

Unified Access Gateway Application Note

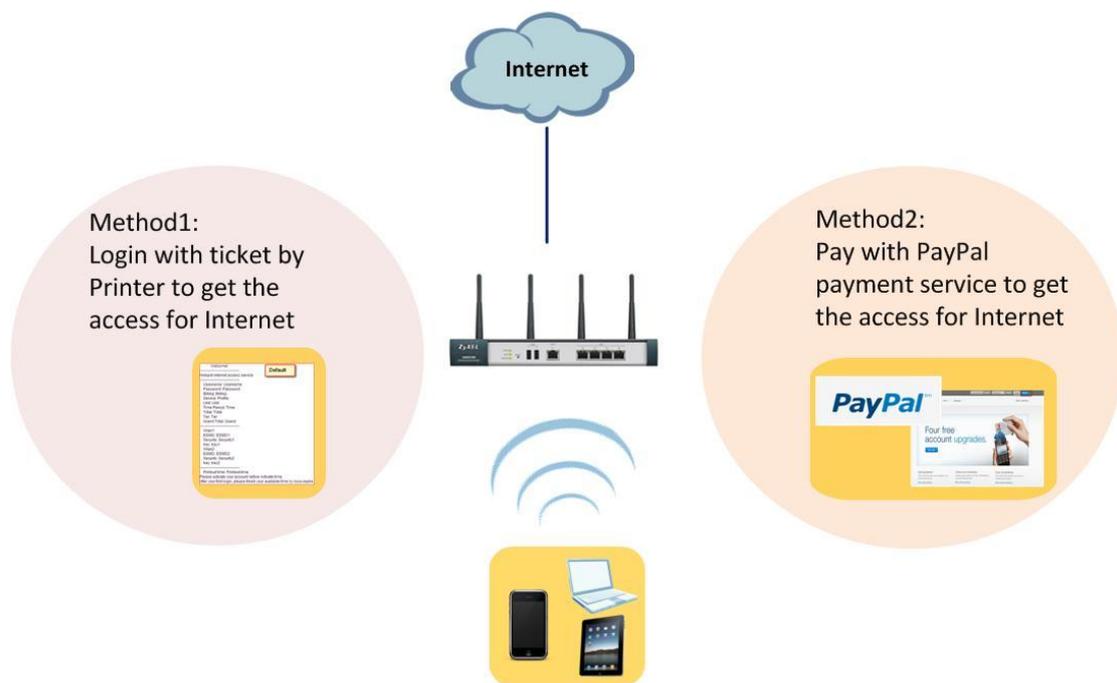
May. 2017

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Scenario 1 – Activate a Paid Access Hotspot

In a hotspot, there are various customers who need to access the Internet. The UAG4100 can effectively control the access to the Internet. If we would like our customers to use payment services to access the Internet, there are two ways to achieve this on the UAG4100. One method is by using a printer, and the other method is the PayPal payment service. As for the printer, customers can purchase tickets that are generated by the thermal printer, from the reception desk. For the customers that use the PayPal payment service can pay with their PayPal account to access the Internet using a web browser.



Network Conditions

SP350E:

Default IP address (DHCP): 172.16.0.200/16

User Name: admin

Password: 1234

Port Number: 9100

Goals to Achieve

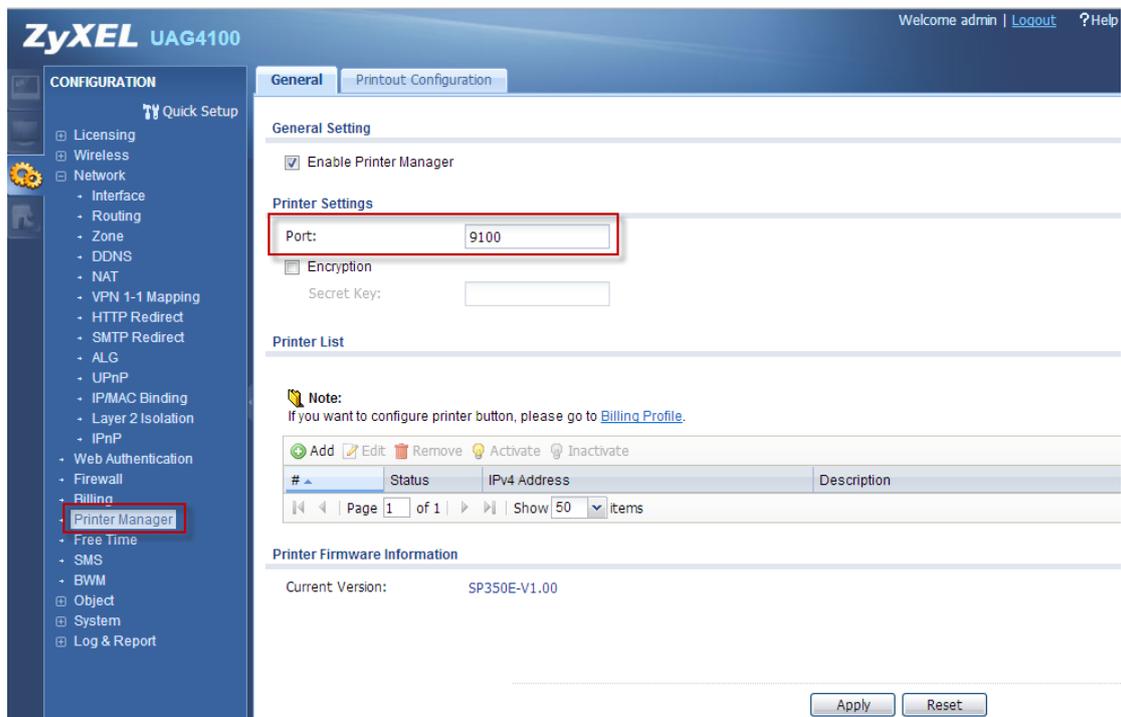
1) Easily control customer access to the Internet with payment services.

2) Customer can pay with PayPal or buy tickets from the reception to access the Internet.

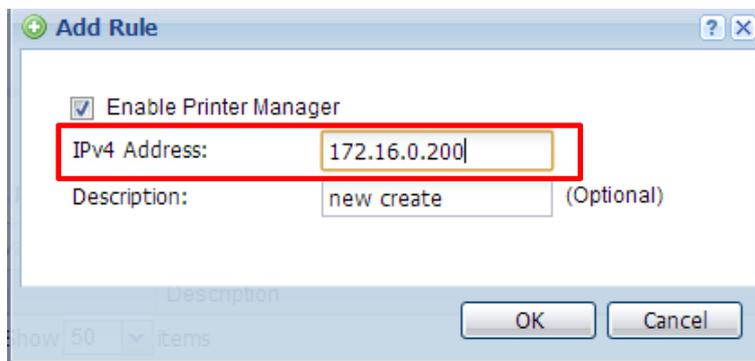
Print ticket to access the Internet

Step 1: Configure the Printer Manager GUI

- (1) **Configuration > Printer Manager > check General > Edit port with printer: 9100.**



- (2) Add a printer with the printer's **IP address** via the GUI.

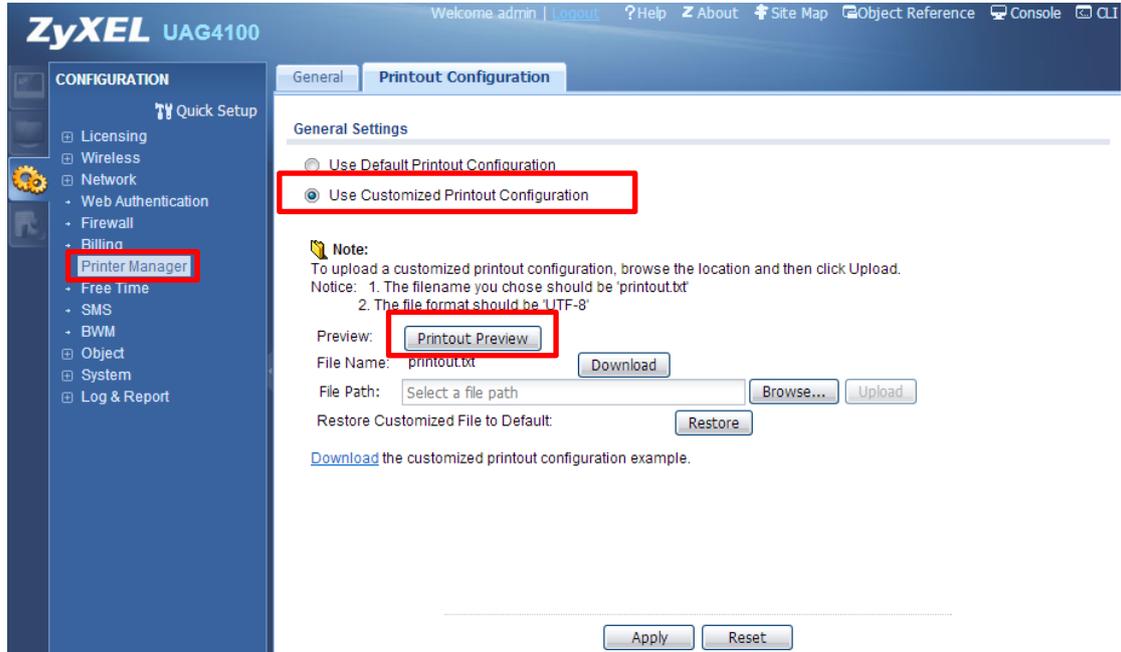


Step 2: **Configuration > Monitor > Printer Status** > check the Status with "sync success".

The screenshot shows the ZyXEL UAG4100 web management interface. The top navigation bar includes 'Welcome admin | Logout', 'Help', 'About', 'Site Map', 'Object Reference', 'Console', and 'CLI'. The left sidebar is titled 'MONITOR' and contains a tree view with 'System Status' and 'Wireless' expanded. Under 'Wireless', 'Printer Status' is highlighted with a red box. The main content area is titled 'Printer Status' and contains a 'Printer List' table. The table has a 'Refresh' button and the following columns: '#', 'IPv4 Address', 'Update Time', 'Status', 'Description', and 'Firmware Version'. A single row is displayed with the status 'sync success' highlighted in a red box. Below the table, there are navigation controls for 'Page 1 of 1' and 'Show 50 items', with 'Displaying 1 - 1 of 1' shown on the right.

#	IPv4 Address	Update Time	Status	Description	Firmware Version
1	172.16.0.200	2013/05/27 08:12:15	sync success	new create	n/a

Step 3: Select **Configuration > Printer Manager > check Printout Configuration > you can choose Use Customized Printout Configuration** to upload a customized printout configuration. Then you can customize the ticket information by downloading the example and modifying the ticket.



Step 4: **Configuration > Printer Manager > check Printout Configuration > you can choose Use Default or Customized Printout Configuration > Preview:** click **Printout Preview >** a pop-up window will be displayed with the Default printout configuration or the Customized printout configuration ticket format for preview.

Welcome!

Hotspot internet access service

Default

Username: Username
Password: Password
Billing: Billing
Service: Profile
Unit: Unit
Time Period: Time
Total: Total
Tax: Tax
Grand Total: Grand

Wlan1
ESSID: ESSID1
Security: Security1
Key: Key1
Wlan2
ESSID: ESSID2
Security: Security2
Key: Key2

Printout time: Printout-time
Please activate your account before Activate-time
After your first login, please finish your available time by Accu-expire

Welcome to zycamp!

zycamp internet access service

customized

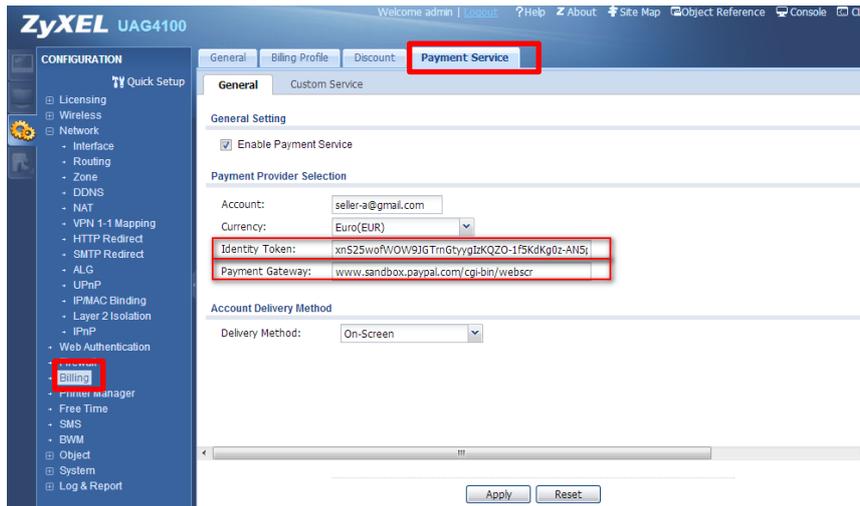
Username: Username
Password: Password
Billing: Billing
Service: Profile
Unit: Unit
Time Period: Time
Total: Total
Tax: Tax
Grand Total: Grand

Wlan1
ESSID: ESSID1
Security: Security1
Key: Key1
Wlan2
ESSID: ESSID2
Security: Security2
Key: Key2

Printout time: Printout-time
Please activate your account before Activate-time
After your first login, please finish your available time by Accu-expire

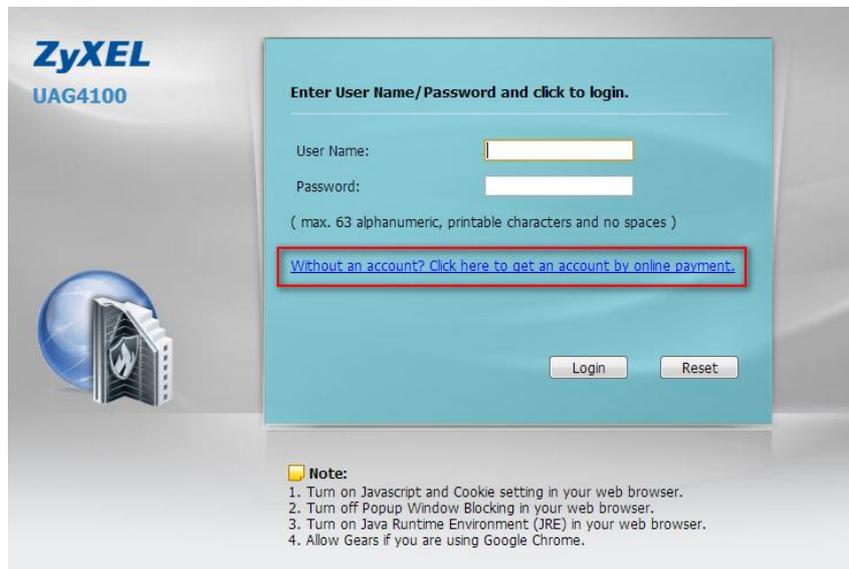
Pay with PayPal payment service to access the Internet

Step 1: **Configuration > Billing > Payment Service** > Enable Payment Service > Enter the **seller Account** and **Identity Token**.



Step 2: Test the dynamic account to pay the bill by payment function

- (1) Open the **Login page** after enabling the payment function. Then, you will see the link on the login page.



- (2) **Click the link** on the screen > then the page will redirect you to the billing profile page.

Welcome
Please choose the service plan from the following profile table.

#		Service Name	Service Time	Charge	Unit
1	<input type="radio"/>	billing_1hr	1 hour	€ 1.00	1 ▾
2	<input type="radio"/>	billing_2hr	2 hours	€ 2.00	1 ▾
3	<input checked="" type="radio"/>	billing_3hr	3 hours	€ 3.00	1 ▾

OK

(3) As the test, you can **Select 3 hour** billing profile > click **OK** > then the device will redirect you to the PayPal authentication page.

HongSong Chen's Test Store

Your order summary

Descriptions	Amount
180 minutes Item price: €3.00 Quantity: 1	€3.00
Item total	€3.00
Total €3.00 EUR	

Choose a way to pay

Pay with my PayPal account

Log in to your account to complete the purchase

Email
buyer-a@gmail.com

PayPal password
.....

Log in

[Forgot email or password?](#)

Don't have a PayPal account?
(Optional) Join PayPal for faster future checkout

[Cancel and return to HongSong Chen's Test Store.](#)

(4) After logging into the PayPal page, you can check your order.

HongSong Chen's Test Store

Your order summary

Descriptions	Amount
180 minutes Item price: €3.00 Quantity: 1	€3.00
Item total	€3.00
Total €3.00 EUR	

PayPal Electronic Communications Delivery Policy Consent

This will just take a minute and then you can complete your transaction.

We've updated our Electronic Communications Delivery Policy. Please read it and consent so we can send your account information electronically, including your payment confirmation.

Please confirm that

Yes, I've read and agree to the [Electronic Communications Delivery Policy](#). I understand that PayPal will provide me with information about my account electronically. I confirm that I can access emails, web pages, and PDF files.

Agree and Continue

[Can I decline?](#)

[Cancel and return to HongSong Chen's Test Store.](#)

- (5) After clicking on the **Agree and Continue** button > then you can click on the **Pay Now** button to pay the bill.

HongSong Chen's Test Store

Your order summary

Descriptions	Amount
180 minutes	€3.00
Item price: €3.00	
Quantity: 1	
Item total	€3.00
Total €3.00 EUR	

Review your information

Pay Now

Shipping address [Change](#)

HongSong Chen
1 Main St
San Jose, CA 95131
United States

Use as preferred shipping address

Note to seller: [Add](#)

Payment methods [Change](#)

PayPal Balance \$4.20 USD

PayPal Conversion Rate as of Jun 3, 2013: 1 U.S. Dollar = 0.714485 Euros

PayPal gift card, certificate, reward, or other discount [Redeem](#)
View [PayPal policies](#) and your payment method rights.

Contact information
buyer-a@gmail.com

Pay Now

- (6) After clicking on the **Pay Now** button > PayPal will display a pop-up window to the following web page > and then redirect the login information to you after 10 seconds.

HongSong Chen's Test Store

Thanks for your order

Your payment of €3.00 EUR is complete.

You're now going back to HongSong Chen's Test Store.

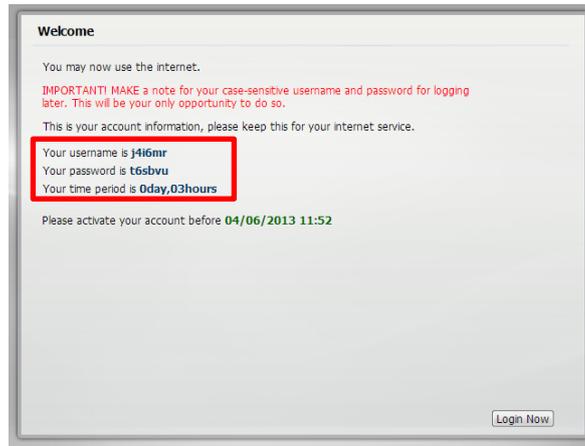
If you are not redirected within 10 seconds, [click here](#).

PayPal. The safer, easier way to pay.

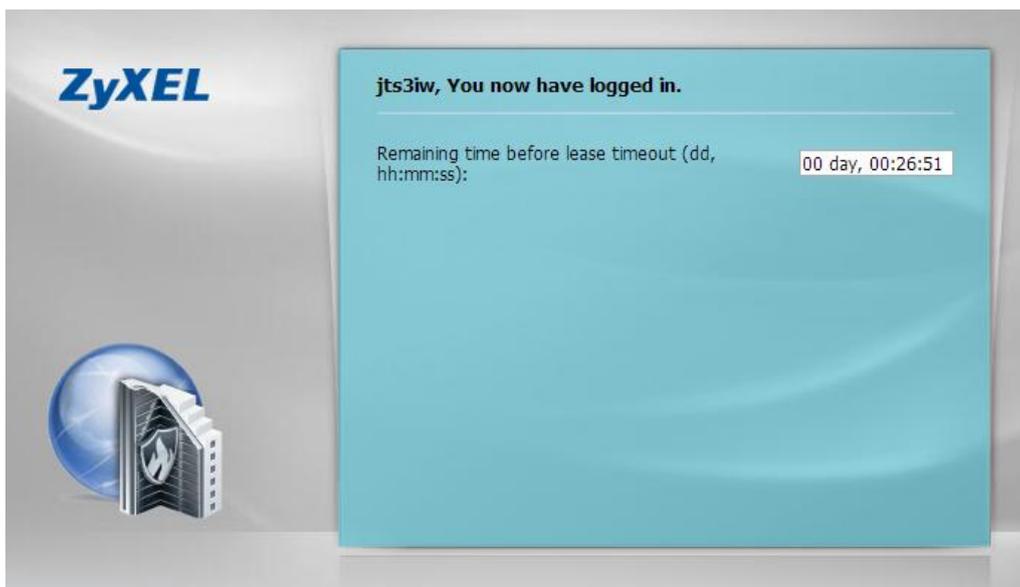
For more information, read our [User Agreement](#) and [Privacy Policy](#).

[Test Site](#)

(7) You can see the login username and password on the screen.



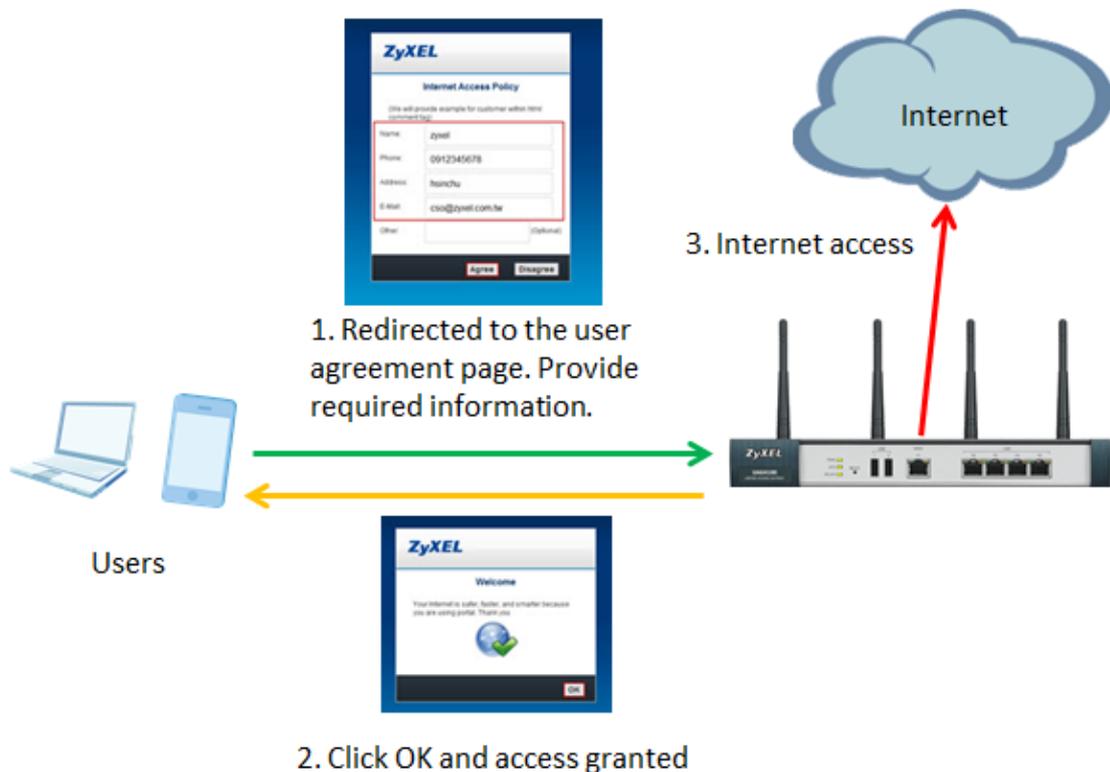
(8) Then you can login to the device with the username and password during the allocated time period.



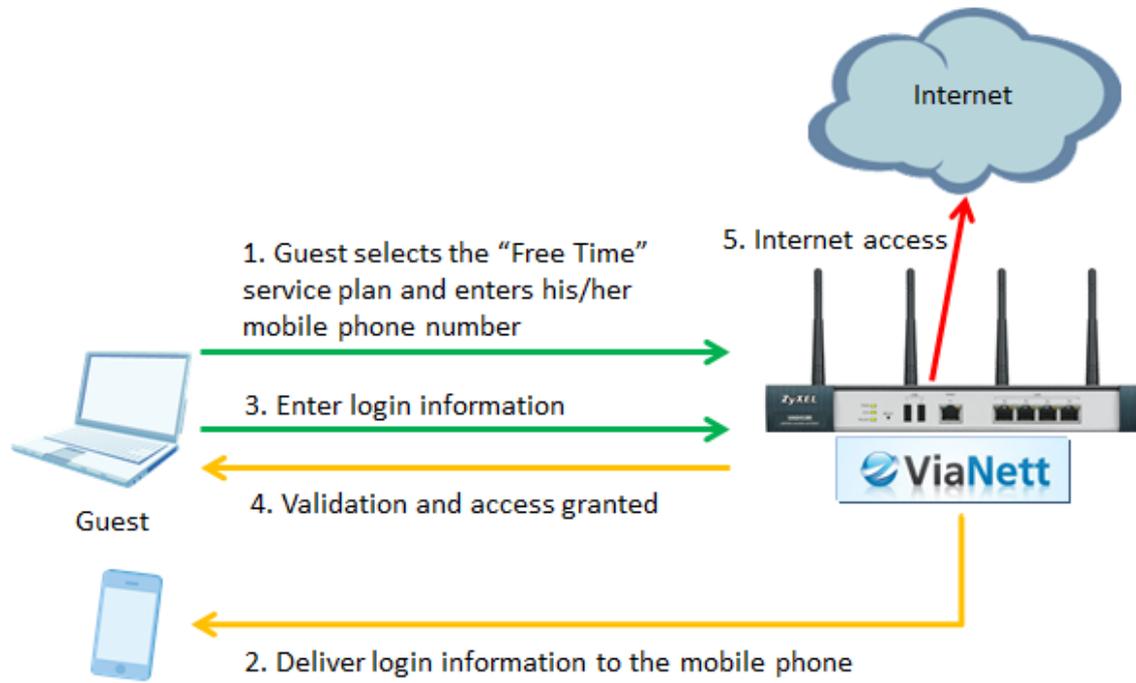
Scenario 2 – Activate a Free Access Hotspot

Some hotels need to provide free Internet services to hundreds of guests on a daily basis, and managing the Internet access for so many people can be very complicated without the right equipment. With web authentication such as user agreement and web portal, hotel guests are redirected to the web-based authentication portal upon the first attempt to access the network. In some countries, the law requires the identification and tracking of users who use public Internet access. The UAG4100 can authenticate people by forcing them to receive an authentication code via SMS on their phone. In this way, the UAG4100 can authorize user Internet access via their mobile phone number and keep track of the device in case of illegal activities via the hotspot. Guests can get free access to the Internet in a matter of seconds simply by entering all required personal contact information and agreeing to the policy of user agreement. Without a guest account, to browse the Internet free of charge for a specified period of time, the user must enter his or her mobile phone number to receive the guest account information by SMS.

User Agreement



Free Time



Network Conditions

WAN: 10.59.3.54

LAN 1: 172.16.0.1/255.255.0.0

User's laptop: 172.16.2.0

Goals to Achieve

- (1) Users must fill-in their personal information and accept the service usage agreement before they can access the Internet. After the form is submitted, the advertisement webpage will pop-up in a new window.
- (2) Allow any user to get account information by SMS and use the Internet free of charge for a limited time.

User Agreement

Task. Configure User Agreement to let users access the Internet without a guest account by agreeing to the policy of user agreement. Add the advertisement webpage as the first page when an authenticated user attempts to access the Internet.

Step 1: **Configuration > Web Authentication** > check "User Agreement".

- (1) Enable Idle Detection. The default value of idle timeout is 3 minutes.
- (2) Select "Internal User Agreement".
- (3) Add authentication policy for every source.

Welcome admin | Logout | ? Help | About | Site Map | Object Reference | Console

Web Authentication | Walled Garden | Advertisement

General Settings

Authentication: None Web Portal **User Agreement**

Enable Idle Detection
Idle timeout: 3 (1-60 minutes)
Reauthentication Time: 0 (0-1440 minutes, 0 is unlimited)

Internal User Agreement
 Use Customized Web Pages

Note:
To upload customized user agreement pages, browse to the location of the ua.zip file and then click upload. You can preview ua_agree.html and ua_welcome.html within the ua.zip file. (Please keep ua_agree.html, ua_welcome.html, ua.css file name and location.)

Preview:
File Name: ua.zip
File Path: Select a file path
Restore Customized File to Default:

[Download](#) the customized internal user agreement example.

External User Agreement
Agreement URL:
Welcome URL: (optional)
[Download](#) the external user agreement example.

Exceptional Services

#	Exceptional Services
1	DNS

Page 1 of 1 | Show 50 items | Displaying 1 - 1 of 1

Web Authentication Policy Summary

Status	Priority	Source	Destination	Schedule	Authentication	Description
	1	any	any	none	force	
	Default	any	any	none	unnecessary	n/a

Page 1 of 1 | Show 50 items | Displaying 1 - 2 of 2

Step 2: Configuration > Advertisement

- (1) Enable Advertisement.
- (2) Add the URL of the website.

Advertisement

General Settings

Enable Advertisement

Advertisement Summary

#	Name	URL
1	ZyXEL	http://www.zyxel.com

Page 1 of 1 | Show 50 items | Displaying 1 - 1 of 1

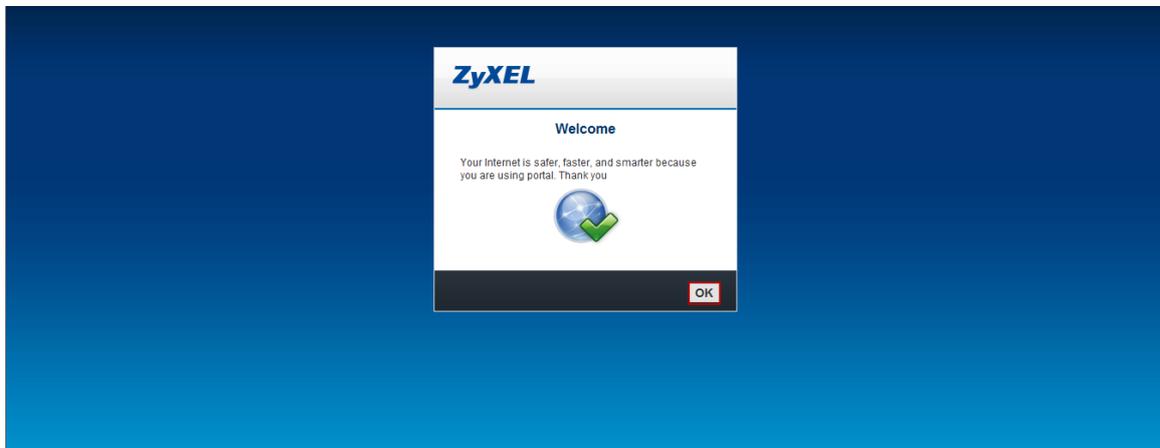
Verification

1. When the user opens the browser, he/she will be redirected to the user agreement page. Fill-in all the required information and click "Agree".

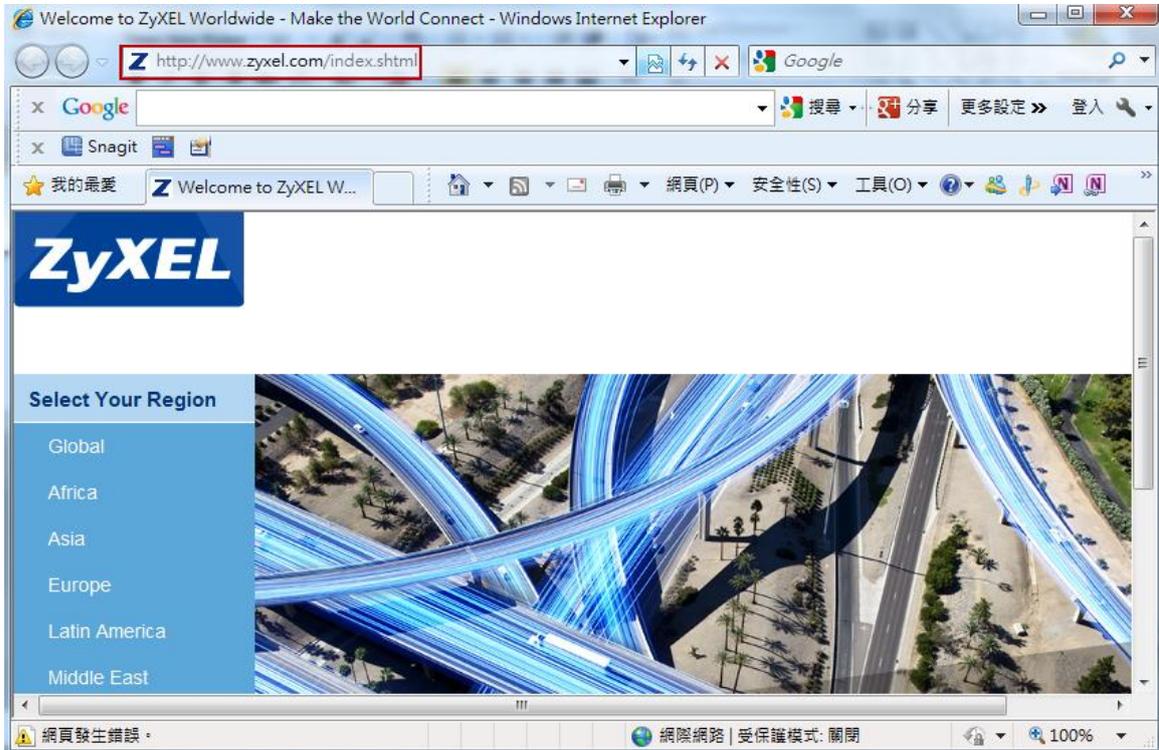


The screenshot shows a web form titled "ZyXEL Internet Access Policy". Below the title, there is a note: "(We will provide example for customer within html comment tag)". The form contains several input fields: "Name" with the value "zyxel", "Phone" with "0912345678", "Address" with "hsinchu", and "E-Mail" with "cso@zyxel.com.tw". There is also an "Other:" field with "(Optional)" next to it. At the bottom of the form, there are two buttons: "Agree" and "Disagree".

2. Click "OK" and then the user can access the Internet.



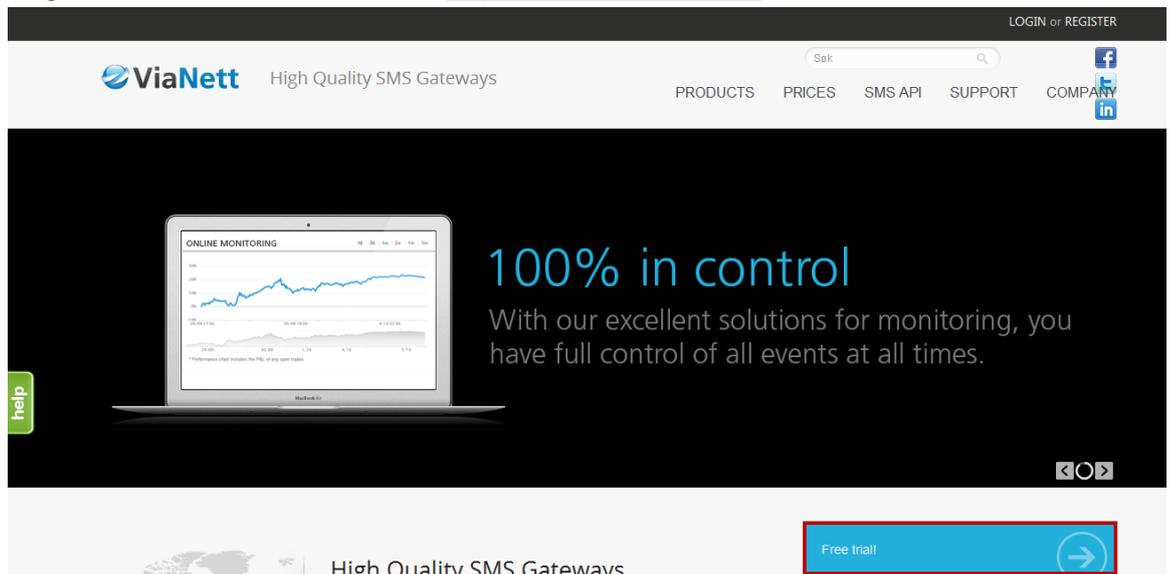
3. The advertisement webpage will be displayed in a new window as the first page whenever the user connects to the Internet.



Free Time

Task . Enable SMS service on the UAG and select SMS as the delivery method in Free Time.

Step 1: Register for a ViaNett account at <http://www.vianett.com>.



Fill in all the required information.

Free demonstration account

Get started today!

- ✓ Free Registration
- ✓ Send **5 SMS** free of charge

What can we offer?

- ✓ SMS Bulk Worldwide
- ✓ Two-way Communication
- ✓ SMS Billing Services in Scandinavia
- ✓ HLR Worldwide
- ✓ 13 APIs
- ✓ Great technical support
- ✓ Become a SMS Reseller
- ✓ ++

Fill in to get a free account

Your name:

E-mail:

Mobile number: +

Company name:

Country:

12PHG

Enter code above:

[CREATE DEMO ACCOUNT](#)

Note: It is important that you enter correct information in all fields. We will send you the account information to the email address entered above. All accounts with invalid information will be deleted.

After the form has been submitted, the account information will be sent to your Email address.



Efficiency with SMS

Welcome! We're happy you joined us!

Here is your account information.

Username esbusec@gmail.com

Password

[Go to login page](#)

You can send up to 5 SMS messages in the test period, pricegroup and sender address will not be available in this period.

More information

You may purchase SMS credits with your credit card by visiting [this page](#)

We hope that you will find it interesting to start cooperating with us! If you have any questions, you are welcome to contact our customer service at smssupport@vianett.com.

Best Regards,
ViaNett team

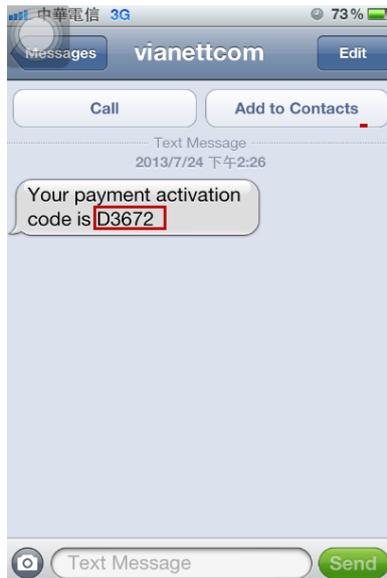
ViaNett AS | Norway | Tel. +47 69 23 32 80 | support@vianett.com

Purchase SMS credits

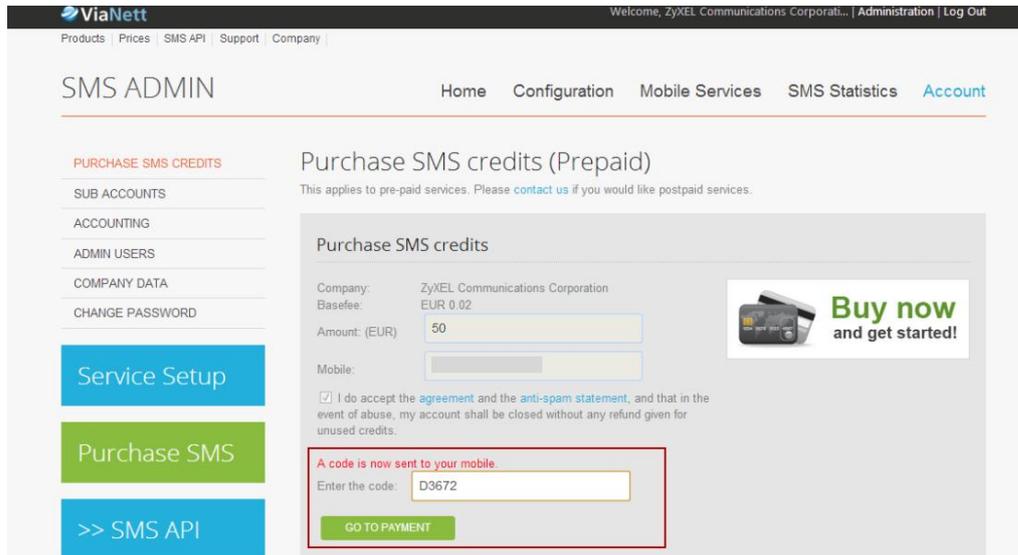
The screenshot shows the 'SMS ADMIN' interface with a navigation menu (Home, Configuration, Mobile Services, SMS Statistics, Account) and a sidebar with options like 'PURCHASE SMS CREDITS', 'SUB ACCOUNTS', 'ACCOUNTING', 'ADMIN USERS', 'COMPANY DATA', and 'CHANGE PASSWORD'. The main content area is titled 'Purchase SMS credits (Prepaid)' and contains a 'Log in to your account' form. The form has fields for 'Username' (filled with 'esbusec@gmail.com') and 'Password' (filled with '*****'), a 'LOG IN' button, and a link for 'Register new account?'. A red box highlights the login form, and a green box highlights the 'Purchase SMS' button in the sidebar.

Fill in the prepaid plan and your mobile number. The activation code will be sent to your mobile phone number.

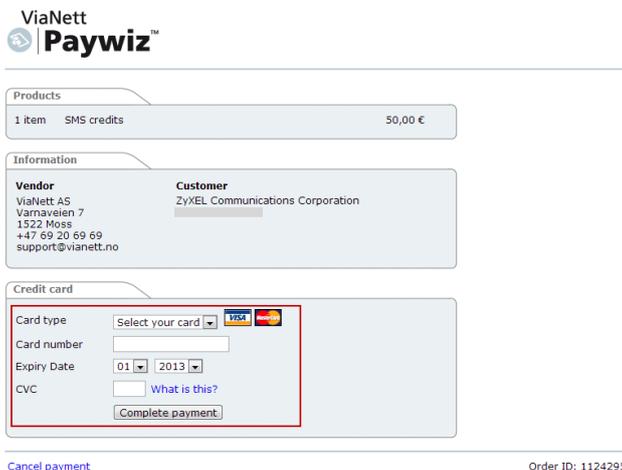
This screenshot shows the 'Purchase SMS credits (Prepaid)' form in the 'SMS ADMIN' interface. The form includes fields for 'Company' (ZyXEL Communications Corporation), 'Basefee' (EUR 0.099), 'Amount: (EUR)' (50), and 'Mobile'. A checkbox is checked, indicating acceptance of the agreement and anti-spam statement. A 'GO TO PAYMENT' button is at the bottom. To the right, there is a promotional banner for 'Buy now and get started!' with an image of a SIM card. A red box highlights the main form, and a green box highlights the 'Purchase SMS' button in the sidebar.



Enter the activation code to proceed to make payment.



Fill in the credit card information to complete the payment.



Payment is complete.



Products

1 item	SMS credits	50,00 €
--------	-------------	---------

Information

Vendor	Customer
ViaNett AS Varnaveien 7 1522 Moss +47 69 20 69 69 support@vianett.no	ZyXEL Communications Corporation

Payment

Your payment is now complete. Press the link below to return to the store.

Amount:	50,00 €
Order ID:	1124297
Date:	2013-07-24
Transaction ID:	1124297-e58dd87a2dbc4697a8f7a5a6

[Go back to store](#)

Order ID: 1124297

Step 2: After the ViaNett account is ready, go to **Configuration > SMS**

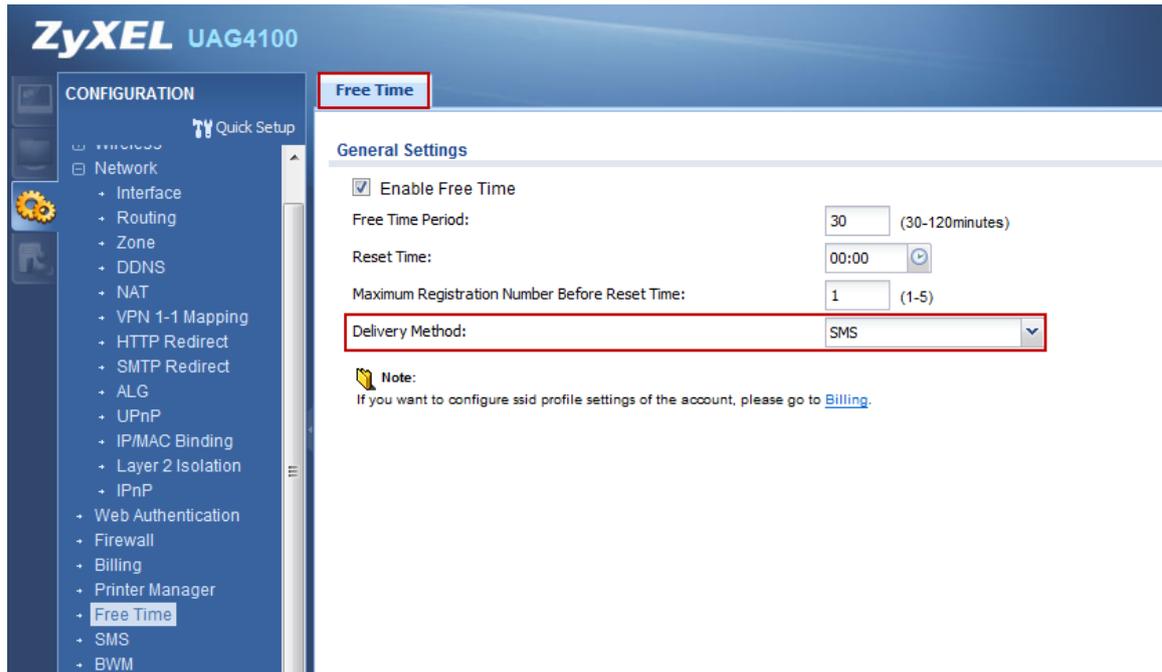
- (1) Enable SMS.
- (2) Fill-in your local phone country code as the default country code.
- (3) Add authentication policy for every source.

The screenshot shows the ZyXEL UAG4100 Configuration interface. The left sidebar contains a 'CONFIGURATION' menu with 'SMS' highlighted. The main content area is titled 'SMS' and has two sections: 'General Settings' and 'ViaNett Configuration'. In 'General Settings', the 'Enable SMS' checkbox is checked, and the 'Default country code for phone number' is set to '886' (1-4 digit). In 'ViaNett Configuration', the 'User Name' is 'esbusec@gmail.com', and both 'Password' and 'Retype to Confirm' fields are filled with masked characters (dots).

Step 3: Configuration > Free Time

(1) Enable Free Time and set up the free time period. By default, the Reset time will be at AM 00:00. You can also setup how many times a MAC address can access the Internet.

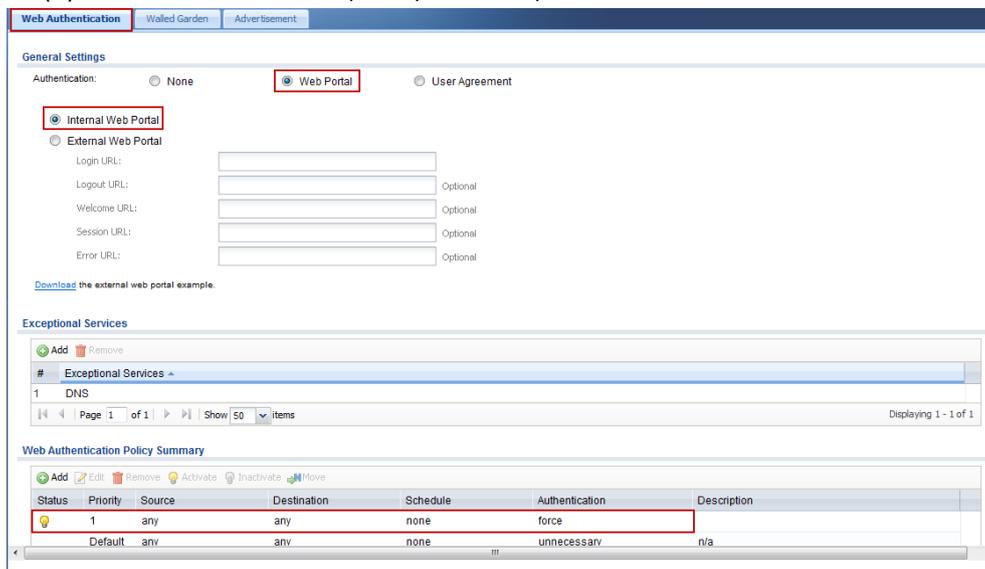
(2) Select "SMS" to deliver the login information to the mobile phone.



Step 4: Configuration > Web Authentication > check "Web Portal".

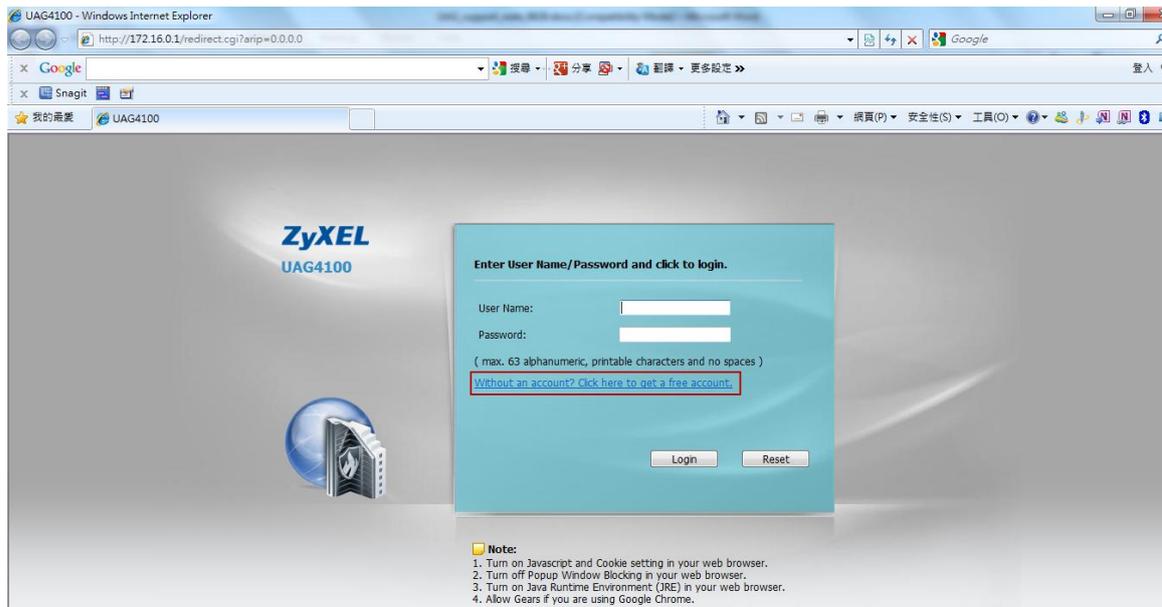
(1) Select Internal Web Portal.

(2) Add authentication policy for every source.

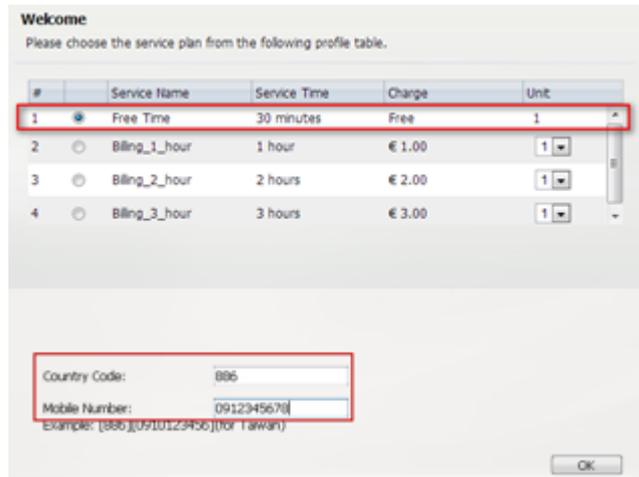


Verification

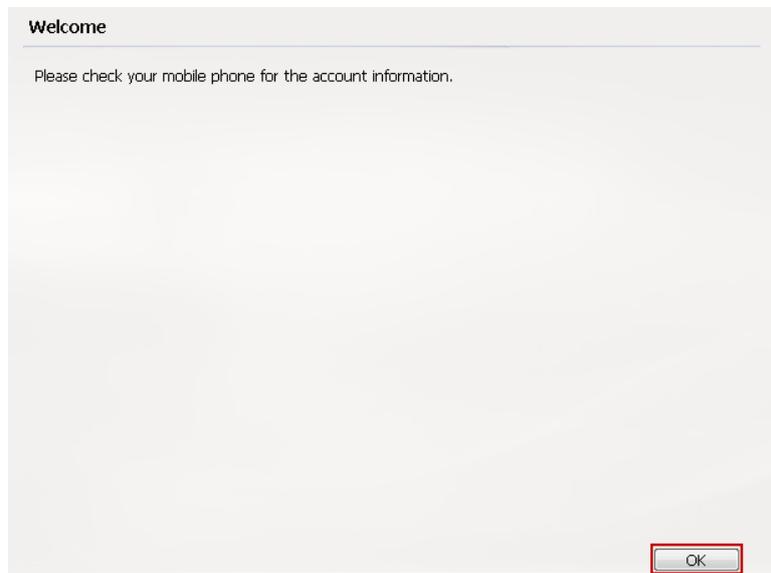
1. Users will be redirected to the login page before being permitted to access the Internet. Click on the link to get a free account.



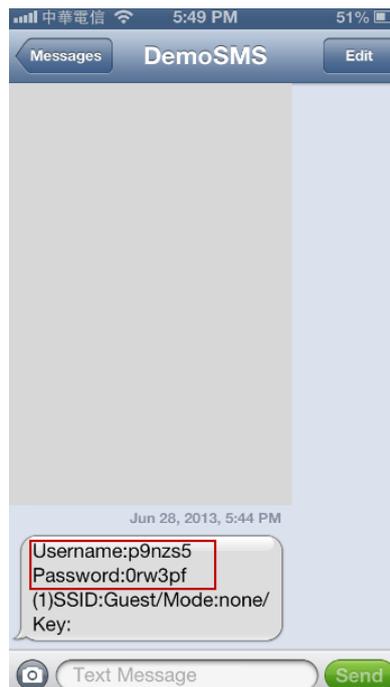
2. Select the "Free Time" on the screen and submit your mobile phone number.



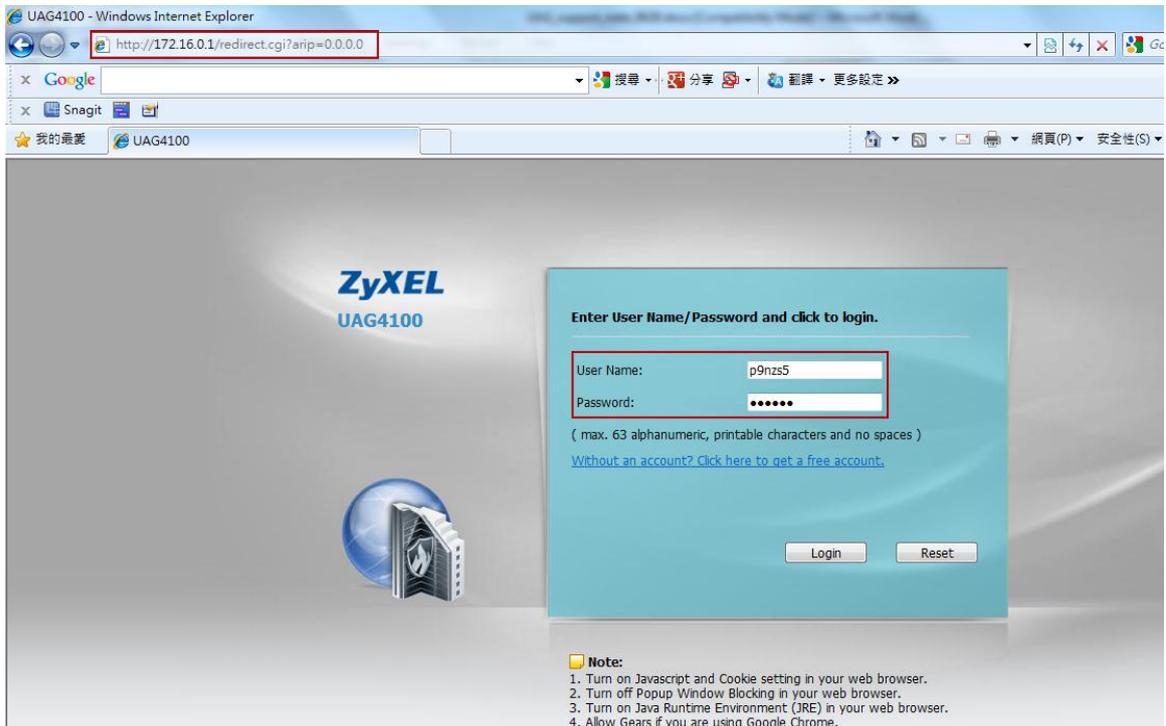
3. The account and password will be sent to your mobile phone.



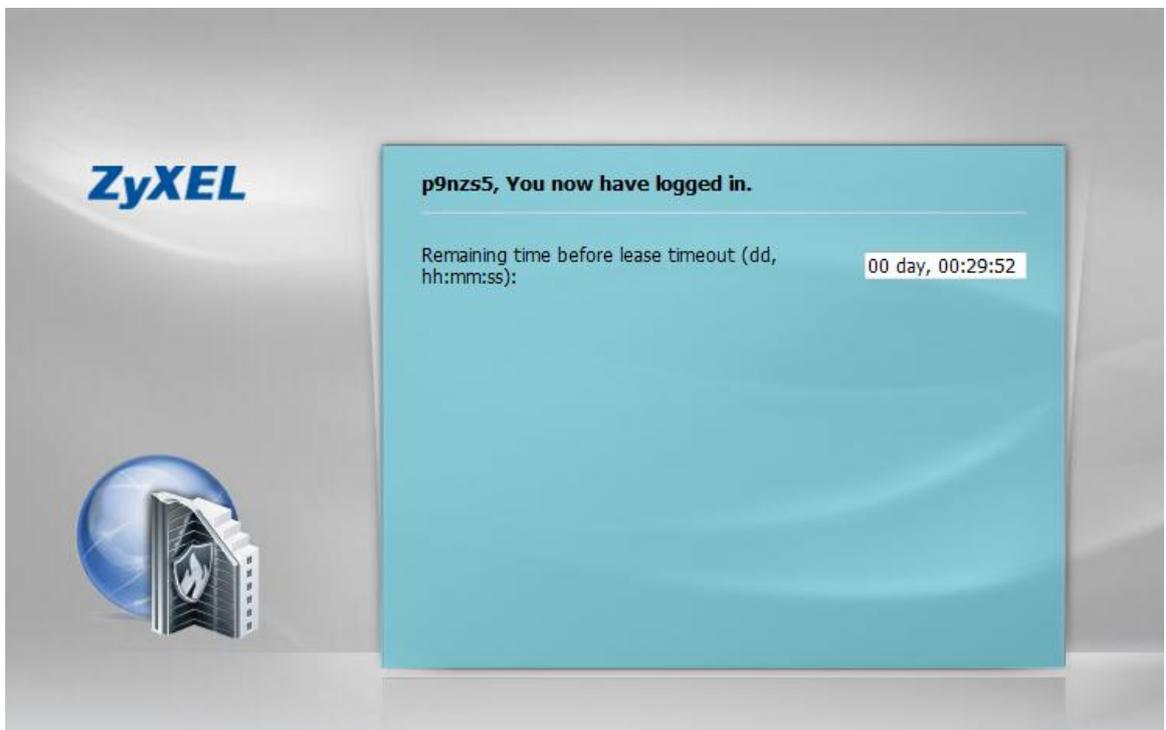
4. Check your account information.



5. Fill-in the account information received on your mobile phone and click "Login".



6. You can start to access the Internet.



Scenario 3 - BWM Controls Trial and Billing Users

In the hotel network hotspot applications, the UAG4100 can support different bandwidth controls by different SSIDs. We can use this design like NXC, SSID mapping to a VLAN. Then VLAN can be mapped to an IP address subnet. In this scenario, we add 2 SSIDs and enable the Free Time function on the device, and also add the Billing profiles on the device. After adding the policy to limit the user bandwidth via BWM function, we can login to the device via a trial-user or billing-user account to check the speed controlled by the UAG4100.



Network Conditions

UAG4100:

WAN1: 10.59.3.54

LAN2: 172.17.0.1

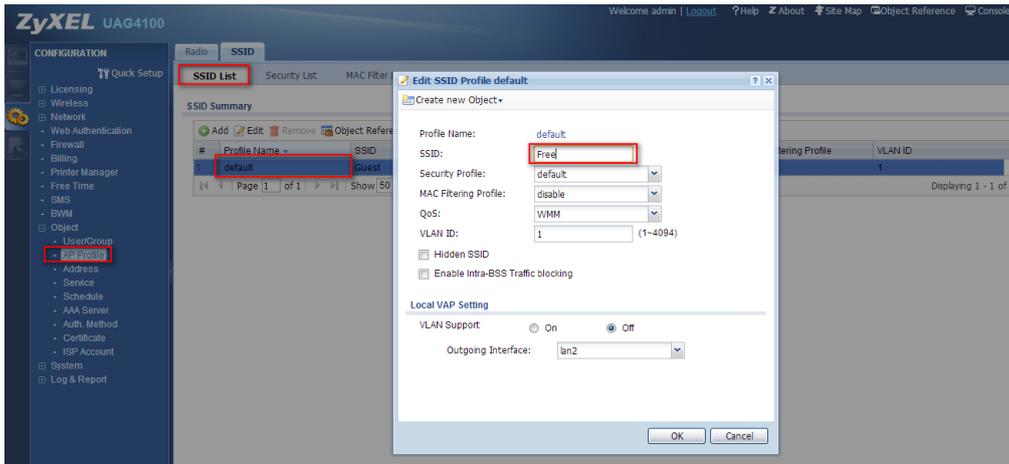
Goal to Achieve

UAG4100 can support adding of rules on the device to control different user types by the BWM function for controlling the bandwidth based on a user account.

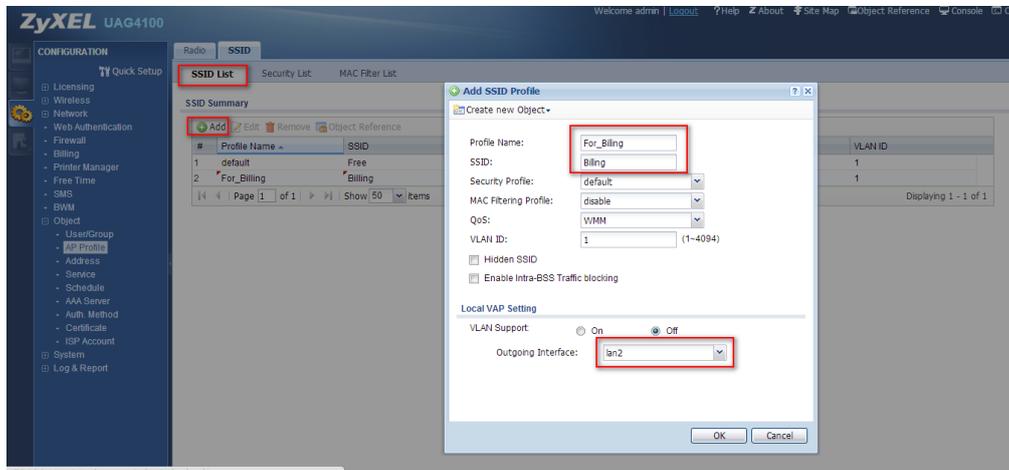
Task 1: Add the AP profiles on the device.

Step 1: Go to **Configuration > Object > AP Profile > SSID > SSID list**.

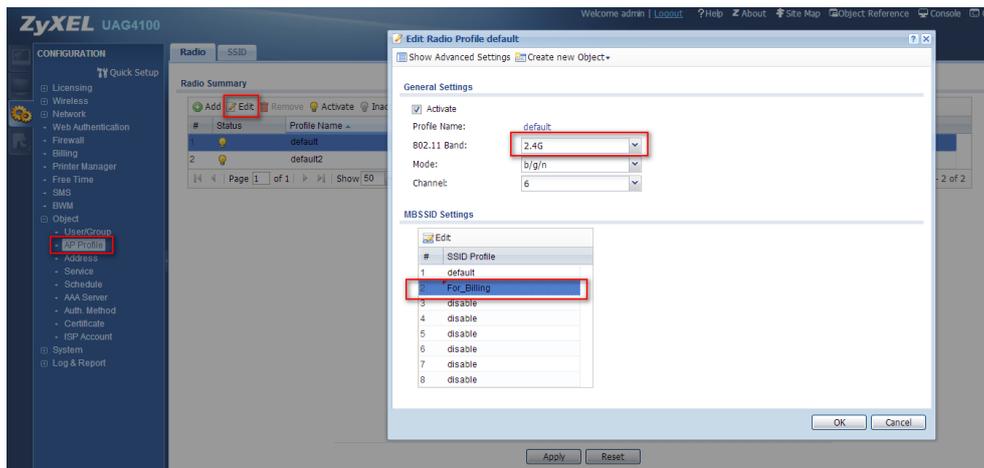
- (1) Modify the default SSID name as "Free".

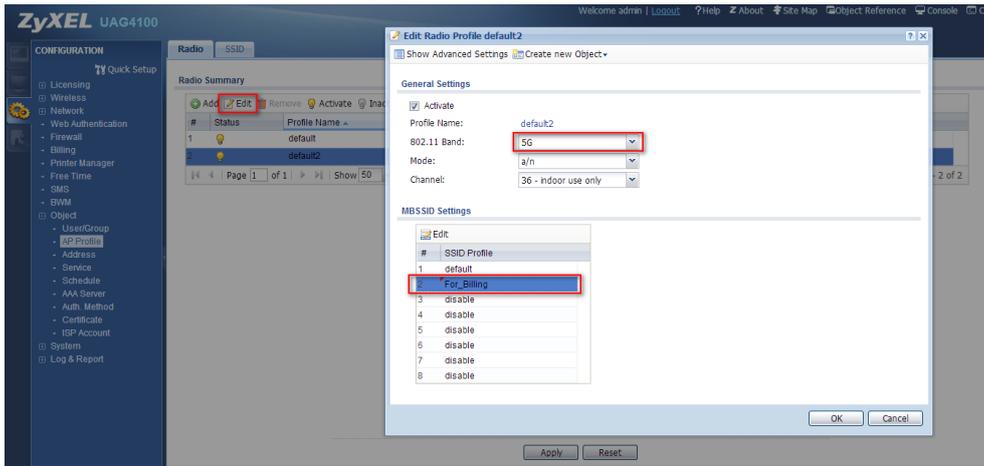


(2) Add the other SSID for Billing users.



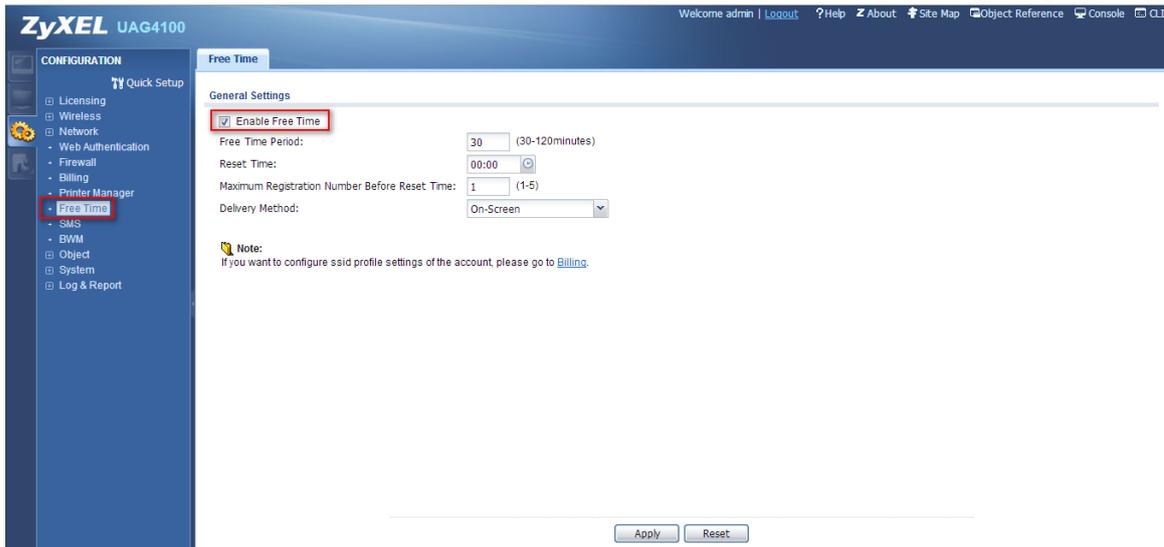
(3) Go to **Configuration > Object > AP Profile > Radio** to Broadcast these two SSIDs via the 2.4 GHz and 5 GHz radios.





Task 2: Enable the Free Time function on the device.

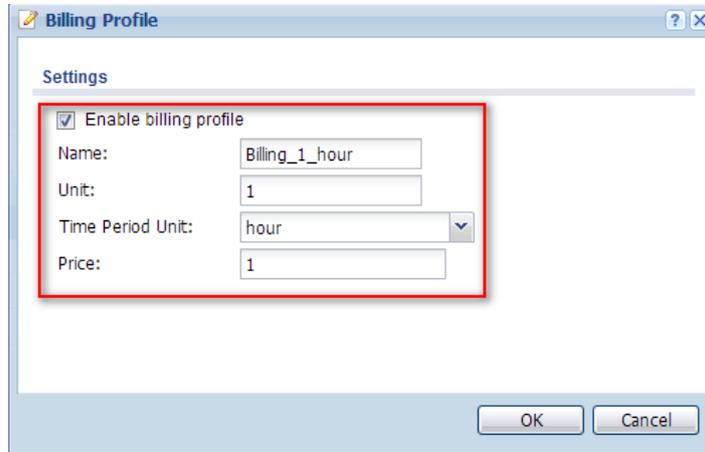
Step 1: Go to **Configuration > Free time** page to enable the Free time function (you can configure the duration and how many times that user can access the Internet for free).



Task 3: Add the Billing profiles on the device.

Step 1: Go to Configuration > Billing > Billing profile page to add the billing profile.

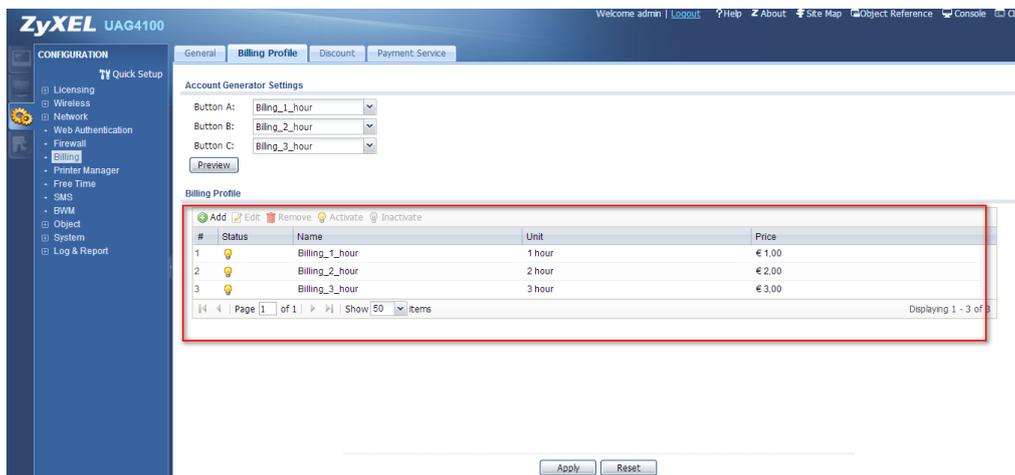
Ex: 1 hour = 1€, 2 hours = 2€, 3 hours= 3€



The image shows a 'Billing Profile' dialog box with a 'Settings' section. A red box highlights the following fields:

- Enable billing profile
- Name: Billing_1_hour
- Unit: 1
- Time Period Unit: hour
- Price: 1

Buttons: OK, Cancel



The image shows the ZyXEL UAG4100 configuration page for Billing Profile. The 'Account Generator Settings' section includes:

- Button A: Billing_1_hour
- Button B: Billing_2_hour
- Button C: Billing_3_hour

The 'Billing Profile' table is highlighted with a red box:

#	Status	Name	Unit	Price
1		Billing_1_hour	1 hour	€ 1.00
2		Billing_2_hour	2 hour	€ 2.00
3		Billing_3_hour	3 hour	€ 3.00

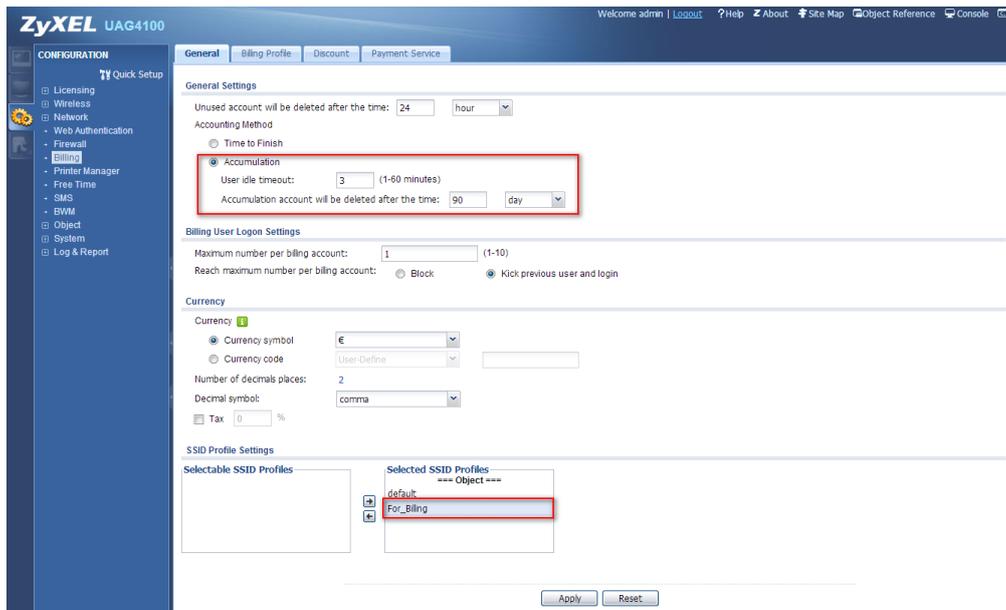
Page 1 of 1 | Show 50 items | Displaying 1 - 3 of 3

Buttons: Apply, Reset

Step 2:

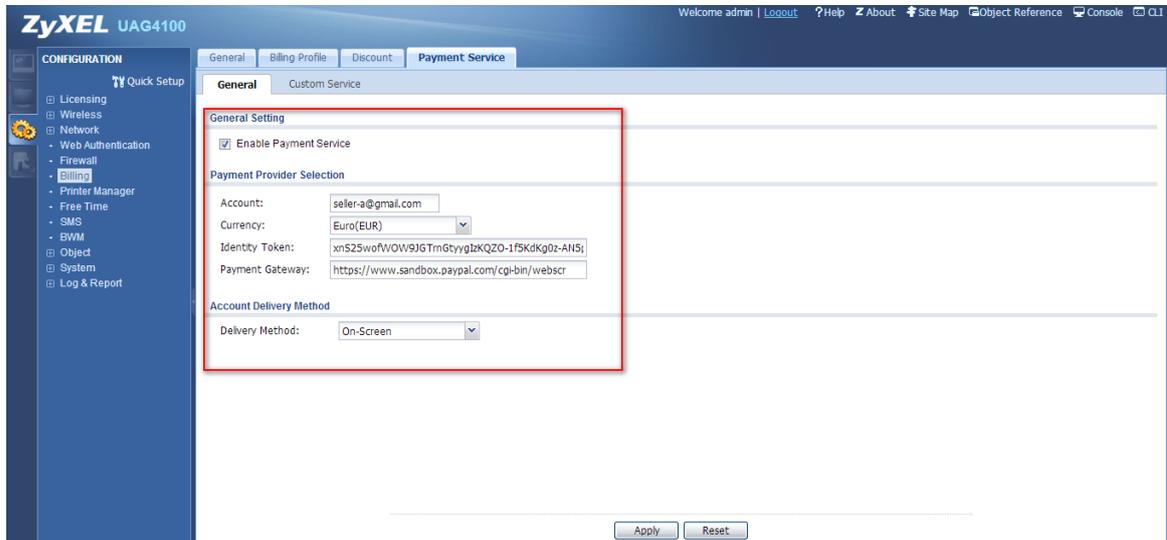
Go to **Configuration > Billing > General** page to check the general setting of the billing function.

- (1) Ensure that the accounting method type and currency settings are correct
- (2) Add the SSID profile in the general setting.



Task 4: Configuring the Payment service page.

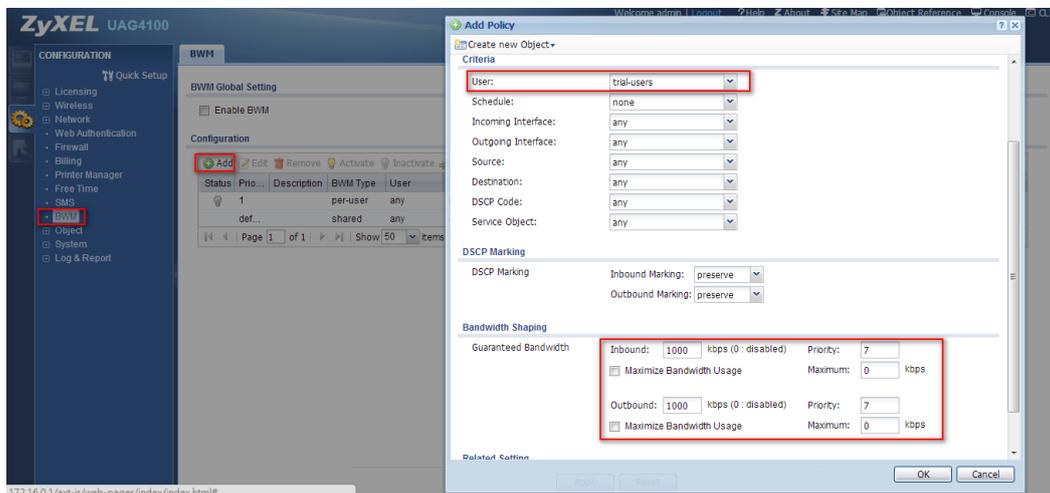
Ensure that the Payment service has already been configured correctly.



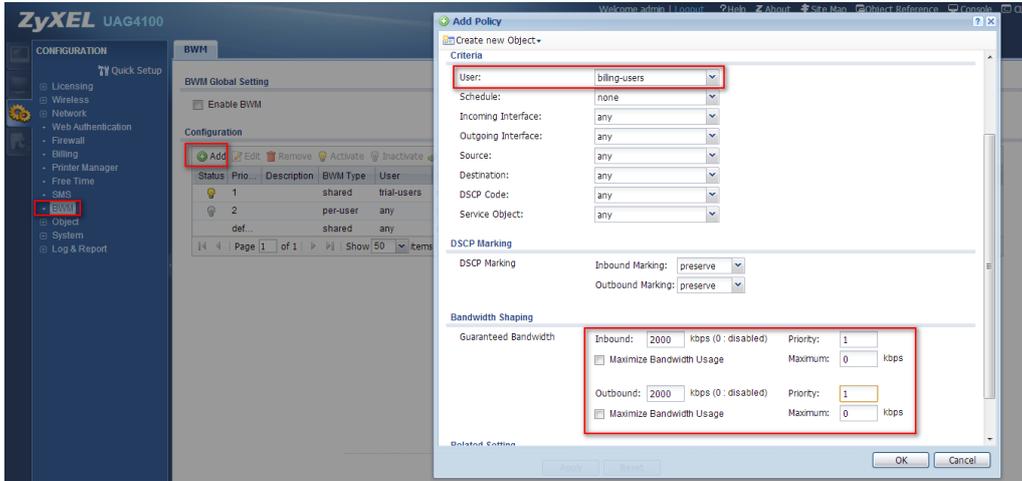
Task 5: Add the policy to limit the user bandwidth via the BWM function.

Step 1: Go to Configuration > BWM > Add the policy to limit the Bandwidth by user type.

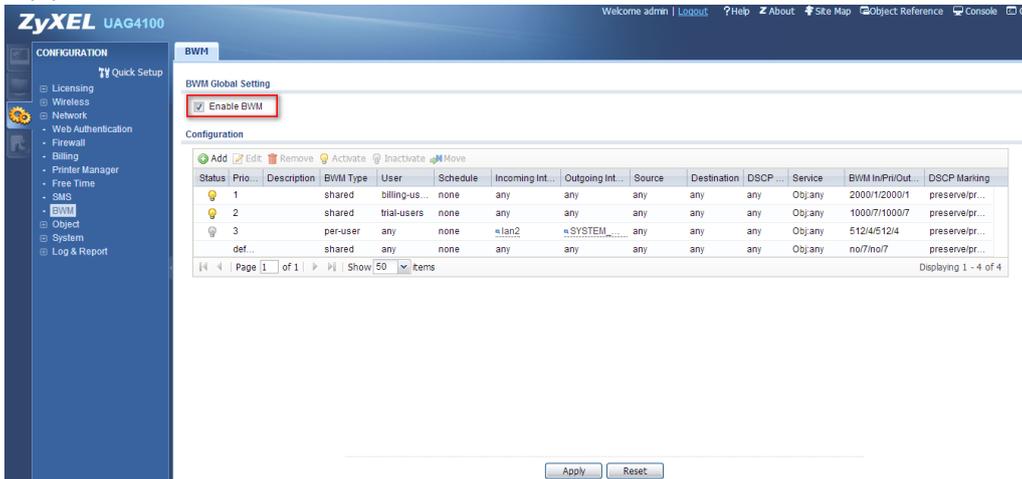
- (1) User: Trail-Users, Inbound=1000 Kbps, Out bound=1000 Kbps, Priority =7



(2) Billing-Users, Inbound=2000 Kbps, Out bound=2000 Kbps, Priority =1



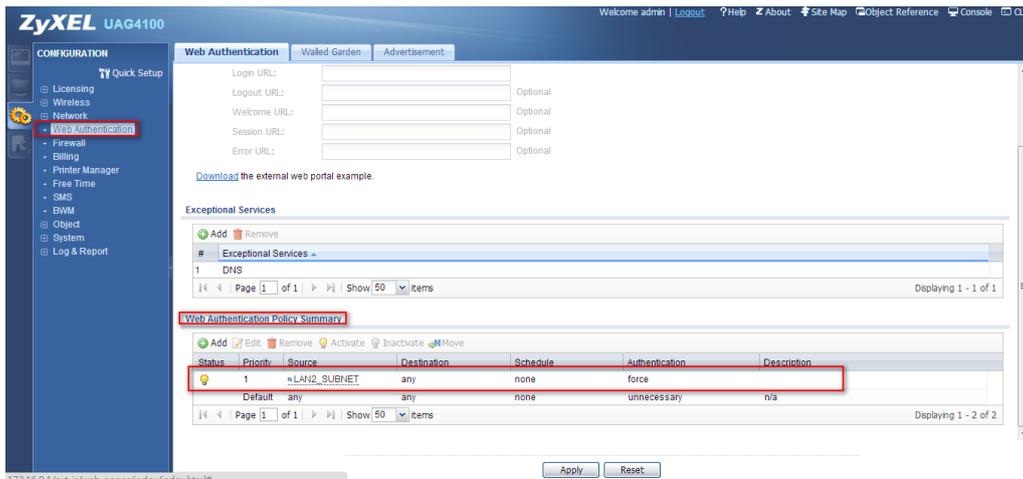
(3) Enable BWM function.



Task 6: Enable the web authentication policy on the device.

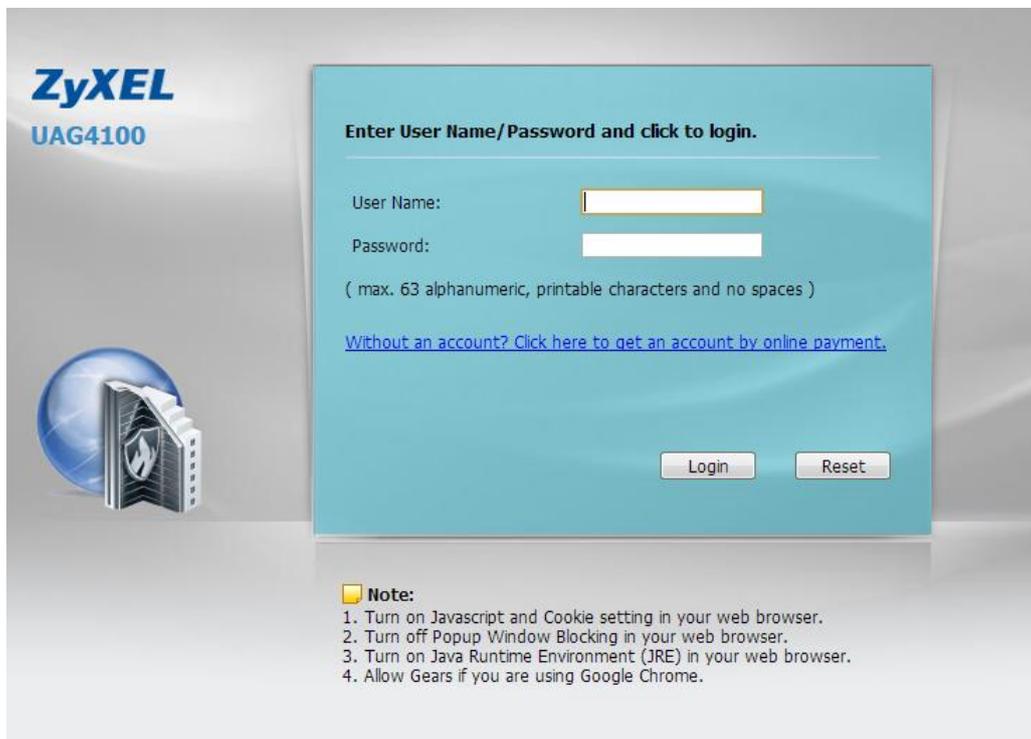
Go to Configuration > Web Authentication > Web Authentication > Web Portal.

Enable web authentication policy to force LAN2 user to authentication with the device.



Task 7: Login to the device via the trial user.

Step 1: Click on the link to get a dynamic user account.



Step 2: After clicking on the link on the login page, the device will redirect the billing profile to you.

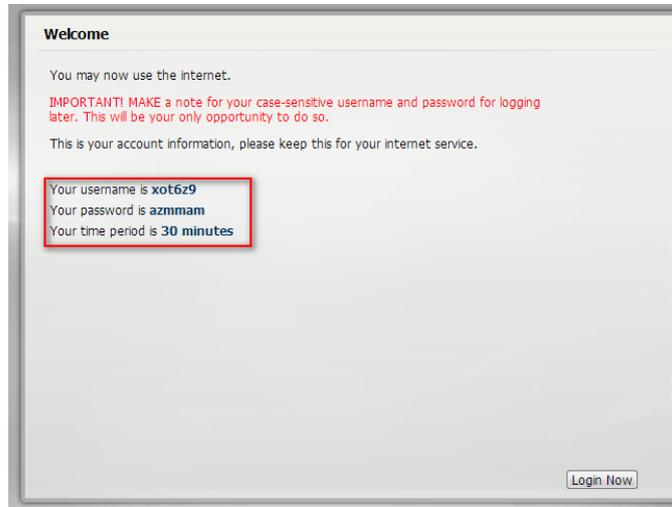
Then you can select the "Free Time" on the screen, and click on the "OK" button.

Welcome
Please choose the service plan from the following profile table.

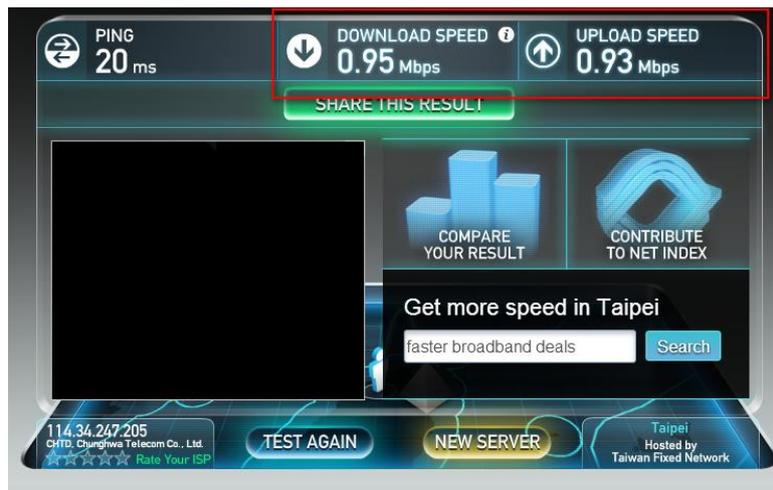
#	Service Name	Service Time	Charge	Unit
1	<input checked="" type="radio"/> Free Time	30 minutes	Free	1
2	<input type="radio"/> Billing_1_hour	1 hour	€ 1.00	1
3	<input type="radio"/> Billing_2_hour	2 hours	€ 2.00	1
4	<input type="radio"/> Billing_3_hour	3 hours	€ 3.00	1

OK

Step 3: Then device will display a pop-up window with the user name and password.
Or you can click on the "Login Now" button to login to device directly.

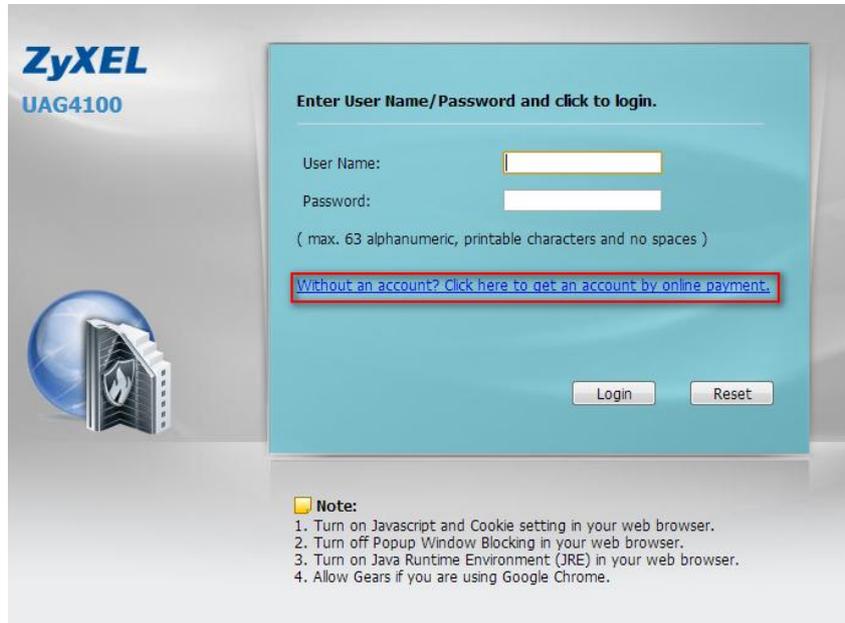


Step 4: Visit the website "<http://www.speedtest.net/>" to test the speed.
The test result is around 1 Mbps, which is the same as our setup.

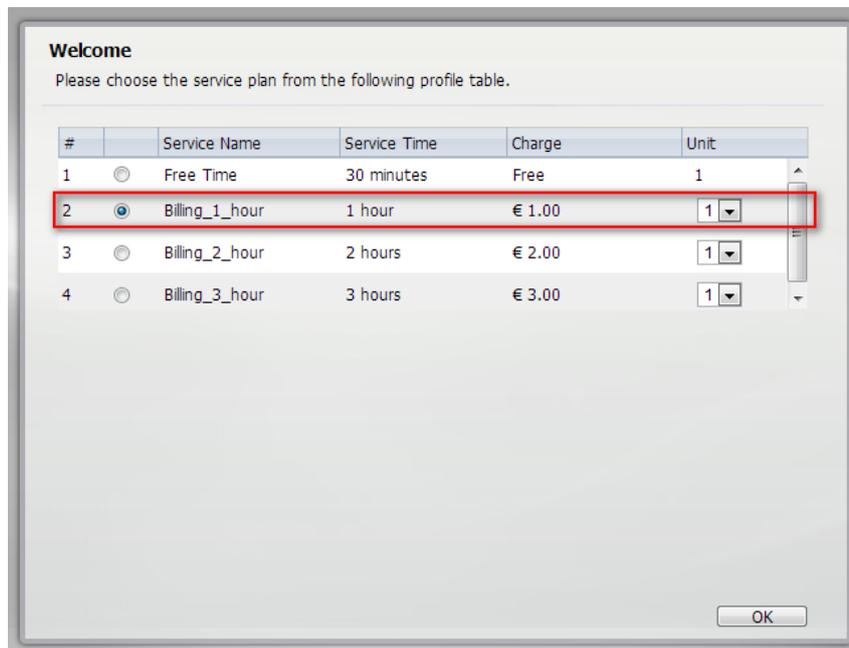


Task 7: Login to device via the billing-user, and test the speed.

Step 1: Click on the link to get a dynamic account to access the Internet.



Step 2: Select the 1-hour profile to test this.



Step 3: Then device will display the PayPal page in pop-up window.

Please enter the correct user name and password in the fields, and then click on the "Log in" button on the browser.

HongSong Chen's Test Store

Your order summary	
Descriptions	Amount
60 minutes Item price: €1.00 Quantity: 1	€1.00
Item total	€1.00
Total €1.00 EUR	

Choose a way to pay

Pay with my PayPal account 

Log in to your account to complete the purchase

Email

PayPal password

Log in

[Forgot your email address or password?](#)

Don't have a PayPal account?
(Optional) Join PayPal for faster future checkout

[Cancel and return to HongSong Chen's Test Store.](#)

PayPal will show you the balance. Then you can click on the "Pay Now" button.

Your order summary	
Descriptions	Amount
60 minutes Item price: €1.00 Quantity: 1	€1.00
Item total	€1.00
Total €1.00 EUR	

Review your information

Pay Now 

Shipping address [Change](#)

HongSong Chen
1 Main St
San Jose, CA 95131
United States

Note to seller: [Add](#)

Payment methods [Change](#)

PayPal Balance	\$1.40 USD
----------------	------------

PayPal Conversion Rate as of Jun 24, 2013: 1 U.S. Dollar = 0.714485 Euros

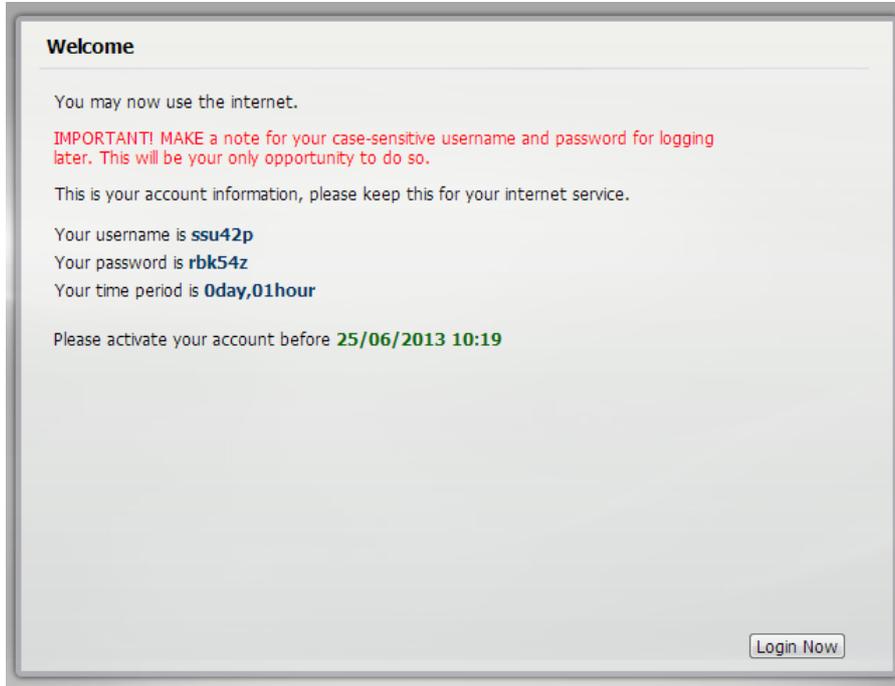
PayPal gift card, certificate, reward, or other discount [Redeem](#)
View [PayPal policies](#) and your payment method rights.

Contact information
buyer-a@gmail.com

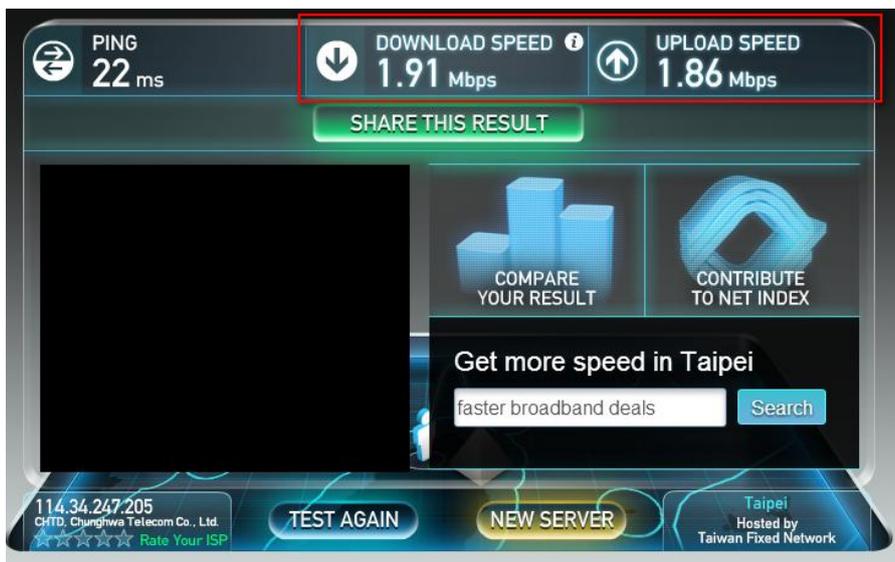
Pay Now

[Cancel and return to HongSong Chen's Test Store.](#)

Step 4: After you click on the "Pay Now" button, PayPal will redirected the user name and password to you. You can then click on the "Login now" button to directly access the Internet.

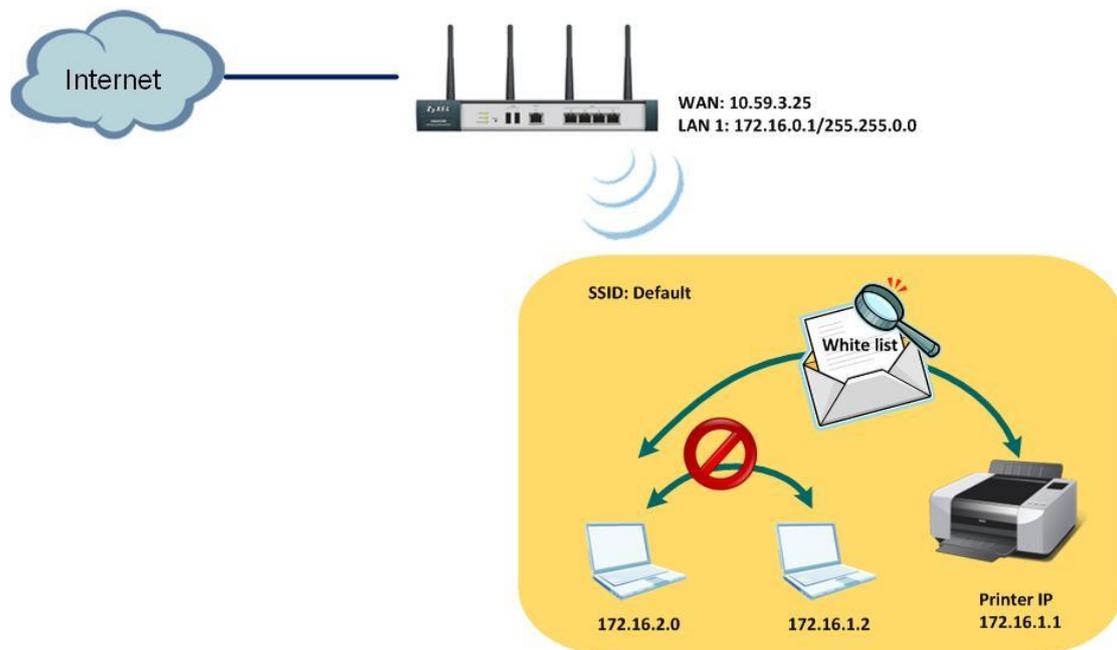


Step 5: Visit the website "<http://www.speedtest.net/>" to test the Speed. The test result is around 2 Mbps, which is the same as our setup.



Scenario 4 - Layer 2 Isolation and White List

In the hotel network hotspot applications, if you want to easily control and manage that client's ability to connect with each other, you can enable the Layer2 Isolation function to block specific interfaces from communicating with each other. In this scenario, we have set two client laptops, and an online printer for client use, after enabling the Layer2 Isolation function. We can prevent the clients from accessing each other's laptops. And by using a White list, we can also manage the clients as well as access the online printer.



Network Conditions

UAG4100:

LAN 1: 172.16.0.1/255.255.0.0

Printer IP: 172.16.1.1

Client 1's laptop: 172.16.1.2

Client 2's laptop: 172.16.2.0

Goals to Achieve

1) Enabling the Layer2 Isolation function, it becomes easy to control, manage, and block specific interfaces from connecting with each other.

2) Using a White list can restrict or allow clients from accessing specific servers.

Task 1. Enable the "Layer2 Isolation" function to prevent internal users from connecting with each other.

Step 1: Connect the Printer on the UAG4100 Lan1, and ensure that the client's laptop is also in the same Lan1 subnet.

Printer IP address:

```
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\CS0>ipconfig

Windows IP Configuration

    Connection-specific DNS Suffix  . : 
    Link-local IPv6 Address . . . . . : fe80::f592:dab7:7a6b:3b08%11
    IPv4 Address. . . . . : 172.16.1.1
    Subnet Mask . . . . . : 255.255.0.0
    Default Gateway . . . . . : 172.16.0.1

Tunnel adapter isatap.{8E4806B7-8351-4AFA-8557-1DA78CBA8D2E}:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . : 
    Connection-specific DNS Suffix  . : 
    IPv6 Address. . . . . : 2001:0:9d38:6ab8:2c16:3f96:8ddd:832
    Link-local IPv6 Address . . . . . : fe80::2c16:3f96:8ddd:832%20
    Default Gateway . . . . . : 

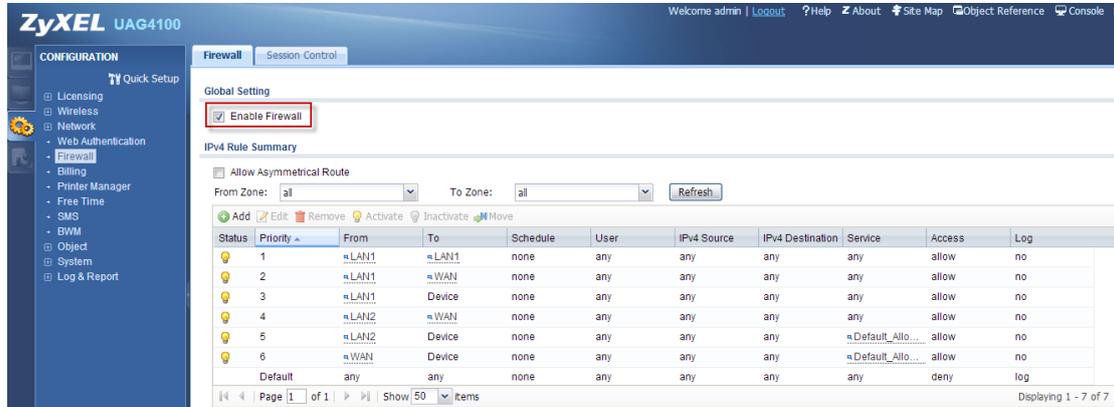
C:\Users\CS0>
```

Laptop IP address of client 2:

```
Connection-specific DNS Suffix . : 
IP Address. . . . . : 172.16.2.0
Subnet Mask . . . . . : 255.255.0.0
Default Gateway . . . . . : 172.16.0.1
```

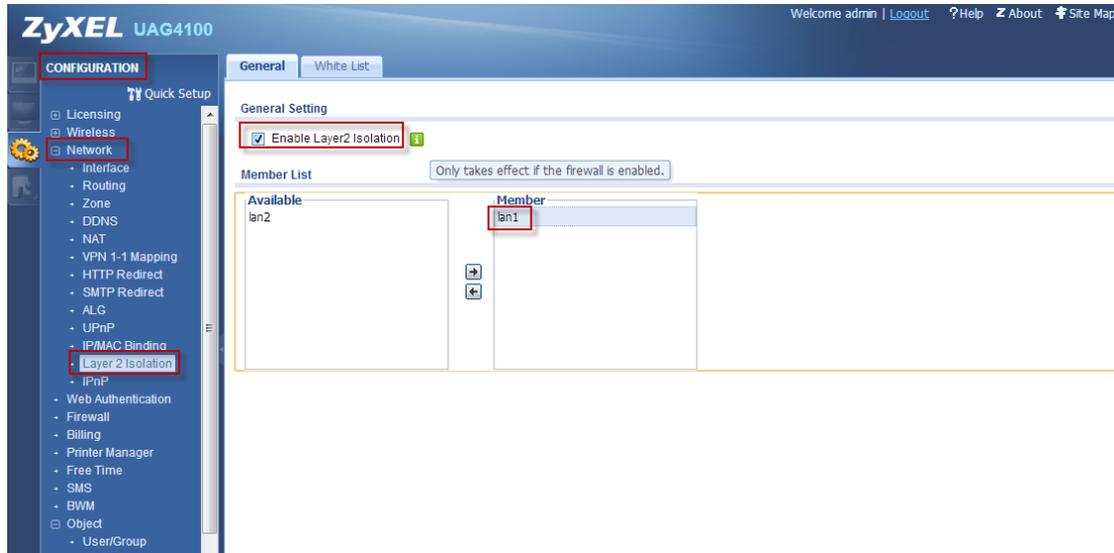
Step 2: Since the Layer2 Isolation function only takes effect if the firewall is enabled, therefore, you have to enable firewall first.

Configuration > Network > Firewall > Enable Firewall



Step 3: Configuration > Network > Layer 2 Isolation

- (1) Enable Layer 2 Isolation.
- (2) Move the lan1 interface to the member list to prevent all lan1 internal users from connecting to each other.



Verification

Client2's laptop cannot connect to the online printer (172.16.1.1), and Client1's laptop (172.16.1.2).

```
C:\Documents and Settings\user>ping 172.16.1.1

Pinging 172.16.1.1 with 32 bytes of data:

Reply from 172.16.0.1: Destination host unreachable.

Ping statistics for 172.16.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\Documents and Settings\user>ping 172.16.1.2

Pinging 172.16.1.2 with 32 bytes of data:

Reply from 172.16.0.1: Destination host unreachable.

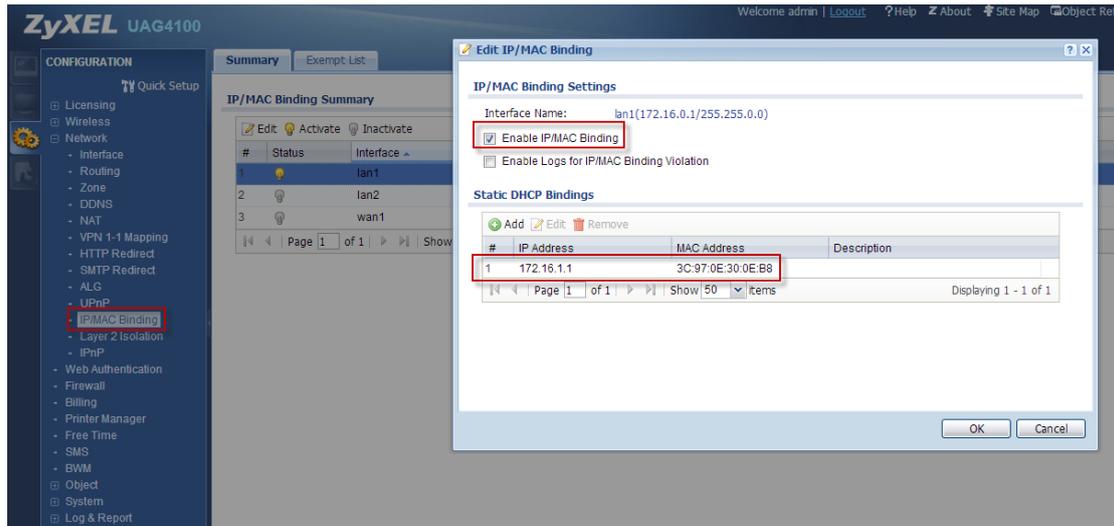
Ping statistics for 172.16.1.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

Task 2. Use the White List function to manage the client's side, as well as the ability to access the online printer.

Step 1: Using IP/MAC Binding to make sure the Printer IP is correct host.

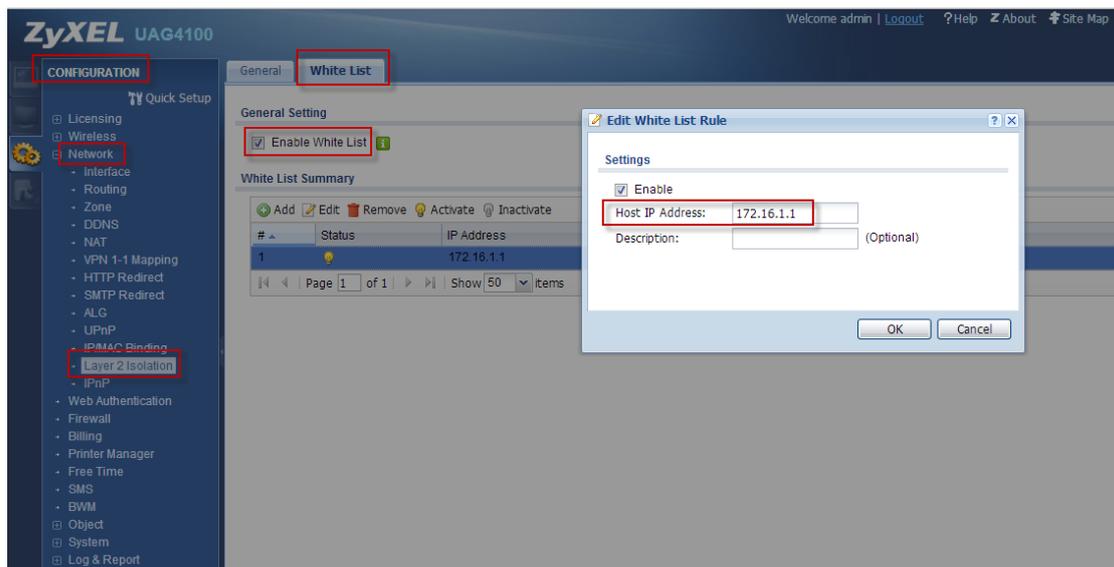
Configuration > Network > IP/MAC Binding > lan1

- (1) Enable IP/MAC Binding.
- (2) Insert the Printer IP binding with the correct MAC address.



Stepv2: Configuration > Network > Layer2 Isolation > White List

- (1) Enable White List.
- (2) Add the White List rule with Host IP address: 172.16.1.1 to allow the client's laptop to connect to the Printer.



Verification

Client2's laptop can connect to the online Printer (172.16.1.1) that is in the White List, but still cannot connect to the client1's laptop (172.16.1.2).

```
C:\Documents and Settings\user>ping 172.16.1.1

Pinging 172.16.1.1 with 32 bytes of data:

Reply from 172.16.1.1: bytes=32 time=5ms TTL=127
Reply from 172.16.1.1: bytes=32 time=7ms TTL=127
Reply from 172.16.1.1: bytes=32 time=8ms TTL=127
Reply from 172.16.1.1: bytes=32 time=11ms TTL=127

Ping statistics for 172.16.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 5ms, Maximum = 11ms, Average = 7ms

C:\Documents and Settings\user>ping 172.16.1.2

Pinging 172.16.1.2 with 32 bytes of data:

Reply from 172.16.0.1: Destination host unreachable.

Ping statistics for 172.16.1.2:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

Scenario 5 – Send the System Log to a Remote Syslog Server

and USB Device

For management purposes, administrators can easily monitor events occurring on the UAG4100 by reading the syslog. The syslog is very useful for administrators; especially, when the administrator receives complaints from the users regarding a slow or unstable Internet connection. The administrator can use these reports as a troubleshooting reference. In this scenario, we demonstrate how the UAG4100 exports system logs to a Kiwi syslog server and a USB device connected to the UAG4100.



Network Conditions

WAN: 10.59.3.54

Kiwi Syslog Server: 172.16.2.0

Goals to Achieve

The administrator will be able to see system logs on the Kiwi syslog server as well as a USB storage device.

Remote Syslog Server

Task . Install Kiwi syslog server on the PC and send log information to Kiwi syslog server.

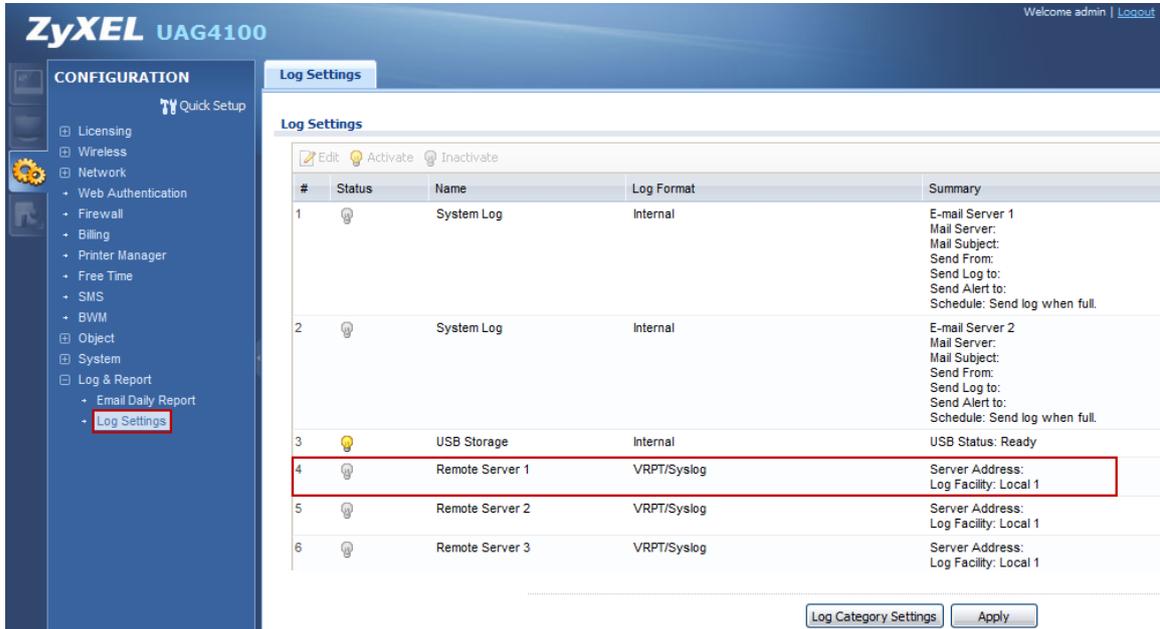
Step 1: Install Kiwi syslog server on the PC and connect the PC to LAN of the UAG4100.

This is the website for the Kiwi syslog server:

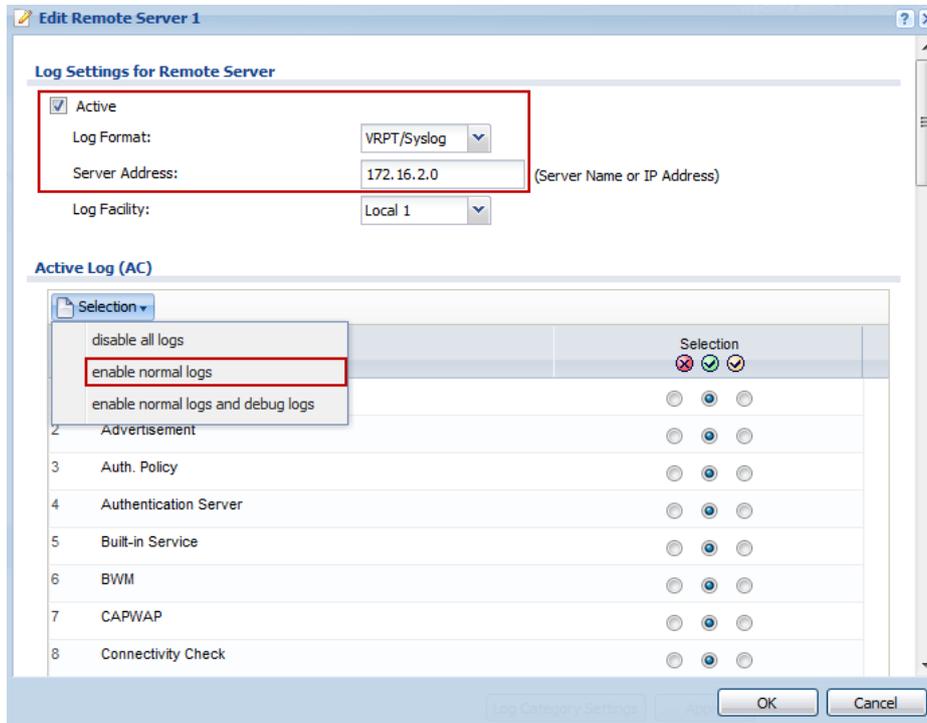
<http://www.kiwisyslog.com/products/kiwi-syslog-server/product-overview.aspx>

The screenshot shows the product overview page for the Kiwi Syslog Server. At the top, there is a navigation bar with 'SOLARWINDS' and 'KIWI' on the left, and 'Contact Us Now: 1 800 090 386 or KiwiSales@SolarWinds.com' on the right. Below this is a main navigation menu with links for 'PRODUCTS', 'DOWNLOADS', 'CUSTOMERS', 'HOW TO BUY', 'COMMUNITY', and 'CONTACT US'. The 'KIWI' logo, featuring a kiwi bird, is prominently displayed. A sidebar on the left lists various product categories under 'PRODUCTS', including 'Kiwi Syslog Server', 'Product Overview', 'Product Features', 'System Requirements', 'FAQ', 'What's New', 'Editions', 'Kiwi CatTools', 'Kiwi Log Viewer', and 'Other IT Products'. The main content area is titled 'Kiwi Syslog Server for Windows' and includes a sub-header: 'Managing Syslog, SNMP Traps, and Windows Event Log Messages Has Never Been Easier.' Below this, a short paragraph describes the server as a trusted and affordable solution for receiving, logging, displaying, alerting, and forwarding syslog, SNMP trap, and Windows event log messages. At the bottom of the main content area, there is a price tag 'Only \$295.00' and two buttons: 'BUY NOW' and 'FREE TRIAL'.

Step 2: **Configuration > Log & Report > Log Settings** and click on “Remote Server 1” to edit the log in the Kiwi syslog server.

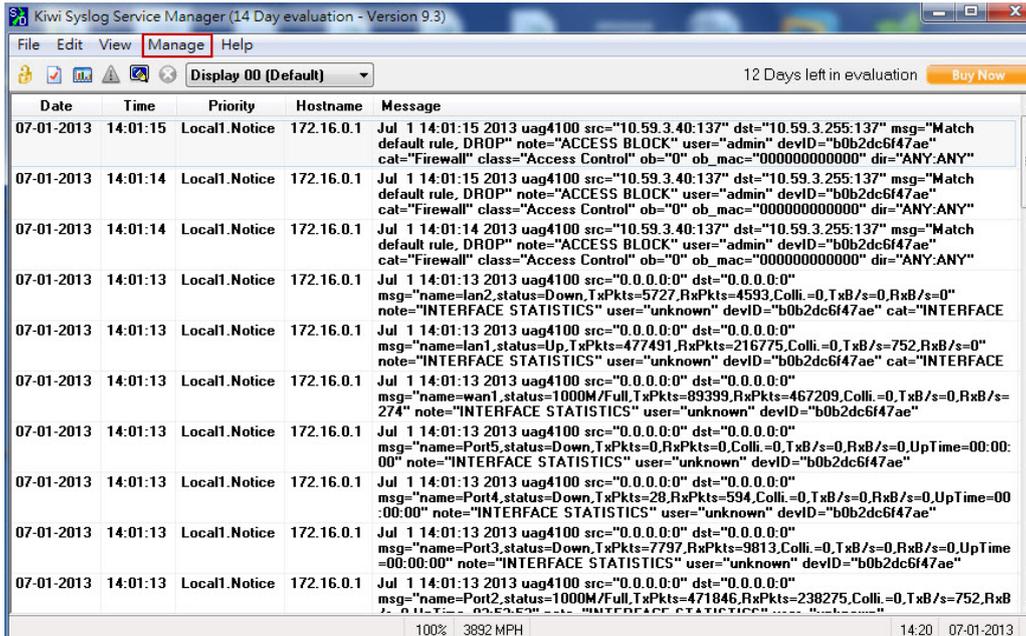


Step 3: Type the server name or the IP address of the Kiwi syslog server and check “Active” to send log information to the server. Select what information you want to log from each log category. You can simply enable normal logs to send all normal logs to the Kiwi syslog server.



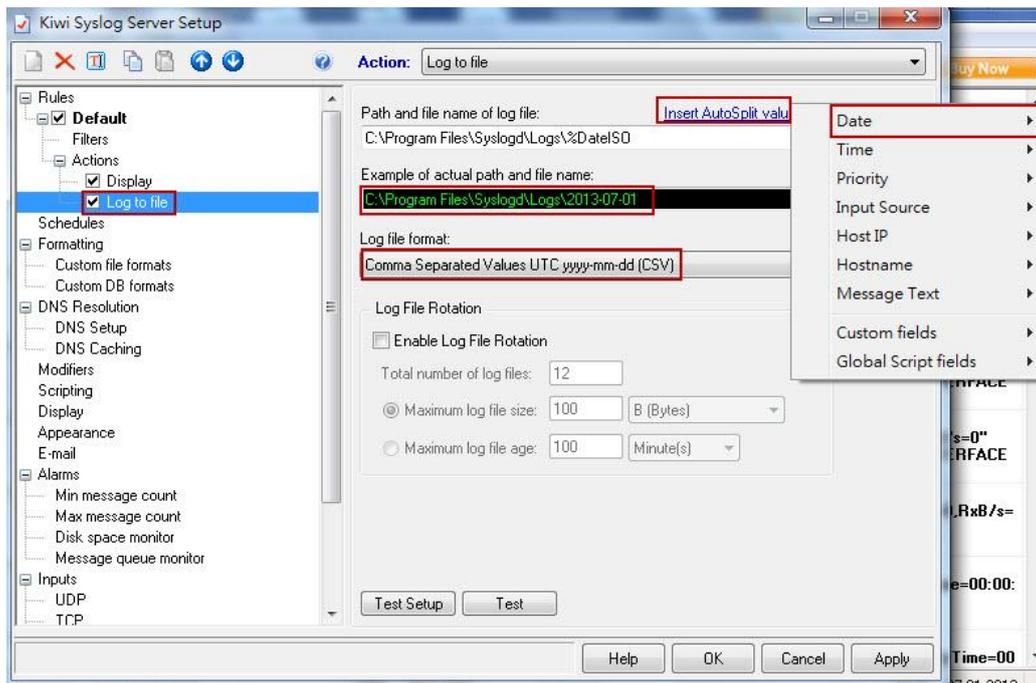
Verification

1. Open the Kiwi syslog server console and click Manage > Start the Syslog service to start syslog service.



2. Go to File > Setup and click "Log to file" to edit the path and file name of the log file.

In this example, we select "ISO Date (YYYY-MM-DD)" as the log file name. Select the log file format in the list.



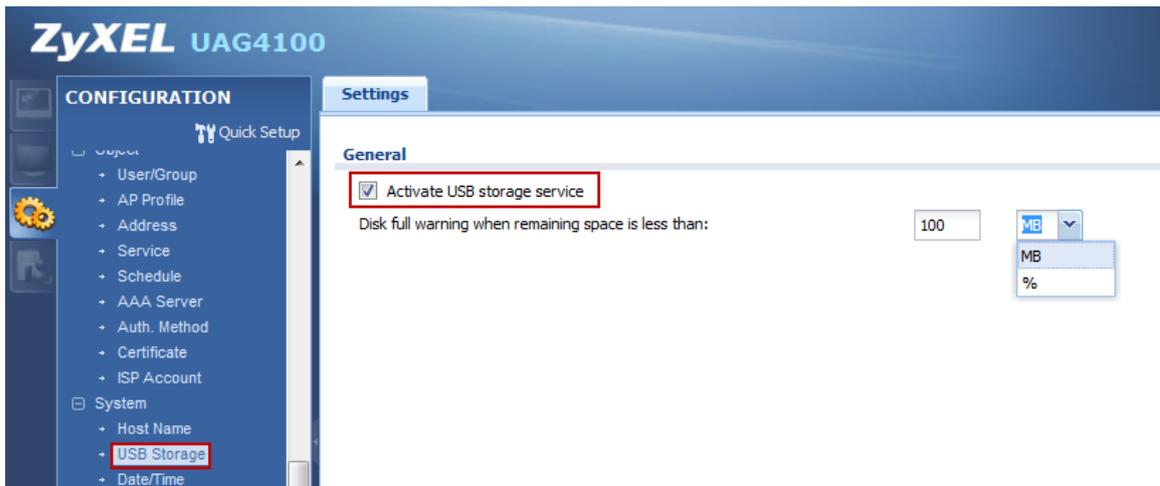
3. Go to the path where you can save the log file and view the log.



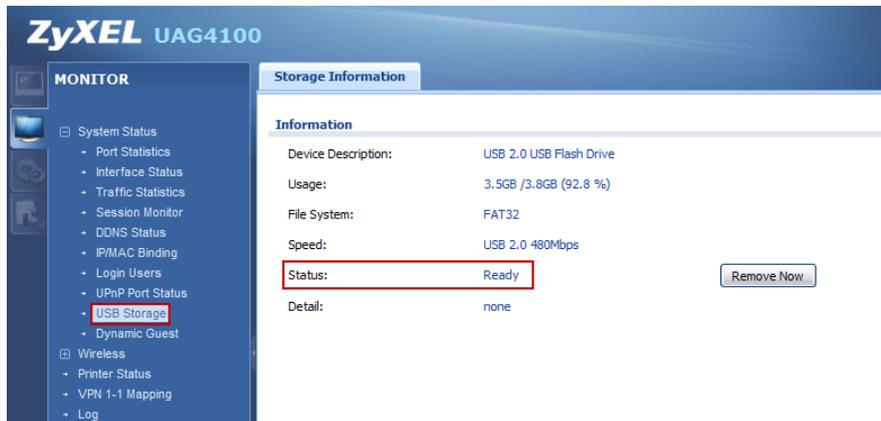
USB Device

Task . Store the system log on a USB device.

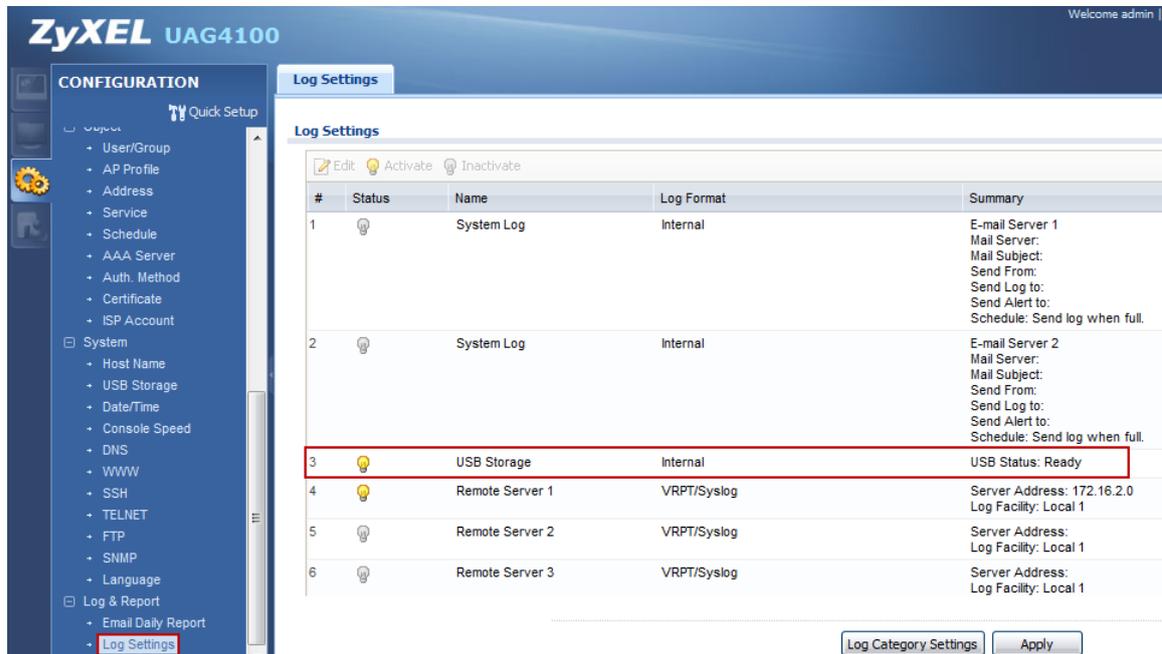
Step 1: Plug-in an external USB storage device and activate the USB storage service to store the system log. USB storage devices with FAT16, FAT32, EXT2, or EXT3 file systems are supported for connection to the USB port of the UAG4100. Also, you have to set a disk full warning limit once the storage space is less than this criterion.



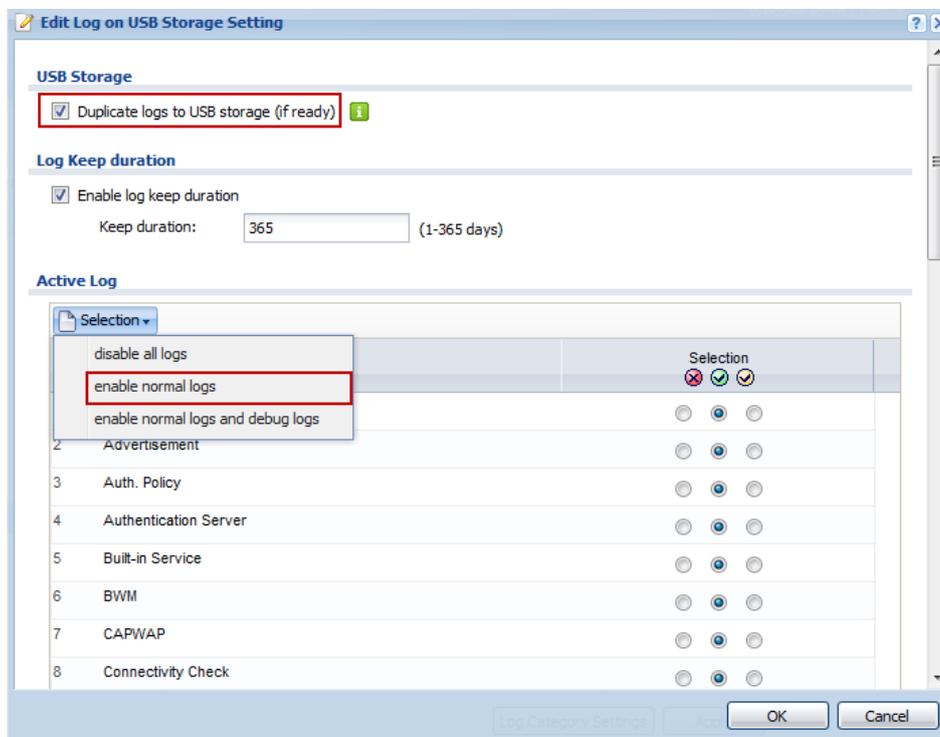
Step 2: Check if the status of USB storage is ready at **Monitor > USB Storage > Storage Information**.



Step 3: **Configuration > Log & Report > Log Settings** and click on “USB storage” to edit the log on the USB storage setting.

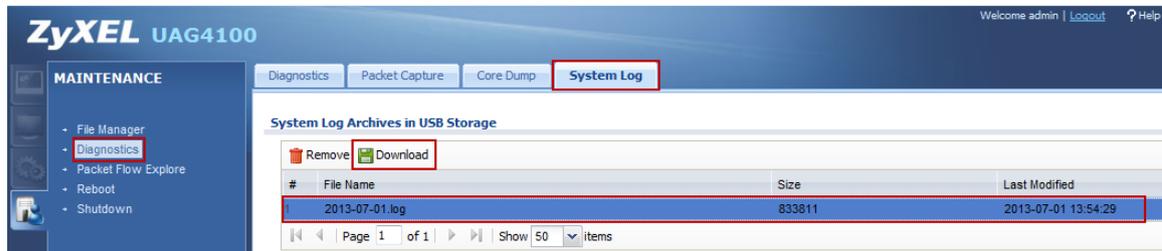


Step 4: Check “Duplicate logs to USB storage” and select what information you want to log from each log category. You can simply enable normal logs to save all normal logs to the USB device.



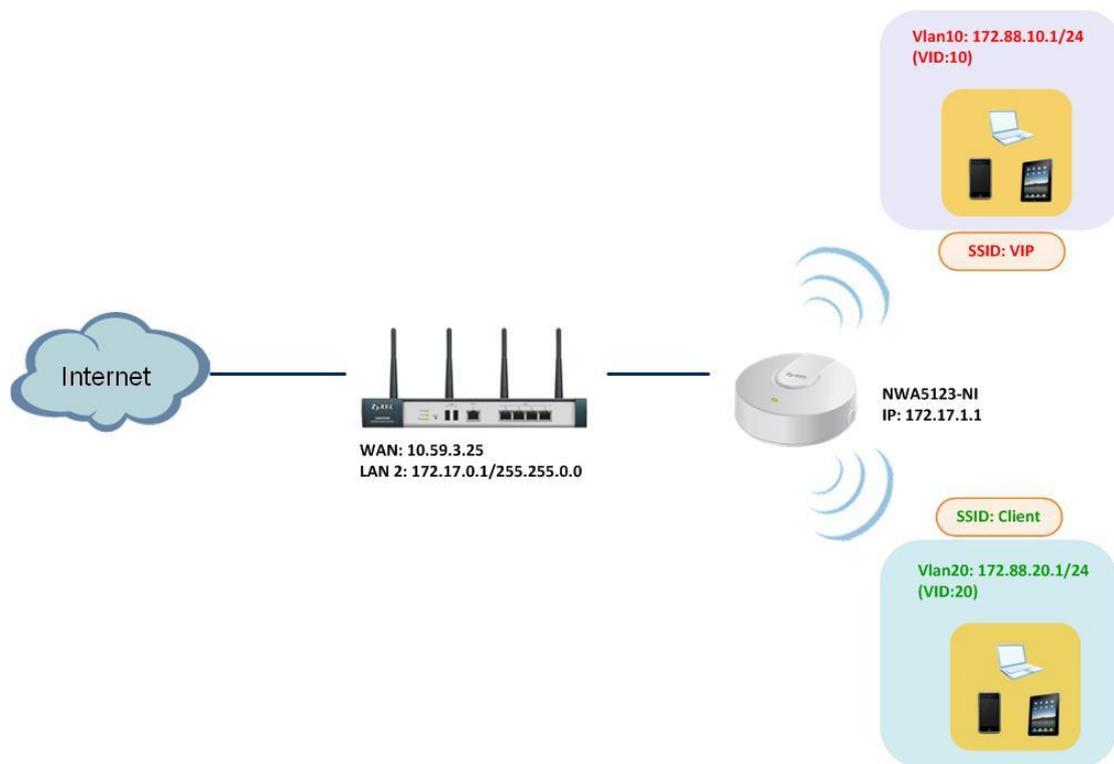
Verification

Go to **Maintenance** > **Diagnostics** > System Log and click "Download" to view the log.



Scenario 6 – Manage Multiple APs using an AP Profile

Since there are many places with large scopes that need to allow users to connect to an SSID to access the Internet, as well as distant locations other that need to use an AP profile to manage and control multiple APs with multiple SSIDs. In this scenario, we use the UAG4100 to control and manage the AP of NWA5123-NI that connects to the UAG4100 LAN2. Since we use different subnets with two SSIDs, we have set up two SSIDs in different VLANs. By using the AP profile function, we can control and manage the AP for provide multiple SSIDs to access the Internet.



Network Conditions

UAG4100:

WAN: 10.59.3.25

LAN2: 172.17.0.1/255.255.0.0

NWA5123-NI IP: 172.17.1.1

Vlan10 IP: 172.88.10.1/24

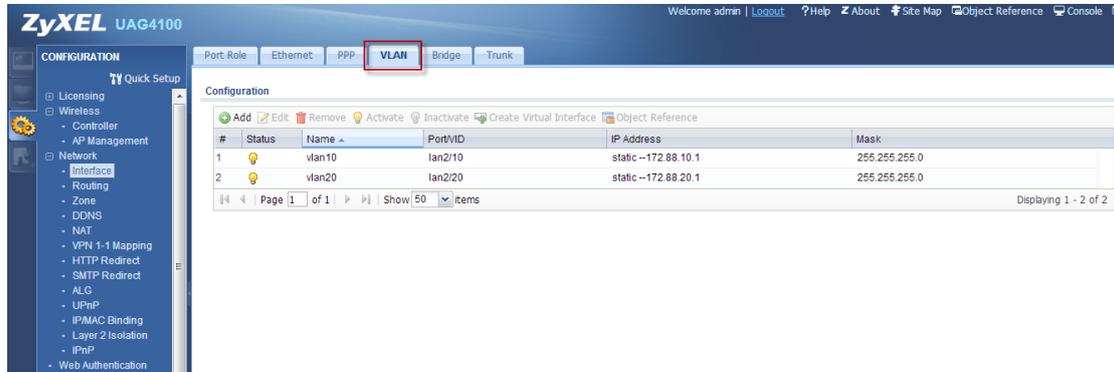
Vlan20 IP: 172.88.20.1/24

Goal to Achieve

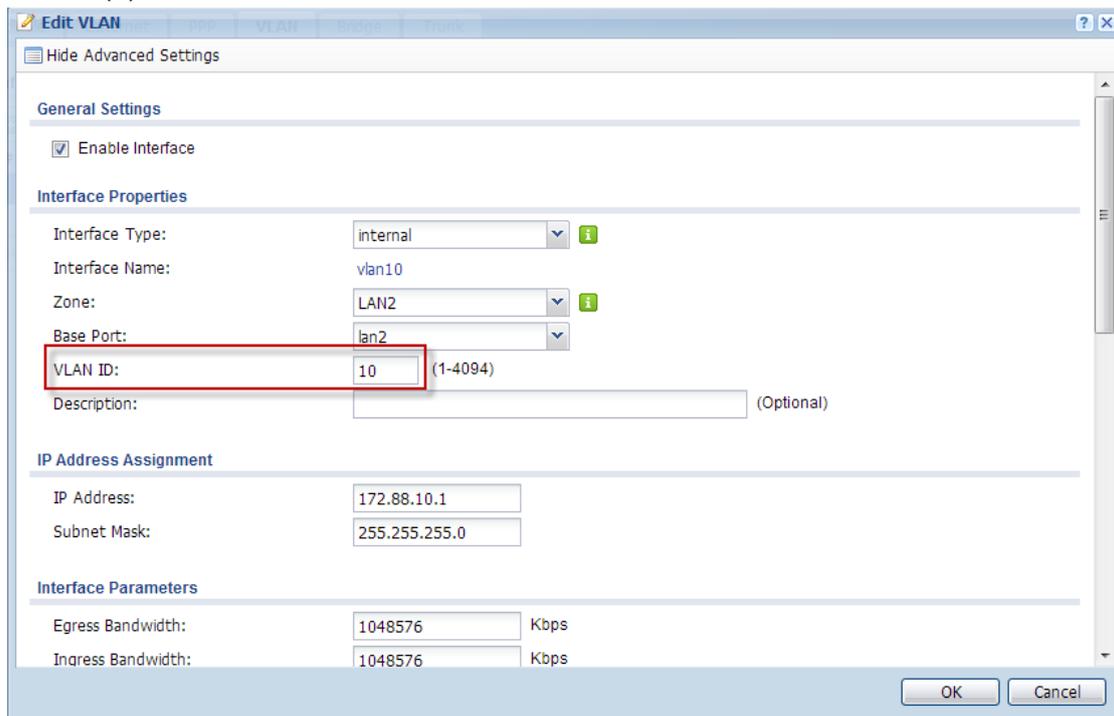
Use the AP profile function to manage and control multiple APs with multiple SSIDs in many places with large areas.

Task 1. Configure the VLAN interface to allow two SSIDs that can belong to different VLANs.

Step 1: **Configuration > Network > Interface > VLAN**



- (1) Add an internal VLAN based on the LAN 2 port, and set the VLAN ID: 10.
- (2) Set the VLAN interface IP address as 172.88.10.1/24.



(3) Set the DHCP server with the IP Pool Start address from 172.88.10.2.

The screenshot shows the 'Edit VLAN' configuration window with the 'DHCP Setting' tab selected. The 'DHCP' dropdown is set to 'DHCP Server'. The 'IP Pool Start Address (Optional)' field is highlighted with a red box and contains the value '172.88.10.2'. The 'Pool Size' is set to '200'. Other settings include 'First DNS Server (Optional)' set to 'Device', 'Second DNS Server (Optional)' and 'Third DNS Server (Optional)' set to 'Custom Defined', 'First WINS Server (Optional)' and 'Second WINS Server (Optional)' as empty fields, and 'Default Router (Optional)' set to 'vlan10 IP'. The 'Lease Time' is set to 'infinite'. Below the DHCP settings is an 'Extended Options' table with columns for '#', 'Name', 'Code', 'Type', and 'Value', and a 'Static DHCP Table' section with 'Add', 'Edit', and 'Remove' buttons. 'OK' and 'Cancel' buttons are at the bottom right.

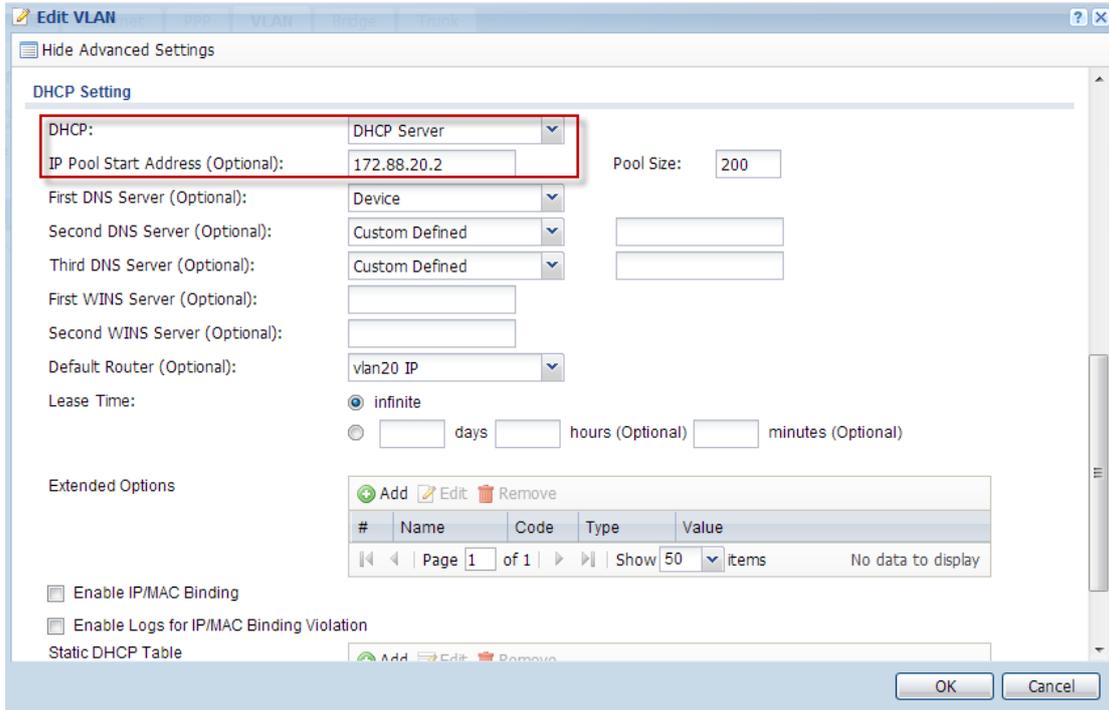
Step 2: **Configuration > Network > Interface > VLAN**

(1) Add an internal VLAN based on the LAN 2 port, and set VLAN ID: 20.

(2) Set the VLAN interface IP address as 172.88.20.1/24.

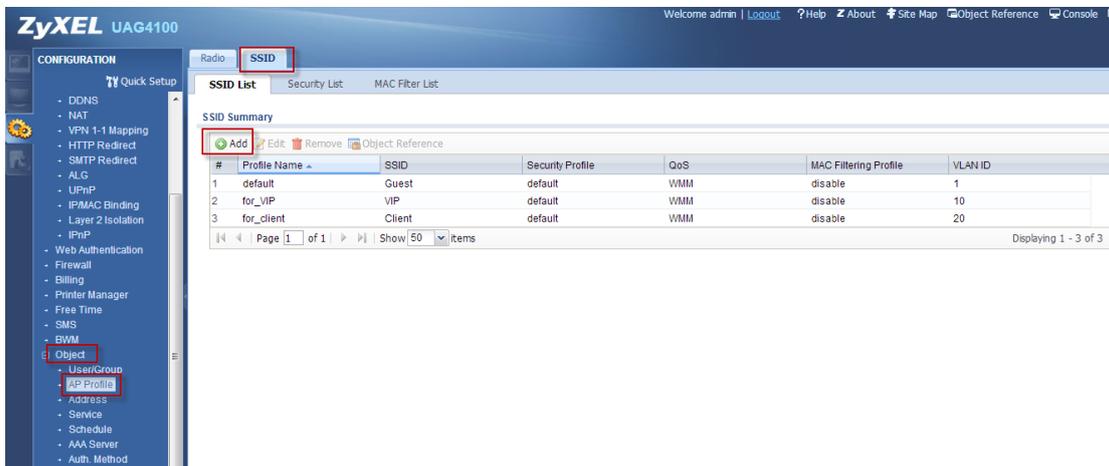
The screenshot shows the 'Edit VLAN' configuration window with the 'General Settings' tab selected. The 'Enable Interface' checkbox is checked. Under 'Interface Properties', 'Interface Type' is 'internal', 'Interface Name' is 'vlan20', 'Zone' is 'LAN2', and 'Base Port' is 'lan2'. The 'VLAN ID' field is highlighted with a red box and contains the value '20'. The 'Description' field is empty. Under 'IP Address Assignment', 'IP Address' is '172.88.20.1' and 'Subnet Mask' is '255.255.255.0'. Under 'Interface Parameters', 'Egress Bandwidth' and 'Ingress Bandwidth' are both set to '1048576' Kbps. 'OK' and 'Cancel' buttons are at the bottom right.

(3) Set the DHCP server with the IP Pool Start address from 172.88.20.2.

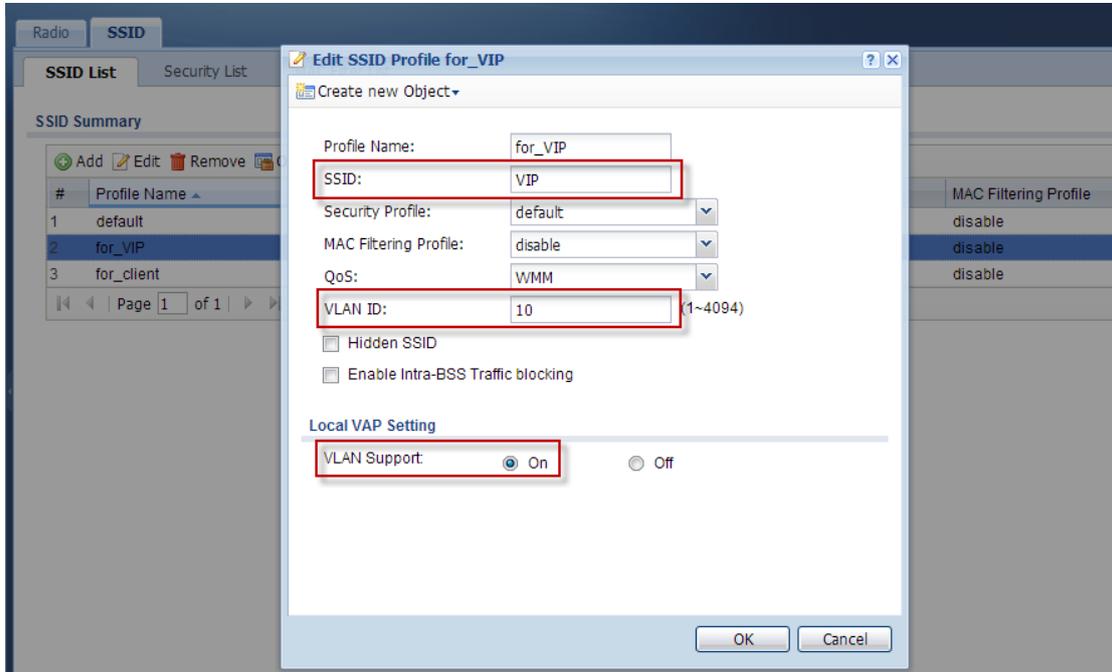


Task 2. Control the AP by AP Profile to provide an SSID for access.

Step 1: **Configuration > Object > AP Profile > SSID > Add**

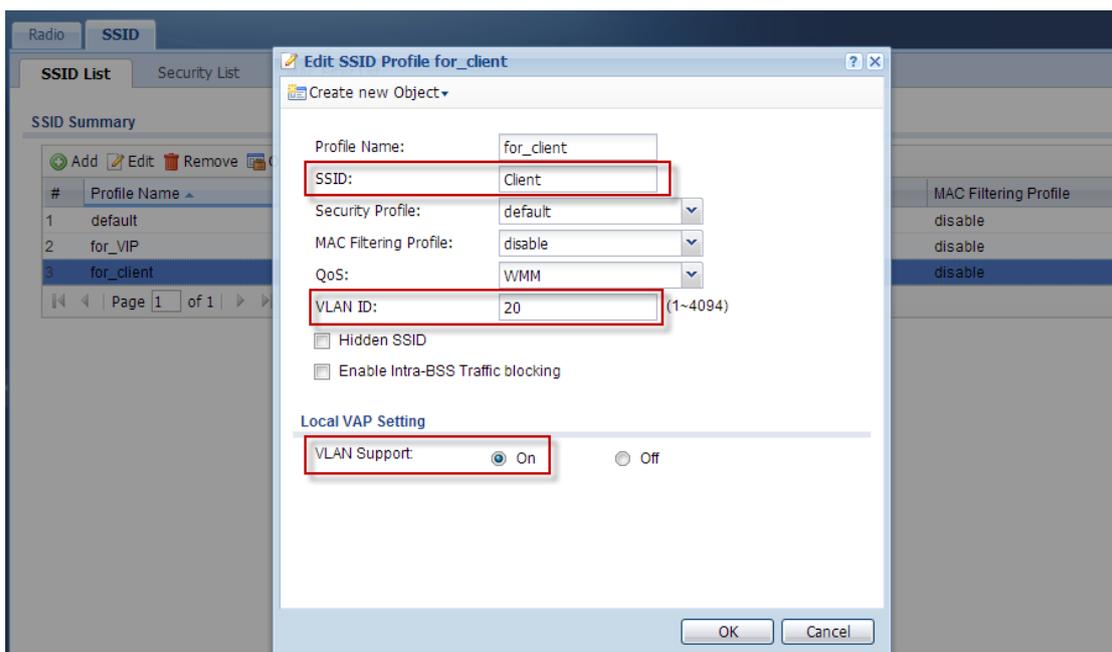


- (1) Add the SSID of "VIP" for VIP use.
- (2) Select the VLAN ID: "10" to connect with VLAN10.
- (3) Choose VLAN Support as "On".

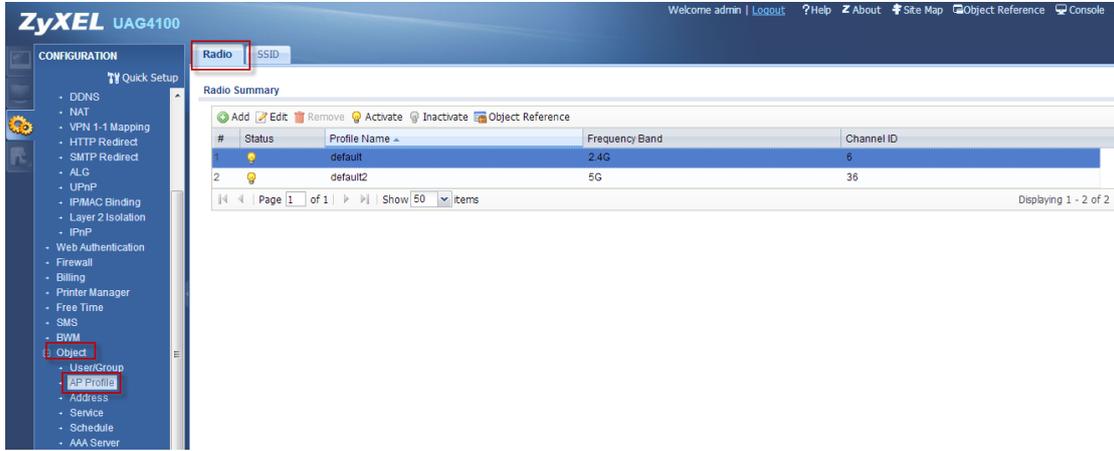


Step 2: **Configuration > Object > AP Profile > SSID > Add** another SSID.

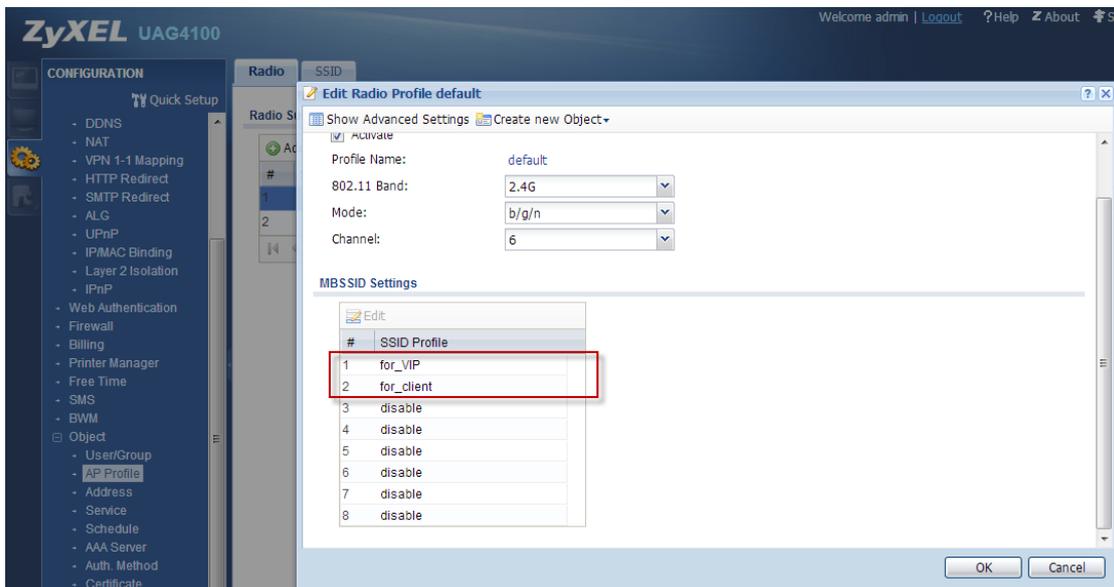
- (1) Add the SSID of "Client" for client use.
- (2) Select the VLAN ID: "20" to connect with VLAN20.
- (3) Choose VLAN Support as "On"



Step 3: **Configuration > Object > AP Profile > Ratio** > you can select **default 2.4G** or **default2 5G** by device ratio.

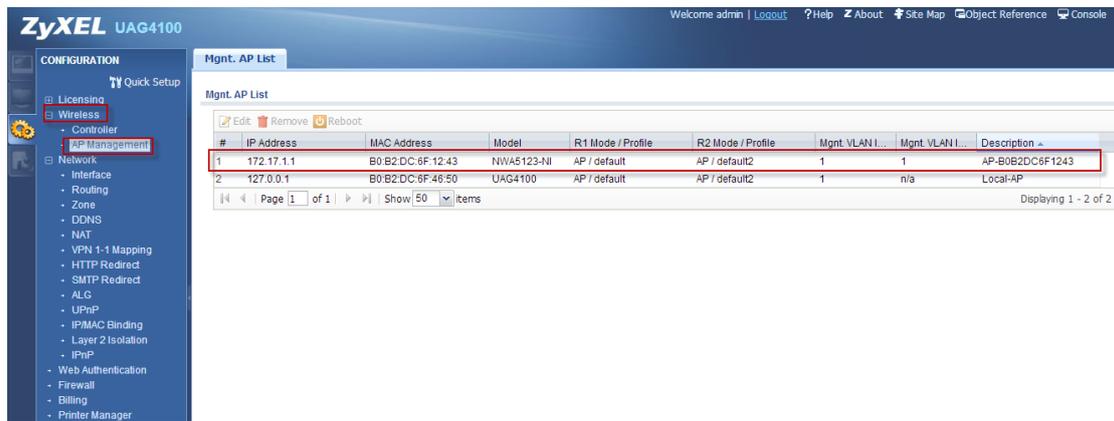


- (1) Set SSID Profile with "for_VIP" which was configured as the AP profile.
- (2) Set SSID Profile with "for_client" which was configured as AP profile.

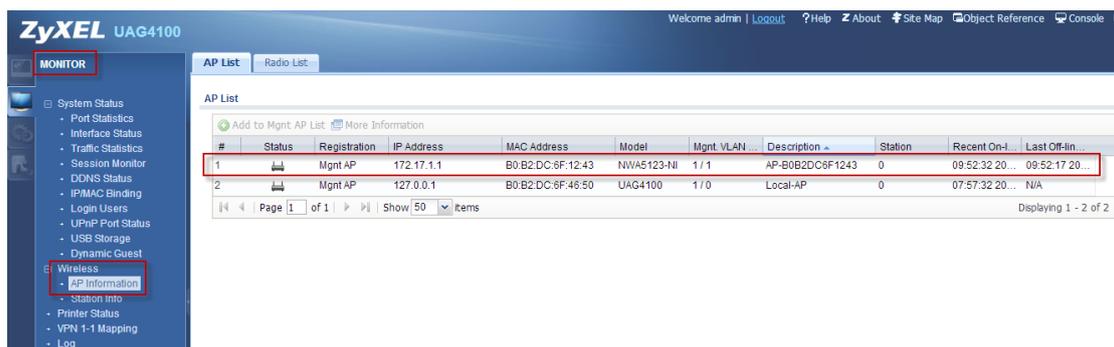


Verification

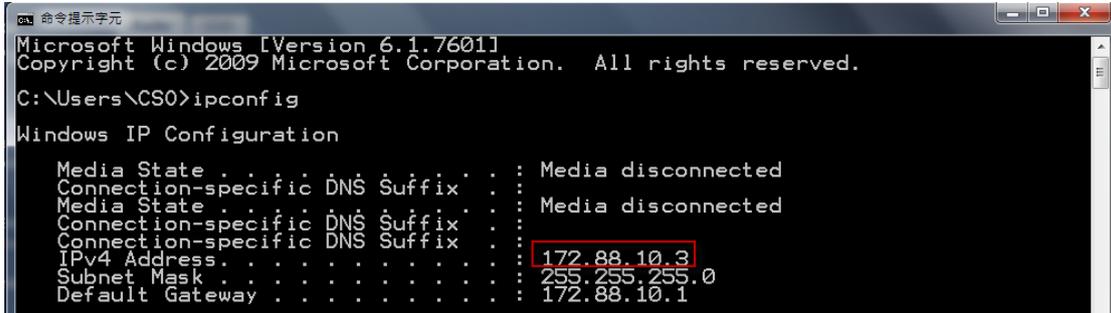
1. Connect the NWA5123-NI AP directly under the UAG4100 Lan2 and check **Configuration > Wireless > AP Management**.
 - (1) Ensure that the UAG4100 can manage and control the NWA5123-NI.
 - (2) Ensure that the the NWA5123-NI AP has got the IP address 172.17.1.1 under LAN 2.



2. You can also verify **Monitor > Wireless > AP Information**.
 - (1) Ensure that the UAG4100 can manage and control the NWA5123-NI.
 - (2) Ensure that the NWA5123-NI AP has got the IP address 172.17.1.1 under LAN 2.



3. Connect the laptop with SSID "VIP", and you can get the IP address of 172.88.10.3 under VLAN10 from the AP.



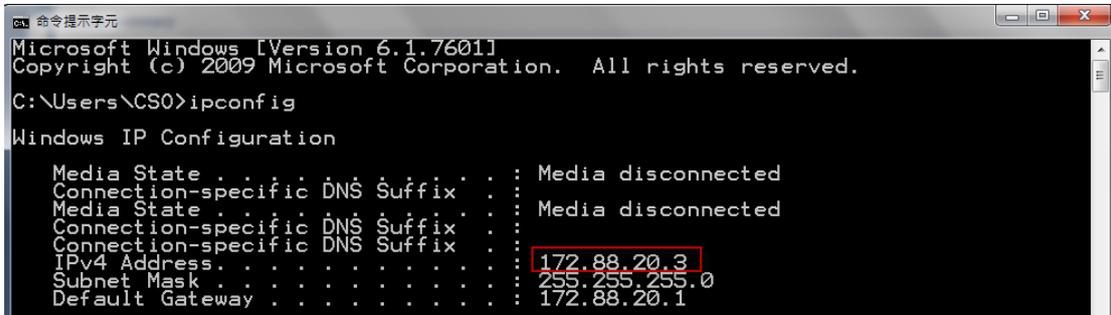
```
命令提示字元
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\CS0>ipconfig

Windows IP Configuration

Media State . . . . . : Media disconnected
Connection-specific DNS Suffix . . . . . : 
Media State . . . . . : Media disconnected
Connection-specific DNS Suffix . . . . . : 
Connection-specific DNS Suffix . . . . . : 
IPv4 Address. . . . . : 172.88.10.3
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 172.88.10.1
```

4. Connect the laptop with the SSID "Client", and you can get the IP address of 172.88.20.3 under VLAN 20 from the AP.



```
命令提示字元
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

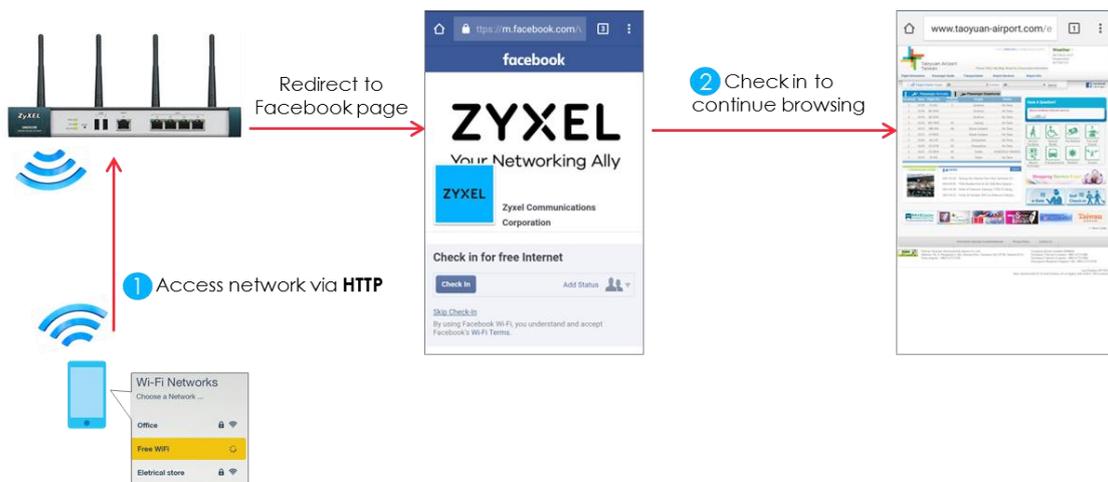
C:\Users\CS0>ipconfig

Windows IP Configuration

Media State . . . . . : Media disconnected
Connection-specific DNS Suffix . . . . . : 
Media State . . . . . : Media disconnected
Connection-specific DNS Suffix . . . . . : 
Connection-specific DNS Suffix . . . . . : 
IPv4 Address. . . . . : 172.88.20.3
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 172.88.20.1
```

Scenario 7 –How to Configure Facebook Wi-Fi

The following figure depicts how a business partner links their local business Facebook page and the UAG device together to provide Wi-Fi access to users after interacting with their Facebook accounts. When a user first access the Internet, the UAG device will redirect the browser to the business partner's Facebook page. Users are guaranteed Internet access after they checked-in the specific Facebook page.



Prerequisite

1. The UAG device must be registered on myZyXEL.com beforehand.
2. A Facebook fan page with valid address.

Configuration Flow

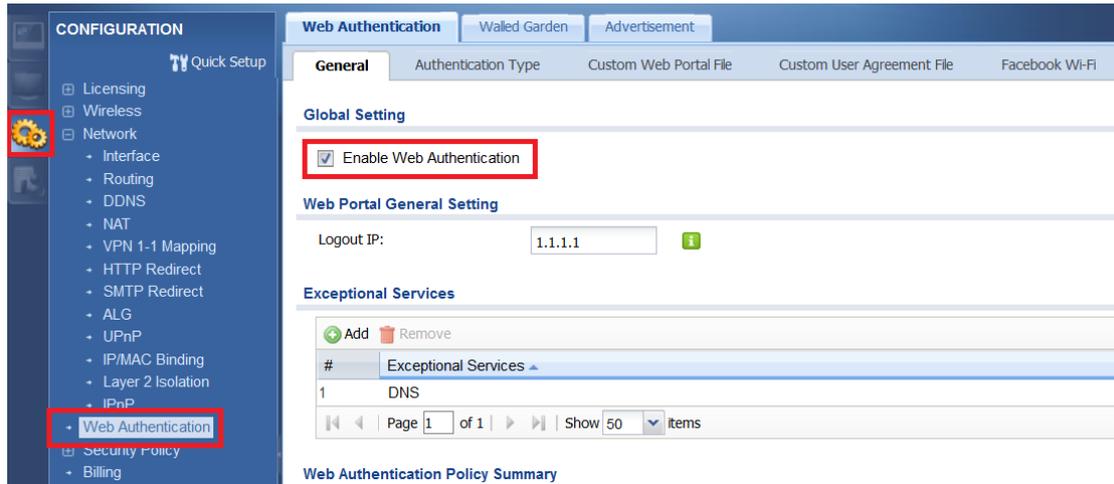
1. Enable web authentication
2. Enable Facebook Wi-Fi
3. Configure your Facebook page settings
4. Create an authentication policy

Configurations

1. First, enable web authentication through the UAG's web GUI.

Go to **Configuration > Web Authentication > General** screen's **Global Setting** section.

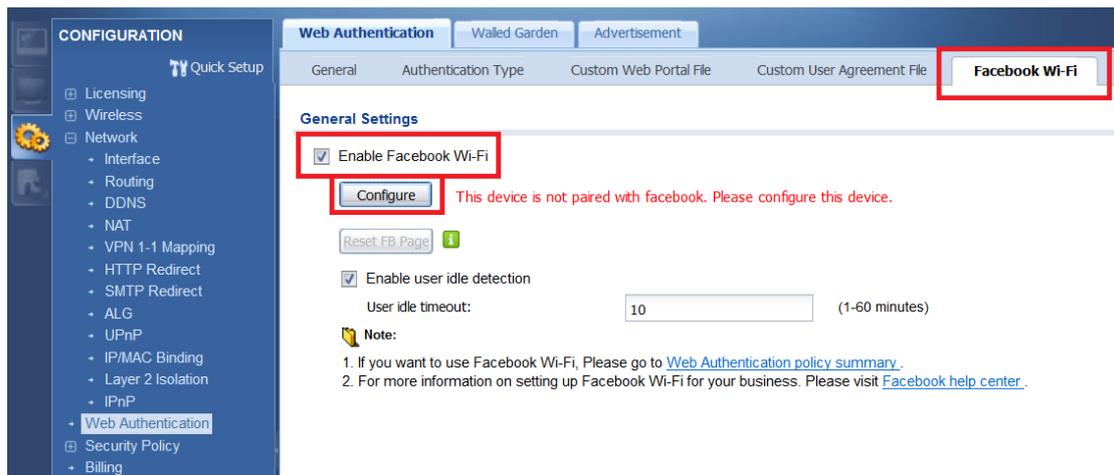
Select the **Enable Web Authentication** check box.



2. Enable Facebook Wi-Fi and pair up with your page.

Go to **Configuration > Web Authentication > Facebook Wi-Fi** screen's **Global Setting**

section. Select the **Enable Facebook Wi-Fi** check box and click **Configure**.



3. Click the **Configure** button to go to Facebook. Log into your Facebook account on the browser before continuing with the steps below. You can click **Create Page** or select an existing page to pair up with the UAG.

Facebook Wi-Fi Configuration

S132L19210023

You must have a compatible local business Page to continue. A compatible Page needs to be claimed and associated with a valid location. For more information, visit the [Facebook Help Center](#).

Create Page

Or add a valid address to one of the pages below:

 Zyxel.cso

4. After the device is successfully paired up with Facebook, this **Configure** button functions as a shortcut to Facebook's Wi-Fi settings screen.

Facebook Wi-Fi Configuration

S132L19210023

Facebook Page

To use Facebook Wi-Fi you need to be the admin of a local business Page that has a valid location associated with it.

Csotest ▾

Bypass Mode

Your customers always have the option to skip checking in. They can do this by clicking on a link that lets them skip check-in, or by entering a Wi-Fi code that you provide to them.

Skip check-in link [?]
 Require Wi-Fi code [?]

Session Length

Select the length of time your customers will have Wi-Fi for after they check in.

Five hours ▾

Terms of Service

Optional: Add your own Terms of Service [?]

[Visit Help Center](#) **Save Settings**

You can configure the following:

Bypass Mode: to allow users to skip check-in for Wi-Fi access.

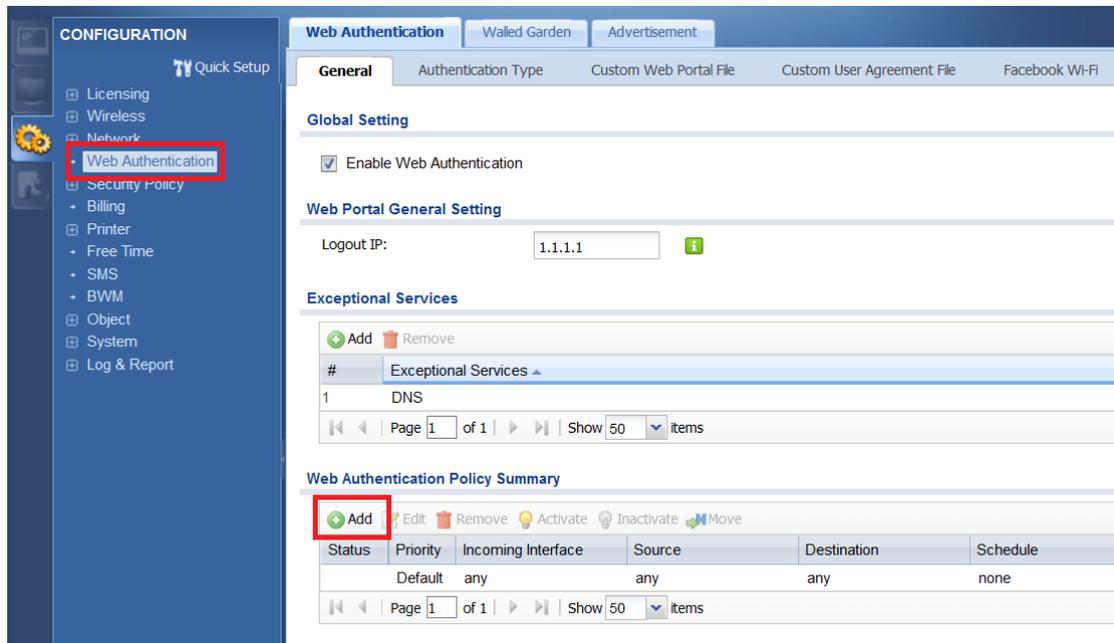
Session Length: sets how long the users can have Wi-Fi access.

Add your own **Terms of Service**.

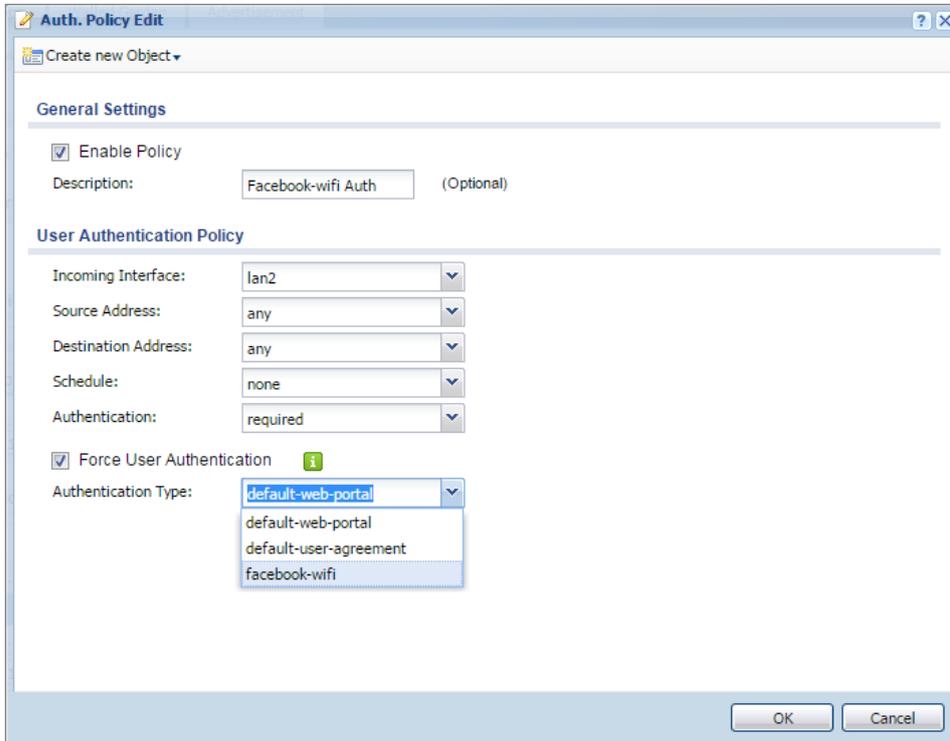
For more information on this screen, please contact Facebook support.

5. Finally, configure an authentication policy.

Go to **Configure > Web Authentication > General** screen's **Web Authentication Policy Summary** section and click **Add** to add a new policy.



Select the **Force User Authentication** check box and select **facebook wi-fi** as the **Authentication Type**.



This policy is to ensure that clients must go through Facebook Wi-Fi check-in before having Wi-Fi access.

Verification

Connect to Wi-Fi and the check-in process should be like this:

