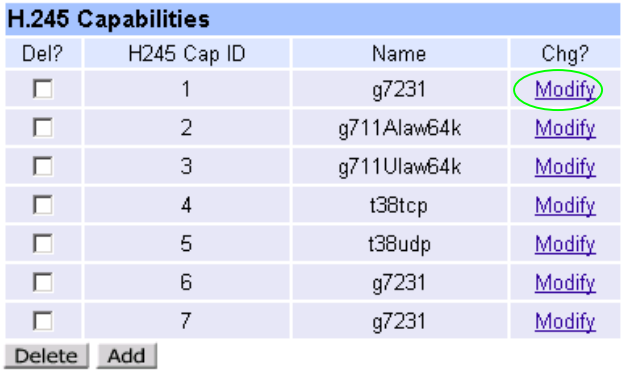
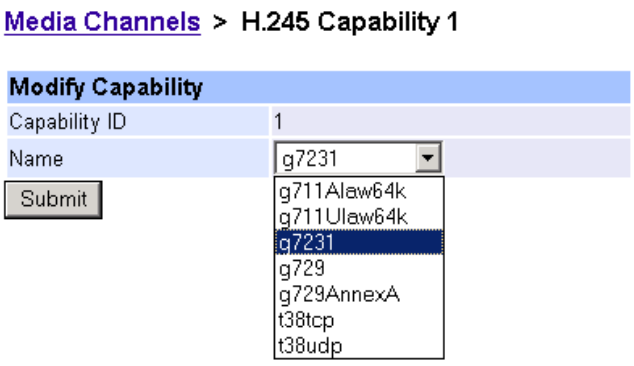



In H.245 Capabilities

- Select Add again




- Select Modify on H245 Cap ID 1




- Select required codec type – in this case g7231
- select Submit and then click "here" to return

Modify all H245 Cap ID entries until the list looks as follows: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**H.245 Capabilities**

| Del? | H245 Cap ID | Name | Chg? |
|---|---|---|---|
| ☐ | 1 | g7231 | Modify |
| ☐ | 2 | g729AnnexA | Modify |
| ☐ | 3 | g729 | Modify |
| ☐ | 4 | g711Alaw64k | Modify |
| ☐ | 5 | g711Ulaw64k | Modify |
| ☐ | 6 | t38tcp | Modify |
| ☐ | 7 | t38udp | Modify |

Delete Add

*Now update the Capability Description list that tells the Vega which of the codecs it can use.*

**H.245 Capability Descriptors**

| Del? | ID | Description | Caps | Chg? |
|---|---|---|---|---|
| ☐ | 1 | voice | 1,2,3 | Modify |
| ☐ | 2 | t38Tcp | 4 | Modify |
| ☐ | 3 | t38Udp | 5 | Modify |

Delete Add

*Update entry 1 to select all voice codecs, and the other entries to configure them for the correct capability Ids.*

For each capability:

- Select Modify
- Adjust them so that they have the capabilities as indicated below:

**H.245 Capability Descriptors**

| Del? | ID | Description | Caps | Chg? |
|---|---|---|---|---|
| ☐ | 1 | voice | 1,2,3,4,5 | Modify |
| ☐ | 2 | t38Tcp | 6 | Modify |
| ☐ | 3 | t38Udp | 7 | Modify |

Delete Add

- Scroll to the bottom of the Media Channels page


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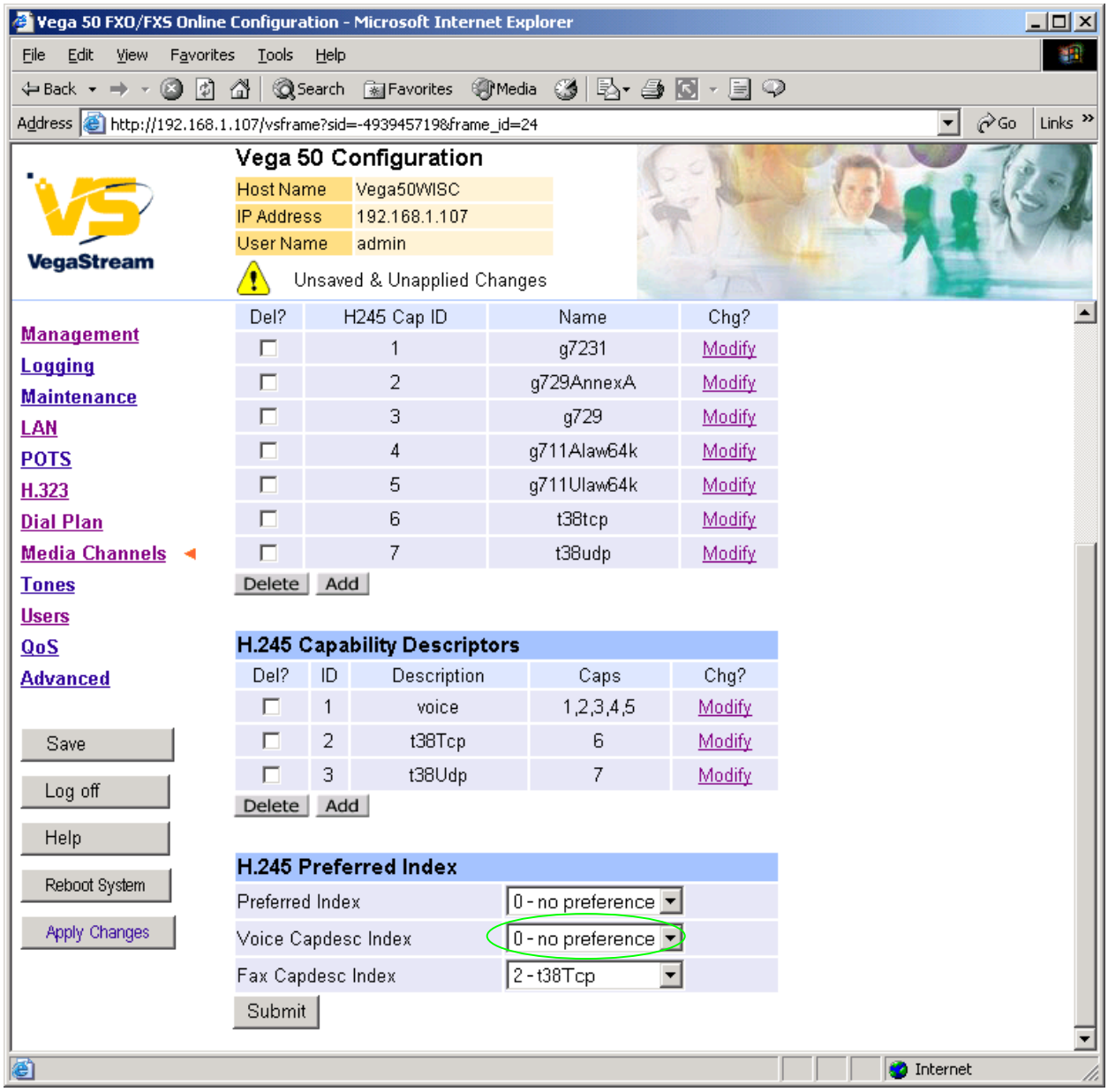
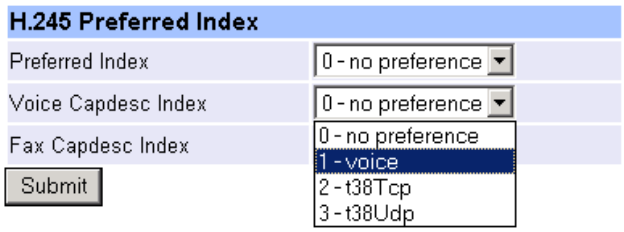



In the **H.245 Preferred Index** section:

- Set Voice Capdesc Index to: 1-voice




- select Submit and then click "here" to return

*This has selected all voice codecs to be offered for calls.*

*With Fax Capdesc Index set to "`2-t38Tcp`" it has selected this codec for fax transfers. Note, it is recommended that only a single T.38 codec is offered (as configured here), because if both are offered negotiations do not always complete correctly.*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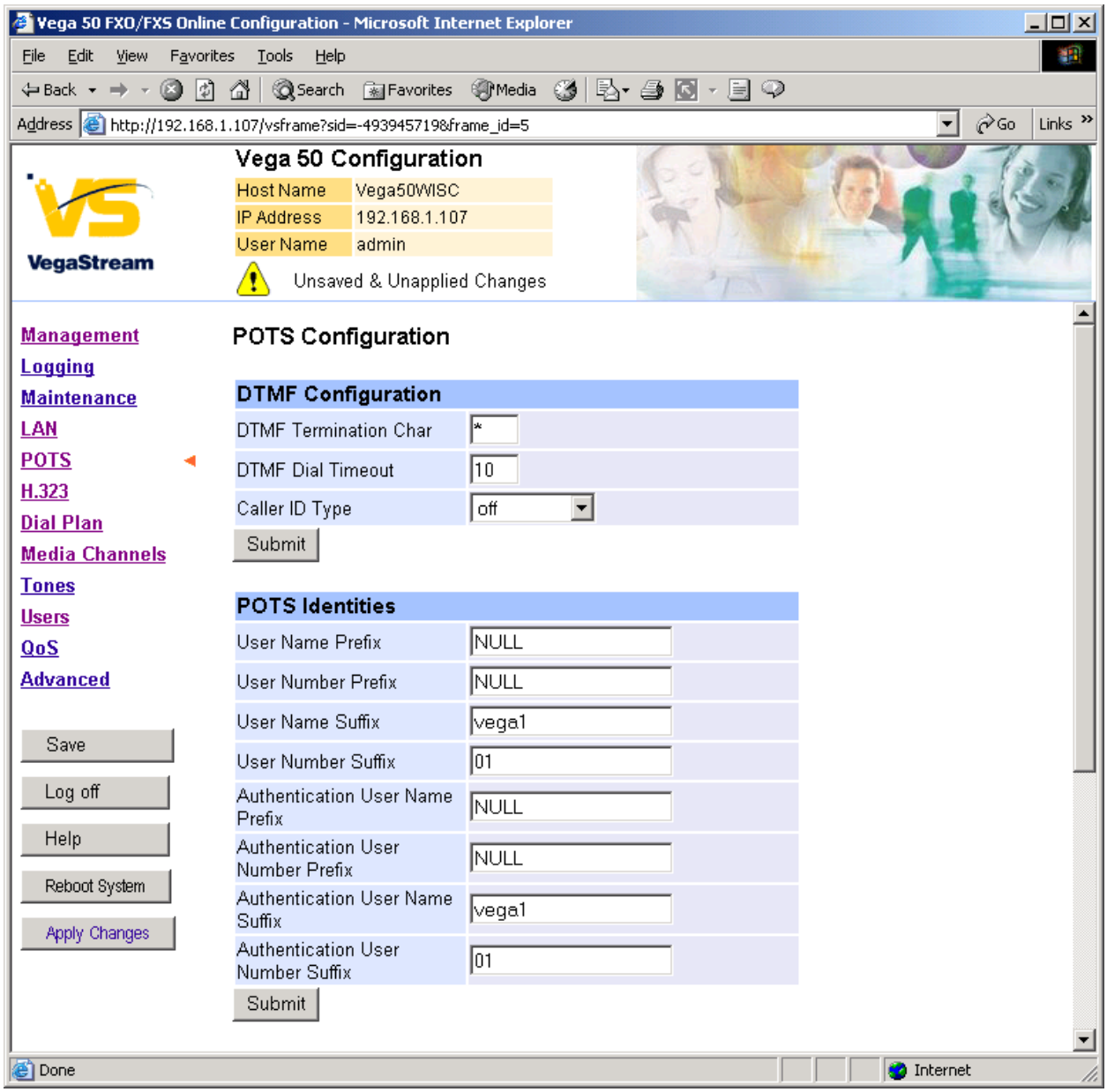
# 8. Configure POTS parameters

- On the left hand side menu select POTS




- Scroll down to the bottom of the page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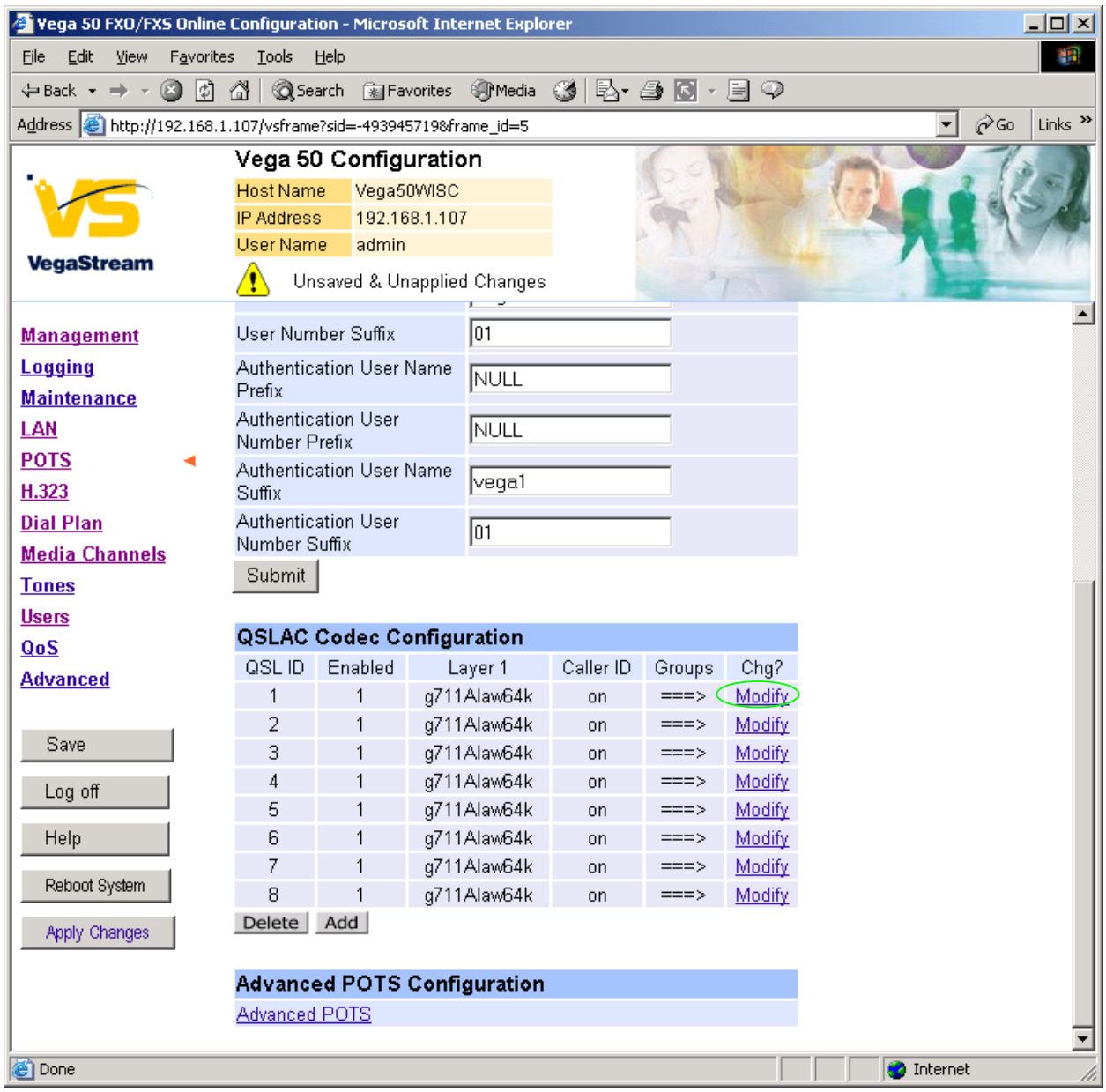


For QSL ID 1 in the **QSLACK Codec Configuration** section:

- Select Modify


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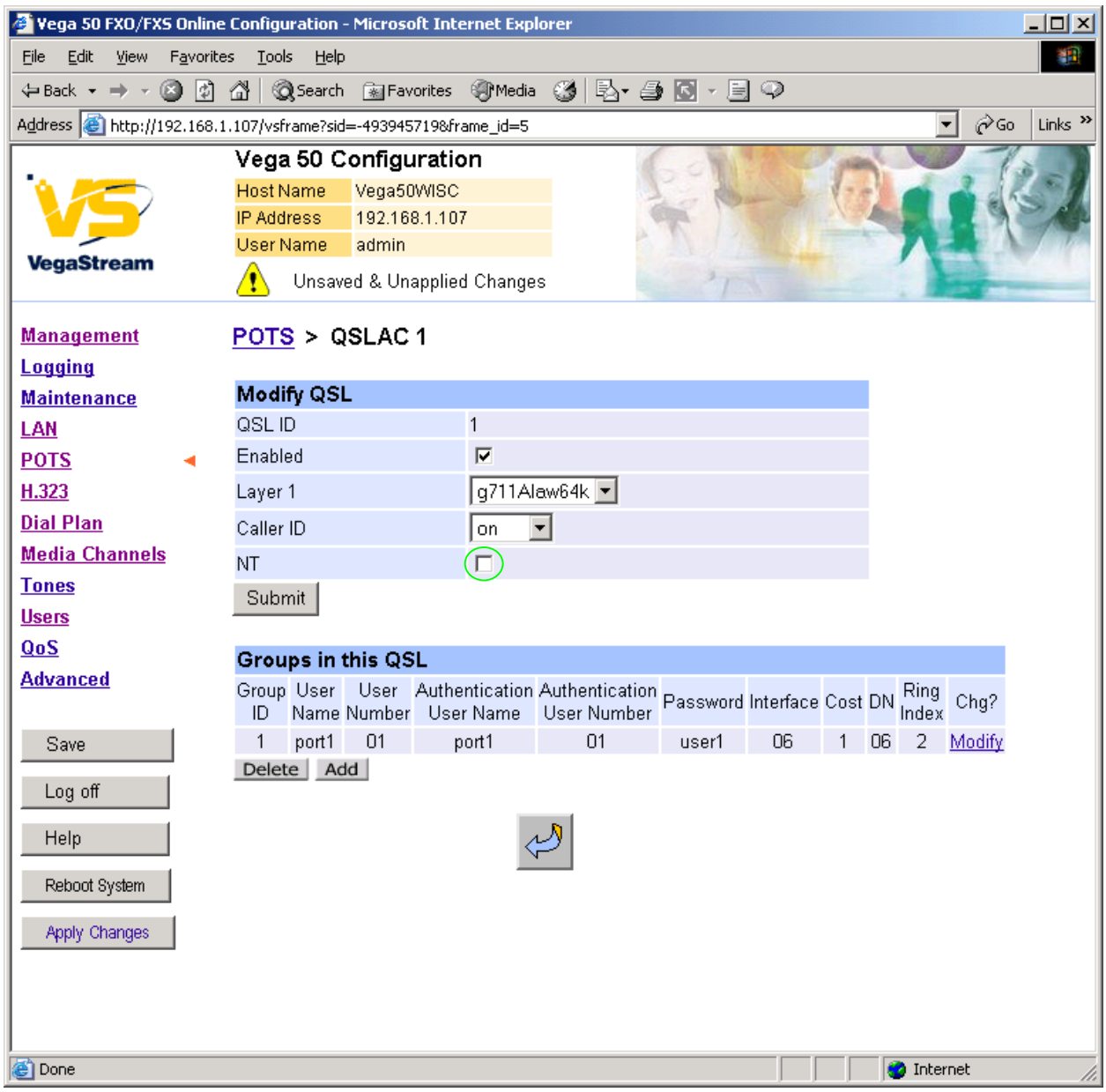


- Ensure that NT mode is disabled – NT is not ticked, then
- select Submit and then click "here" to return

Repeat setting Not NT for QSL ID 2 to 8

**QSLAC Codec Configuration**

| QSL ID | Enabled | Layer 1 | Caller ID | Groups | Chg? |
|---|---|---|---|---|---|
| 1 | 1 | g711Alaw64k | on | ===> | Modify |
| 2 | 1 | g711Alaw64k | on | ===> | Modify |
| 3 | 1 | g711Alaw64k | on | ===> | Modify |
| 4 | 1 | g711Alaw64k | on | ===> | Modify |
| 5 | 1 | g711Alaw64k | on | ===> | Modify |
| 6 | 1 | g711Alaw64k | on | ===> | Modify |
| 7 | 1 | g711Alaw64k | on | ===> | Modify |
| 8 | 1 | g711Alaw64k | on | ===> | Modify |

Delete Add


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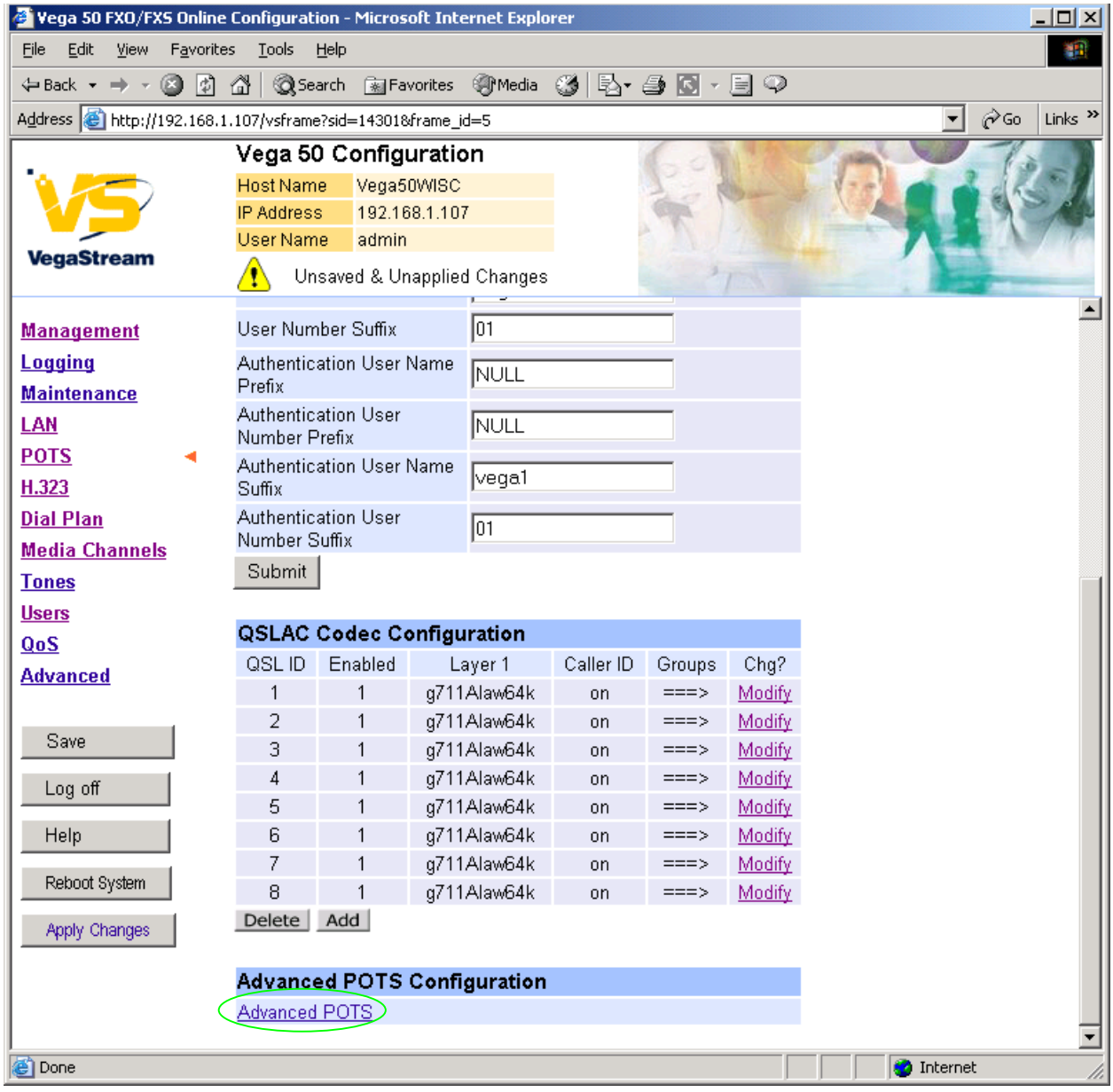
*The Vega FXO is alerted to new calls arriving by the PBX or CO switch presenting ringing voltage to the Vega. The Vega needs to have parameters adjusted to configure the detector for the ring tone(s) it is going to be presented with.*

*Now configure the FXO ring cadence detector so that it detects incoming ring cadences correctly:*

- Scroll down to the bottom of the page




- Select Advanced POTS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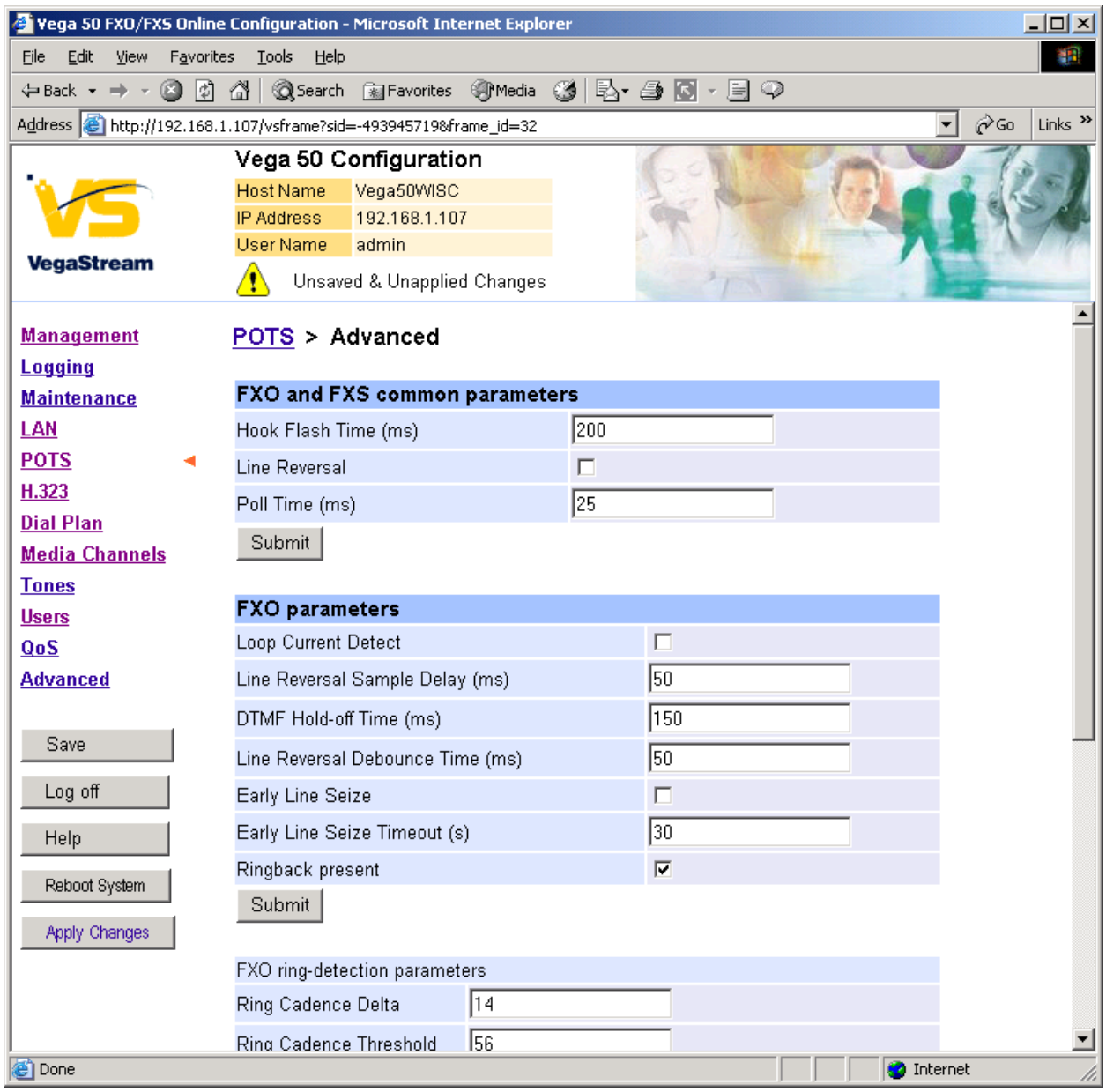


- Scroll down to the bottom of the page


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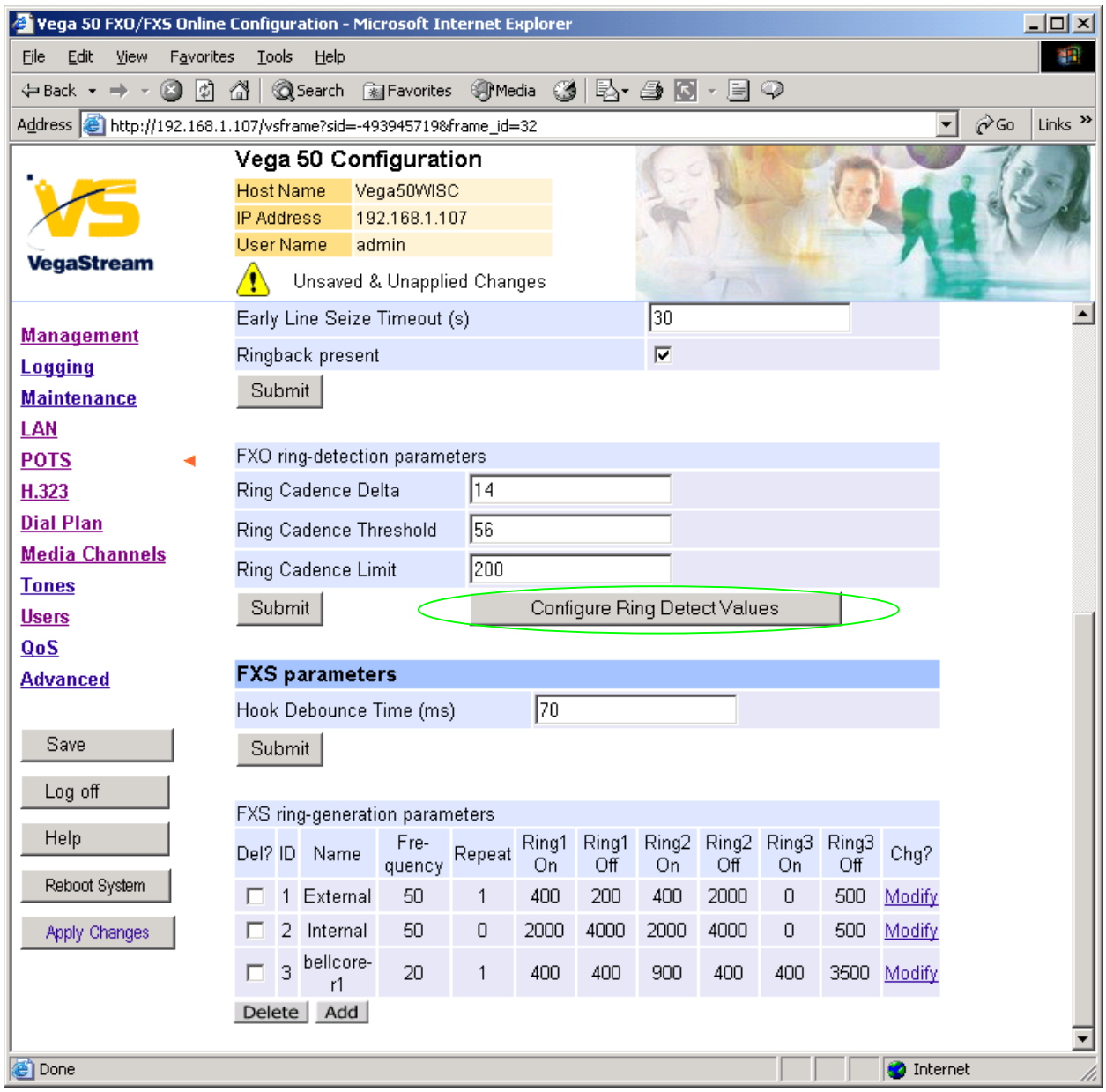


➢ Select



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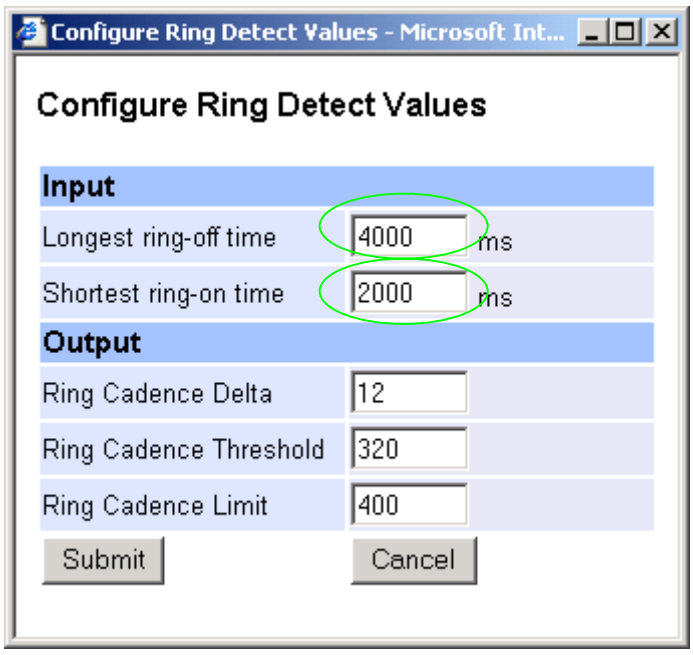


- Set Longest ring-off time = length of longest silence in the incoming ringing voltage cadence
- Set Shortest ring-on time = length of shortest ring in the incoming ringing voltage cadence

Table 1 lists the standard values to use in the UK and USA.

**Table 1. Ring tones parameters**

| | Country | UK | USA |
|---|---|---|---|
| Ring tone values | Longest silence | 2000ms | 4000ms |
| | Shortest ring | 400ms | 2000ms |

- select Submit


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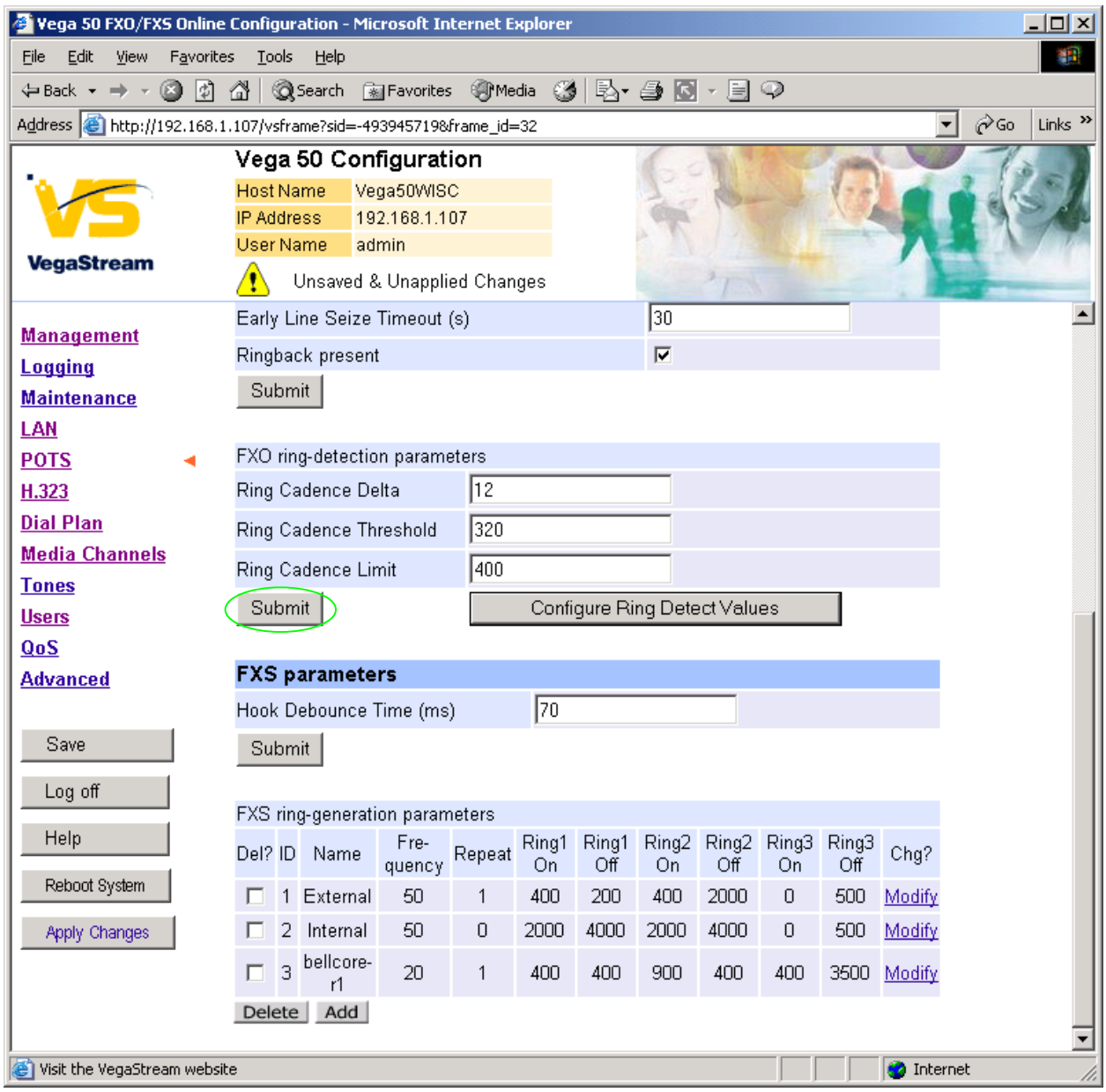


- select Submit and then click "here" to return


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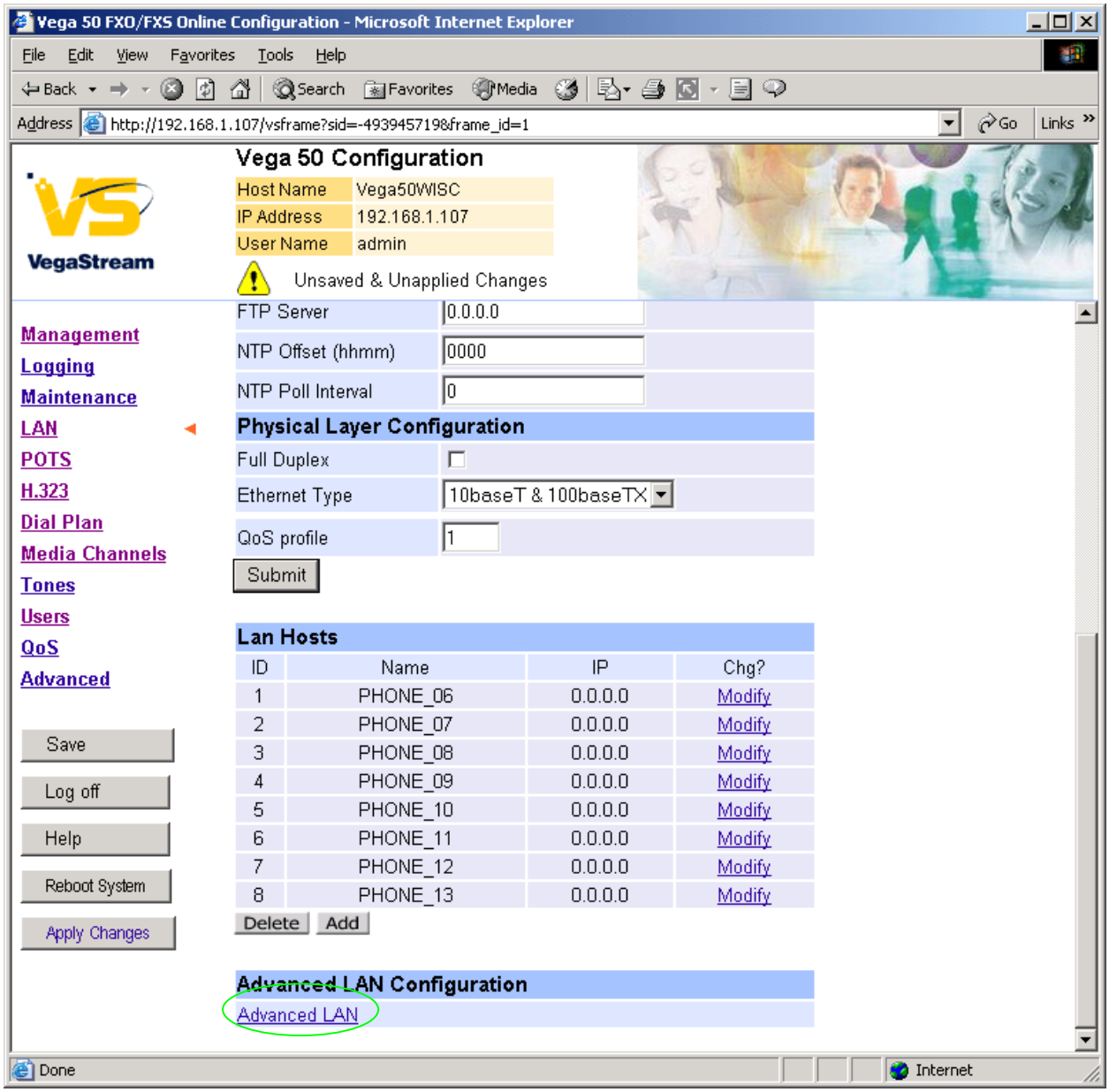
# 9. Configure pointer to CD ROM documentation

- On the left hand side menu select LAN
- Scroll to the bottom of the screen




- Select Advanced LAN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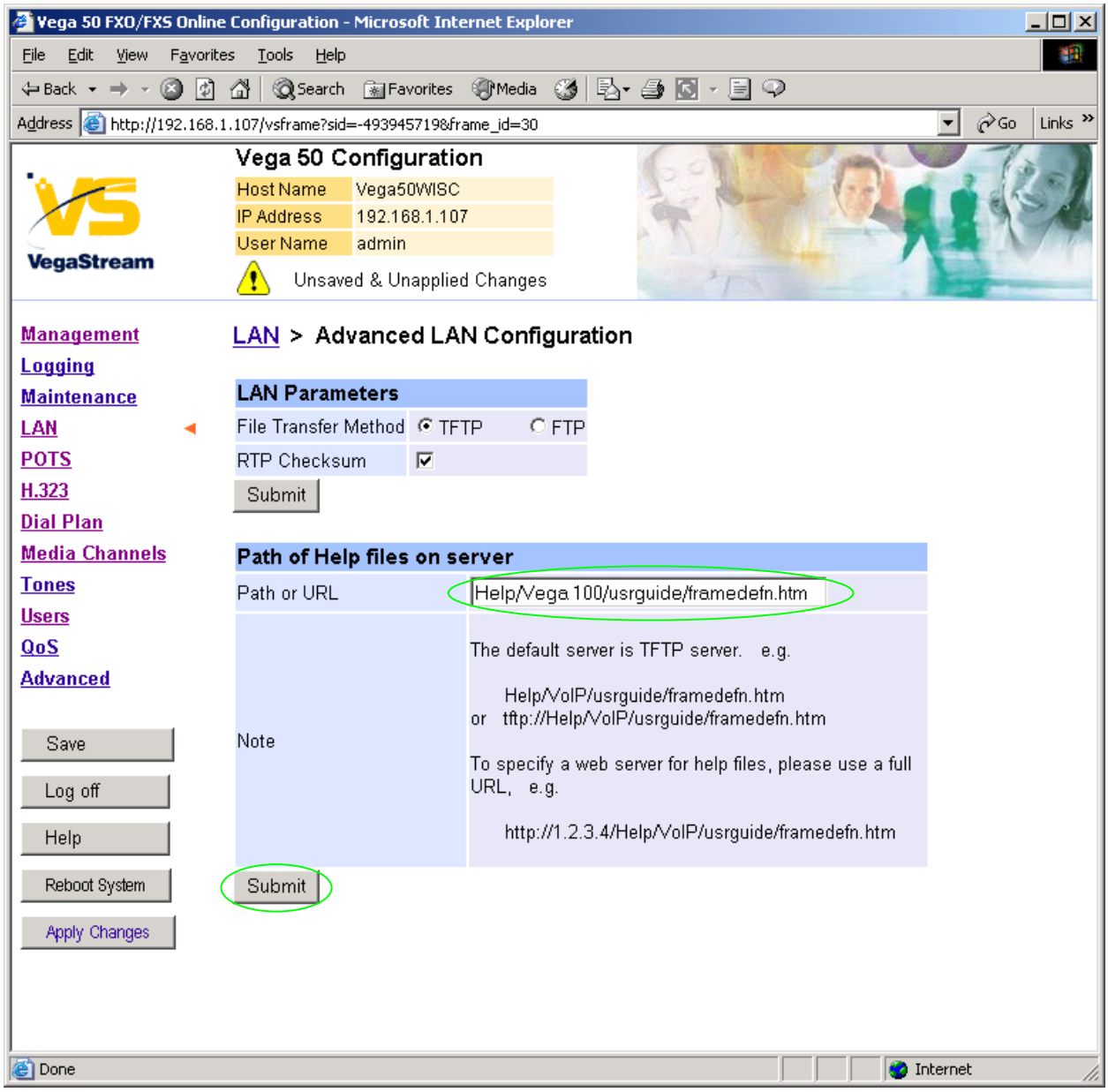


To configure for operation using the CD in the local PC CD-ROM drive,

- Set Path or URL = `D:/Content/help/v50fxoh_R5.htm`

(Substitute appropriate drive letter if D: is not the CD-ROM)

- select Submit and then click "here" to return


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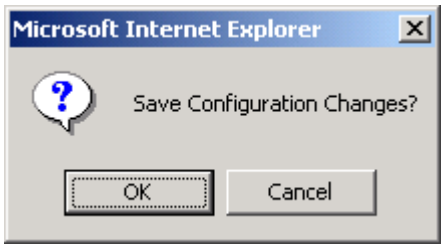
# 10. Save Changes

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

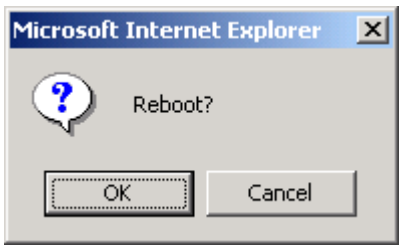
- On the left hand side menu select Save




- Select

and after the configuration has been saved click "here" to return

- On the left hand side menu select Reboot System




- Select


The Vega will reboot and once back on-line, it will be ready to take its first call.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# 11. 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:

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

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 configure the following:

- `set _advanced.lan.ftp.anonymous_login=0`
- `set _advanced.lan.ftp.username=<ftp username>`
- `set _advanced.lan.ftp._password-<ftp password>`


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# 12. Technical Support

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

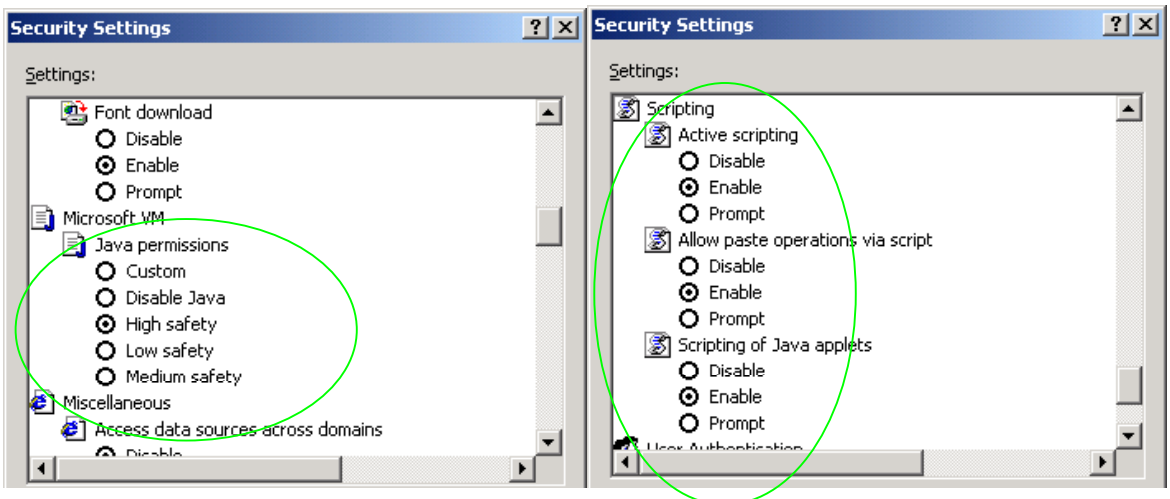
If you require help from VegaStream support personnel, please use the serial interface or telnet into the unit, log in and then type:

- `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.

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 Submit button – entries must be made to one section at a time, and those entries confirmed by the Submit button before the next section is altered. Each Submit button only confirms entries for its own section. Any changes in other sections will be discarded when the Submit 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 … select this on the H.323 web page

   For the Vega to initiate calls using Fast Start ensure that “Use Fast Start” is enabled … select this on the H.323 web page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