

# Initial configuration

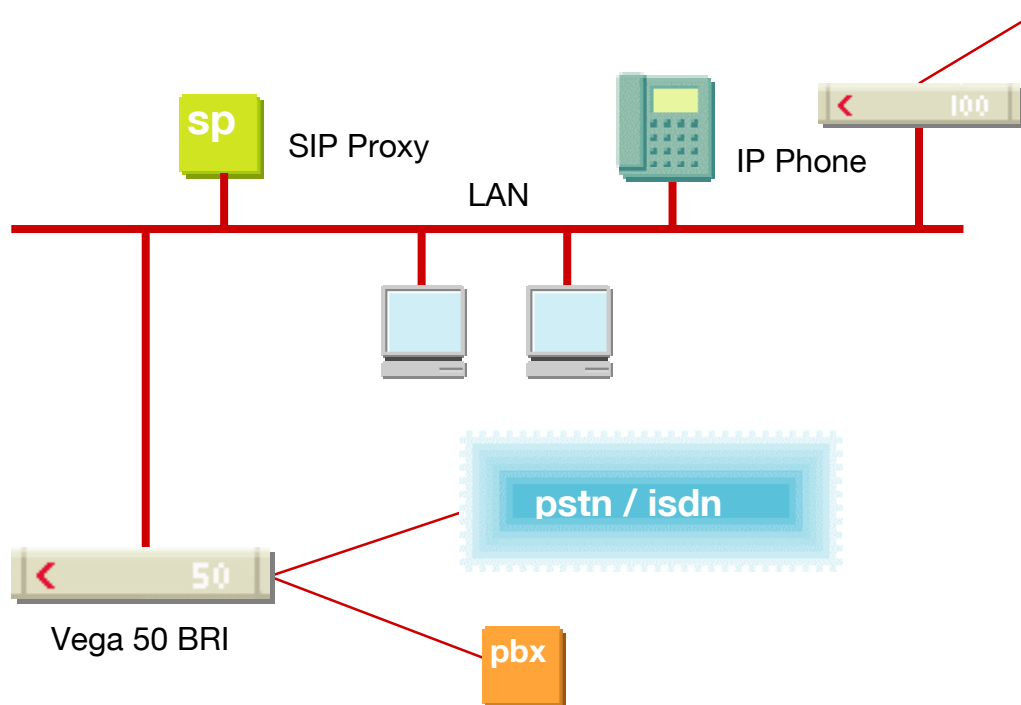
## Vega 50 BRI (SIP) – R6



This document describes how to configure the Vega 50 BRI SIP unit 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 BRI to be a transparent gateway for the SIP Proxy.

- Calls made from the PBX or PSTN to the Vega will be forwarded to the SIP Proxy. The telephone number passed to the Vega will be forwarded unchanged to the SIP Proxy.
- Calls made from the SIP Proxy 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 01 or 03 will cause the call to be routed to the PSTN, and a leading 02 or 04 will cause the call to be routed to the PBX. The digits following the first two digits (01 / 02 / 03 / 04) will be passed as the dialed digits.



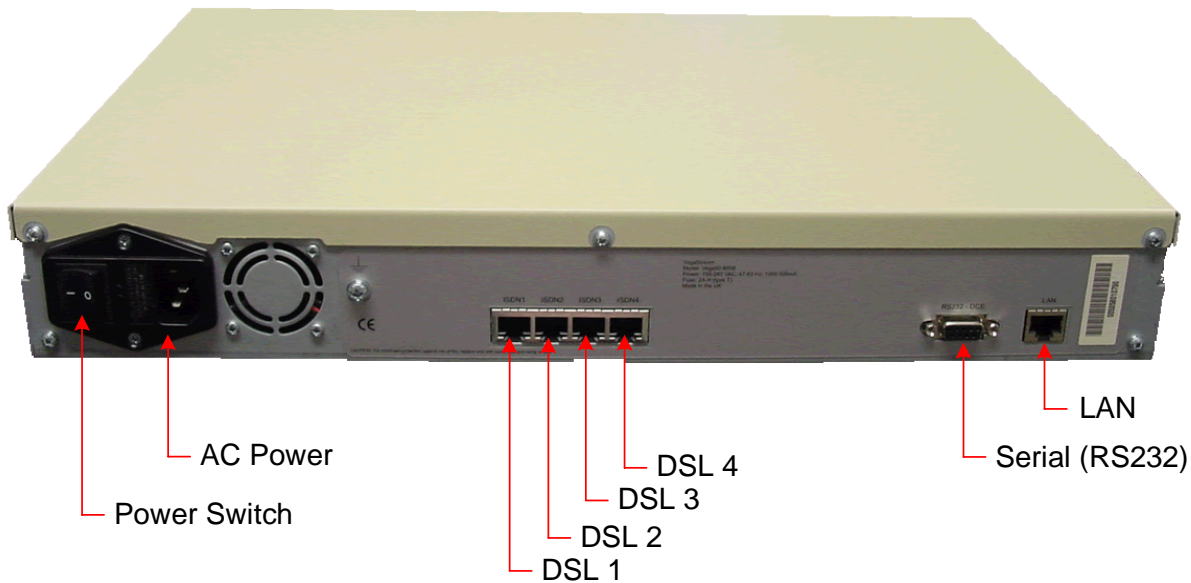
The configuration process is broken down into 12 stages as follows:

- 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 Configure SIP and audio parameters
- 7 Configure Authentication
- 8 Configure Registration
- 9 Configure DSLs
- 10 Configure pointer to CD ROM documentation
- 11 Save Changes
- 12 Archive Vega Configuration

Please also see:

- 13 Technical Support
- 14 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 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:

Connection to a PBX

- If you are connecting the Vega 50 BRI to a PBX, the Vega acts as the NeTwork equipment and a red-booted cable must be used.

For each ISDN interface that is to be connected to the PBX, insert one end of a red booted cable into one of the Vega ISDN (DSL) sockets and the other end to the PBX.

Connection to the PSTN

- If you are connecting the Vega 50 BRI directly to the public telephone network it acts as the Terminal Equipment and the blue-booted cable must be used.

For each ISDN interface that is to be connected to the PSTN, insert one end of a blue booted cable to one of the Vega ISDN (DSL) sockets and the other end to the PSTN terminating box.

## 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.

## 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 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
```

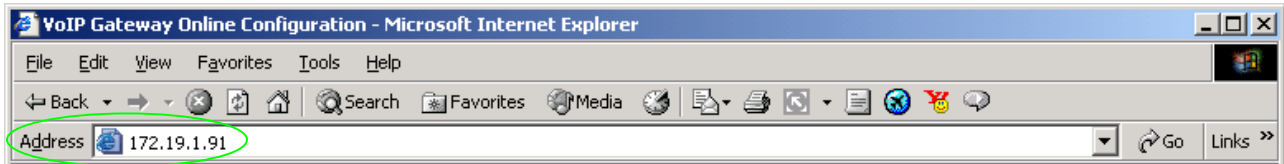
If this is not the IP address required, it can be overridden, together with other LAN parameters by typing:

```
> 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
```

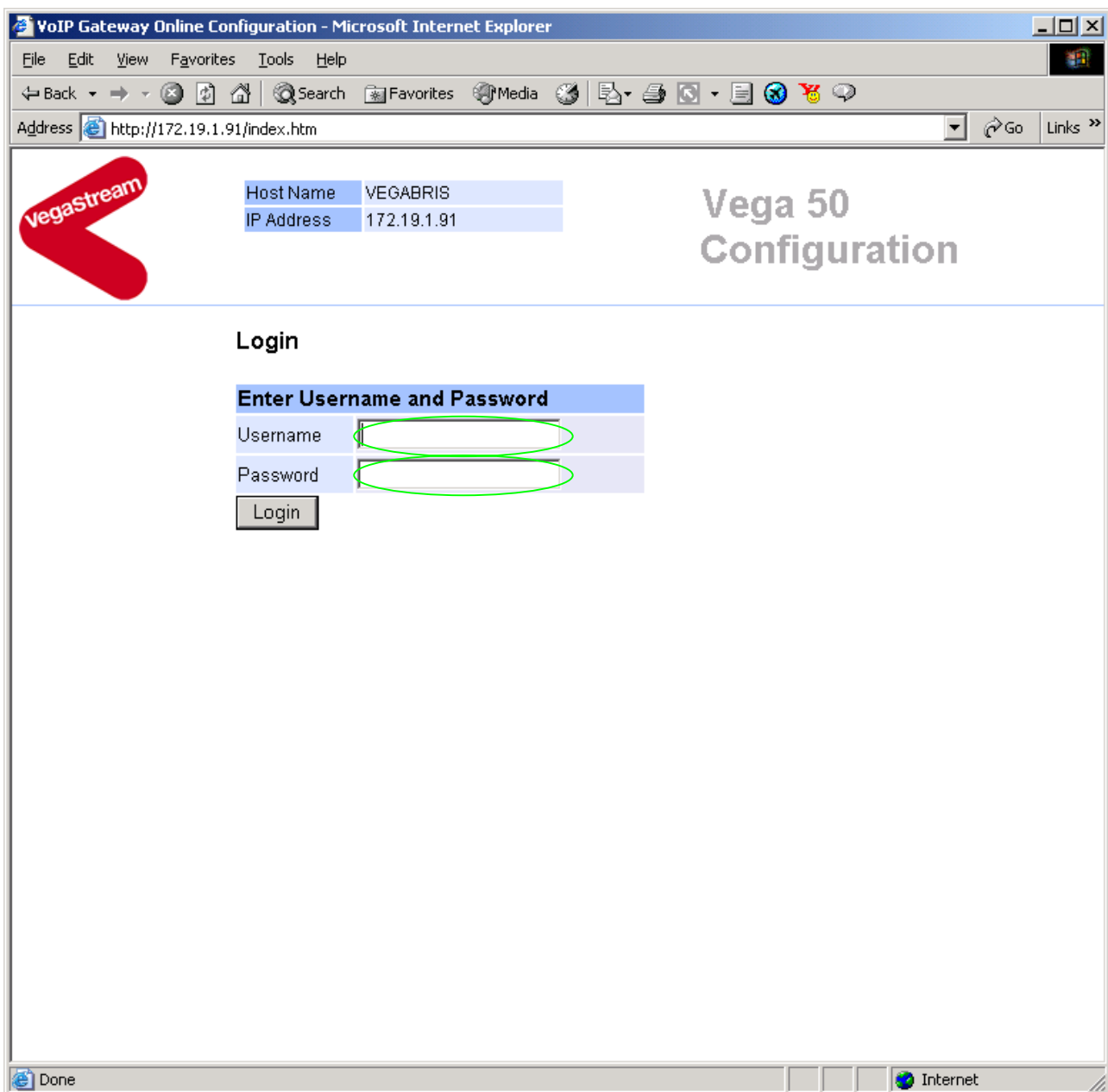
### 3. Configure password and login timeout

Now configuration will be carried out via a web browser.

- Enter this value in the “Address” field of your web browser.

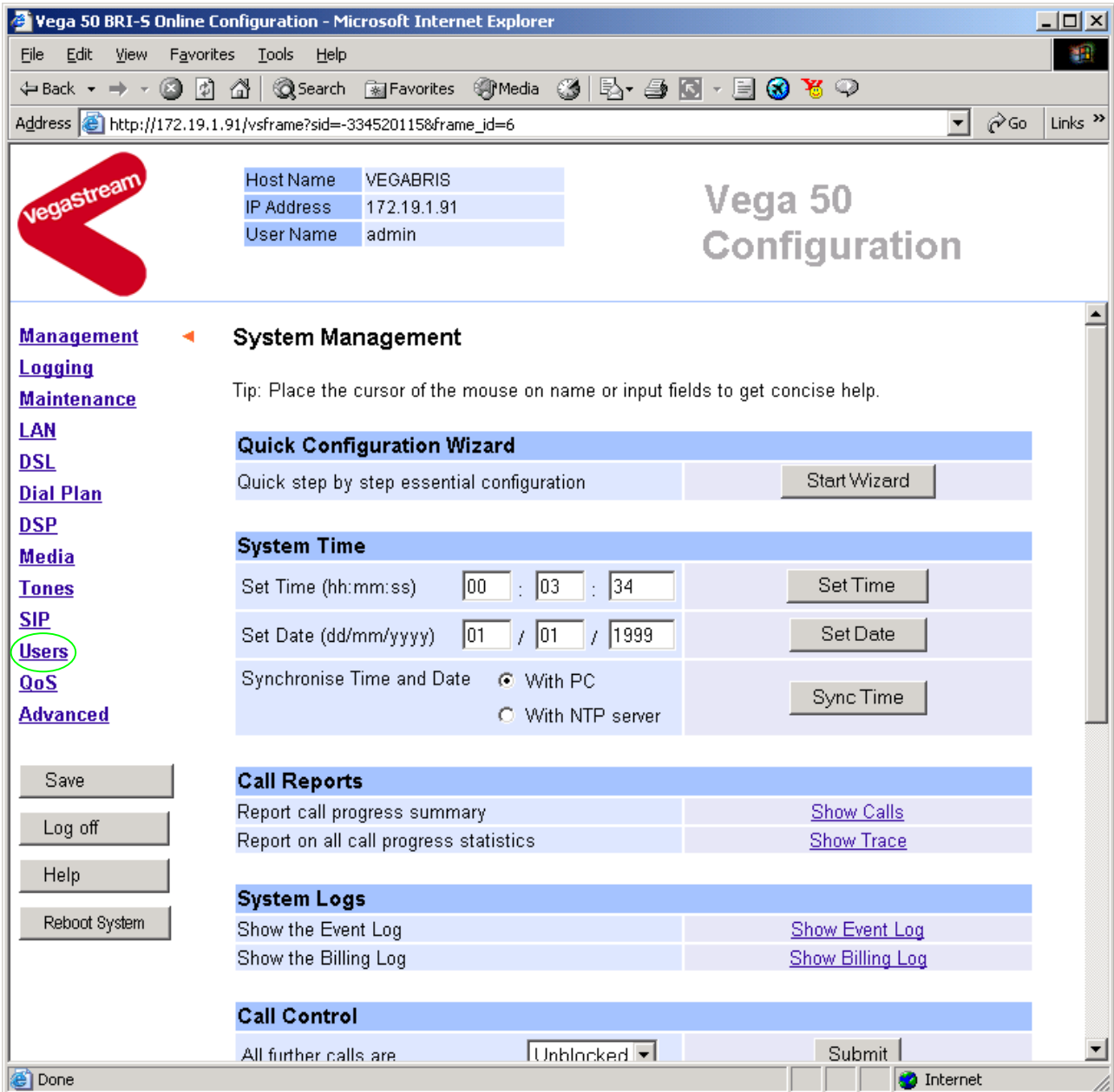


You will then be presented with the login page:



Enter the default Username and Password

- Username: admin
- Password: admin
- Select



- 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 timeout<sup>1</sup> – default is 240 seconds; can extend to 7200 seconds (2hrs)

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

<sup>1</sup> 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.

## 4. Check and configure LAN settings and Host name

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

Vega 50 BRI-S Online Configuration - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address [http://172.19.1.91/vsframe?sid=-334520115&frame\\_id=1](http://172.19.1.91/vsframe?sid=-334520115&frame_id=1)

VegaStream

Host Name	VEGABRIS
IP Address	172.19.1.91
User Name	admin

Vega 50 Configuration

Unsaved Configuration Changes

Management  
Logging  
Maintenance  
LAN  
DSL  
Dial Plan  
DSP  
Media  
Tones  
SIP  
Users  
QoS  
Advanced

Save  
Log off  
Help  
Reboot System

Current Mode: Standard Ethernet Mode  
Change to VLAN Ethernet mode | VLAN Mode

LAN Configuration

Use DHCP	<input checked="" type="checkbox"/>	
Host Name	VEGABRIS	
IP Address	DHCP defined	
Subnet Mask	DHCP defined	
Domain Name Server	DHCP defined	Use DHCP <input checked="" type="checkbox"/>
Default Gateway	DHCP defined	Use DHCP <input checked="" type="checkbox"/>
TFTP Server	DHCP defined	Use DHCP <input checked="" type="checkbox"/>
Network Time Server	DHCP defined	Use DHCP <input checked="" type="checkbox"/>
FTP Server	0.0.0.0	
NTP Offset (hhmm)	0000	
NTP Poll Interval	0	

Physical Layer Configuration

Full Duplex	<input type="checkbox"/>
Ethernet Type	10baseT & 100baseTX
QoS profile	1

Submit

**Recommended:** In the **Physical Layer Configuration** section statically select the Ethernet Type as either 100baseTx or 10 baseT (not 10baseT & 100baseTx) – whichever is appropriate

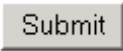
➤ select **Submit** and then click "[here](#)" to return

**Recommended:** In **LAN Configuration** section set up

- Network Time Server = IP address
- NTP Offset = time offset from UTC (GMT)
- NTP Poll Interval = 2400
- select **Submit** and then click "[here](#)" to return



**Optional:** If there are any other LAN values that need to be set up manually set them up now, then

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

## 5. Configure the Dial Plan

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

Host Name VEGABRIS  
IP Address 172.19.1.91  
User Name admin

Unsaved Configuration Changes

**Management**  
[Logging](#)  
[Maintenance](#)  
[LAN](#)  
[DSL](#)  
[Dial Plan](#) ◀  
[DSP](#)  
[Media](#)  
[Tones](#)  
[SIP](#)  
[Users](#)  
[QoS](#)  
[Advanced](#)

Save  
Log off  
Help  
Reboot System

### Dial Planner

#### Profiles

Del?	Profile ID	Enabled	Name	Plans	Chg?
<input type="checkbox"/>	1	1	Vega50ISDN_default	====>	<a href="#">Modify</a>

Delete Add

#### Planner Groups

Del?	ID	Name	Cause	Lan	Gatekeeper	Active times	Priority	Chg?
<input type="checkbox"/>	1	Default	0	off	off	0000-2359	0	<a href="#">Modify</a>

Delete Add

#### Planner Whitelist Enable

Use Whitelist

Submit

#### Planner Whitelists

Del?	ID	Name	Number	Chg?
<input type="checkbox"/>	1	default	IF:.*	<a href="#">Modify</a>

Delete Add

Firstly, turn off the default profile:

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

➤ Select [Modify](#)

[Dial Planner](#) > Profile 1

Modify Profile	
Profile ID	1
Enabled	<input checked="" type="checkbox"/>
Name	Vega50ISDN_default
<input type="button" value="Submit"/>	

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

Now create a new profile and in it create a dial plan entry to handle calls being sent from ISDN to the LAN:

**Dial Planner**

Profiles						
Del?	Profile ID	Enabled	Name	Plans	Chg?	
<input type="checkbox"/>	1	0	Vega50ISDN_default	===>	<a href="#">Modify</a>	
<input type="button" value="Delete"/>	<input type="button" value="Add"/>					

In the **Profiles** section

- Select

**Dial Planner**

Profiles						
Del?	Profile ID	Enabled	Name	Plans	Chg?	
<input type="checkbox"/>	1	0	Vega50ISDN_default	===>	<a href="#">Modify</a>	
<input type="checkbox"/>	2	1	new_profile	===>	<a href="#">Modify</a>	
<input type="button" value="Delete"/>	<input type="button" value="Add"/>					

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

- Select [Modify](#)

[Dial Planner](#) > Profile 2

Modify Profile	
Profile ID	2
Enabled	<input checked="" type="checkbox"/>
Name	new_profile
<input type="button" value="Submit"/>	

- Set Name = ISDN\_To\_LAN
- select  and then click "[here](#)" to return

## Dial Planner

Profiles						
Del?	Profile ID	Enabled	Name	Plans	Chg?	
<input type="checkbox"/>	1	0	Vega50ISDN_default	====>	<a href="#">Modify</a>	
<input type="checkbox"/>	2	1	ISDN_To_LAN	====>	<a href="#">Modify</a>	

[Delete](#) [Add](#)

In the **Profiles** section, on Profile 2 (the ISDN\_To\_LAN profile):

- Select [Modify](#)

### Dial Planner > Profile 2

Modify Profile	
Profile ID	2
Enabled	<input checked="" type="checkbox"/>
Name	<input type="text" value="ISDN_To_LAN"/>

[Submit](#)

Plans in this Profile							
Del?	Plan ID	Name	Src	Dest	Cost	Group	Chg?
<input type="checkbox"/>	1	new_plan	TEL:<.><.*>	IF:<1>,TEL:<2>	0	0	<a href="#">Modify</a>

[Delete](#) [Add](#)

In the **Plans in this Profile** section:

- Select [Modify](#)

Host Name VEGABRIS  
IP Address 172.19.1.91  
User Name admin

**Vega 50 Configuration**

Unsaved & Unapplied Changes

**Management**  
Logging  
Maintenance  
LAN  
DSL  
Dial Plan  
DSP  
Media  
Tones  
SIP  
Users  
QoS  
Advanced

Save  
Log off  
Help  
Reboot System  
Apply Changes

**Dial Planner > Profile 2 > Plan 1**

**Modify Plan**

Plan ID 1  
Profile ID 2  
Name new\_plan  
Source TEL:<.><.\*>  
Destination IF:<1>,TEL:<2>  
Cost Index 0  
Group 0 - no group

Apply Generate Prefix Match

**Regular Expressions for Source**

.	Any character
[...]	Any character within the parentheses
[x-y]	Any character in the range x-y
[^...]	Any character except those within the parentheses
*	The character before repeated zero or more times
+	The character/expression before repeated one or more times
?	The character/expression before repeated zero or more times
\	The character following is taken literally
<...>	Capture the sequence in parentheses and store as <n> where n is the nth occurrence of <> in the source expression

- Set Name = From\_ISDN\_or\_PBX
- Set Source = IF: [^9] . , TEL:<.\*> *(This takes a call from any of the ISDN interfaces and stores the telephone number presented in store <1>)*
- Set Destination = IF:99 , TEL:<1> *(This routes the call to IF:99 (the LAN) and passes the received telephone number on as the destination telephone number)*
- select **Apply** and then click **“here”** to return

Host Name VEGABRIS  
IP Address 172.19.1.91  
User Name admin

**Vega 50 Configuration**

Unsaved Configuration Changes

**Management**  
**Logging**  
**Maintenance**  
**LAN**  
**DSL**  
**Dial Plan**  
**DSP**  
**Media**  
**Tones**  
**SIP**  
**Users**  
**QoS**  
**Advanced**

**Dial Planner > Profile 2**

**Modify Profile**

Profile ID 2  
Enabled   
Name ISDN\_To\_LAN  
Submit

**Plans in this Profile**

Del?	Plan ID	Name	Srce	Dest	Cost	Group	Chg?
<input type="checkbox"/>	1	From_ISDN_or_PBX	IF:[*9]	TEL:<*>	0	0	<a href="#">Modify</a>

Delete Add

Save  
Log off  
Help  
Reboot System

Internet

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

Host Name VEGABRIS  
IP Address 172.19.1.91  
User Name admin

**Vega 50 Configuration**

Unsaved Configuration Changes

**Management**  
Logging  
Maintenance  
LAN  
DSL  
Dial Plan  
DSP  
Media  
Tones  
SIP  
Users  
QoS  
Advanced

Save  
Log off  
Help  
Reboot System

**Dial Planner**

**Profiles**

Del?	Profile ID	Enabled	Name	Plans	Chg?
<input type="checkbox"/>	1	0	Vega50ISDN_default	===>	<a href="#">Modify</a>
<input type="checkbox"/>	2	1	ISDN_To_LAN	===>	<a href="#">Modify</a>

Delete **Add**

**Planner Groups**

Del?	ID	Name	Cause	Lan	Gatekeeper	Active times	Priority	Chg?
<input type="checkbox"/>	1	Default	0	off	off	0000-2359	0	<a href="#">Modify</a>

Delete **Add**

**Planner Whitelist Enable**

Use Whitelist

Submit

**Planner Whitelists**

Del?	ID	Name	Number	Chg?
<input type="checkbox"/>	1	default	IF:.*	<a href="#">Modify</a>

Delete **Add**

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 3,

- Set Name = LAN\_to\_ISDN\_or\_PBX

Modify the first plan for Profile 3:

- Set Name = From\_LAN
- Set Source = IF:99, TEL:<.><.>\*
- Set Destination = IF:<1>, TEL:<2>

*(For calls from IF:99 (LAN), take the first two digits presented and store them in store <1>; take any further digits and store them in store <2>)*

*(The first two digits presented define the interface – 01 to 04 – and the remainder of the digits are passed on as the telephone number)*

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

**Note:** *The SIP Proxy must choose the appropriate interface on the Vega to dial out from; when the Proxy presents a call to the Vega, the INVITE message starts something like:*

```
INVITE sip:021344784900@172.20.11.2 SIP/2.0
```

*The digits preceding the @ (the telephone number field) must contain either 01ttt...t, 02ttt...t, 03ttt...t, or 04ttt...t, where ttt...t is the telephone number to dial and 01 to 04 is the interface from which to make the call.*

***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.***



## 6. Configure SIP and audio parameters

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

Host Name VEGABRIS  
IP Address 172.19.1.91  
User Name admin

Unsaved Configuration Changes

**SIP Configuration**

**General**

Default Proxy Host Name/IP 0.0.0.0  
Local Domain vegastream.com  
Local SIP Port 5060  
Remote SIP Port 5060  
Accept Non-Proxy Invites   
QoS profile 0

Submit

**Multiple Proxy Support**

Mode  normal  cyclic  
Minimum Valid Response 180  
Timeout (ms) 5000

Backup Proxy	Enabled	IP/Name	Port	Chg?
1	1	0.0.0.0	5060	<a href="#">Modify</a>
2	1	0.0.0.0	5060	<a href="#">Modify</a>

Delete Add  
Submit

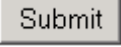
In the **General** section:

- set Default Proxy Host Name/IP = IP\_address\_of\_SIP\_proxy, or  
DNS\_hostname\_of\_the\_SIP\_Proxy

**Optional:** To allow devices other than the proxy to make calls directly through the Vega

- tick Accept Non-Proxy Invites

If only the proxy is allowed to route the calls to the Vega ensure that this tick box is clear.

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

➤ Scroll down to the Audio section


In the **Audio** section

➤ Select the audio codecs desired using the drop down menus

Unless there is a specific reason not to allow a specific codec to be used, it is recommended that all codecs should be enabled as follows:

Audio	
Audio Profile 1	G723
Audio Profile 2	G729
Audio Profile 3	G711 Alaw
Audio Profile 4	G711 Ulaw

Submit

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

## 7. Configure Authentication

In some systems – to ensure that only authorised devices are allowed to set up and clear calls – SIP authentication is used. If authentication is used, it is typically required on the SIP REGISTRATION, INVITE, ACK and BYE messages.

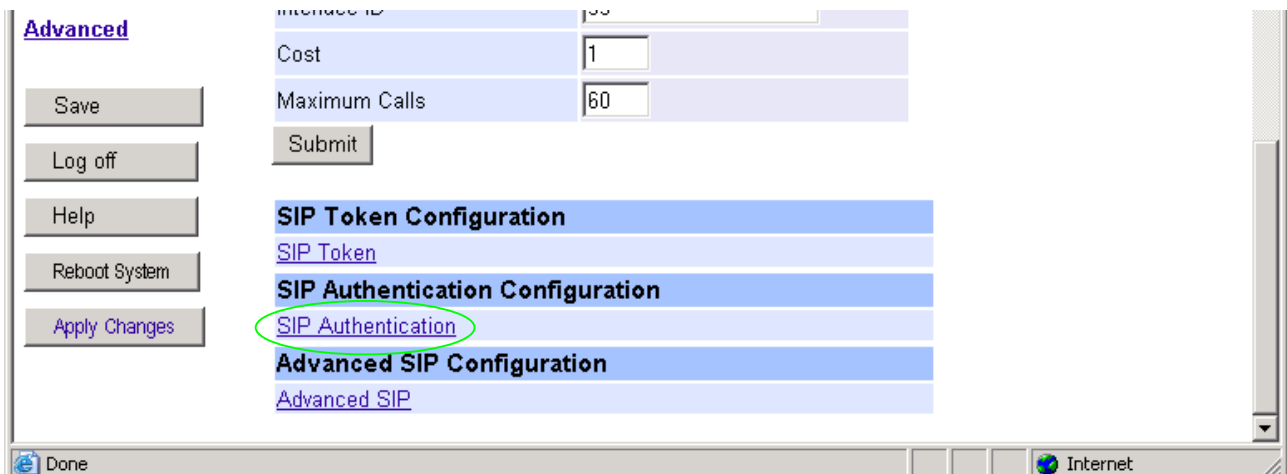
For authentication, a user-name, and a password can be configured. The user-name is constructed from three parts

Username Prefix, Username and Username Suffix

For example, to set up authentication for all calls, with

- a username of: VegaGateway123 and
- a password of: LetMeIn

- On the left hand side menu select [SIP](#)
- Scroll down to the bottom to the **SIP Authentication Configuration** section




- Select [SIP Authentication](#)

Vega 50 BRI-S Online Configuration - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address http://172.19.1.91/vsframe?sid=966291614&frame\_id=52



Host Name VEGABRIS  
IP Address 172.19.1.91  
User Name admin

Vega 50 Configuration

Unsaved Configuration Changes

**Management**  
[Logging](#)  
[Maintenance](#)  
[LAN](#)  
[DSL](#)  
[Dial Plan](#)  
[DSP](#)  
[Media](#)  
[Tones](#)  
[SIP](#)  
[Users](#)  
[QoS](#)  
[Advanced](#)

**SIP > Authentication**

**SIP Authentication Users**

Del?	User	Enable	Username Prefix	Username Suffix	Username	Built Username	Password	Source	Chg?
<input type="checkbox"/>	1	0	no prefix	vega1	authuser1	authuser1vega1	pass1	IF:00	<a href="#">Modify</a>

[Add](#) [Delete](#)

Save  
Log off  
Help  
Reboot System

Visit the VegaStream website

Internet

➤ Select [Modify](#)

[SIP](#) > [Authentication](#) > [User](#)

SIP Tokens	
Token	Value
1	vega1
2	01

**Modify SIP Authentication User**

SIP Authentication User 1	
Enable	<input type="checkbox"/>
Username Prefix	none
Username Suffix	vega1
Username	authuser1
Password	pass1
Source	IF:00
<input type="button" value="Submit"/>	

- Set Username Suffix = none
- Set Username = VegaGateway123
- Set Password = LetMeIn
- Set Source = IF:.\*
  
- select  and then click "[here](#)" to return
  
- On the left hand side menu select [SIP](#)
- Scroll down to the bottom to the **Advanced SIP Configuration** section
- Select [Advanced SIP](#)

**Vega 50 Configuration**

Host Name: VEGABRIS  
 IP Address: 172.19.1.91  
 User Name: admin

Unsaved & Unapplied Changes

**SIP > Advanced**

Advanced SIP parameters	
BYE-Also INVITE to proxy	<input type="checkbox"/>
REFER INVITE to proxy	<input type="checkbox"/>
Send CANCEL to all forks	<input checked="" type="checkbox"/>
User-Agent header	<input checked="" type="checkbox"/>
Use 'local domain' in To header	<input checked="" type="checkbox"/>
Use 'local domain' in From header	<input checked="" type="checkbox"/>
Use Request-URI in call dialog matching	<input type="checkbox"/>
183 Session Progress if media present	<input type="checkbox"/>
early OK timer (0=off)	<input type="text" value="0"/>
Use authentication users	<input checked="" type="checkbox"/>
Parse Remote Party-ID header	<input type="checkbox"/>
National Prefix	<input type="text" value="off"/>
International Prefix	<input type="text" value="off"/>
SDP control	
Single media description in T38 INVITE	<input type="checkbox"/>
Connection information in session description only	<input type="checkbox"/>
Packet Time Mode Selection	<input type="text" value="off"/>

Save  
 Log off  
 Help  
 Reboot System  
 Apply Changes

➤ Tick Use Authentication Users

## 8. Configure Registration

Typically trunking gateways (like the Vega 50 BRI) do not need to register with a SIP proxy. SIP registration was designed for end users to register themselves with the SIP proxy. Trunking gateways potentially support millions of end users and so typically the presence and capabilities of the gateways are manually configured into the SIP proxy.

For telephony to SIP calls, the SIP proxy is usually manually configured to accept calls from the Vega 100

- the dialled number of the call is placed in the request URI by the Vega

For SIP to telephony calls the Proxy must send the call to the Vega 50 BRI with a request URI of the format `ii...t@contact_address`

- where `ii` is the interface number through which to make the call (Vega interface 01, 02, 03 or 04), and
- where `ttt...t` is the telephone number for the Vega to dial

In some circumstances the SIP proxy does demand that the Vega registers with it. If registration is required, see [14.1 “Configure Vega 50 BRI registration”](#)

## 9. Configure DSLs

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

The default values for **DSL Configuration** – as shown above are the correct values for the BRI unit and should not be changed.

Bus Master needs to be configured to point to an active TE trunk – to identify where the Vega will synchronise its internal clock from – in this configuration this should be 1 (DSL 1).

For typical configurations in **PORT Configuration** the Line type should be configured for pp (point to point) and the TEI value should be changed to 0. Use of pmp (point to multipoint) and TEI=64 are useful when connecting the Vega 50 BRI to multiple BRI telephones.



## In Port Configuration

- Select **Modify** for PORT ID 1

Vega 50 Configuration

Host Name: VEGABRIS  
IP Address: 172.19.1.91  
User Name: admin

Unsaved & Unapplied Changes

**Port 1**

**Port Configuration**

Port ID	1
Enabled	<input checked="" type="checkbox"/>
Network Terminator	<input type="checkbox"/>
Clock Master	<input type="checkbox"/>
Layer 1	g711Alaw64k
Line Type	<input checked="" type="radio"/> pmp <input checked="" type="radio"/> pp
TEI	64
Test Loop	<input type="checkbox"/>

Submit

**ISDN Configuration**

DTMF Termination Char	*
DTMF Dial Timeout	2
Setup Mapping	0
Cause Mapping	0

Submit

**Groups**

Group	Interface	Cost	First	Last	Alloc	Tunnel
-------	-----------	------	-------	------	-------	--------

- Change line type to pp
- Set TEI = 0 (this value should match far end TEI value)
- Select **Submit** and then click ["here"](#) to return

Return to this page:

- Set DTMF Dial Timeout = 5
- Select **Submit** and then click ["here"](#) to return

PORT Configuration										
PORT ID	Enabled	NT	Clock Master	Layer 1	Test Loop	Line Type	Tei	ISDN	Groups	Chg?
1	1	0	0	g711Alaw64k	0	pp	0	====>	====>	<a href="#">Modify</a>
2	1	1	1	g711Alaw64k	0	pmp	64	====>	====>	<a href="#">Modify</a>
3	1	0	0	g711Alaw64k	0	pmp	64	====>	====>	<a href="#">Modify</a>
4	1	1	1	g711Alaw64k	0	pmp	64	====>	====>	<a href="#">Modify</a>

Delete Add

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 a blue booted cable used), and DSL 2 and 4 configured as NT (and a red booted cable used).

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.

➤Repeat setting line type = pp, TEI = 0 and DTMF Dial Timeout = 5 for DSLs 2 to 4

PORT Configuration										
PORT ID	Enabled	NT	Clock Master	Layer 1	Test Loop	Line Type	Tei	ISDN	Groups	Chg?
1	1	0	0	g711Alaw64k	0	pp	0	====>	====>	<a href="#">Modify</a>
2	1	1	1	g711Alaw64k	0	pp	0	====>	====>	<a href="#">Modify</a>
3	1	0	0	g711Alaw64k	0	pp	0	====>	====>	<a href="#">Modify</a>
4	1	1	1	g711Alaw64k	0	pp	0	====>	====>	<a href="#">Modify</a>

Delete Add

**NOTE**

Do not be surprised if, even after configuration, the Trunk LED flashes indicating no layer 2 connection. Many BRI connections do not bring up layer 2 until a call is made.

Table 1 is a summary of parameters for Vega 50 BRI ISDN installations.

**Table 1. Network type, Line Encoding, and Topology**

Product	Physical Connection	Network Topology	Network type	DSLs	Line Encoding	Calls
Vega 50-BRI-S	S/T 144 Kbps	S0	Euro ISDN	4	4B3T	8

## 10. Configure pointer to CD ROM documentation

- On the left hand side menu select [LAN](#)
- Scroll to the bottom of the screen

Host Name VEGABRIS  
IP Address 172.19.1.91  
User Name admin

Unsaved & Unapplied Changes

**Management**  
[Logging](#)  
[Maintenance](#)  
**[LAN](#)**  
[DSL](#)  
[Dial Plan](#)  
[DSP](#)  
[Media](#)  
[Tones](#)  
[SIP](#)  
[Users](#)  
[QoS](#)  
[Advanced](#)

FTP Server 0.0.0.0  
NTP Offset (hhmm) 0000  
NTP Poll Interval 0

**Physical Layer Configuration**  
Full Duplex   
Ethernet Type 10baseT & 100baseTX  
QoS profile 1  
Submit

**Lan Hosts**

ID	Name	IP	Chg?
1	loopback	127.0.0.1	<a href="#">Modify</a>

Delete Add

**Advanced LAN Configuration**  
[Advanced LAN](#)

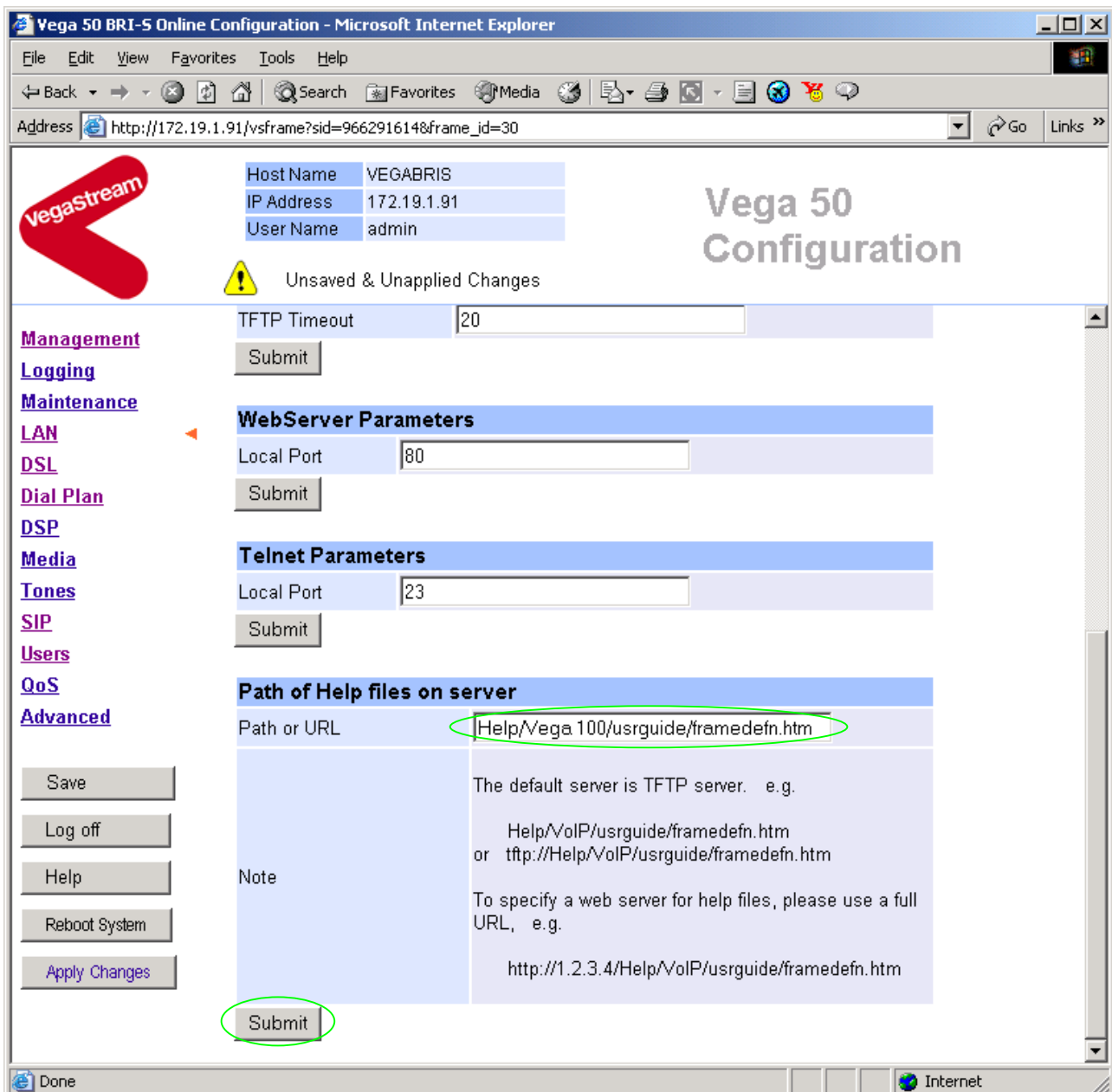
**Private Subnets Configuration**  
[Private Subnets](#)

**NAT Configuration**  
[NAT](#)

**LAN Ports Configuration**  
[LAN Ports](#)

Save  
Log off  
Help  
Reboot System  
Apply Changes

- Select [Advanced LAN](#)
- Scroll to the bottom of the screen



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

- Set Path or URL = D:/Content/help/v50bris\_R6.htm
- ... *N.B. use forward slashes "/" not back slashes "\".*

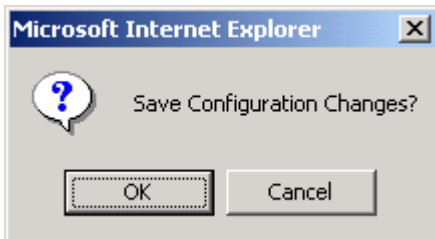
(Substitute the appropriate drive letter if D: is not the CD-ROM)

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

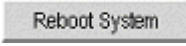
## 11. Save Changes

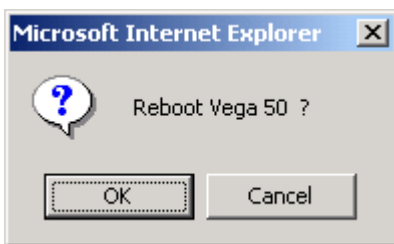
The changes to the configuration must be saved and activated. This is carried out as follows:

- 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 



- Select 

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

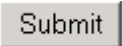
## 12. Archive Vega Configuration

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:



The screenshot shows a web interface with a blue header bar labeled "CLI Command". Below the header is a white text input field with a thin border. To the right of the input field is a grey button with the word "Submit" in white text.

- 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 configure the following:

- set \_advanced.lan.ftp.anonymous\_login=0
- set \_advanced.lan.ftp.username=<ftp username>
- set \_advanced.lan.ftp.\_password-<ftp password>

## 13. Technical Support

Support information can be found on the VegaStream Support web site [www.VegaAssist.com](http://www.VegaAssist.com)

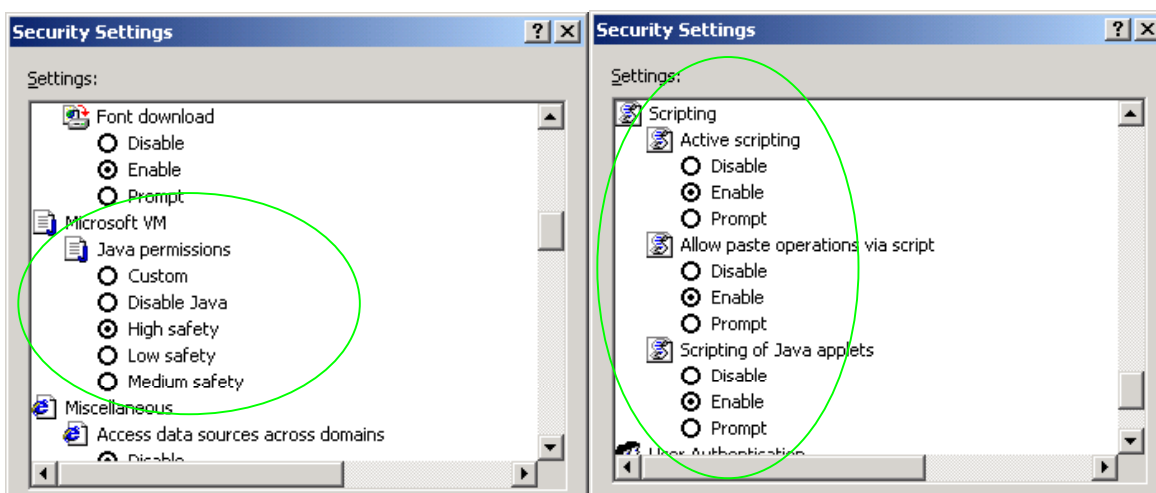
If you require help from VegaStream support personnel, please use the serial interface or telnet into the unit, log in and then type:

- show support
- sip monitor on
- 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](mailto: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  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. Loss of audio mid call – consider reducing the selection of available codecs (see section 6). Some equipment, when presented with multiple codecs, may try and switch codec mid-call. Vegas do not support changing codec type mid-call.
4. Mismatched audio codecs. Use SIP monitor on to identify this. If the codecs of the endpoints are mismatched this will be reported as error 606 “No matching media”. To rectify, enable the appropriate audio codec (see section 6).
5. Outbound calls from the Vega send the INVITE to “Default Proxy Host Name/IP” with the request line: “INVITE sip: <dest TEL:>@Default Proxy Host Name/IP”.

## 14. Advanced configuration

ISDN units have further configurable parameters that may be desirable to configure in order to fully integrate into the attached ISDN infrastructure. Some are configurable through the web browser; others must be configured through the Command Line Interface.

### 14.1 Configure Vega 50 BRI registration

For trunking gateways, registration is typically used to tell the Proxy that the Vega exists and is available to take calls. The number of users that need to be registered by the gateway on the SIP Proxy will depend on the Proxy's requirements, typically however, only a single registration is required.

For example, to register with a username "VegaGateway123"

- On the left hand side menu select [SIP](#)
- Scroll down to the **Registration** section



- Select/tick Register on Start-up
- Set Registrar Host Name/IP = `IP_or_DNS_name_of_SIP_registrar_or_machine proxying_for_the_registrar`
- select  and then click "[here](#)" to return

In the **SIP Registration Users Configuration** section

- Select SIP Registration Users

[SIP](#) > Registration

**SIP Registration Users**

Del?	User	Enable	Dn	Username Prefix	Username Suffix	Username	Built Username	Authentication User Index	Chg?
<input type="checkbox"/>	1	0	100	no prefix	vega1	reguser1	reguser1vega1	1 - VegaGateway123	<a href="#">Modify</a>

[Add](#) [Delete](#)

➤ Select [Modify](#)

The screenshot shows the Vega 50 BRI-5 Online Configuration interface in Microsoft Internet Explorer. The browser address bar shows [http://172.19.1.91/vsframe?sid=966291614&frame\\_id=52](http://172.19.1.91/vsframe?sid=966291614&frame_id=52). The interface includes a navigation menu on the left with links for Management, Logging, Maintenance, LAN, DSL, Dial Plan, DSP, Media, Tones, SIP, Users, QoS, and Advanced. The main content area is titled "SIP > Registration > User" and contains a "SIP Tokens" table, a "SIP Authentication Users" table, and a "Modify SIP Registration User" form. The "SIP Authentication Users" table has one entry with User 1, Enable 0, Username Prefix no prefix, Username Suffix no suffix, Username VegaGateway123, Built Username VegaGateway123, Password LetMeIn, and Source IF:\*. The "Modify SIP Registration User" form is for "SIP Registration User 1" and has fields for Enable (checkbox), Dn (100), Username Prefix (none), Username Suffix (vega1), Username (reguser1), and Authentication User Index (1 - VegaGateway123). A "Submit" button is at the bottom of the form. A red arrow points to the "SIP" link in the navigation menu. A yellow warning icon indicates "Unsaved & Unapplied Changes".

In Modify SIP Registration User, SIP Registration User 1

- Tick Enable
- Set Username Suffix = none
- Set Username = VegaGateway123

If Authentication will be needed for REGISTRATION

- Set Authentication User Index = required Authentication User

**Modify SIP Registration User**

**SIP Registration User 1**

Enable	<input checked="" type="checkbox"/>
Dn	<input type="text" value="100"/>
Username Prefix	<input type="text" value="none"/>
Username Suffix	<input type="text" value="none"/>
Username	<input type="text" value="Vega100Gateway123"/>
Authentication User Index	<input type="text" value="1 - VegaGateway123"/>

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

## 14.2 Layer 2 control

Many Basic Rate ISDN trunks take layer 2 down when the line is not in use, bringing layer 2 up only when a call is to be made.

By default the Vega automatically tries to reinstate layer 2 immediately it sees layer 2 going down. This results in layer 2 being removed, re-instated, and removed again on a regular basis. This can be observed by seeing regular link-down and link-up messages on the event log.

To allow layer 2 to be taken down between calls and only brought up for the duration of the calls, on the command line interface type:

- Set `_advanced.isdn.restart_l2_after_disc=0`

On the front panel, during calls the ISDN LED will be seen to be on solidly, and between calls the LED will flash.

## 14.3 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

Vega 50 BRI-5 Online Configuration - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address http://172.19.1.91/vsframe?sid=425981&frame\_id=7



Host Name	VEGABRIS
IP Address	172.19.1.91
User Name	admin

## Vega 50 Configuration

**Management**  
[Logging](#)  
[Maintenance](#)  
[LAN](#)  
[DSL](#)  
[Dial Plan](#)  
[DSP](#)  
[Media](#)  
[Tones](#)  
[SIP](#)  
[Users](#)  
[QoS](#)  
[Advanced](#)

Save  
 Log off  
 Help  
 Reboot System

Clock Master

Layer 1 g711Alaw64k

Line Type  pmp  pp

TEI 0

Test Loop

Submit

**ISDN Configuration**

DTMF Termination Char \*

DTMF Dial Timeout 2

Setup Mapping 0


Cause Mapping 0

Submit

**Groups**

Group ID	Interface ID	Cost Index	DN	First Channel	Last Channel	Alloc Channel	Tunnel Mode	Chg?
1	01	1	*	1	2	default	--	<a href="#">Modify</a>

Delete Add



Done Internet

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"><li>Default</li><li>Linear Up</li><li>Linear Down</li><li>Round Robin</li></ul>

- 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

## 14.4 User progress tones on TE interface

For ISDN to SIP 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 SIP 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.

## 14.5 In-band audio indication for alerting

For SIP 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 these and other parameters may be found in the Vega Primer.***

Contact Details  
Email: [support@vegastream.com](mailto:support@vegastream.com)  
Web: [www.vegastream.com](http://www.vegastream.com)  
[www.vegaassist.com](http://www.vegaassist.com)

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