

Dated Tested: AmigoPod Version: Plugins Required: Extreme Hardware Extreme S/W Version: Integration: 13 June 2007 Engine→0.99.35, Radius Services→ 0.6.10 Standard build only X450 (other XOS platforms should be supported) EXOS 12.x HTTP Captive Portal

### **Overview:**

The Extreme range of Ethernet switches are based on a common operating system known as ExtremeXOS. ExtremeXOS is a highly resilient, modular operating system that provides continuous uptime, manageability and operational efficiency, including many advanced port security and NAC features. The switch used for the integration testing was a Summit X450. The highly flexible Summit X450e switch provides high-density gigabit plus optional 10 Gigabit Ethernet ports in a compact 1RU format, supporting a wide range of Layer 2 to Layer 4 functionalities on every port.



#### Integration:

The key feature of the ExtremeXOS used to integrate with amigopod is its ability to support what Extreme call their Network Login feature set. Network login controls the admission of user packets into a network by allowing MAC addresses from users that are properly authenticated. Network login is controlled on a per port basis. When network login is enabled on a port, that port does not forward any packets until authentication takes place.

Network login is capable of three types of authentication: web-based, MAC-based, and 802.1x. In addition, network login has two different modes of operation: Campus mode and ISP mode. The authentication types and modes of operation can be used in any combination.

When web-based network login is enabled on a switch port, that port is placed into a non-forwarding state until authentication takes place. To authenticate, a user must open a web browser and provide the appropriate credentials. These credentials are either approved, in which case the port is placed in forwarding mode, or not approved, in which case the port remains blocked. You can initiate user logout by submitting a logout request or closing the logout window.

Currently EXOS only supports the use of the internally hosted authentication page although from version 12.x onwards the look and feel of this page can be heavily customized. Nonetheless, currently this restriction prevents the use of the amigopod Web Logins feature that allows fully customizable external authentication pages.



### Step 1:

Starting with the X450 in a default configuration state, create three VLANs to represent the following roles in the network design:

- 1. VLAN to connect corporate IT resources including the amigopod server (in example Office)
- 2. VLAN to connect to the Internet or DMZ segment (in example Guest)
- 3. VLAN to temporarily place the unauthenticated visitors piror to VLAN move (in example unsecured)

```
create vlan "guest"
configure vlan guest tag 30
create vlan "office"
configure vlan office tag 10
create vlan "unsecured"
configure vlan unsecured tag 20
```

#### Step 2:

Now assign switch ports to the Office and Guest VLANs so the amigopod server and Internet/DMZ connection can be made:

configure vlan Default delete ports all configure vlan guest add ports 17-24 untagged configure vlan office add ports 1-8 untagged

**Note:** There is no requirement at this point to assign switch ports to the unsecured VLAN as this is done explicitly during the configuration of the Web Login feature in subsequent steps.

#### Step 3:

Assign IP Addressing details to each VLAN and ensure that IP Forwarding is enabled for **only** VLANs office and guest (not unsecured):

configure vlan office ipaddress 10.0.20.1 255.255.255.0 enable ipforwarding vlan office configure vlan unsecured ipaddress 192.168.2.1 255.255.255.0 configure vlan guest ipaddress 192.168.1.10 255.255.255.0 enable ipforwarding vlan guest



### Step 4:

Next the unsecured VLAN must be enabled to support Web Login using the following commands:

```
configure netlogin vlan unsecured
enable netlogin web-based
enable netlogin ports 9-16 web-based
```

The following commands are defaults for the Web Login feature set – see the EXOS Concepts Guide for more information on how these parameters can be modified to suit your implementation.

```
enable netlogin logout-privilege
enable netlogin session-refresh 3
configure netlogin base-url "network-access.com"
configure netlogin redirect-page "http://www.extremenetworks.com"
configure netlogin banner ""
```

#### Step 5:

Configure DHCP Service for the unsecured VLAN to allow visitor laptops to automatically receive a temporary IP Address before being moved to the guest VLAN. The assumption of this example is that DHCP is being served on the guest VLAN by the Internet gateway or other DHCP server.

```
configure vlan unsecured dhcp-address-range 192.168.2.50 - 192.168.2.99
configure vlan unsecured dhcp-options default-gateway 192.168.2.1
configure vlan unsecured dhcp-options dns-server 202.12.144.10
enable dhcp ports 9-16 vlan unsecured
```

#### Step 6:

Finally, the AAA RADIUS configuration of the Extreme X450 must be configured to point at the amigopod server. In the example below the amigopod server is residing on IP Address 10.0.20.51 and the default authentication and accounting ports are 1812 and 1813 respectively. The following XOS commands configure the required AAA components to support Web Login functionality.

```
configure radius netlogin primary server 10.0.20.51 1812 client-ip 10.0.20.1 vr VR-
Default
configure radius netlogin primary shared-secret encrypted ue{ofdqw
configure radius-accounting netlogin primary server 10.0.20.51 1813 client-ip
10.0.20.1 vr VR-Default
configure radius-accounting netlogin primary shared-secret encrypted ue{ofdqw
```

Note: NAS Shared Secret \_\_\_\_\_\_ This will be required at a later step.



#### Step 7:

Now that a fixed IP Address has been defined for the Extreme X450 switch, this needs to be defined within the amigopod configuration. Typically, the amigopod software is installed on an appliance or server with a fixed IP Address and potentially a locally defined host name. Referring back to your initial installation of the amigopod solution, open a web browser and enter either the IP Address or host name defined during the installation. You should be presented with a login screen similar to the one below:

	login
Home	Dansk Reglish Español Login Required The amigopod demo site requires a username and password. If you don't have a login, contact amigopod to obtain one. Image: Second

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Enter your username and password. The default amigopod username is *admin* and the password is *amigopod*.



#### Step 8

Once successfully logged into the AmigoPod administration interface, you will be presented with the AmigoPod Home Page where the RADIUS Services section can be accessed. Click on RADIUS Services on the screen shown below:



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#### Step 9

From the Radius Services menu, select Network Access Servers:



# radius services

#### Home

- 📫 Start Here
- 🔿 Language
- Manage Plugins
   Add New Plugin
- ➡ Update Plugins
- User Logins
- Time Zone
- Application Log

#### GuestManager

- 🔿 Start Here
- 🔿 Create Account
- 🗭 Create Multiple
- 🔿 List Accounts
- \Rightarrow Edit Accounts
- Import Accounts
   Export Accounts
- Print Templates

#### RADIUS Services

- 👄 Start Here
- Server Control
- Database List
   Dictionary
- NAS List
- ➡ User Roles
- ➡ Web Logins
- is Usage Report
- Logout



■▶ Restart RADIUS Server

### **RADIUS Server Management**

Use the commands below to manage your network's RADIUS server.



🙀 Back to main



#### Step 10

Being a new install, there are currently no NAS entries defined. Click on the Create icon at the top of the page shown below:

radius	network access servers	
ere Each network acce:	s server that will use this RADIUS server for authentication or accounting purposes shou	uld be defined
Plugins Quick Help Quick Help	Create Edit	
Plugins	Create Network Access Server	
one		
nager * Name:	A descriptive name for the network access server (NAS). This name is used to identify each NAS.	
Account Multiple * IP Address:	The IP address or hostname of the network access server.	
Accounts * NAS Type: Accounts	Other NAS 💌 Select the type of NAS.	
Services * Shared Secret:	The shared secret used by this network access server.	
Control Se List ary st Description: gins Report		
	Enter notes or descriptive text here.	
	Galance And Device	
* required field		
R la sa a	Hostnamo Tuno Commenta	
Name	Hostname Type Comments	
Uitems	10 rows per page 💙	



#### Step 11

Fill out the details of the Create NAS form based on the IP Addressing details defined for the Extreme Switch on the office VLAN in Step 3. Leave the default Other NAS entry for the NAS Type and define a shared secret that was configured in the EXOS AAA configuration in Step 6. Once complete click on the Create NAS Device button.

t Here	Each network acces	s server that will use this RADIUS se	rver for authentication or (	accounting purposes show	uld be defined here
uage age Plugins New Plugin	1 Quick Help	💫 Create	子 Edit		]
ate Plugins Logins		Create Network A	ccess Server		
Zone		TEW-453APB			
lanager Here	* Name:	A descriptive name for the network accorded NAS.	ess server (NAS). This name	is used to identify each	
ite Account	* ID Address	192.168.0.228			
ate Multiple Accounts	IF Address.	The IP address or hostname of the netw	vork access server.		
Accounts ort Accounts ort Accounts	* NAS Type:	Other NAS Y Select the type of NAS.			
: Templates	* Shared	Nololololok			
t Here	Secret:	The shared secret used by this network	access server.		
Server Control Database List Dictionary NAS List User Roles Web Logins Usage Report	Description:	Trendnet TEW-453APB			
		Enter notes or descriptive text nere.			
		Create NAS Device	ResetForm		
	* required field				
	Name	Hostname	Type C	omments	i i
	0 items			10 rows per page	



#### Step 12

Once the NAS has been created, the RADIUS Server needs to be restarted for the changes to take affect. This can be seen from the warning message shown at the top of the screen and the button below should be clicked to initiate a restart of the RADIUS services.

bod	radius r	network a	acces	s serv	ers
e art Here nguage anage Plugins Id New Plugins Id New Plugins er Logins me Zone	The local RADIUS se Restart RADIUS S Each network access s	erver needs to be restarted erver erver that will use this Ra	to complete the cl ADIUS server for	hanges made.	or accounting purpose
plication Log	Quick Help	🎝 Creat	e	EC	lit
art Here eate Account reate Accounts it Accounts inport Accounts int Templates IUS Services art Here erver Control atabase List ctionary	Name         TEW-453APB         1 item         W RADIUS Services         RADIUS Services         Back to main	Hostname 192.168.0.228	other	Trendnet TEV	Comments V-453APB 10 rows per page

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Once the RADIUS services have restarted the next step is to create the RADIUS Vendor Specific Attributes (VSA) required to implement the VLAN Move on positive authentication. These are defined through the amigopod RADIUS Services  $\rightarrow$  User Roles and Dictionary Menu Options. Click on User Roles from the RADIUS Services Menu.



### Step 13

Being a new install, there are currently no Extreme Specific User Roles defined. A User Role is a collection or RADIUS standard or Vendor Specific attributes that defined the way a RADIUS NAS should respond to a positive authentication. In the case of Extreme XOS, the following VSA are defined and available for use in this style of configuration. For more information on these attributes please refer to the Extreme XOS Concepts Guide:

VSA	Vendor Type	Туре	Sent-in	Description
Extreme: Netlogin- Extended-VLAN	211	String	Access-Accept	Name or ID of the destination VLAN after successful authentication (must already exist on switch).
				NOTE: When using this attribute, specify whether the port should be moved tagged or untagged to the VLAN. Please see the guidelines listed on page 490 for more information.
Extreme: Netlogin- VLAN-Name	203	String	Access-Accept	Name of destination VLAN after successful authentication (must already exist on switch).
Extreme: Netlogin- VLAN-ID	209	Integer	Access-Accept	ID of destination VLAN after successful authentication (must already exist on switch).
Extreme: Netlogin-URL	204	String	Access-Accept	Destination web page after successful authentication.
Extreme: Netlogin- URL-Desc	205	String	Access-Accept	Text description of network login URL attribute.
Extreme: Netlogin-Only	206	Integer	Access-Accept	Indication of whether the user can authenticate using other means, such as telnet, console, SSH, or Vista. A value of "1" (enabled) indicates that the user can only authenticate via network login. A value of "0" (disabled) indicates that the user can also authenticate via other methods.



Click on the Create a new role – this role will include the Extreme Vendor Specific Attributes:





### Step 14:

Name the Role for example as Extreme-Guest and give it a brief description and then save the changes.





### Step 15:

Once the User Role has been created and saved, start adding the Extreme VSA attributes using the Add Attribute button shown below. For example, this is adding the Extreme Netlogin Vlan VSA 203

🕲 amigopod :: RADIUS User Role Definition - Mozilla Firefox						
Eile Edit View History Bookmarks Tools Help						
👍 , 🚵 , 🍘 🚳 🕒 http://10.0.20.52/radius role adit obp						
🗋 Customize Links 📋 Free Hotmail 📋 V	Windows Marketplace	🕒 Windows Me	dia 📋 Windows 🖉 Contact IProvide 📄 Access Point 📄 Optus Zoo 🔣 enKoo: Close Browser	»		
Ar						
<b>radius</b> user role definition						
amigopod						
■ Home → Start Here	Use this form to	create a new	RADIUS User Role.			
➡ Language ➡ Manage Plugins			RADIUS Role Editor			
<ul> <li>➡ Add New Plugin</li> <li>➡ Update Plugins</li> <li>➡ User Logins</li> </ul>	* Role Name:	Extreme-Gue Enter a name	st for this role.			
Time Zone Application Log GuestManager	Description	Guest Role	with Extreme VSA			
<ul> <li>⇒ Start Here</li> <li>⇒ Create Account</li> </ul>	Description:	Enter commen	ts or descriptive text about the role.			
<ul> <li>➡ Create Multiple</li> <li>➡ List Accounts</li> <li>➡ Edit Accounts</li> </ul>		1 Quick H	lelp 🌱 Add Attribute			
<ul> <li>Import Accounts</li> <li>Export Accounts</li> </ul>			RADIUS Attribute Editor			
<ul> <li>Print Templates</li> <li>Customization</li> </ul>		Vendor:	Extreme V			
<ul> <li>SMS Services</li> <li>⇒ Start Here</li> <li>⇒ Send SMS</li> <li>⇒ Configure SMS</li> </ul>		Attribute:	Extreme-Netlogin-Vlan  Select a vendor-specific attribute.			
RADIUS Services Start Here	Attributes:	Value:	guest Enter a value for this attribute.			
<ul> <li>Server Control</li> <li>Database List</li> <li>Dictionary</li> <li>NAS List</li> <li>User Roles</li> </ul>		Condition:	Always Select when this attribute should be returned in a RADIUS Access-Accept packet.			
<ul> <li>Web Logins</li> <li>Reporting Manager</li> </ul>			Stribute			
➡ Start Here			Attuikuto Voluo Condition			
List Reports     Administrator		Modify the list	of RADIUS attributes that are attached to this role.			
Start Here		Hodiry are not				
Logout			Bave Changes			
	* required field					
		D. I.				
KADIUS User Roles						
Done						



### Step 16:

This example is adding the Extreme Netlogin Only VSA 206.

🕲 amigopod :: RADIUS User Role Definition - Mozilla Firefox						
<u>File E</u> dit <u>V</u> iew Hi <u>s</u> tory <u>B</u> ookmarks	<u>T</u> ools <u>H</u> elp			$\langle \rangle$		
Costant Provide C Access Point C Optus Zao K enKoo: Close Browser						
amiaopod						
Home     Start Here	Use this form to	create a new	RADIUS User Role.			
→ Language			RADIUS Role Editor			
➡ Manage Plugins ➡ Add New Plugin		Extreme-Gue				
<ul> <li>Update Plugins</li> <li>User Logins</li> </ul>	* Role Name:	Enter a name	for this role.			
Time Zone		Guest Role	with Extreme VSA			
GuestManager	Description:					
Start Here	Description	Enter commer	ats or descriptive text about the role			
<ul> <li>Create Multiple</li> </ul>	-					
<ul> <li>List Accounts</li> <li>Edit Accounts</li> </ul>		1 Quick H	Help State Add Attribute			
<ul> <li>Import Accounts</li> <li>Export Accounts</li> </ul>			RADIUS Attribute Editor			
Print Templates			Extreme V			
SMS Services		Vendor:	Select a vendor.	=		
➡ Start Here		Attributor	Extreme-Netlogin-Only			
➡ Send SMS ➡ Configure SMS		Attribute:	Select a vendor-specific attribute.			
RADIUS Services		Value:	Enabled (1) 🔽			
➡ Start Here ➡ Server Control	Attributes:		Select a value for this attribute.			
<ul> <li>Database List</li> <li>Dictionary</li> </ul>		Constitutions -	Always			
➡ NAS List		Condition:	Select when this attribute should be returned in a RADIUS Access-Accept packet.			
<ul> <li>User Roles</li> <li>Web Logins</li> </ul>						
Reporting Manager			Add Attribute			
➡ Start Here ➡ List Reports			Attribute Value Condition			
Administrator		I Extreme	e-Netlogin-Only Enabled Always			
Start Here		I Extreme	e-Netlogin-Vlan guest Always			
Logout		Modify the list	of RADIUS attributes that are attached to this role.			
			Save Changes			
	required field					
	State Contraction					
Done				<u>▼</u>		



#### Step 17:

This example is adding the Extreme URL Redirect VSA 204.





#### Step 18:

Once these basic VSAs have been added, save the changes and the screen will be returned to the User Roles page where the new role can be viewed:



Now the solution is ready to test – connect a test laptop to any of the port 9 - 16 on the unsecured VLAN.



#### Step 19:

Now that the test laptop is successfully connected to the unsecured VLAN, the only step remaining is to login as a guest user. To do this a test user must exist in the amigopod database. Returning back to the amigopod Web interface, select Guest Manager from the left hand menu:



Manage multiple quest accounts on a single page.



#### Step 18:

Selecting the Create New Guest Account option will present the following form that can be completed with the details of your test user. Fill out details of the test user including how long the user should have access to the internet from the Account Expiry drop down box and also the Role that the account should be assigned to. This role should be selected as Extreme-Guest as per the configuration in steps 14 -18.

🕲 amigopod :: Create Guest Account - Mozilla Firefox						
Eile Edit View History Bookmarks Tools Help						
< - 🔶 - 🥑 😣 🚮 🗈	http://10.0.20.52/create_u	ser.php	Q			
🗋 Customize Links 📄 Free Hotmail 📄	Windows Marketplace 📄 W	indows Media 📄 Windows 🕂 Contact IProvide 📄 Access Point 📄 Optus Zoo 🔣 enKoo: Close Browser	»			
amigopod • Home	create (	guest account	~			
➡ Start Here ➡ Language						
🔿 Manage Plugins		New Visitor Account				
<ul> <li>Add New Plugin</li> <li>➡ Update Plugins</li> <li>➡ User Logins</li> </ul>	* Sponsor's Name:	admin Name of the person sponsoring this guest account.				
Application Log     GuestManager	* Visitor's Name:	guest user Name of the visitor.				
<ul> <li>Start Here</li> <li>→ Create Account</li> <li>→ Create Multiple</li> </ul>	* Company Name:	Extreme Company name of the visitor.				
<ul> <li>List Accounts</li> <li>Edit Accounts</li> <li>Import Accounts</li> </ul>	* Email Address:	test@extreme.com The visitor's email address. This will become their username to log into the network.				
<ul> <li>Print Templates</li> <li>Customization</li> </ul>	* Account Expiry:	1 hour  Amount of time before this visitor account will expire.				
<ul> <li>SMS Services</li> <li>Start Here</li> <li>Send SMS</li> </ul>	* Account Role:	Extreme-Guest  Role to assign to this visitor account.				
Configure SMS	Visitor Password:	90032763				
RADIUS Services     Start Here     Santa Sector	* Terms of Use:	☑ I am the sponsor of this guest account and accept the terms of use				
<ul> <li>Server Control</li> <li>Database List</li> </ul>		Create Account				
➡ Dictionary ➡ NAS List	* required field					
➡ User Roles ➡ Web Logins	CuestManager s	arvinas 🔊 List quast accounts				
Reporting Manager						
➡ Start Here ➡ List Reports	💥 Back to main					
Administrator						
➡ Start Here						
🔲 Logout						
Done			×			



### Step 19:

After clicking on the Create Account button, the new user account will be written to the amigopod database and a confirmation screen will be presented with the login credentials. Be sure to either record the email address and password presented or select the Print Receipt option to print out a copy of the login credentials (For more information on creating and defining Print Receipt Templates please see the amigopod User Guide).



Note: Guest Username	This will be required at a later step
Note: Guest Password	This will be required at a later step.



### Step 20:

Returning back to the test laptop now, open up a web browser such as Internet Explorer or Firefox and assuming a Home Page is configured the browser will automatically attempt to connect to the Internet. The Extreme Switch will then capture this attempt and redirect the web browser to the internal authentication Web Login page on the Extreme Switch as shown below:



Enter the Guest Username and Password recorded at the previous step and click on the Login button to be connected to the Internet. The web browser should now be redirected to the URL defined in step 17 - 1000 in this case <u>www.amigopod.com</u>



In this example, the URL was defined in the User Role to be configured to go to <u>www.amigopod.com</u> and therefore after successful authentication the browser will be redirected straight to the amigopod home page and also a separate pop-up window will be displayed detailing the amount of time still left on the Test User's account as shown below:



If you have experienced any issues setting up this integration with amigopod please step back through the document and verify the configuration. If the problem has not been resolved, please contact amigopod on <a href="mailto:support@amigopod.com">support@amigopod.com</a> with the details of the issue. We value your feedback.