GlobeSurfer® III

IPSec tunnel configuration

About this document

Overview and Purpose

This document provides a description of how to configure an IPSec tunnel on the GlobeSurfer® III.

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Version History

Date	Version	Author	Revision	Remarks
Jun 25, 2009	v001draft	F. Arboleda	*Not reviewed*	Initial version
Jul 1, 2009	v002ext	F. Arboleda	P. Vandeneede	Review

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1   INTRODUCTION

Internet Protocol Security (IPSec) is a series of guidelines for the protection of Internet Protocol (IP) communications. It specifies procedures for securing private information transmitted over public networks.

The activation and configuration of this functionality on the GlobeSurfer® III (GS3) is covered on this manual.

2   HOW TO SETUP AN IPSEC TUNNEL

For the next explanation we are going to use the network diagram showed on Figure 1.
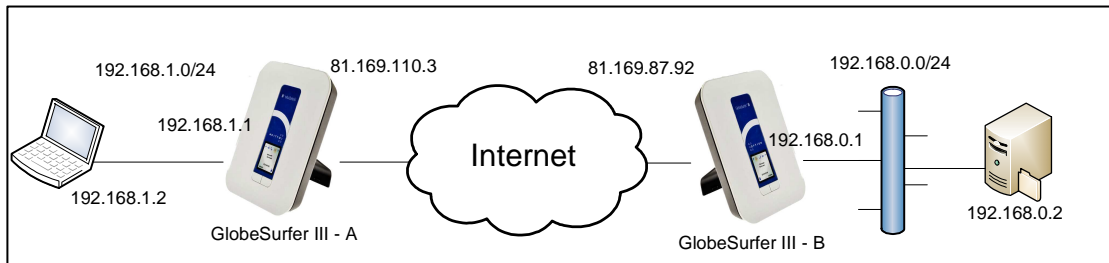

Figure 1:   Network Diagram

As shown in Figure 1, two GS3 are going to be used for the tunnel setup. The configuration for the GS3s only differs on the parameters to use in each case, but not in the steps to follow.

To configure the tunnel, the user has to follow a few simple steps:

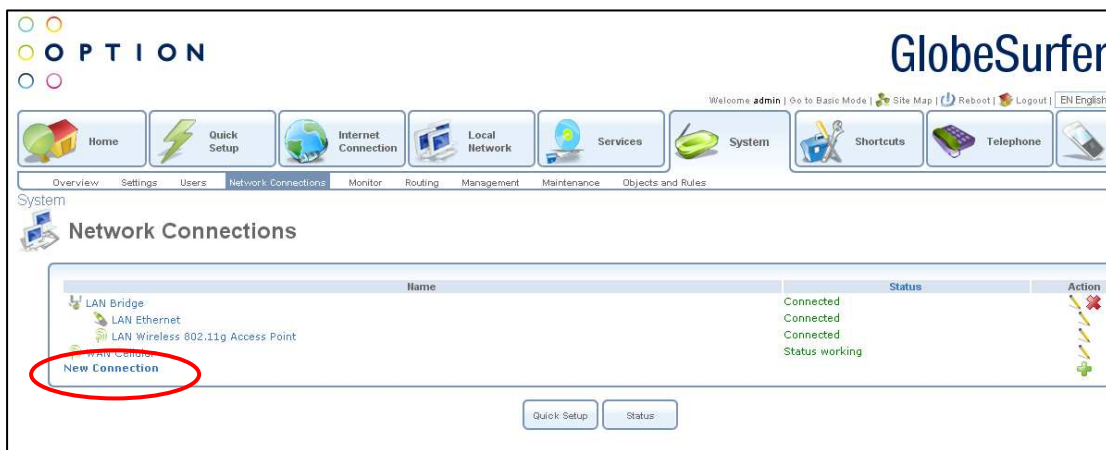**Step 1:** Go to Advance mode > System > Network Connections. (See Figure 2)

Figure 2:   Network Connections

Once on the Network Connections view, press the "New Connection" link.

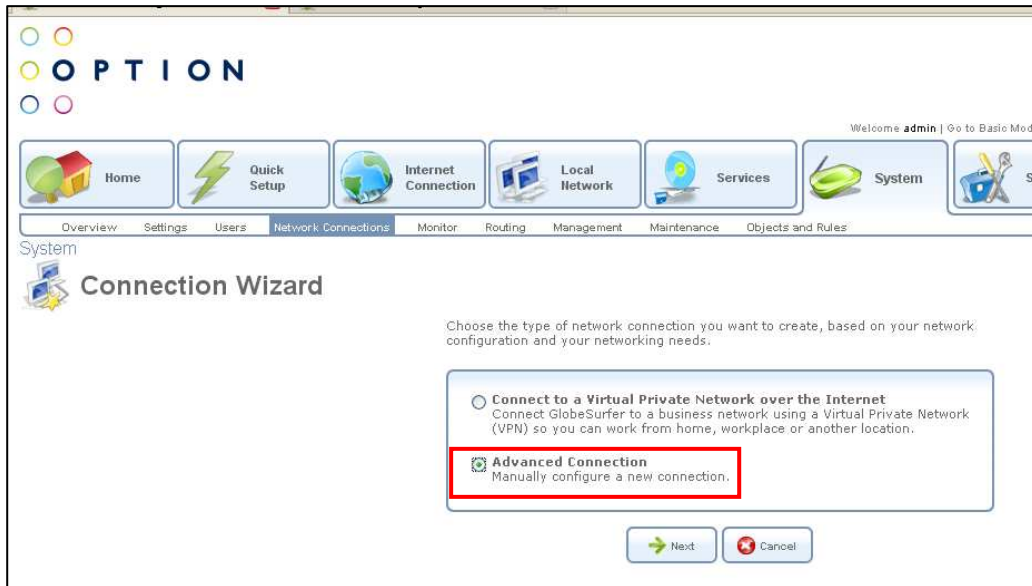**Step 2:** Select the Advance Connection option and press "Next". (See Figure 3)

Figure 3:   Advance Connection selection

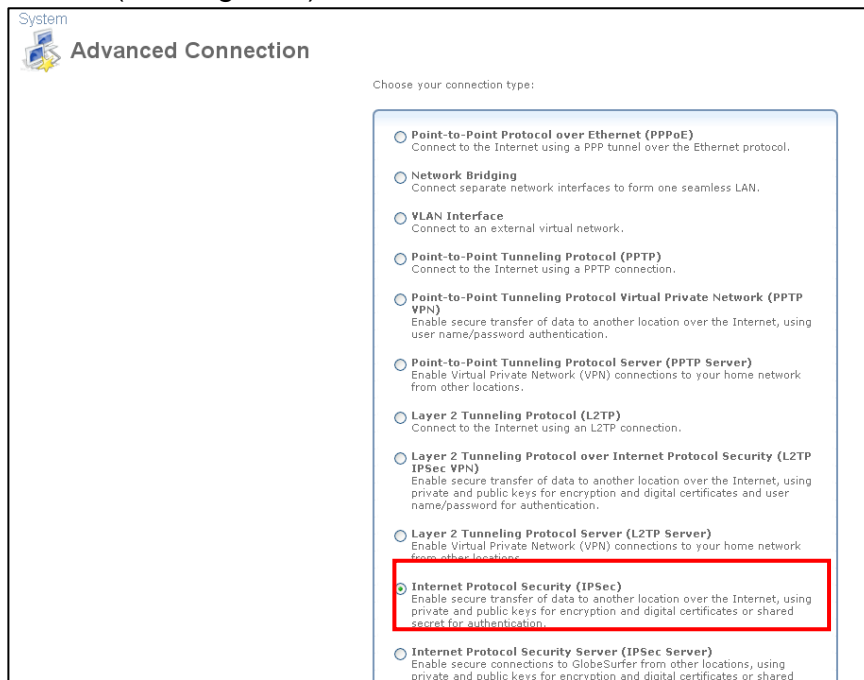**Step 3:** From the list, select "Internet Protocol Security (IPSec)" and press "Next". (See Figure 4)

Figure 4:   Advance Connection list

Step 4: It is time to configure the connection for the router. Each router has different configuration parameters that depend on the network configuration. (See Figure 1).

Configuration for router GS3-A:

Step 4.1: Configure the Parameters for GS3-A and then press "Next". (See Figure 5)
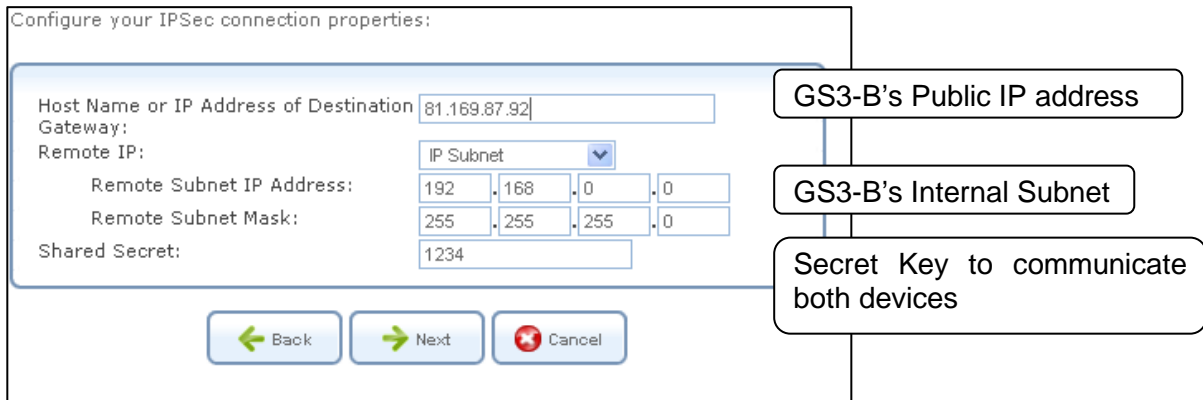

Figure 5: Parameter configuration for GS3-A

Step 4.2: Check the "Edit Newly Created Connection" checkbox and the press "Finish". (See Figure 6)
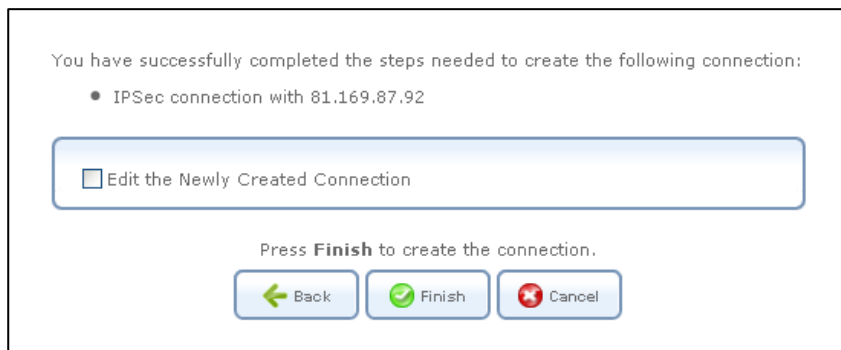

Figure 6: Connection confirmation for GS3-A

Step 4.3: VPN IPSec properties: the settings of the connection can be changed here (The different configuration parameters are not covered on this manual). Press "Apply" and "OK". Notice that the new connection is waiting to be connected to the other router. (See Figure 7)
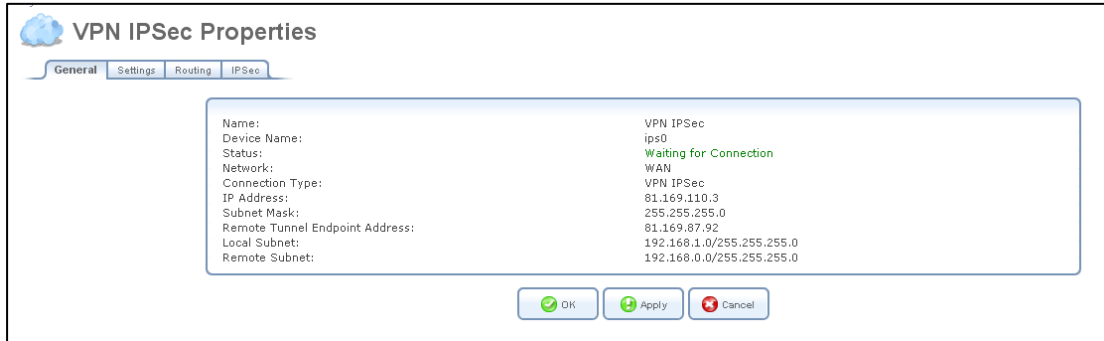
VPN IPSec Properties

General | Settings | Routing | IPSec

Name:	VPN IPSec
Device Name:	ips0
Status:	Waiting for Connection
Network:	WAN
Connection Type:	VPN IPSec
IP Address:	81.169.110.3
Subnet Mask:	255.255.255.0
Remote Tunnel Endpoint Address:	81.169.87.92
Local Subnet:	192.168.1.0/255.255.255.0
Remote Subnet:	192.168.0.0/255.255.255.0

OK   Apply   Cancel

Figure 7:   VPN IPSec Properties for GS3-A

Configuration for router GS3-B:

To configure the router GS3-B, repeat the three previous steps. Compare your configuration with the configuration shown on Figures 8, 9 and 10.
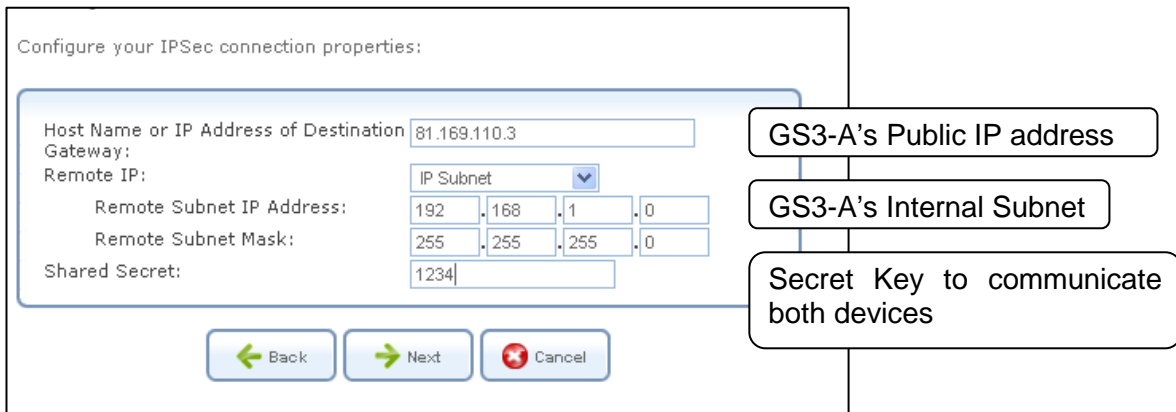
Configure your IPSec connection properties:

Host Name or IP Address of Destination Gateway:	81.169.110.3
Remote IP:	IP Subnet
Remote Subnet IP Address:	192 . 168 . 1 . 0
Remote Subnet Mask:	255 . 255 . 255 . 0
Shared Secret:	1234

GS3-A's Public IP address

GS3-A's Internal Subnet

Secret Key to communicate both devices

Back   Next   Cancel

Figure 8:   Parameter configuration for GS3-B

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You have successfully completed the steps needed to create the following connection:

● IPSec connection with 81.169.110.3

☐ Edit the Newly Created Connection

Press **Finish** to create the connection.

← Back   ✓ Finish   ✗ Cancel
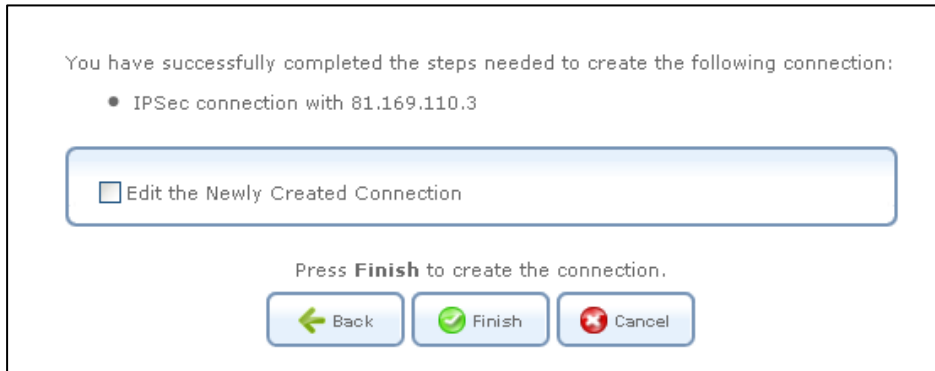
Figure 9: Connection confirmation for GS3-B

VPN IPSec Properties

General | Settings | Routing | IPSec

Name: VPN IPSec
Device Name: ips0
Status: Waiting for Connection
Network: WAN
Connection Type: VPN IPSec
IP Address: 81.169.87.92
Subnet Mask: 255.255.255.0
Remote Tunnel Endpoint Address: 81.169.110.3
Local Subnet: 192.168.0.0/255.255.255.0
Remote Subnet: 192.168.1.0/255.255.255.0

✓ OK   ⊕ Apply   ✗ Cancel
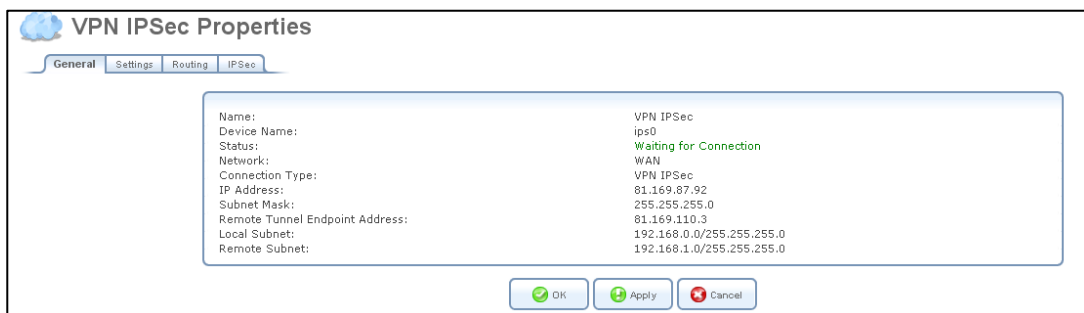
Figure 10: VPN IPSec Properties for GS3-B

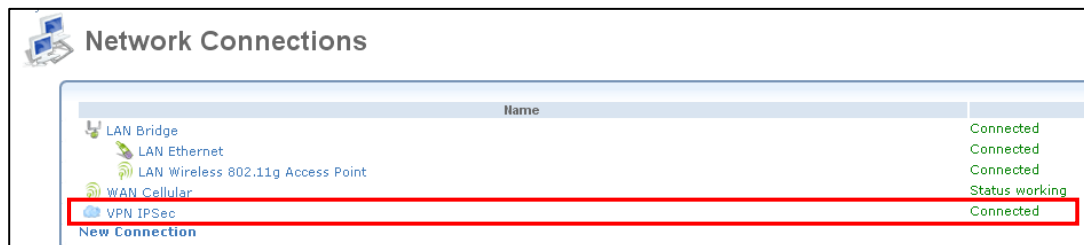**Step 5:** Check the connection status in both routers (See Figure 11 and 12)

Network Connections

Name	
LAN Bridge	Connected
LAN Ethernet	Connected
LAN Wireless 802.11g Access Point	Connected
WAN Cellular	Status working
VPN IPSec	Connected
New Connection	

Figure 11: Connection Status on router GS3-A

Network Connections

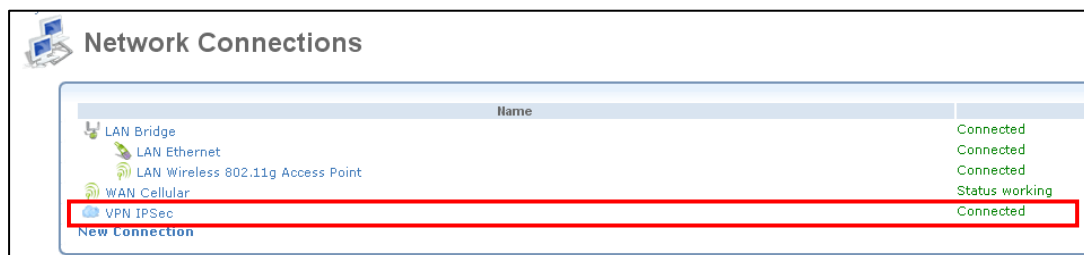| Name	
LAN Bridge	Connected
LAN Ethernet	Connected
LAN Wireless 802.11g Access Point	Connected
WAN Cellular	Status working
VPN IPSec	Connected
New Connection	

Figure 12: Connection Status on router GS3-B

Step 6: It is necessary now to do a connectivity check to see if there is communication between the two networks. Be sure that the firewalls on the servers and computers under test are correctly set to receive ICMP echo requests. (See Figures 13 and 14)

```
C:\Documents and Settings\Administrator>ipconfig

Windows IP Configuration

Ethernet adapter Local Area Connection:

        Media State . . . . . . . . . . . : Media disconnected

Ethernet adapter Wireless Network Connection:

        Connection-specific DNS Suffix  . : home
        IP Address. . . . . . . . . . . . : 192.168.1.2
        Subnet Mask . . . . . . . . . . . : 255.255.255.0
        Default Gateway . . . . . . . . . : 192.168.1.1

Ethernet adapter Local Area Connection 2:

        Media State . . . . . . . . . . . : Media disconnected

C:\Documents and Settings\Administrator>ping 192.168.0.1

Pinging 192.168.0.1 with 32 bytes of data:

Reply from 192.168.0.1: bytes=32 time=214ms TTL=63
Reply from 192.168.0.1: bytes=32 time=186ms TTL=63
Reply from 192.168.0.1: bytes=32 time=186ms TTL=63
Reply from 192.168.0.1: bytes=32 time=186ms TTL=63

Ping statistics for 192.168.0.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 186ms, Maximum = 214ms, Average = 193ms

C:\Documents and Settings\Administrator>ping 192.168.0.2

Pinging 192.168.0.2 with 32 bytes of data:

Reply from 192.168.0.2: bytes=32 time=174ms TTL=126
Reply from 192.168.0.2: bytes=32 time=205ms TTL=126
Reply from 192.168.0.2: bytes=32 time=174ms TTL=126
Reply from 192.168.0.2: bytes=32 time=237ms TTL=126

Ping statistics for 192.168.0.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 174ms, Maximum = 237ms, Average = 197ms

C:\Documents and Settings\Administrator>
```

Figure 13: Ping to Internal interface of GS3-B and to the internal server on network 192.168.0.0/24 from internal computer on network 192.168.1.0/24

Author:	F. Arboleda	**Version:** v002ext
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Figure 14: Ping to Internal interface of GS3-A and to the internal computer on network 192.168.1.0/24 from internal server on network 192.168.0.0/24

References

Ref	Document	