IntraVUE™ by Panduit
Appliance Start-Up Guide

A Guide to the Set-Up and Configuration of the IntraVUE Appliance as an Agent or as a stand-alone IntraVUE Server

IntraVUE™ APPLIANCE
- QUICK START -

i. Configuring the Appliance AS AN INTRAVUE AGENT

Configuration of an IntraVUE Agent will enable an IntraVUE Server to access non-routable networks.
For Complete Configuration Instructions, refer to included Agent and Appliance Utilities CD System Help Files.

Configuration Step	Abbreviated Process and Tools
STEP 1: Connect the Appliance as an Agent	Connect Ethernet ports prior to power up. Port 1 should connect to the accessible Plant Network (i.e. uplink). Port 2 should connect to the non-routable network.
STEP 2: Discover the Appliance and Configure Ports	Use the tool at http://www.i-vue.com/plug/discoverytool.jar to discover the Appliance on the network. Port 1 is intended for the uplink into the factory network and should be re-configured with a static address. Port 2 is set for a static IP address (default 192.168.255.127) and is intended to connect to the non-routable network to be scanned. *For detailed instructions reference the documentation included with the package.*
STEP 3: Access the IntraVUE Server	Access IntraVUE via browser interface to the production server. This will look like http://nnn.nnn.nnn.nnn:8765. Log in as admin.
STEP 4: Configure the IntraVUE server to scan the agent network	In the system menu open the "System Configuration" dialogue. Under the "Scanner" tab, select "Add" for a new network. Uncheck "Use Local Computer", and then Check "Use Agent". Add the agent external (Port 1) IP address and increment Net Group by 1. Add applicable scan range for the non-routable (port 2) network. Follow the guide in the help menu for effective scanner configuration

ii. Configuring the Appliance AS AN INTRAVUE SERVER

Configuration as an IntraVUE Server will enable complete functionality as a stand-alone instance of IntraVUE.
For Complete Configuration Instructions, refer to included Agent and Appliance Utilities CD System Help Files.

Configuration Step	Abbreviated Process and Tools
STEP 1: Connect the Appliance as a Server	Connect Ethernet Port 2 to the local manufacturing network to be scanned prior to power up. For configuration as a server, only a single port is necessary, however to access the system remotely Port 1 should be connected to the WAN.
STEP 2: Discover Appliance and Configure Ports	Use the tool at http://www.i-vue.com/plug/discoverytool.jar to discover the Appliance on the network. Port 1 is set for DHCP by default. Port 2 is set for a static IP address (default 192.168.255.127). For detailed instructions see the documentation provided with the appliance or the system help menu.
STEP 3: Access the IntraVUE Server	Access IntraVUE via browser interface to the Appliance IP address. This will look like http://nnn.nnn.nnn.nnn:8765. Log in as admin.
STEP 4: Register the Server License	Purchase appropriately sized license through an authorized Distributor. Under the system menu, access the "Product Registration" dialogue and follow the instructions to register the product key that was purchased.
STEP 5: Configure IntraVUE to scan the local network	In the system menu open the "System Configuration" dialogue. Follow the guide in the help menu for effective scanner configuration.

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iii. Package Contents List

Item Description	Quantity
JBC311U93 Intel Celeron N2930 Quad Core Dual Intel LAN Fanless NUC	1
Power Supply: Class 2, LPS – AC Input 100-240V, 1.3A, 50-60Hz DC Output 12.0V, 3.0A MAX	1
European Power Cord	1
US Power Cord	1
Mounting Kit	1
IntraVUE™ Appliance Start-Up Guide	1
Panduit Flashdrive with configuration tools	1
3 ft. Category 6A Performance Patch Cord	1

iv. Specifications

Environment	Operating Temperature: 0 – 35°C 0 – 40°C with air flow Storage Temperature: -20 – 80°C		
Installation	WALL + VESA + DIN rail mounting kit (Black)		
Dimensions	**Height**	**Width**	**Depth**
	1.93" (49 mm)	4.57" (116 mm)	4.33" (110 mm)

v. Product Images and Port Call-Outs

New WNMS-APPL IntraVUE Appliance can be configured as an Agent or an IntraVUE Server

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1. IntraVUE Appliance Discovery Tool

a. Accessing the appliance in networks having DHCP

The configuration utility for the appliance is named *AgentConfig.exe*. This utility is available on the flashdrive included with the Appliance or as a downloadable file from the following location.

www.panduit.com/intravuedownload

The *AgentConfig.exe* utility uses broadcast traffic from the computer running the tool to communicate with and discover the appliance. If VLANs are used and there are any switches between the appliance and the computer with the discovery tool, the ports used by all the switches involved must be in the same VLAN as the appliance and tool host.

The quickest and simplest method for connecting to and configuring the appliance uses DHCP to temporarily connect to and reconfigure the appliance

- The host running the discovery tool must be in the same subnet as the appliance.
- Connect Port LAN 1, the left port, to the network.
- The computer should NOT have any additional addresses in the same subnet as is being used, for example a wireless IP. If it does have a second address in the same subnet, disable that NIC during configuration.
- The appliance should also NOT have a second IP in the same subnet, even if the other port is not connected. This is the factory default condition.
- Launch the Discovery Tool in File Explorer by double clicking on *AgentConfig.exe* or by right clicking on the file and selecting Open.

<div style="border: 2px solid maroon; text-align: center; color: maroon;">
Ethernet Cables must be connected to the
Appliance ports AT POWER UP in order
for your Appliance to be recognized
</div>

If you launch the tool and you see the column headings but no device is discovered, we recommend you follow the rules for connecting without DHCP (next section).

b. Using the Discoverytool.jar utility in networks without DHCP

If DHCP is not available in the location where the appliance will be finally located, you can move the appliance into an office or other network which does have DHCP for purpose of configuration, and then move the appliance to its permanent location after configuration.

Alternatively, the appliance can be configured by configuring a computer to connect to the appliance using a fixed IP address:
- Configure the computer to have an IP address. The factory default fixed IP of the appliance Port 2 is 192.168.255.127, so an address of 192.168.255.10 would work as an example.
- Connect Port LAN 2 to the network or directly to the computer with the discovery tool.
- The computer should NOT have any additional addresses in the same subnet as is being used, for example a wireless IP. If it does have a second address in the same subnet, disable that NIC during configuration.

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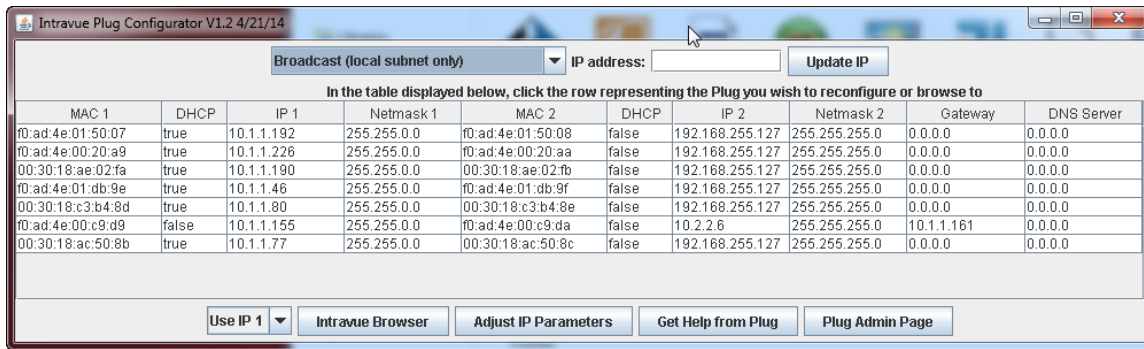
- The appliance should also NOT have a second IP in the same subnet, even if the other port is not connected. This is the factory default condition.
- Launch the discovery tool.
- Configure the appliance (below)

c. Using the Discovery Tool Utility to Configure the Appliance

Launching the discovery tool should show a window that looks similar to the following image:

The tool will Discover Appliances found on the network using three choices for discovery method:

➢ [DEFAULT] **Broadcast** only works when the appliance and the computer running *AgentConfig.exe* are both in the same subnet. The IP address field is ignored in this mode.
➢ **Single IP address** will use the IP in the IP address field.
➢ **Class C range** will scan a whole class C. In order to configure a device, found by this method, you must switch to the Single IP method once you find the IP of interest.
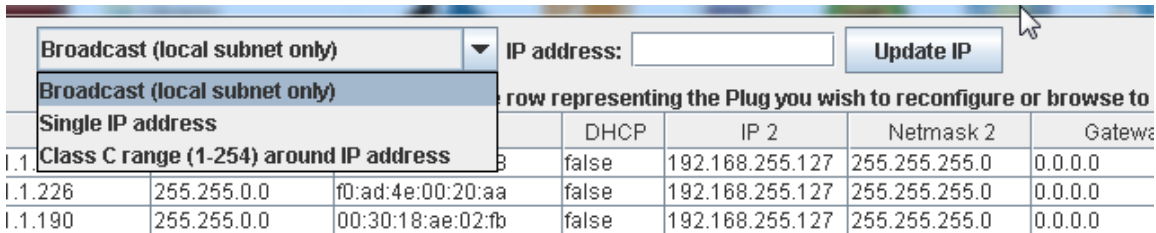
Selecting one of the lines in the Appliance Discovery Tool with a left mouse click and then selecting the *Adjust IP Parameters* button will open the Update IntraVUE Appliance IP Settings display. The correct "Use IP 1" or "Use IP 2" must be set at the bottom of the discovery tool.

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In this dialog the IP addresses, Subnet Mask, and DHCP settings can be adjusted for both ports.
In addition, a global Default gateway and DNS server IP address can also be configured if required. In many applications where there are isolated networks these would be left all zeros.
To save the settings enter the password [default: '*intravue*' (case sensitive)] and select Submit.

To continue with configuration, you must first determine whether you are configuring your Appliance as an IntraVUE Server or as an IntraVUE Agent. What's the difference?

An IntraVUE Agent is used only to help scan networks that are otherwise inaccessible to the broader plant Ethernet network. This is common for networks that are stand-alone and not connected in any way to the Plant Ethernet Network, as well as for networks that may be only accessible through a proprietary gateway such as a PLC. For this use case, the Appliance does not require any license to operate and instead will be configured to operate as a slave to a separate licensed IntraVUE Server, typically in the control or server room.

An IntraVUE Server includes the complete functionality of IntraVUE to scan Ethernet networks and provide visibility and access to analytics capabilities inherent within IntraVUE. An IntraVUE server exists independently from other IntraVUE servers and can be hosted on the IntraVUE appliance, though other common scenarios include hosting on a standard Windows Server or Virtual Machine environment.

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2. Configuring the Appliance as an IntraVUE Agent

a. IntraVUE Agent Port Configuration

Once the appliance is discovered using the discovery tool, the ports must be appropriately configured for use as an IntraVUE Agent.

The IntraVUE Appliance has two Ethernet ports.

Port 1: This port is intended to connect to the Plant Ethernet Network as an uplink.
The factory configuration of Port One is *set for DHCP*.
This port can be used in initial configuration in networks where a DHCP server is present.

Port 2: This port is intended to connect to and scan the target network.
It is configured from the factory with a *static or fixed IP* address of 192.168.255.127.
This port can be used in initial configuration in networks where a DHCP server is not available.

Each of these ports can be configured using the discoverytool.jar tool described above. Both ports can be configured for either DHCP or Fixed IP addresses depending on the network architecture.

The recommended implementation for configuration as an IntraVUE Agent is for Fixed IP addressing on both ports.

PORT 1: Recommended changing to a Fixed IP Address that is accessible by ICMP (ping) requests from the IntraVUE server

PORT 2: Recommended Fixed IP Address within the same network as the isolated devices

b. Accessing the IntraVUE Server

An IntraVUE Agent installation assumes that a full IntraVUE Server is installed elsewhere on the plant network. In order to configure the agent network, you must next access IntraVUE via browser interface to the production server using the IP address of the IntraVUE Server.

This will look like http://nnn.nnn.nnn.nnn:8765. Log in as admin [pw: *intravue* (case sensitive)]

c. Configuring IntraVUE to scan the Agent Network

While signed in as an administrator, right-click to access the system menu and enter "System Configuration"

1. Access the "Scanner" tab
2. Ensure appropriate SNMP Read Only Password Strings to access the devices and switches on the network being scanned.
3. Select "Add" to add a new network to scan and de-select "Use Local Computer" and instead select "Use Agent".
4. Type in the IP address of the Agent (Port 1) into the box that appears. Set up "Net Group" number to be unique for each agent on the network being scanned.
5. Select "Add" to add the desired scan ranges of IP addresses within that network. This should reflect the IP address ranges in the private, isolated network being scanned.
6. Select "OK" and then "Apply and Close". IntraVUE will begin to scan the target network.

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Depending on the architecture and configuration of your network, additional configuration may be required in order to optimize the scanning and visualization of the Target Network. For additional detail and tips, reference the IntraVUE Help directory under the system menu or call Panduit Technical Support.

3. Configuring the Appliance as an IntraVUE Server
a. IntraVUE Appliance Port Configuration

Once the appliance is discovered using the discovery tool, the ports must be appropriately configured for use as an IntraVUE Server.

The IntraVUE Appliance has two Ethernet ports.

Port 1: This port is intended to connect to the Plant Ethernet Network as an uplink, which is optional for configuration as an IntraVUE server and recommended only if remote access to the Plant Ethernet Network
The factory configuration of Port One is _set for DHCP_.
This port can be used in initial configuration in networks where a DHCP server is present.

Port 2: This port is intended to connect to and scan the target network.
It is configured from the factory with a _static or fixed IP_ address of 192.168.255.127.
This port can be used in initial configuration in networks where a DHCP server is not available.

Each of these ports can be configured using the discoverytool.jar tool described above. Both ports can be configured for either DHCP or Fixed IP addresses depending on the network architecture.

The recommended implementation for configuration as an IntraVUE Server is for Fixed IP addressing on both ports.

PORT 1: Recommended changing to a Fixed IP Address accessible from the WAN when desired.

PORT 2: Recommended Fixed IP Address within the same network as the most important devices to monitor

b. Accessing the IntraVUE Server
An Appliance already has a built-in IntraVUE Server installed with the full capabilities of the IntraVUE software. In order to configure the Appliance for visibility and diagnostics on the Ethernet network, you must next access IntraVUE via browser on a workstation to the IP address of the IntraVUE Server.

This will look like http://nnn.nnn.nnn.nnn:8765. Log in as admin [default pw: _intravue_ (case sensitive)]

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c. Configuring the IntraVUE Server to scan the Network

The IntraVUE Server is now installed and ready to scan the target network. This will be done in the same way as a traditional server-based installation of IntraVUE. In Summary:

1. While signed in as an administrator, right-click to access the system menu and enter "System Configuration"
2. Access the "Scanner" tab
3. Ensure appropriate SNMP Read Only Password Strings to access the devices and switches on the network being scanned.
4. Select "Add" to add a new network to scan.
   - If scanning a network for which the IntraVUE Server has a local IP, select the right IP in the dropdown list.
   - If scanning a network NOT local to the IntraVUE server, deselect "Use Local Computer" and enter the gateway address of the remote network as the top parent
   - To add a network scanned via an appliance configured as an agent, see "Configuring IntraVUE to scan the Agent Network" in section 2c.
5. Select "Add" to add the desired scan ranges of IP addresses within that network. Default is the complete "Class C" scan range of the local computer.
6. If there are any Layer 2 managed switches connecting to the target IP devices, add to the scan range the IP addresses that includes those layer 2 switches.
7. Select "OK" and then "Apply and Close". IntraVUE will begin to scan the target network.

Depending on the architecture and configuration of your network, additional configuration may be required in order to optimize the scanning and visualization of the Target Network. For additional detail and tips, reference the IntraVUE Help directory under the system menu or call Panduit Technical Support.

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4. Additional Administrative Functions

a. Setting the Time Zone

Within the *discoverytool.jar* utility, select the appliance of choice and click on the "Plug Admin Page" link. This will bring up a page with a link to several appliance utilities. If you are asked to login, use "*Admin*" and "*intravue*".
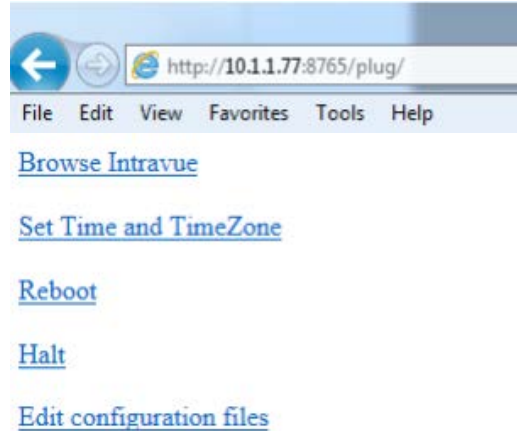
The ***Reboot*** link on the page will cause the appliance to stop and then restart. Use this after making changes to the time or time zone.

The ***Halt*** link will cause the appliance to stop.

The ***Set Time and TimeZone*** link is for changing either of these settings. When launched the currently set time and timezone are displayed as shown below:
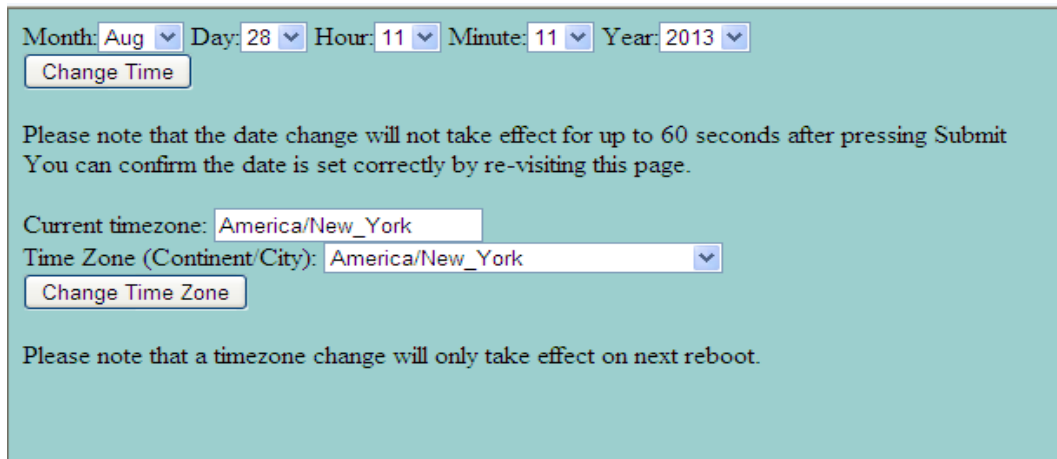
Changes to ***Time Zone*** will not happen until the appliance is rebooted. If you change the Time Zone, go back to the previous dialog and select the Reboot link to execute the change. Changes to Time will take place when you click on ***Change Time***. Be sure if changing the time that the time zone is first set to the appropriate zone.

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b. Advanced Configuration of the IntraVUE Server

The user can also access and perform advanced configuration and integration of the IntraVUE Server by accessing the IntraVUE server with the following link: http://<ip.address.of.server>:8765/plug. The **Edit *Configuration* Files** link brings you to a page where you can remotely edit and save some of these specific files as needed.

Select one of the files from the drop-down box, then click on **Read File.** The file will be loaded into the viewing area where it can be changed. If you want to save your changes, click on **Write File**.

file to edit: [▼] [Read File]

- ivserver.properties
- ivserver.xml
- trapmailer.xml
- trunkingdefs.txt
- registration.txt
- tomcat-users.xml

[Write File]

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