

# NETGEAR® / ValuePoint Networks Interoperability Report

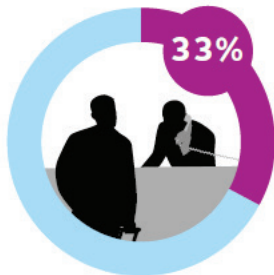
Delivering a Personalized  
Wireless Experience to Hotel Guests

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## INTRODUCTION

Today's technology savvy consumers bring their smartphones, laptops, and tablets with them wherever they go, whether on business or at leisure. They expect ready access to high speed internet and internet enabled applications so they can check email, access work files, upload photos, engage on social media sites, watch movies, or listen to music. Even though the vast majority of hotel owners feel that quality of service and facilities are more important to customers than Wi-Fi, the majority of the hotel guests think poor or non-existent wireless access is more detrimental to their hotel stay.



of leisure travellers say they would **not return to a hotel that offered inadequate wireless access**

This number rises to **67%** of business guests

According to a recent survey of travelers' attitudes on WiFi, 33% of the leisure travellers and 67% of the business travellers say they would not return to a hotel that offered inadequate wireless access. Hotels without wireless are at high risk of losing revenue from missed bookings and dissatisfied guests, as underscored by a recent Forrester report finding that 94% of business travelers believe WiFi is an important amenity when choosing accommodations and the latest Hotel.com survey finding that the most important in-room amenity to travelers is WiFi.

Although hotel and restaurant owners have concerns about the cost and complexity of deploying and/or upgrading wireless networks, WiFi is critical to supporting the widespread adoption of Bring Your Own Device (BYOD) and can also be leveraged to create differentiated services that drive incremental revenue, enhance the guest experience, and increase customer loyalty while reducing costs and enabling operational efficiencies.

For example, it is critically important to provide the capability to offer a guest captive portal that will display important information about the hotel through personalized brand as well as tiered pricing to give higher quality of service for hotel loyalty members. Similarly, hotel owners can add additional revenue sources by charging business customers that demand higher throughput while offering free service to leisure travelers with basic service.

All of these important value added services can be provided with a specialized gateway solution that is easy to configure, flexible to deploy and includes all the features that are demanded by Hotel owners.

NETGEAR partners with a leading vendor in the hospitality gateway segment, ValuePoint Networks, to deliver a total end-to-end solution that is easy to configure, completed with interoperability report and tested in many hospitality customers around the world.



**ValuePoint Gateway  
Controller NC-3600**

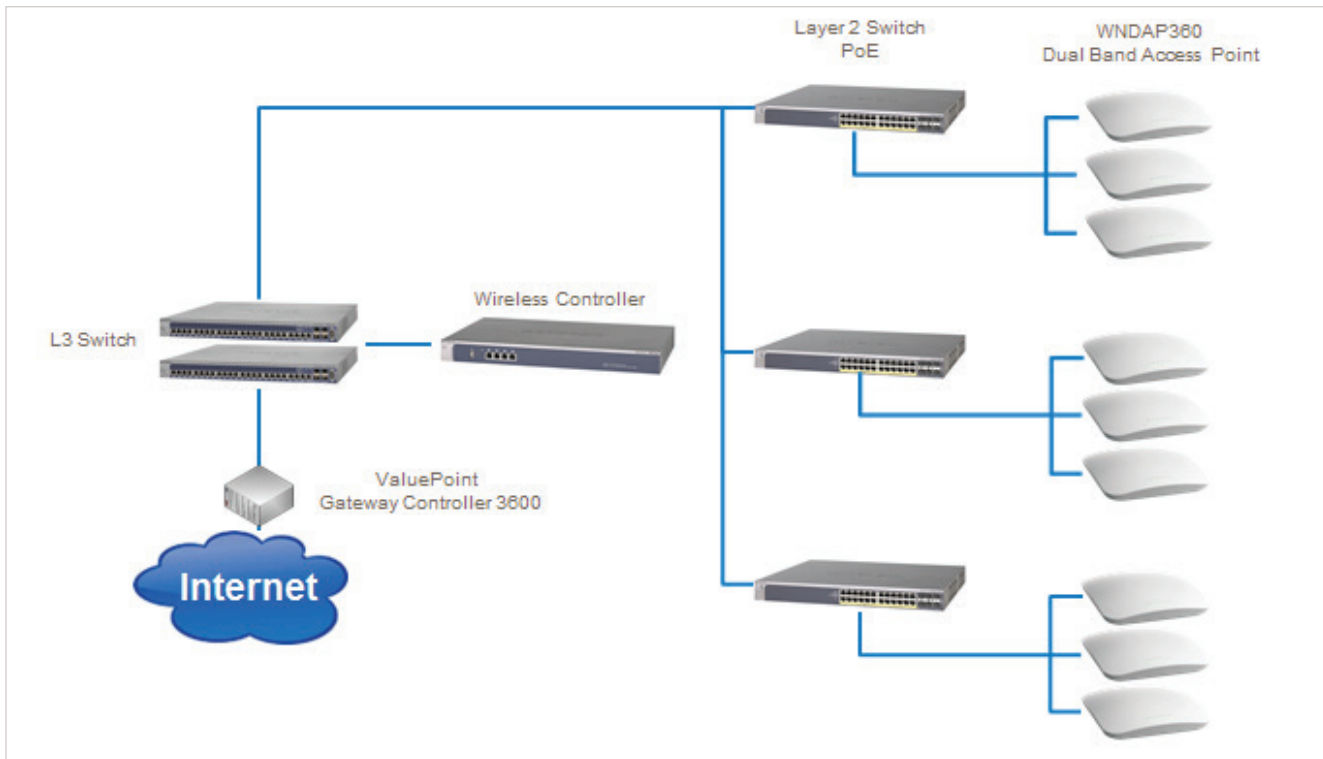


**NETGEAR Wireless  
Controller WC7600**

## HOW TO DEPLOY THE JOINT SOLUTION

This application note provides the step-by-step guidance on the set up needed to build an end-to-end solution to deliver the total solution with strong and reliable Wireless Connectivity, and a rich, secured, and personalized environment for the hotel owners.

To set up the solution, the gateway solution is placed in the data path with the rest of the access network, including the wireless controller, the Power over Ethernet switch, and the wireless access points. A sample network diagram is displayed below:



The following section provides step-by-step guidance on how to set up the ValuePoint Gateway Controller 3600 and the NETGEAR Wireless Controller WC7600 to provide a truly integrated solution for the Hospitality Segment.

### Setting up the ValuePoint Gateway Controller 3600

First step is to give the Value Point gateway its IP address settings. In our example we are creating a network that can accommodate 4000 different clients. Thus we will go with a 192.168.1.0/255.255.224.0 network. Go to Networks -> WAN/LAN Settings and enter the proper Gateway IP Setting. This will be the gateway for your network as well as the management IP address for the Value Point. In our example it is 192.168.1.254 with a subnet mask of 255.255.224.0.

Next is to enter the WAN port IP address settings. Enter according to what your ISP provides you.

WAN/LAN Settings

**Gateway IP (LAN IP) Setting**

Primary LAN Network

IP Address:

Subnet Mask:

Alias Subnet:  Disable  Enable

**WAN Port Mode**

**Link Properties**

Total ISP Download Bandwidth:  Kbps (128-149872)

Total ISP Upload Bandwidth:  Kbps (128-149872)

WAN MTU:

DHCP Client ( Use DHCP Client to connect to your ISP )

Static IP ( Use a fixed IP address to connect to your ISP )

**Static IP**

IP Address:

Subnet Mask:

Gateway:

Primary DNS :

Secondary DNS :

PPPoE ( Use PPPoE protocol to connect to your ISP )

**Subscriber Bandwidth Limit**

Global Bandwidth Management:  Dynamic

User Account Limits Can Exceed Dynamic Limit:  Disable  Enable

User Account Bandwidth Profiles:  Asymmetrical  Symmetrical  Custom

[Define Custom Bandwidth Profiles](#)

**Subscriber Session Control**

Subscriber Session Count:  Disable  Enable

**VLAN**

VLAN Mode:  Disable  Trunk

**WAN MAC Address**

Default

Change to

After your Value Point gateway is setup, one important step is to enter the upload/download bandwidth you are getting from your ISP. This will help the system properly rate limit traffic if you choose to do so. Go to **Networks -> WAN/LAN Settings -> WAN Port Mode -> Link Properties**. After you've entered in the upload/download values, click **Ok**.

**WAN Port Mode**

**Link Properties**

Total ISP Download Bandwidth:  Kbps (128-149872)

Total ISP Upload Bandwidth:  Kbps (128-149872)

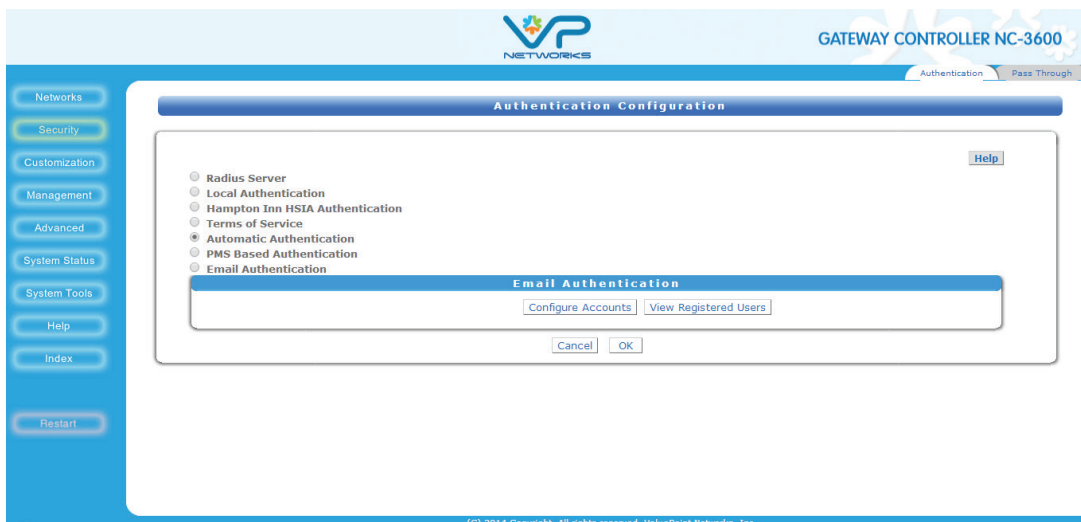
WAN MTU:

For AP discovery we will need to use the WC7600 Wireless controller's built-in DHCP server for DHCP instead of the DHCP server on the Value Point gateway. We will first login and disable the VP DHCP server. To do this, go to **Networks -> Server**.



Click **OK**.

Next go to **Security -> Authentication** to select which kind of authentic mechanism is used to authenticate wireless clients. You can choose different authentication types based on your preference. In our example, we will allow all connected wireless clients to connect and automatically authenticate. Select **Automatic Authentication** and click **OK**.



Next, if you wish to manage the Wireless controller from outside the network you can setup port forwarding. Go to **Management -> AP Monitor / Port Forwarding** and enter in the WC7600's IP address; for the AP port enter 80 and for the controller port, select a random (non-commonly used) port. In our example we will use port 60000. Click **OK**.

The screenshot shows the 'AP Monitor / Port Forwarding' configuration page in the Gateway Controller NC-3600 web interface. The page is divided into three main sections: 'Access Point Monitor', 'Port Mapping', and 'Port Range Forwarding'.

**Access Point Monitor:** This section includes a 'PING Interval' set to 5 Min and a 'Help' button. Below is a table for configuring APs:

Device	Label	IP Address	MAC Address	AP Port	Controller Port	Protocol	Connection
1	NETGEAR 7600	192.168.1.250		80	60000	TCP	Wired
2						TCP	Wired

A note below the table states: "Note: You can use this table for port mapping any device or system on the LAN. We recommend Controller Ports 60000+ to avoid port conflicts"

**Port Mapping:** This section has a table for mapping ports:

#	Label	IP Address	Management Port	Controller Port	Protocol
1					TCP

**Port Range Forwarding:** This section has a table for forwarding port ranges:

#	Label	IP Address	Port Start	Port End	Protocol
1					TCP

At the bottom of the page are 'Cancel' and 'OK' buttons. The footer indicates "(C) 2014 Copyright. All rights reserved. ValuePoint Networks, Inc."

Finally, if you are using RADIUS or Local Authentication, you can setup a redirect so that wireless clients are automatically redirected to the web page of your choice once they are authenticated. In our example we will specify [www.bestwestern.com](http://www.bestwestern.com) as the redirect URL. You can do this on the **Customization -> Login Page**.

The screenshot shows the 'Login Page' configuration page in the Gateway Controller NC-3600 web interface. The page is titled 'RADIUS or Local Authentication Only' and 'Default Post-Authentication Redirect'.

There are three radio button options for the redirect:

- Subscriber's Original URL Request
- Specify URL:
- Internal Portal: You can upload your own Post Authentication Redirect page (Post\_Auth.htm) and images under Customization - Upload Pages
- Custom:
  - Title:
  - Background:
    - None
    - Background Color:
  - Message:
  - Message Text Color:
  - Message Background Color:
    - None
    - #FFFFFF

A 'Preview' button is located at the bottom right of the configuration area. The footer indicates "(C) 2014 Copyright. All rights reserved. ValuePoint Networks, Inc."

When a wireless client authenticates, the client will now automatically be redirected to [www.bestwestern.com](http://www.bestwestern.com). With this feature you can also redirect them to your own custom web page or have no redirect at all.

The screenshot shows the Best Western website interface. At the top, there are navigation links: Customer Care, View Text Only, Gift Card, Check Reservations, and Join Best Western Rewards®. Below this is a main navigation bar with HOME, EXPLORE HOTELS, REWARDS, TRAVEL PLANNING, and DEALS & OFFERS. A secondary navigation bar includes MY ACCOUNT - Sign In. The main content area features a 'FIND A HOTEL' search bar with fields for Destination, English language, Check In (08/01/2014), Check Out (08/02/2014), Room(s) (1), Adult(s) (1), Child(ren) (0), and Special Rates. A 'FIND A HOTEL' button is present. Below the search bar is a 'CHECK RESERVATIONS' link. The main banner is titled 'SUMMER IS Savings' and features a photo of a smiling child in a pool. To the right of the photo, it says 'GET UP TO 20% OFF & 1,000 REWARDS POINTS WHEN YOU BOOK AT BESTWESTERN.COM' with a 'GET REGISTERED AND BOOK' button.

## Setting up the NETGEAR Wireless Controller WC7600

On the wireless controller side of things, first, change the management IP address of the controller according to your network settings. To do this, go to **Configuration -> System -> IP/VLAN**.

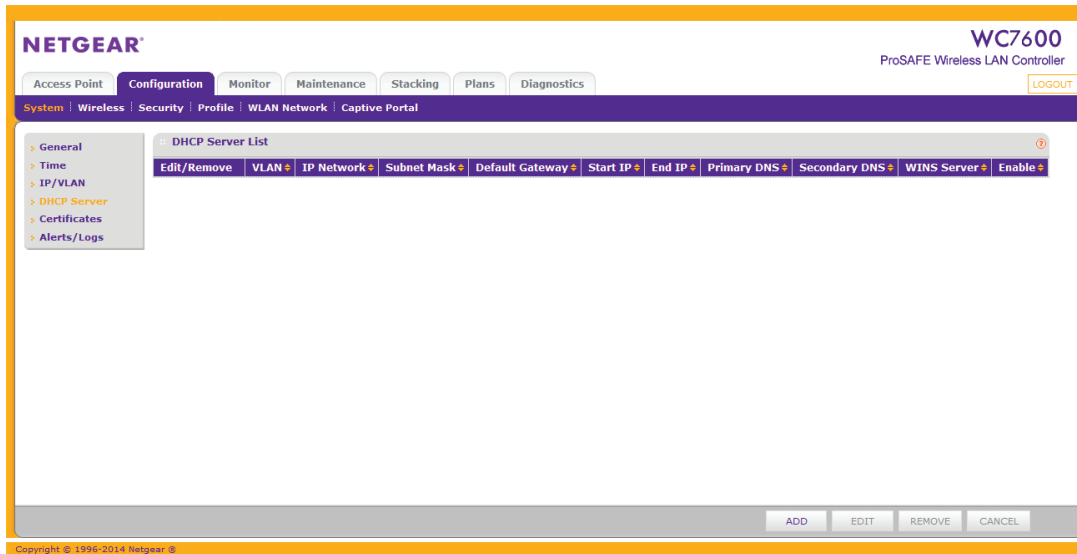
The screenshot shows the NETGEAR ProSAFE Wireless LAN Controller (WC7600) configuration page. The page is titled 'NETGEAR WC7600 ProSAFE Wireless LAN Controller'. The navigation tabs include Access Point, Configuration, Monitor, Maintenance, Stacking, Plans, and Diagnostics. The 'Configuration' tab is selected, and the 'System' sub-tab is active. The 'IP/VLAN' section is expanded, showing the following settings:

- IP Settings:**
  - IP Address: 192.168.1.250
  - IP Subnet Mask: 255.255.224.0
  - Default Gateway: 192.168.1.254
  - Primary DNS Server: 8.8.8.8
  - Secondary DNS Server: 4.4.4.4
  - WINS Server: (empty)
- Management VLAN Settings:**
  - Management VLAN: 1
  - Untagged VLAN:  1
- 10G Port Settings:**
  - LAG:
  - Active Standby:

At the bottom of the page, there are 'CANCEL' and 'APPLY' buttons. The footer contains the text 'Copyright © 1996-2014 Netgear®'.



Next, enable the built-in DHCP server on the controller. Make sure to disable the DHCP server on the Value Point prior to this to avoid any DHCP conflicts. Go to **Configuration-> System -> DHCP Server** and click **ADD**.



Enter the DHCP server settings and click **ADD**.

### Add DHCP Server

**DHCP Settings**

**Enable**

**Use VLAN Interface**

**VLAN**

**IP Network**

**Subnet Mask**

**Default Gateway**

**Start IP**

**End IP**

**Use Default DNS Server**

**Primary DNS Server**

**Secondary DNS Server**

**Use Default WINS Server**

**WINS Server**

DHCP server has been successfully added.

The screenshot shows the Netgear ProSAFE Wireless LAN Controller (WC7600) configuration interface. The top navigation bar includes tabs for Access Point, Configuration, Monitor, Maintenance, Stacking, Plans, and Diagnostics. The main menu on the left lists various configuration options, with 'DHCP Server' selected. The 'DHCP Server List' table displays the following information:

Edit/Remove	VLAN	IP Network	Subnet Mask	Default Gateway	Start IP	End IP	Primary DNS	Secondary DNS	WINS Server	Enable
	Management	192.168.1.0	255.255.224.0	192.168.1.254	192.168.1.10	192.168.15.254	8.8.8.8	4.4.4.4		Enabled

At the bottom of the interface, there are buttons for ADD, EDIT, REMOVE, and CANCEL. The footer indicates 'Copyright © 1996-2014 Netgear'.

Next, we will discover our wireless access points. Go to **Access Point -> Discovery**, select the **Out of Factory and L2 Subnet APs** option and click **Next**.

The screenshot shows the Netgear ProSAFE Wireless LAN Controller (WC7600) configuration interface in the Discovery Wizard. The top navigation bar includes tabs for Access Point, Configuration, Monitor, Maintenance, Stacking, Plans, and Diagnostics. The main menu on the left lists various configuration options, with 'Discovery Wizard' selected. The 'Discovery Wizard' dialog box displays the following information:

**Step 1 of 2 : Choose state of Access Points**

In simple steps WC7600 can discover your supported Access Points in the network.

Please select the state of the Access Points

- Out of Factory and L2 Subnet APs
- Installed and working in Standalone Mode
- I am not sure

At the bottom of the dialog box, there are buttons for BACK and NEXT. The footer indicates 'Copyright © 1996-2014 Netgear'.

Once our APs have been discovered, check them all and click **ADD**.

**NETGEAR** WC7600  
ProSAFE Wireless LAN Controller

Access Point Configuration Monitor Maintenance Stacking Plans Diagnostics

Discovery

Discovery Wizard

Managed AP List

Discovery Wizard

Step 2 of 2: Select Access Points to manage

L2 Subnet APs

Out of Factory APs

Total AP Discovered: 2

Search

Model	IP	MAC	Name	Site	<input type="checkbox"/>
WN370	192.168.1.204	04:a1:51:5b:dc:e0	netgear5BDCe8	Local	<input checked="" type="checkbox"/>
WN370	192.168.1.203	04:a1:51:5b:e3:f0	netgear5BE3F8	Local	<input checked="" type="checkbox"/>

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The APs are now being managed by the WC7600. Make sure the status is **Connected** (this may take a minute or so).

**NETGEAR** WC7600  
ProSAFE Wireless LAN Controller

Access Point Configuration Monitor Maintenance Stacking Plans Diagnostics

Discovery

Discovery Wizard

Managed AP List

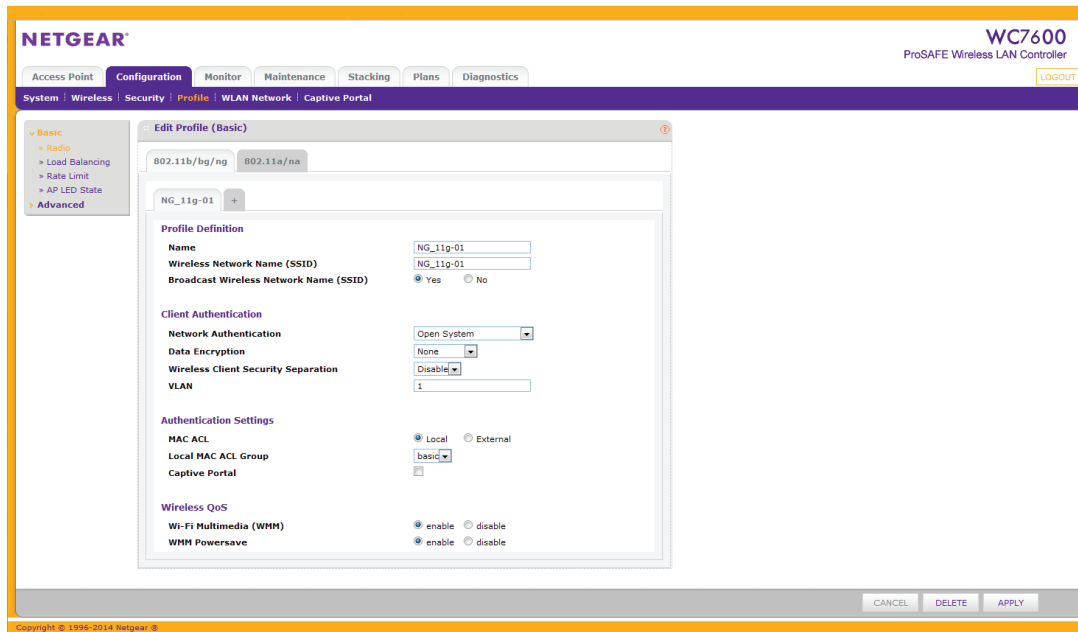
Managed AP List

Search

<input type="checkbox"/>	IP	MAC	Model	Name	Status	Site	Group Name	Capability	2.4ghz Mode	5ghz Mode	Select
<input type="checkbox"/>	192.168.1.203	04:a1:51:5b:e3:f0	WN370	netgear5BE3F8	Connected	Local	basic	BGN	802.11bgn	-NA-	<input checked="" type="radio"/>
<input type="checkbox"/>	192.168.1.204	04:a1:51:5b:dc:e0	WN370	netgear5BDCe8	Connected	Local	basic	BGN	802.11bgn	-NA-	<input type="radio"/>

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Finally, we will specify our Wireless Security Profile and create an SSID. Name your profile and SSID. For Network Authentication, it is recommended that you leave this as Open System and let the Value Point gateway perform the authentication. Click **Apply**.



And that's it! The configuration above should take you less than 10 minutes to get up and running!