

DrayTek Workshop



DrayTek Training 2018

VigorACS 2 – Features and Benefits

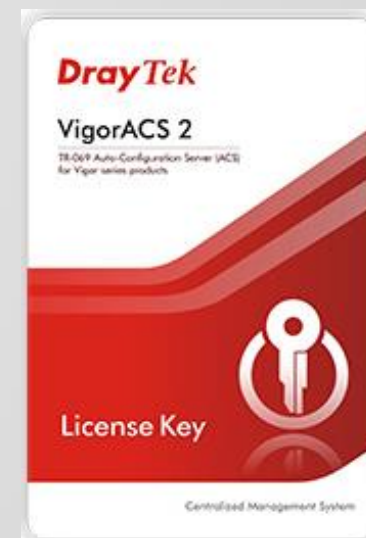
Presented by

Herve Liu

DrayTek Aust & NZ

1. Course Outline

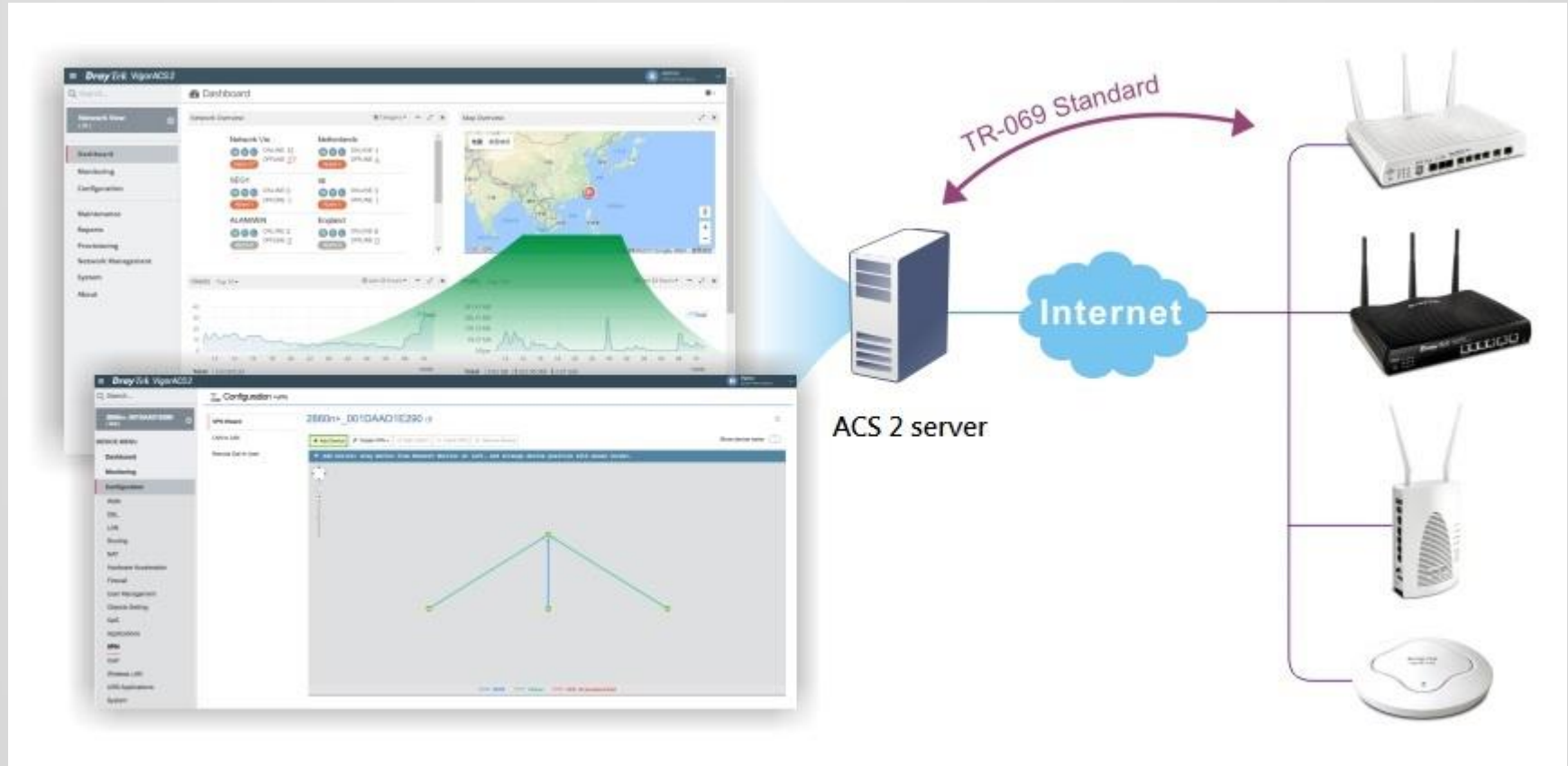
- What is VigorACS 2
- Benefits of using VigorACS 2
- VigorACS 2 Features
- Getting Started with VigorACS 2
- CPE Configuration
- Exercises
 - Register CPE Devices
 - Managing CPE Devices
 - Create VPN tunnels using VPN Wizard



1. What is VigorACS 2?

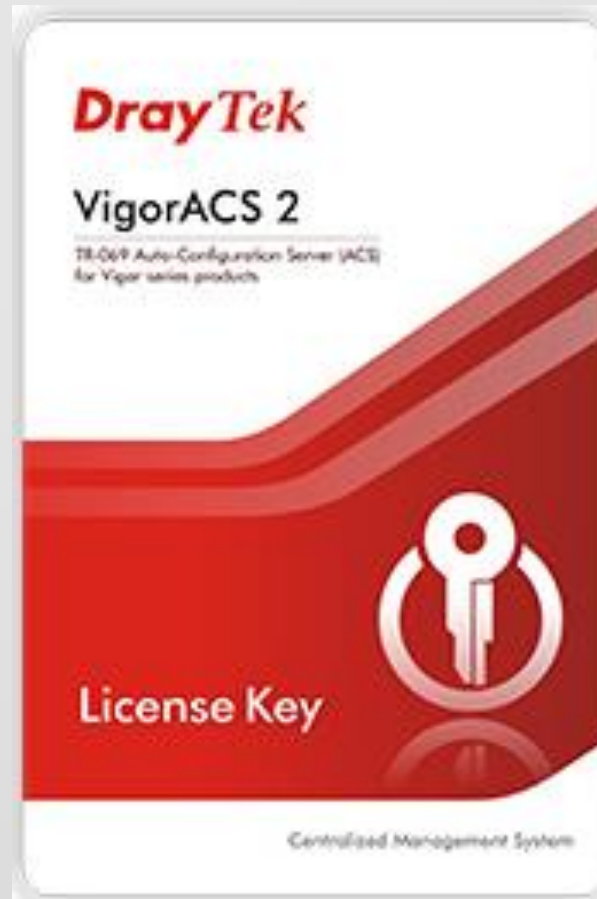
1. What is VigorACS 2?

Auto configuration Server 2 - Upgraded ACS SI



User friendly interface to remotely manage DrayTek Vigor Devices-RWD

1. What is VigorACS 2?



Licence Keys: 25 – 5,000 nodes

1.1 VigorACS 2 Highlights

- Automatic remote service provisioning for DrayTek Vigor devices
- Real-time Status Monitoring
- Scheduled firmware upgrades
- Device performance reporting and system logging
- Drag and drop VPN configuration wizard
- Flexible and secure CPE grouping
- Scheduled back-up and restore of configuration data
- AP & Wireless Management
- Responsive Web Design (RWD) enables viewing on various screen sizes

1.3 Benefits of using VigorACS 2

- Time and cost savings for Businesses /Organisations
- More reliable and secure networks
- Less travelling for network administrators
- Network alarm and report for better management decisions
- Extra income source for IT service providers

Video Demonstration

How to Create VPN Tunnels using VigorACS 2

<https://youtu.be/Lg1tG9jKbQk> [Click Here](#)

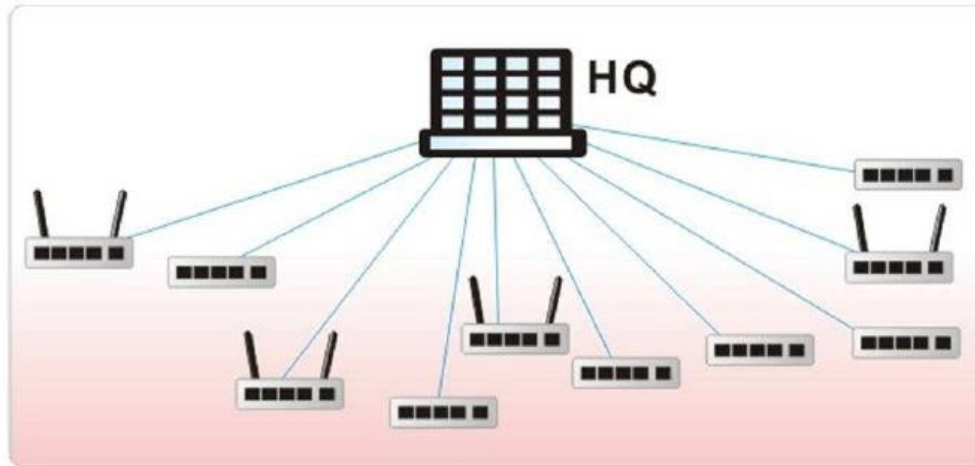
1.3 Benefits of using VigorACS 2

Cost saving & Productivity enhancement

Targets

1. Establishing 500 VPN tunnels
2. Firmware Upgrade for 500 modem/routers

500 Routers/Modems



1.2 Benefits of using VigorACS 2

Time and Cost Savings Creating Multiple VPN Tunnels

Network Size	20 nodes		500 nodes	
Method	On site	VigorASC 2	On site	VigorACS 2
Time usage per node	10 mins	0.5 mins	10 mins	0.5 mins
Total time usage	3 hrs & 20 mins	10 mins	83 hrs & 20 mins	4 hrs & 10 mins
Total time saved	3 hrs & 10 mins		79 hrs & 10 mins	
Cost Saving (assuming IT Admin's rate is \$150/hr)	\$475		\$11,875	

1.2 Benefits of using VigorACS 2

Time and Cost Savings Performing Multiple Firmware Upgrades

Network Size	20 nodes		500 nodes	
Method	On site	VigorASC 2	On site	VigorACS 2
Time usage per node	10 mins	0.25 mins	10 mins	0.25 mins
Total time usage	3 hrs & 20 mins	5 mins	83 hrs & 20 mins	2 hrs & 5 mins
Total time saved	3 hrs & 15 mins		81 hrs & 15 mins	
Cost Saving (assuming IT Admin's rate is \$150/hr)	\$488		\$12,188	

1.4 Supported Devices List

Supported DrayTek Devices (Oct 2018)

Model	Firmware Version	Model	Firmware Version
Vigor2120	V3.8.6	VigorAP 810	V1.2.3
Vigor2132	V3.8.0	VigorAP 900	V1.2.3
Vigor2760	V3.8.2.3	VigorAP 902	V1.2.3
Vigor2762	V3.8.8	VigorAP 910C	V1.2.3
Vigor2830	V3.6.8.7	Vigor1000	V1.5.4.2
Vigor2830v2	V3.8.1.2	Vigor2130	V1.5.4.2
Vigor2832	V3.8.7	Vigor2710	V3.6.9
Vigor2860	V3.8.9	Vigor2850	V3.6.8.6
Vigor2862	V3.8.9	Vigor2920	V3.6.9
Vigor2912	V3.8.6	Vigor3900	V1.4.0
Vigor2925	V3.8.9	Vigor2960	V1.4.0
Vigor2926	V3.8.9	Vigor300B	V1.4.0
Vigor2952	V3.8.9	Vigor130	V3.8.2
Vigor3220	V3.8.9	VigorSwitch P1280	V2.3.0
VigorAP 710	V1.2.3	VigorSwitch G1280	V2.3.0
VigorAP 810	V1.2.3	VigorSwitch P2280	V2.3.0

1.5 Minimum System Requirements

Server

	50 nodes	500 nodes	5K nodes	10K nodes	20K nodes
Operating System	Windows / Linux	Windows / Linux	Only Linux	Only Linux	Only Linux
Operating System Bits	64	64	64	64	64
CPU	Intel Core i3-7300 Processor (4M Cache, 4.00 GHz, Cores: 2, Threads: 4)	Intel Core i7-7700K Processor (8M Cache, 4.2 GHz, Cores: 4, Threads: 8) Intel Xeon Processor E3-1280 V6 (8M Cache, 3.90 GHz, Cores: 4, Threads: 8) Intel Xeon Processor E3-1280 V6 (8M Cache, 3.90 GHz, Cores: 4, Threads: 8)	Intel Core i7-6850K Processor (15M Cache, 3.60 GHz, Cores: 6, Threads: 12) Intel Xeon Processor E5-1650 V4 (15M Cache, 3.60 GHz, Cores: 6, Threads: 12) Intel Xeon Processor E5-1650 V4 (15M Cache, 3.60 GHz, Cores: 6, Threads: 12)	Intel Xeon Processor E5-2687W V4 (30M Cache, 3.00 GHz, Cores: 12, Threads: 24)	Intel Xeon Processor E7-8894 v4 (60M Cache, 2.40 GHz, Cores: 24, Threads: 48)
Memory	3G	4G	8G	14G	20G
Storage	400G	4T	8T	14T	20T

1.5 Minimum System Requirements

Server Hdisk space

Estimating Storage Volume Requirement

We may calculate the requirement of storage volume according to the number of nodes and the features we are using.

- RRD file for Device Information (required): 5 MB, per node
- Syslog (optional): about 48 MB, per node, per day
- Scheduled CFG backup for all Vigor Router except for Vigor2960 and Vigor3900 (optional): about 25 KB, per node
- Scheduled CFG backup for Vigor2960 or Vigor3900 (optional): about 250 KB, per node

For example, managing 500 Vigor Router (no Vigor2960 nor Vigor3900) with Syslog and Scheduled Backup (backup daily and keep all the files) enabled for 1 month, the estimated external data size is

1. RRD file : $5\text{MB} \times 500 = 2.5\text{GB}$

2. Syslog : $48\text{MB} \times 30 \text{ days} \times 500 \text{ nodes} = 720\text{GB}$ 

3. Schedule cfg backup = $25\text{KB} \times 30 \times 500 = 375 \text{ MB}$

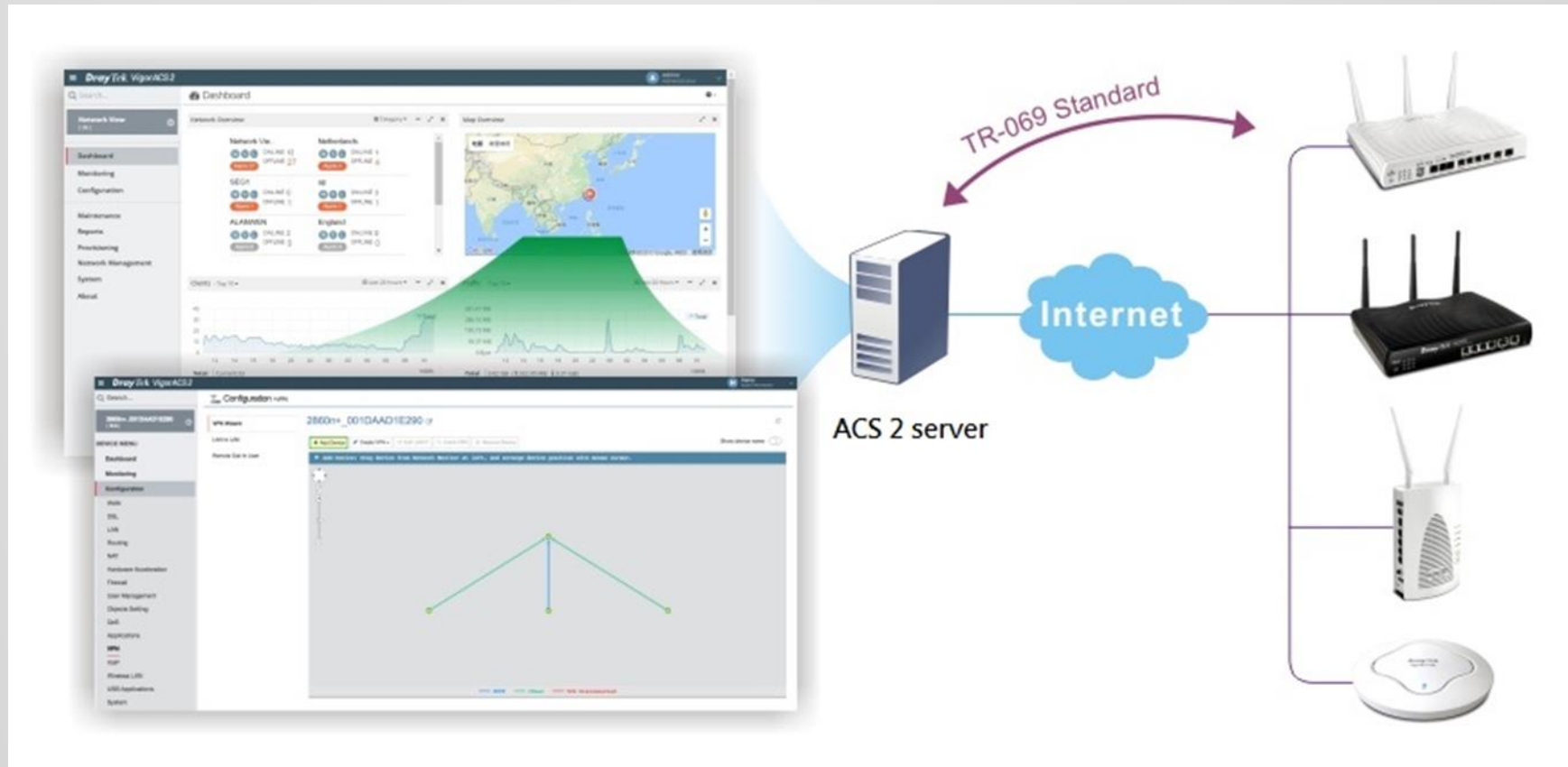
→ Total external usage for 1 month : $2.5 + 720 + 0.375 = 722.875\text{GB}$

2. How does VigorACS 2 Work?



2. How Does VigorACS 2 Work??

VigorACS 2 Utilises TR-069 Protocol



2. How Does VigorACS 2 Work??

Parameters Required for Communication between the ACS server and CPE Devices

- **ACS URL** - an Internet address of the ACS server.
- **Username and password** – Used to authenticate the CPE device on the ACS 2 server.
- **CPE – Username and password** – Used by CPE to communicate with ACS 2 Server
- **Periodic Inform Interval** – The time period before the CPE device contacts the ACS server.

Q1. Teaser Questions

1 . What is the Protocol used by ACS 2 to communicate with the CPE ?

1. TR069

2. What is the database being used ?

2. MariaDB - a version of MySQL

3. Why Is it called MariaDB

3. MySQL has been commercialised by Oracle

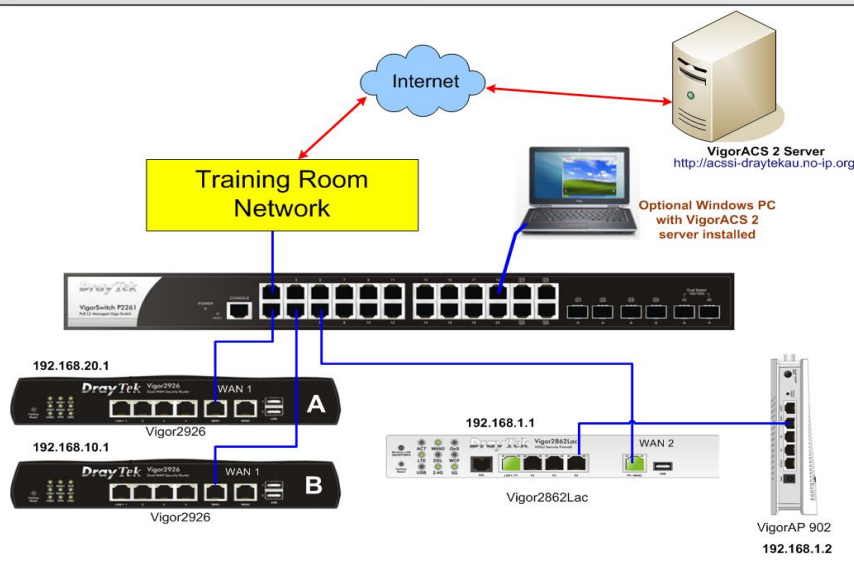
4. Why Maria ?

Hands on Exercise. Configure IP address CPE devices



1. Exercise

Network Configuration- IP address of each CPE *see pg 44 - 51*



DrayTek VigorAP 902

Quick Start Wizard
Online Status

Operation Mode
LAN
Central AP Management
Wireless LAN (2.4GHz)
Wireless LAN (5GHz)
RADIUS Setting
Applications
Mobile Device Management
System Maintenance
Diagnostics

Support Area
FAQ/Application Note
Product Registration
All Rights Reserved.

LAN >> General Setup

Ethernet TCP/IP and DHCP Setup

LAN A IP Network Configuration

☒ Enable DHCP Client

IP Address: 192.168.1.2
Subnet Mask: 255.255.255.0
Default Gateway: 192.168.1.1

☐ Enable Management VLAN

VLAN ID: 0

LAN B IP Network Configuration

☒ Enable DHCP Client

IP Address: 192.168.2.2
Subnet Mask: 255.255.255.0

☐ Enable Management VLAN

VLAN ID: 0

DHCP Server Configuration

☐ Enable Server ☒ Disable Server

☐ Relay Agent

Primary DNS Server:
Secondary DNS Server:
Trust DHCP Server IP for WLAN: ☐

OK Cancel

DrayTek Vigor2926 Series

Auto Logout ☒ IP6

Dashboard
Wizards
Online Status

LAN >> General Setup

General Setup

2926 A

Index	Status	DHCP	IP Address	Details Page	IPv6
LAN 1	V	V	192.168.10.1	Details Page	IPv6
LAN 2	☐	☒	192.168.2.1	Details Page	IPv6
LAN 3	☐	☒	192.168.3.1	Details Page	IPv6
LAN 4	☐	☒	192.168.4.1	Details Page	IPv6
LAN 5	☐	☒	192.168.5.1	Details Page	IPv6
LAN 6	☐	☒	192.168.6.1	Details Page	IPv6
LAN 7	☐	☒	192.168.7.1	Details Page	IPv6

WLAN
LAN
General Setup
VLAN
Bind IP to MAC
LAN Port Mirror
Wired 802.1X
Hotspot Web Portal
Routing
NAT

DrayTek Vigor2926 Series

Auto Logout ☒ IP6

Dashboard
Wizards
Online Status

LAN >> General Setup

General Setup

2926 B

Index	Status	DHCP	IP Address	Details Page	IPv6
LAN 1	V	V	192.168.20.1	Details Page	IPv6
LAN 2	☐	☒	192.168.2.1	Details Page	IPv6
LAN 3	☐	☒	192.168.3.1	Details Page	IPv6
LAN 4	☐	☒	192.168.4.1	Details Page	IPv6
LAN 5	☐	☒	192.168.5.1	Details Page	IPv6
LAN 6	☐	☒	192.168.6.1	Details Page	IPv6
LAN 7	☐	☒	192.168.7.1	Details Page	IPv6

WLAN
LAN
General Setup
VLAN
Bind IP to MAC
LAN Port Mirror
Wired 802.1X
Hotspot Web Portal
Routing
NAT

DrayTek Vigor2862 Series

Auto Logout ☒ IP6

Dashboard
Wizards
Online Status

LAN >> General Setup

General Setup

2862Lac

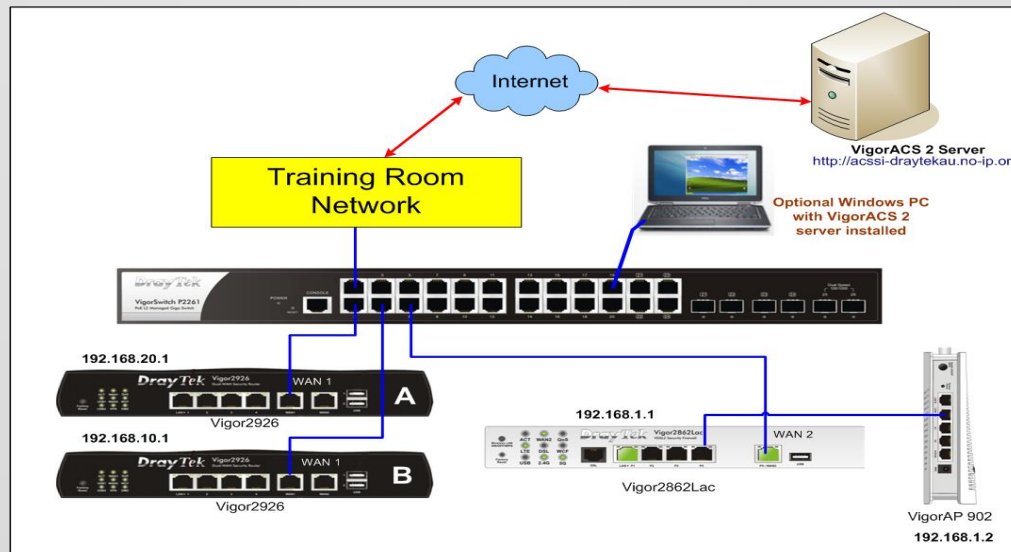
Index	Status	DHCP	IP Address	Details Page	IPv6
LAN 1	V	V	192.168.1.1	Details Page	IPv6
LAN 2	☐	☒	192.168.2.1	Details Page	IPv6
LAN 3	☐	☒	192.168.3.1	Details Page	IPv6
LAN 4	☐	☒	192.168.4.1	Details Page	IPv6
LAN 5	☐	☒	192.168.5.1	Details Page	IPv6
LAN 6	☐	☒	192.168.6.1	Details Page	IPv6
LAN 7	☐	☒	192.168.7.1	Details Page	IPv6

WLAN
LAN
General Setup
VLAN
Bind IP to MAC
LAN Port Mirror
Wired 802.1X
Hotspot Web Portal
Routing
NAT

1. Exercise a

Network Configuration-Preliminary (see page 44 in your notes)

- Step 1: Reset all routers and access point to factory defaults : IP address will be 192.168.1.1 user ID =admin password = admin
- Step 2: Connect notebook to each of the Routers 2926-A , 2926-B , 2862Lac, AP902 in turn . Use LAN 1 port
- Step 3 :Open Chrome or Internet Explorer



1. Exercise b Network Configuration-Preliminary

2926-A – LAN Configuration

Step 4 : Plug notebook in LAN 1 port -Type 192.168.1.1 type admin / admin

Step 5 : Go to LAN>General setup> click on “ Details Page” and fill in arrows –click OK

Router 2926 A is now accessible with 192.168.10.1

DrayTek Vigor2926 Series

Auto Logout **IP6**

LAN >> General Setup

General Setup

Index	Status	DHCP	IP Address	Details Page	IPv6
LAN 1	V	V	192.168.1.1	Details Page	IPv6
LAN 2		✓	192.168.2.1	Details Page	IPv6
LAN 3		✓	192.168.3.1	Details Page	IPv6
LAN 4		✓	192.168.4.1	Details Page	IPv6
LAN 5		✓	192.168.5.1	Details Page	IPv6
LAN 6		✓	192.168.6.1	Details Page	IPv6
LAN 7			192.168.7.1	Details Page	IPv6

Please set this off

DrayTek Vigor

Off **IP6**

Dashboard

Dashboard
Wizards
Online Status

WAN
LAN
Hotspot Web Portal
Routing
NAT

ACT WAN2 QoS
Wireless LAN ON/OFF/WPS LTE DSL WCF
Factory Reset USB 2.4G 5G DSL

LAN >> General Setup

LAN 1 Ethernet TCP/IP and DHCP Setup

Network Configuration For NAT Usage

IP Address: 192.168.10.1

Subnet Mask: 255.255.255.0

RIP Protocol Control: Disable

LAN 1 IPv6 Setup

DHCP Server Configuration

Disable ☒ Enable Server ☐ Enable Relay Agent

Start IP Address: 192.168.10.10

IP Pool Counts: 200 (max. 1023)

Gateway IP Address: 192.168.10.1

Lease Time: 86400 (s)

☒ Clear DHCP lease for inactive clients periodically

DNS Server IP Address

Primary IP Address:

Secondary IP Address:

Note: Change IP Address or Subnet Mask in Network Configuration will also change HA LAN1 Virtual IP to the same domain IP.

OK

LAN >> General Setup

General Setup

Index	Status	DHCP	IP Address	Details Page
LAN 1	V	V	192.168.10.1	Details Page
LAN 2	✓	✓	192.168.2.1	Details Page
LAN 3	✓	✓	192.168.3.1	Details Page

1. Exercise c

Network Configuration- Configure WAN Ethernet connection

2926-A – WAN Configuration

Step 6 Type 192.168.10.1 in the browser

Step 7 Go to WAN>>Internet Access – Select Static or Dynamic then click on “ Details page “

Step 8 Tick WAN 2 Enable and select “ Obtain an IP automatically” - Click OK & reboot router

Off 

Dashboard

Wizards

Online Status

WAN

General Setup

Internet Access

Multi-PVC/VLAN

WAN Budget

LAN

Load-Balance/Route Policy

WAN >> Internet Access

Internet Access

Index	Display Name	Physical Mode	Access Mode		
WAN1		ADSL / VDSL2	PPPoE / PPPoA	Details Page	IPv6
WAN2		Ethernet	Static or Dynamic IP	Details Page	IPv6
WAN3		USB	None	Details Page	IPv6
WAN4		USB	None	Details Page	IPv6

Note: 1. Device on USB port 1 applies WAN3 configuration.

WAN >> Internet Access

WAN 2

PPPoE

Static or Dynamic IP

PPTP/L2TP

IPv6

☒ Enable ☐ Disable

WAN IP Network Settings

WAN IP Alias

Keep WAN Connection

☐ Enable PING to keep alive

PING to the IP

PING Interval minute(s)

WAN Connection Detection

Mode

ARP Detect

☒ Obtain an IP address automatically

Router Name

Domain Name

☐ DHCP Client Identifier *

Username

Password

Static IP Address

4. Full Bridge Mode supports forwarding packets with VLAN tags.

5. Full Bridge Mode doesn't support wireless LAN.

OK

Cancel

1. Exercise d

Network Configuration- Configure WAN Ethernet connection

2926-A – WAN Configuration

Step 9 a: Connect WAN 2 Port of 2926-A to the switch and note the WAN IP address in Online status > Physical Connection on a Post It note – Stick it on the Router for easy reference later

Dashboard

Wizards

Online Status

Physical Connection

Virtual WAN

WAN

LAN

Hotspot Web Portal

Routing

NAT

Hardware Acceleration

Firewall

User Management

Objects Setting

CSM

Bandwidth Management

Applications

VPN and Remote Access

Certificate Management

LTE

LAN Status

IP Address	TX Packets	RX Packets	Router Primary DNS:
192.168.1.1	5.639	1.908	192.168.100.1

WAN 1 Status

Enable	Line	Name	Mode	Up Time
Yes	VDSL2		PPPoA	00:00:00
IP	GW IP	TX Bytes	TX Rate(bps)	RX Bytes
---	---	0 (B)	0	0 (B)

WAN 2 Status

Enable	Line	Name	Mode	Up Time
Yes	Ethernet		DHCP Client	0:17:20
IP	GW IP	TX Bytes	TX Rate(Kbps)	RX Bytes
192.168.100.35	192.168.100.1	856 (KB)	229.88	663 (KB)

1. Exercise e Network Configuration-Preliminary

2926-B – LAN Configuration

Step 10: Plug notebook 2926-B in LAN 1 port - Type 192.168.1.1 type admin / admin

Step 11: Go to LAN>General setup> click on “ Details Page” and fill in arrows –click OK

Router 2926 B is now accessible with 192.168.20.1

DrayTek Vigor2926 Series

LAN >> General Setup

Index	Status	DHCP	IP Address	Details Page	IPv6
LAN 1	V	V	192.168.1.1	Details Page	IPv6
LAN 2	☐	☒	192.168.2.1	Details Page	IPv6
LAN 3	☐	☒	192.168.3.1	Details Page	IPv6
LAN 4	☐	☒	192.168.4.1	Details Page	IPv6
LAN 5	☐	☒	192.168.5.1	Details Page	IPv6
LAN 6	☐	☒	192.168.6.1	Details Page	IPv6

Please set this off

DrayTek Vigor

Off

Dashboard

Wireless LAN ON/OFF/WPS

ACT WAN2 QoS

LTE DSL WCF

Factory Reset USB 2.4G 5G

DSL LAN

LAN >> General Setup

LAN 1 Ethernet TCP / IP and DHCP Setup

Network Configuration For NAT Usage

IP Address 192.168.20.1

Subnet Mask 255.255.255.0

RIP Protocol Control Disable

LAN 1 IPv6 Setup

DHCP Server Configuration

☐ Disable ☒ Enable Server ☐ Enable Relay Agent

Start IP Address 192.168.20.10

IP Pool Counts 200 (max. 1024)

Gateway IP Address 192.168.20.1

Lease Time 86400 (s)

☒ Clear DHCP lease for inactive clients periodically

DNS Server IP Address

Primary IP Address

Secondary IP Address

Note: Change IP Address or Subnet Mask in Network Configuration will also change HA LAN1 Virtual IP to the same domain IP.

OK

LAN >> General Setup

Index	Status	DHCP	IP Address	Details Page	IPv6
LAN 1	V	V	192.168.20.1	Details Page	IPv6
LAN 2	☐	☒	192.168.2.1	Details Page	IPv6
LAN 3	☐	☒	192.168.3.1	Details Page	IPv6
LAN 4	☐	☒	192.168.4.1	Details Page	IPv6
LAN 5	☐	☒	192.168.5.1	Details Page	IPv6
LAN 6	☐	☒	192.168.6.1	Details Page	IPv6
LAN 7	☐	☒	192.168.7.1	Details Page	IPv6
LAN 8	☐	☒	192.168.8.1	Details Page	IPv6
DMZ Port	☐	☒	192.168.17.1	Details Page	IPv6
IP Routed Subnet	☐	☒	192.168.0.1	Details Page	IPv6

1. Exercise f Network Configuration- Configure WAN Ethernet connection

2926-B – WAN Configuration

Step 12 Type 192.168.20.1 in the browser

Step 13 Go to WAN>>Internet Access – Select Static or Dynamic then click on “ Details page ”

Step 14 Tick WAN 2 Enable and select “ Obtain an IP automatically” - Click OK & reboot router

Off 

Dashboard
Wizards
Online Status

WAN
General Setup
Internet Access
Multi-PVC/VLAN
WAN Budget

LAN
Load-Balance/Route Policy

WAN >> Internet Access

Internet Access

Index	Display Name	Physical Mode	Access Mode		
WAN1		ADSL / VDSL2	PPPoE / PPPoA	Details Page	IPv6
WAN2		Ethernet	Static or Dynamic IP	Details Page	IPv6
WAN3		USB	None	Details Page	IPv6
WAN4		USB	None	Details Page	IPv6

Note: 1. Device on USB port 1 applies WAN3 configuration.

WAN >> Internet Access

WAN 2

PPPoE

Static or Dynamic IP

PPPoE/L2TP

IPv6

☒ Enable ☐ Disable

Keep WAN Connection

☐ Enable PING to keep alive

PING to the IP

PING Interval minute(s)

WAN Connection Detection

Mode

WAN IP Network Settings

WAN IP Alias

☒ Obtain an IP address automatically

Router Name

Domain Name

☐ DHCP Client Identifier

Username

Password

4. Full Bridge Mode supports forwarding packets with VLAN tags.

5. Full Bridge Mode doesn't support wireless LAN.

OK

Cancel

1. Exercise g

2926-B – WAN Configuration

Step 15 : Connect WAN 2 Port of 2926-B to the switch and note the WAN IP address in Online status > Physical Connection on a Post It note – Stick it on the Router for easy reference later

Dashboard

Wizards

Online Status

Physical Connection

Virtual WAN

WAN

LAN

Hotspot Web Portal

Routing

NAT

Hardware Acceleration

Firewall

User Management

Objects Setting

CSM

Bandwidth Management

Applications

VPN and Remote Access

Certificate Management

LTE

LAN Status				
IP Address	TX Packets	RX Packets	Router Primary DNS:	
192.168.1.1	5,639	1,908	192.168.100.1	

WAN 1 Status				
Enable	Line	Name	Mode	Up Time
Yes	VDSL2		PPPoA	00:00:00
IP	GW IP	TX Bytes	TX Rate(bps)	RX Bytes
---	---	0 (B)	0	0 (B)

WAN 2 Status				
Enable	Line	Name	Mode	Up Time
Yes	Ethernet		DHCP Client	0:17:20
IP	GW IP	TX Bytes	TX Rate(Kbps)	RX Bytes
192.168.100.35	192.168.100.1	856 (KB)	229.88	663 (KB)

1. Exercise h

Network Configuration-Preliminary

2862Lac – LAN Configuration

Step 16: Plug notebook in 2862 LAN 1 port - Type 192.168.1.1 type admin / admin

Step 17: Go to LAN>General setup> Check IP address to be 192.168.1.1

LAN >> General Setup

General Setup

Index	Status	DHCP	DHCPv6	IP Address	Details Page	IPv6
LAN 1	V	V	V	192.168.1.1	Details Page	IPv6
LAN 2	☐	☒	☒	192.168.2.1	Details Page	IPv6
LAN 3	☐	☒	☒	192.168.3.1	Details Page	IPv6
LAN 4	☐	☒	☒	192.168.4.1	Details Page	IPv6

1. Exercise i

Network Configuration- Configure WAN Ethernet connection

2862Lac – WAN Configuration



Step 18 “Go to WAN>>Internet Access – Select Static or Dynamic then click on “ Details page

Step 19 Tick WAN 2 Enable and select “ Obtain an IP address automatically” - Click OK to Reboot

Step 20 Go to Online Status > Physical Connections - Note WAN IP address on a Post it note

Off

Dashboard
Wizards
Online Status

WAN
General Setup
Internet Access
Multi-PVC/VLAN
WAN Budget
LAN
Load-Balance/Route Policy

WAN >> Internet Access

Internet Access

Index	Display Name	Physical Mode	Access Mode		
WAN1		ADSL / VDSL2	PPPoE / PPPoA	Details Page	IPv6
WAN2		Ethernet	Static or Dynamic IP	Details Page	IPv6
WAN3		USB	None	Details Page	IPv6
WAN4		USB	None	Details Page	IPv6

Note: 1. Device on USB port 1 applies WAN3 configuration.

WAN >> Internet Access

WAN 2

PPPoE Static or Dynamic IP PPTP/L2TP IPv6

☒ Enable ☐ Disable

Keep WAN Connection
☐ Enable PING to keep alive
 PING to the IP
 PING Interval 0 minute(s)

WAN IP Network Settings
☒ Obtain an IP address automatically
 Router Name
 Domain Name
☐ DHCP Client Identifier
 Username
 Password

WAN Connection Detection
 Mode ARP Detect

4. Full Bridge Mode supports forwarding packets with VLAN tags.
 5. Full Bridge Mode doesn't support wireless LAN.

OK Cancel

Step 21 : Please set this off

Dashboard
Wizards
Online Status
Physical Connection
Virtual WAN

WAN
LAN
Hotspot Web Portal
Routing
NAT
Hardware Acceleration
Firewall
User Management
Objects Setting
CSM
Bandwidth Management
Applications
VPN and Remote Access
Certificate Management
LTE

LAN Status

IP Address	Tx Packets	Rx Packets	Router Primary DNS
192.168.1.1	5.639	1.908	192.168.100.1

WAN 1 Status

Enable	Line	Name	Mode	Up Time
Yes	VDSL2		PPPoA	00:00:00
IP	GW IP	Tx Bytes	Tx Rate(bps)	Rx Bytes
---	---	0 (B)	0	0 (B)

WAN 2 Status

Enable	Line	Name	Mode	Up Time
Yes	Ethernet		DHCP Client	0:17:20
IP	GW IP	Tx Bytes	Tx Rate(Kbps)	Rx Bytes
192.168.100.35	192.168.100.1	856 (KB)	229.88	663 (KB)

DrayTek Vigor

Off

Dashboard
Wizards
Online Status

WAN
LAN
Hotspot Web Portal
Routing
NAT
Hardware Acceleration

Dashboard

Wireless LAN ON/OFF/WPS
 ACT
 LTE
 Factory Reset

WAN2
 DSL
 USB
 2.4G
 5G

QoS
 WCF

DrayTek

DSL
 LAN P

1. Exercise j

Network Configuration-Preliminary

AP902 – LAN Configuration

Step 22: Connect the AP902 on LAN A port to the 2862Lac on LAN 4 port

Step 23: Connect the Notebook to 2862-Type 192.168.1.1 type admin / admin

Step 24: Go to Central Management>>AP >> Dashboard -You will see the AP -see fig 1 below

Step 25: Double click on AP icon -type admin / admin to login on the AP902

Step 26 : Go to LAN>> General setup Change IP address to 192.168.1.10 and untick DHCP client and Disable Server



Fig 1

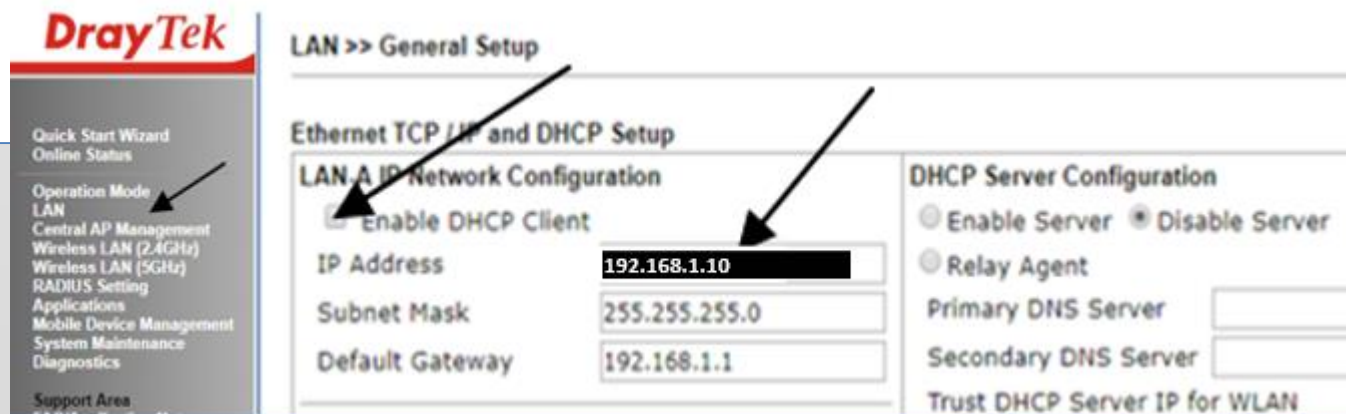


Fig 2

3. VigorACS 2 Features



3. VigorACS 2 Features

Auto Provisioning

1. Pre configured data: IP –PPoE-VOIP params
2. Scheduling new profiles, firmware , backup-restore config at specific times
3. Network and CPE provisioning - CPE keep parameter -low cost –network uniformity



3. VigorACS 2 Features

Real-Time Monitoring

1. Uptime –Firmware version-Resource Usage – Client Number
2. Error Conditions : lost of connectivity WAN-LAN & VPNs
3. Notifications by emails ...

4.Logs : Details of events incl device name –Mac Address ...

5. Events recorded are file downloads ...

The screenshot displays the DrayTek VigorACS2 web interface. The left sidebar shows the 'Monitoring' menu with 'Alarm' selected. The main content area shows the 'Monitoring > Alarm' page with a search bar and a table of alarm events. The table has columns for No., Ack Status, Time, Device Name, MAC Address, Alarm Level, and Alarm Message. Below the table, there is a diagram showing a server icon with three blue arrows pointing to icons for Mail, SMS, and Log, representing notification methods.

No.	Ack Status	Time	Device Name	MAC Address	Alarm Level	Alarm Message
77899	Not Ack	2017/04/07 10:14:37 AM	3900_001DAAA92508	001DAAA92508	Critical	Device Loss Connect
77898	Not Ack	2017/04/07 10:14:24 AM	2960_001DAAC08638	001DAAC08638	Critical	Device Loss Connect
77897	Not Ack	2017/04/07 10:14:18 AM	Mi			
77896	Not Ack	2017/04/07 10:14:17 AM	Tu			
77895	Not Ack	2017/04/07 10:14:15 AM	29			

3. VigorACS 2 Features

Device Maintenance

SYSTEM MENU

Maintenance

Scheduled Backup

Configuration Restore

Firmware Upgrade

Device Reboot

System Password Reset

Schedule Profile

File Manager



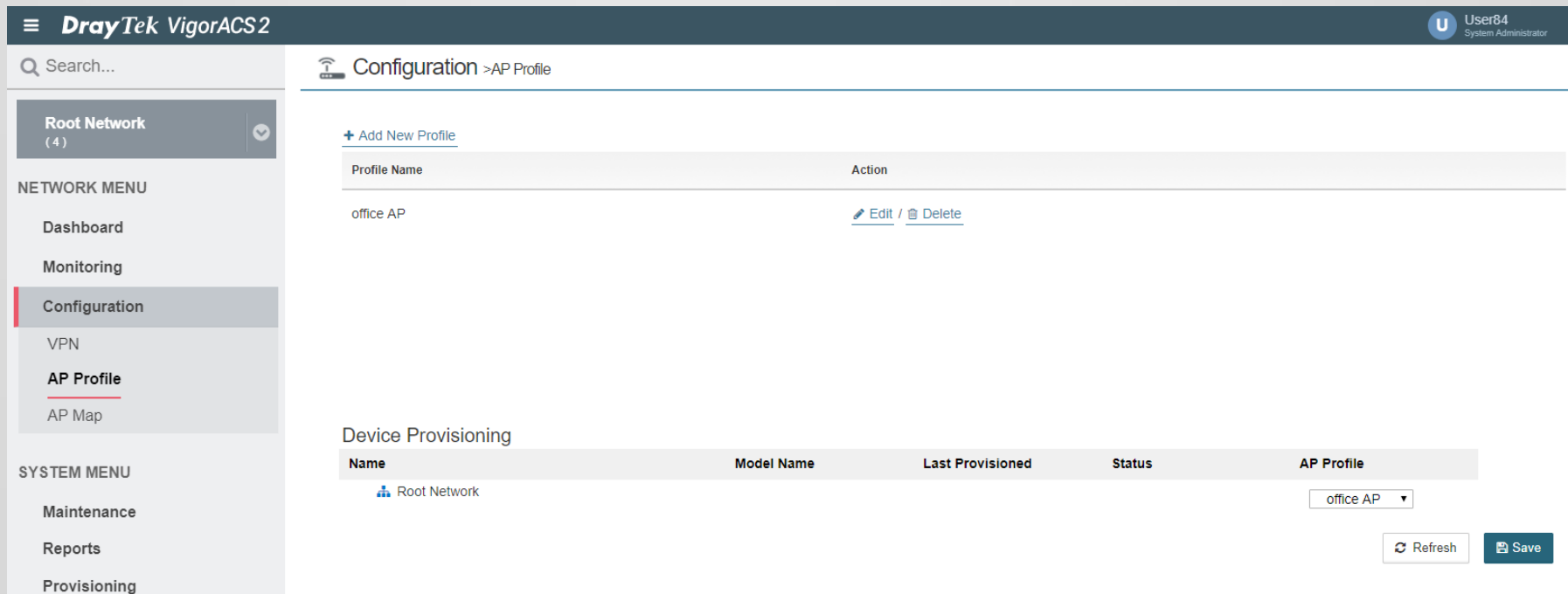
The screenshot shows the DrayTek VigorACS2 web interface. The top navigation bar includes a search bar and the user 'Root' (System Administrator). The main content area is titled 'Maintenance > Firmware Upgrade'. Below this, there is a 'User Group' dropdown menu set to 'RootGroup'. The 'Firmware Upgrade Job List' section contains a table with one entry. The table has columns for Name, Model, FW Version, FW File, Schedule, and Action. The entry 'sample' is for a 'Vigor2700 Series' with 'FW Version' 3.1.1.1_RC6 and 'FW File' v2k7v_a_3.1.1.1_RC6.all. The 'Schedule' is set to 'Any'. The 'Action' column provides links to 'Edit' and 'Delete'.

Name	Model	FW Version	FW File	Schedule	Action
sample	Vigor2700 Series	3.1.1.1_RC6	v2k7v_a_3.1.1.1_RC6.all	Any	Edit Delete

3. VigorACS 2 Features

AP Management

1. SSID, security key, load balancing pre-configured and automatically applied
2. Map function



The screenshot displays the DrayTek VigorACS2 web interface. The top navigation bar shows the user is logged in as 'User84 System Administrator'. The left sidebar contains a 'NETWORK MENU' with options: Dashboard, Monitoring, Configuration (selected), VPN, AP Profile (sub-selected), and AP Map. Below this is a 'SYSTEM MENU' with options: Maintenance, Reports, and Provisioning. The main content area is titled 'Configuration > AP Profile'. It features a '+ Add New Profile' link and a table with the following data:

Profile Name	Action
office AP	Edit / Delete

Below the table is a 'Device Provisioning' section with a table:

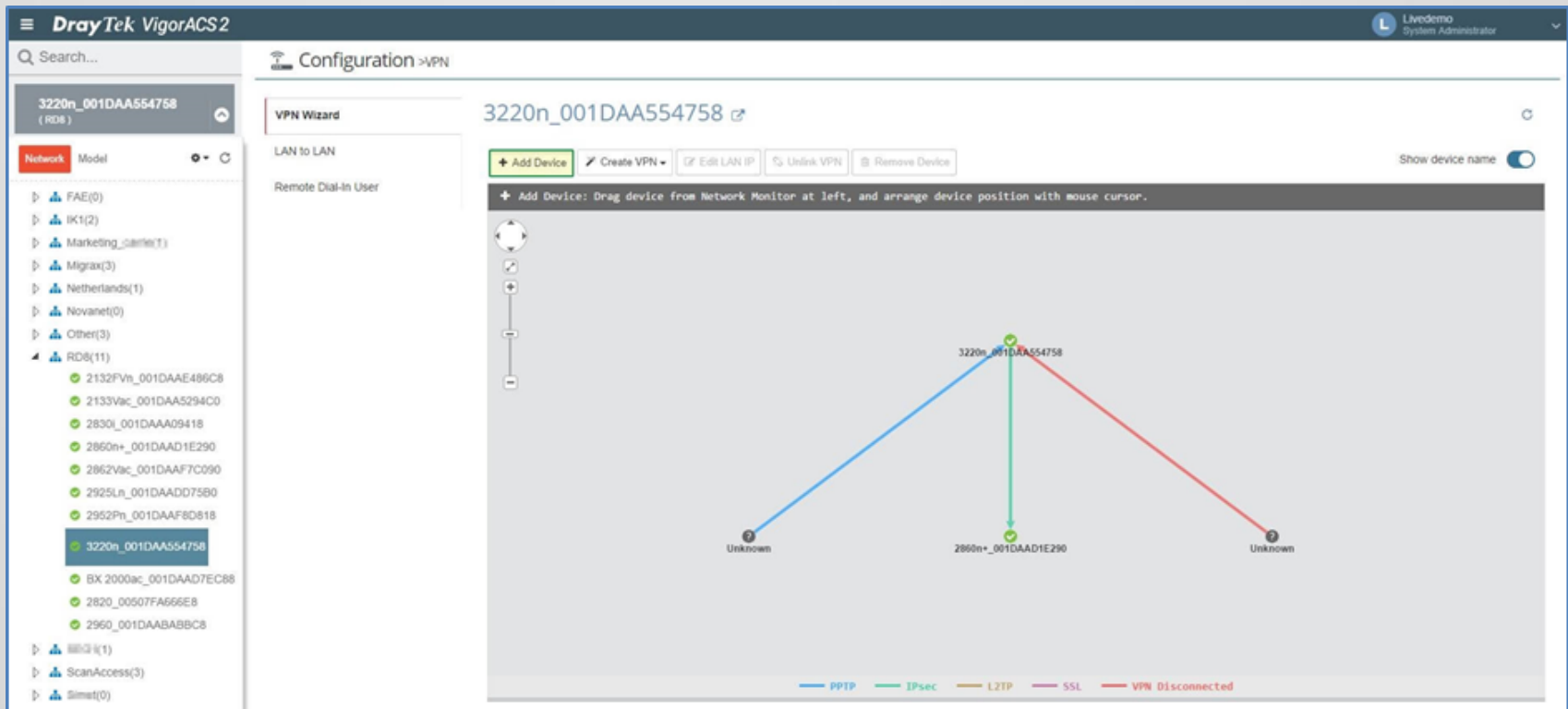
Name	Model Name	Last Provisioned	Status	AP Profile
Root Network				office AP

At the bottom right of the provisioning table are 'Refresh' and 'Save' buttons.

3. VigorACS 2 Features

VPN Wizard

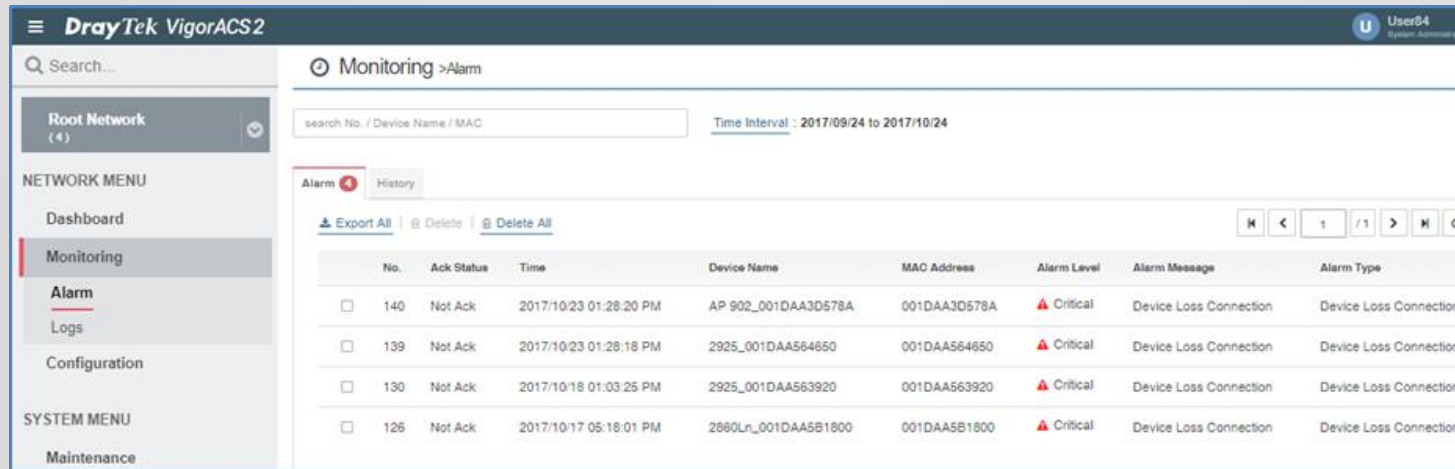
1. Simply drag and drop
2. Encryption method selectable



3. VigorACS 2 Features

Alarm & Log Management

Alarms
Date –time type
–level
SMS or email



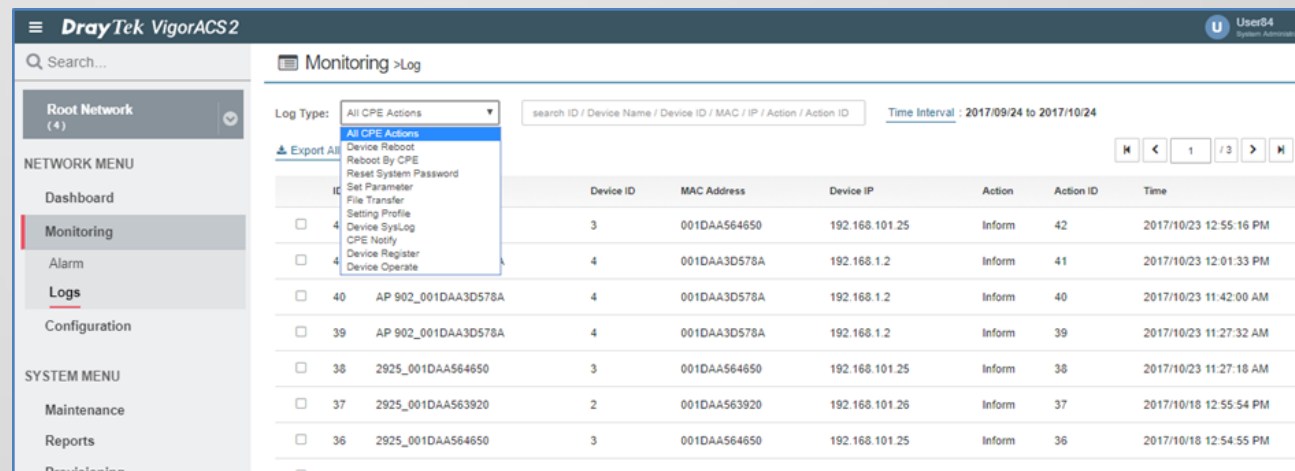
The screenshot shows the 'Monitoring > Alarm' section of the DrayTek VigorACS2 web interface. The left sidebar contains a 'NETWORK MENU' with 'Monitoring' selected, and a 'SYSTEM MENU' with 'Maintenance' selected. The main area displays a table of active alarms. The table has columns for No., Ack Status, Time, Device Name, MAC Address, Alarm Level, Alarm Message, and Alarm Type. Four alarms are listed, all with a 'Critical' level and 'Device Loss Connection' message.

No.	Ack Status	Time	Device Name	MAC Address	Alarm Level	Alarm Message	Alarm Type
140	Not Ack	2017/10/23 01:28:20 PM	AP 902_001DAA3D578A	001DAA3D578A	Critical	Device Loss Connection	Device Loss Connection
139	Not Ack	2017/10/23 01:28:18 PM	2925_001DAA564650	001DAA564650	Critical	Device Loss Connection	Device Loss Connection
130	Not Ack	2017/10/18 01:03:25 PM	2925_001DAA563920	001DAA563920	Critical	Device Loss Connection	Device Loss Connection
126	Not Ack	2017/10/17 05:18:01 PM	2660Ln_001DAA5B1800	001DAA5B1800	Critical	Device Loss Connection	Device Loss Connection

Logs Generated

Device action:
Download, reboot
Objects added etc.

System status:
List changes made
To CPE by ACS
Inc IName, locations
etc.



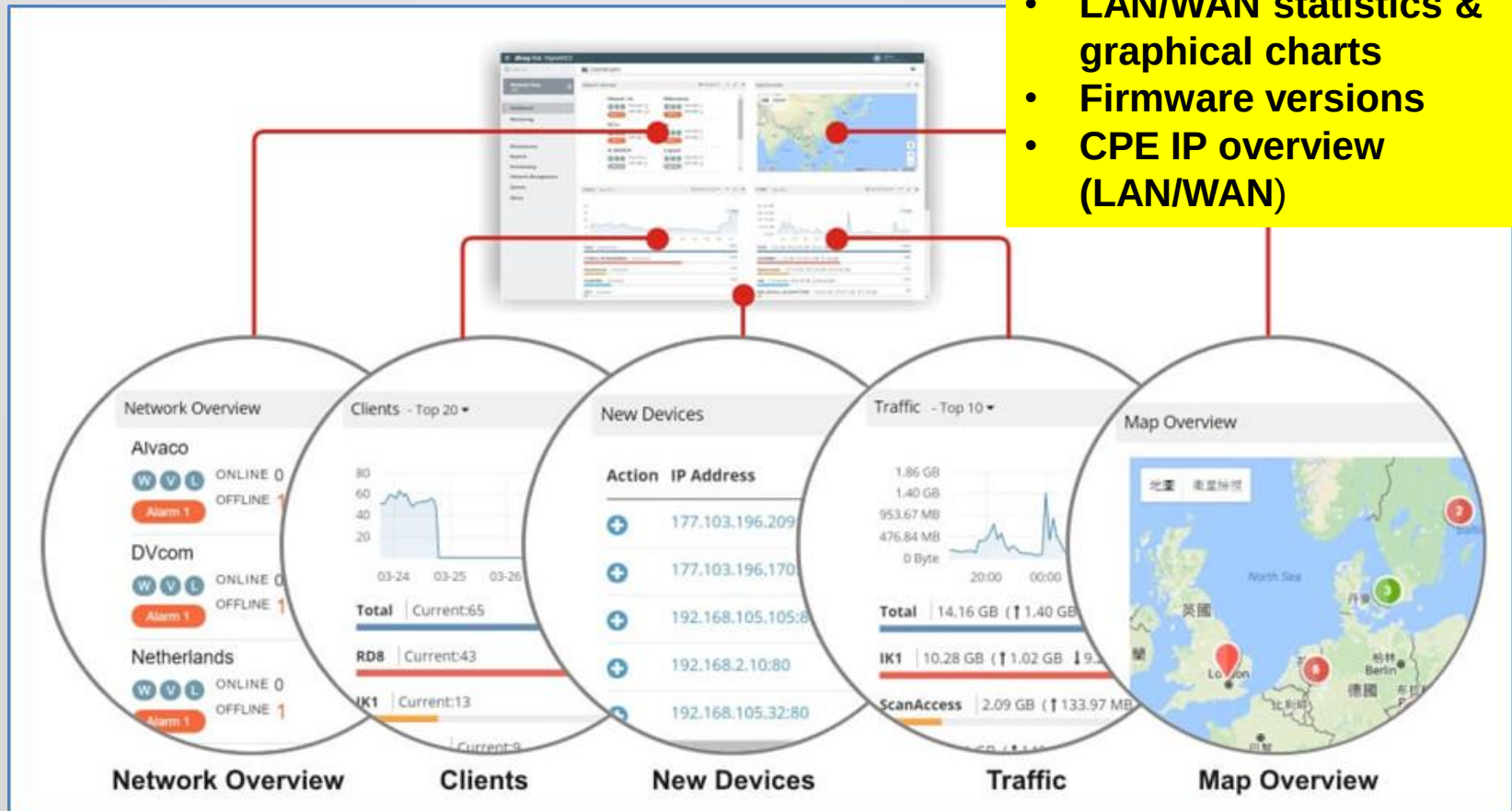
The screenshot shows the 'Monitoring > Log' section of the DrayTek VigorACS2 web interface. The left sidebar is identical to the previous screenshot. The main area displays a table of system logs. A dropdown menu for 'Log Type' is open, showing options like 'All CPE Actions', 'Device Reboot', 'Reboot By CPE', etc. The table has columns for Device ID, MAC Address, Device IP, Action, Action ID, and Time. Several log entries are visible, including actions like 'Inform' and 'CPE Notify'.

Device ID	MAC Address	Device IP	Action	Action ID	Time
3	001DAA564650	192.168.101.25	Inform	42	2017/10/23 12:55:16 PM
4	001DAA3D578A	192.168.1.2	Inform	41	2017/10/23 12:01:33 PM
40	AP 902_001DAA3D578A	192.168.1.2	Inform	40	2017/10/23 11:42:09 AM
39	AP 902_001DAA3D578A	192.168.1.2	Inform	39	2017/10/23 11:27:32 AM
38	2925_001DAA564650	192.168.101.25	Inform	38	2017/10/23 11:27:18 AM
37	2925_001DAA563920	192.168.101.26	Inform	37	2017/10/18 12:55:54 PM
36	2925_001DAA564650	192.168.101.25	Inform	36	2017/10/18 12:54:55 PM

3. VigorACS 2 Features

Reports

- Device summary
- Status of CPEs
- LAN/WAN statistics & graphical charts
- Firmware versions
- CPE IP overview (LAN/WAN)



3. VigorACS 2-Features

System Menu – User Management

Five levels of User Management

DrayTek VigorACS2

System Time: 17:16 09/05/2018

Training System Administrator

Search...

2926_001DAA64A4F0 (Root Network)

Maintenance

Reports

Provisioning

Network Management

System

User

User Management

Group Management

Device Group

External Authentication Server

Mail Server

User > User Management

+ Add | Delete

Search:

	Username	Authentication	Role	Status	Mail Notify	SMS Notify	Err
☐	root	Internal	1 System Administrator	Active	-	-	roc
☐	admin	Internal	3 Administrator	Active	-	-	ad
☐	operator	Internal	4 Operator	Active	-	-	op
☐	training	Internal	System Administrator	Active	-	-	
☐	GroupAdmin	Internal	2 Group Administrator	Active	-	-	
☐	ViewOnly	Internal	5 View Only Operator	Active	-	-	

User

User Management

Group Management

Device Group

Mail Server

Function Management

Wholesale Wizard

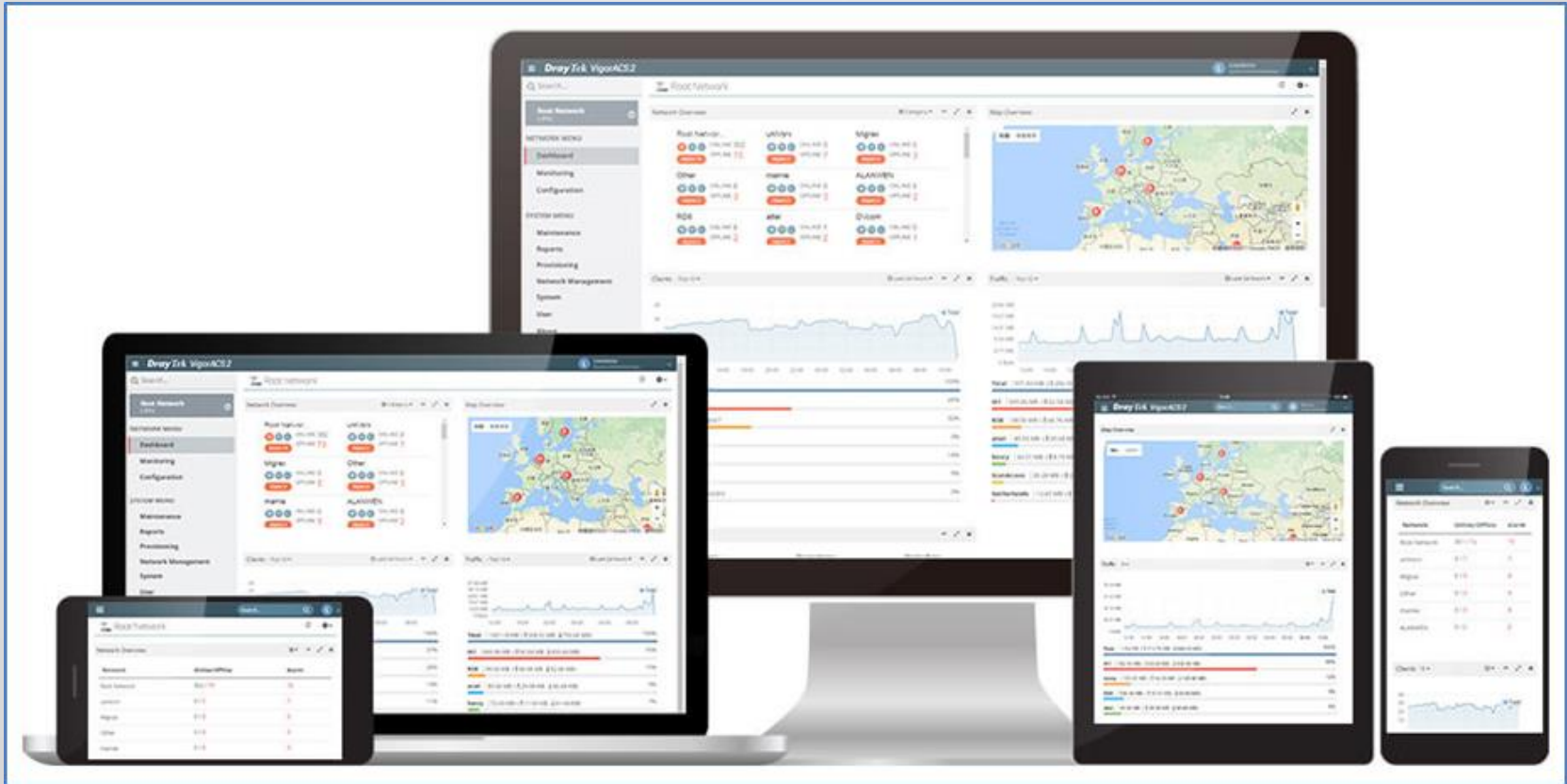
SMS Server

SNMP Server



3. VigorACS 2 Features

RWD Design



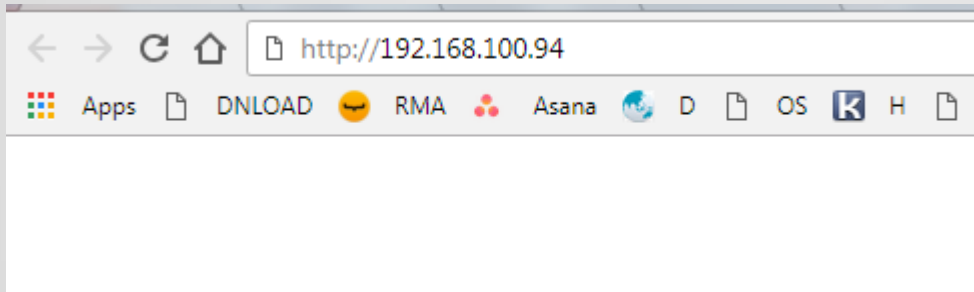
4. VigorACS 2 - Getting Started

Q2 . Teaser question

**Name 3-Parameters Required for Communication
between the ACS server and CPE Devices.**

- 1. IP address of the ACS 2 Server**
- 2. Username and password**
- 3. CPE Username and password**

4.1 Logging into VigorACS 2



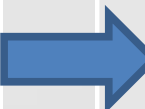
Use given details for VigorACS server URL login details. For example:

URL: `localhost` or IP number of ACS 2 server

Username: *training*

Password: *xyz123*

4.1 Logging into VigorACS 2



The diagram illustrates the login process for VigorACS 2. It shows two states of the login form: an empty form on the left and a filled form on the right, connected by a blue arrow indicating the transition.

Left Form (Empty):

- Title: Login to VigorACS 2
- User Name: [Empty field]
- Password: [Empty field]
- Validation Code: [Empty field] **7081**
- ☐ Remember me
- Login button
- Copyright © 2017 DrayTek Corp. All Rights Reserved.

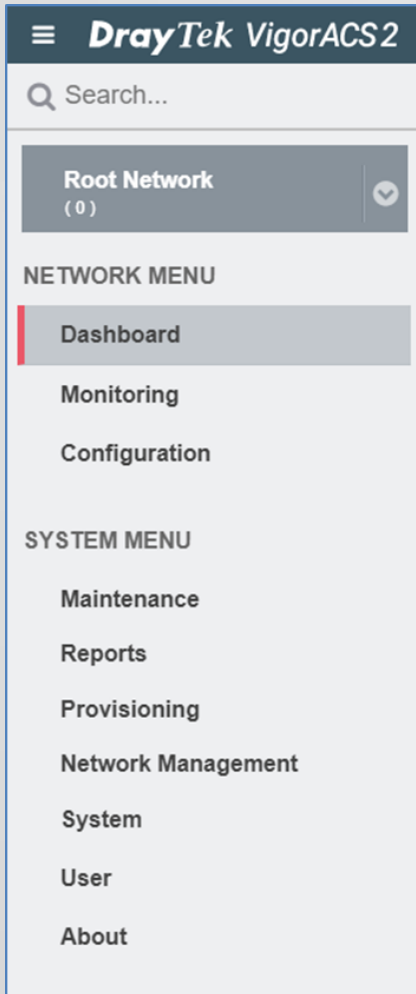
Right Form (Filled):

- Title: Login to VigorACS 2
- User Name: **training**
- Password: **xyz123**
- Validation Code: **7081** **7081**
- ☐ Remember me
- Login button
- Copyright © 2017 DrayTek Corp. All Rights Reserved.

4.1 Logging into VigorACS 2

The screenshot displays the DrayTek VigorACS2 web interface. The top header bar includes the DrayTek logo, the system time (14:40 10/05/2018), and the user profile (Training System Administrator). The left sidebar contains a search bar and two menu sections: NETWORK MENU (with options like Dashboard, Statistics, Monitoring, Configuration) and SYSTEM MENU (with options like Maintenance, Reports, Provisioning, Network Management). The main content area is titled 'Root Network' and shows a 'Device Overview' section with status indicators for ONLINE (3) and OFFLINE (1) devices, along with an 'Alarm 1' notification. Below this, there is a section for 'Active Clients - Top 10' with a time filter set to 'Last 24 hours'.

4.2 VigorACS 2 Menu Options

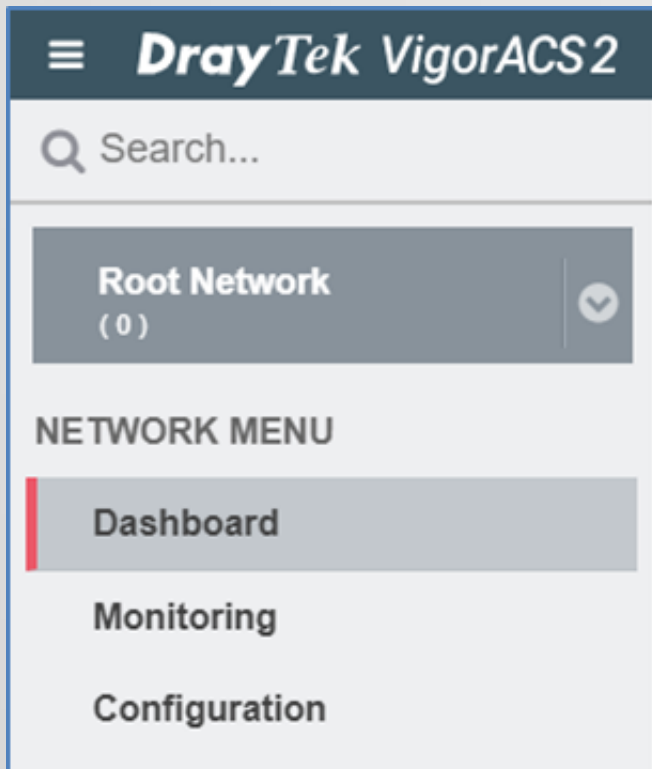


Network Menu

System Menu

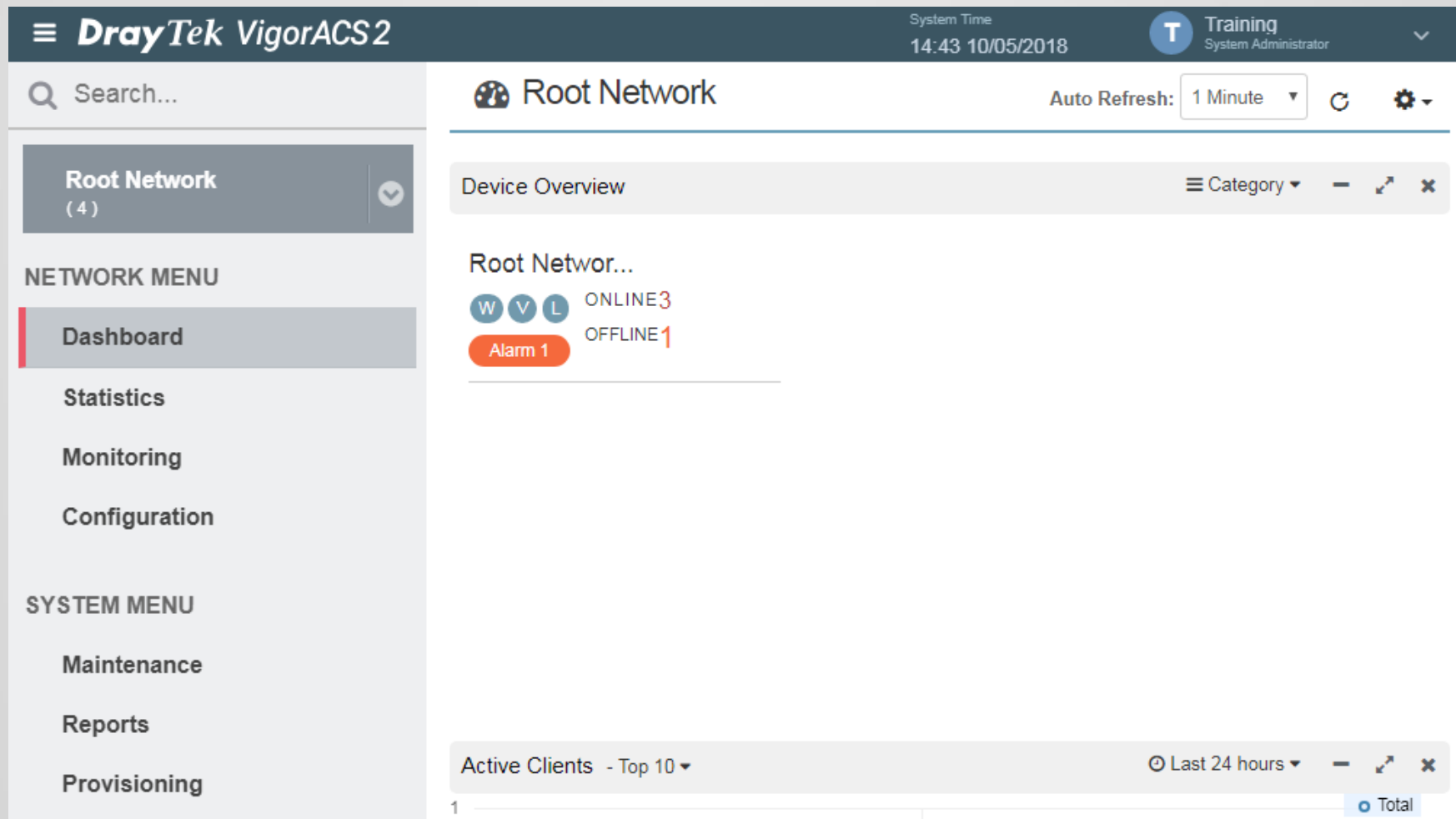
4.2 VigorACS 2 Menu Options

Network Menu



4.2 VigorACS 2 Menu Options

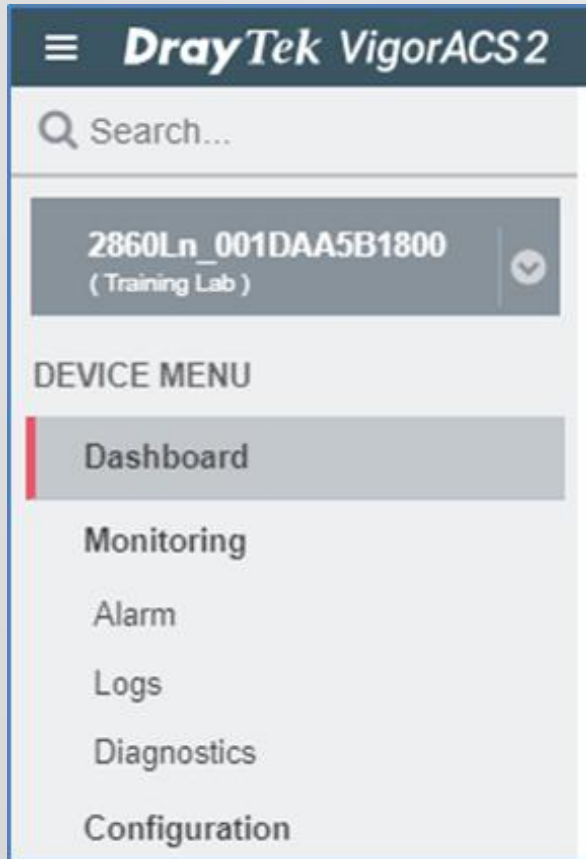
Network Menu - Dashboard



The screenshot displays the DrayTek VigorACS 2 Network Menu Dashboard. The interface includes a top navigation bar with the DrayTek logo, system time (14:43 10/05/2018), and user information (Training System Administrator). A left sidebar contains a search bar and two menu sections: NETWORK MENU and SYSTEM MENU. The NETWORK MENU is expanded, showing options like Root Network (4), Dashboard, Statistics, Monitoring, and Configuration. The main content area is titled 'Root Network' and features a 'Device Overview' section with a 'Category' dropdown and a 'Root Networ...' section showing 'ONLINE 3' and 'OFFLINE 1' devices, along with an 'Alarm 1' indicator. At the bottom, there is a section for 'Active Clients - Top 10' with a 'Last 24 hours' filter and a 'Total' button.

4.2 VigorACS 2 Menu Options

Network Menu - Monitoring



- Alarm
- Logs
- Diagnostics

4.2 VigorACS 2 Menu Options

Network Menu – Monitoring Alarm

Alarm Levels

- Critical
- Major
- Minor
- Warning
- Normal

DrayTek VigorACS 2 User84 System Administrator

Monitoring > Alarm

search No. / Device Name / MAC Time Interval : 2017/09/24 to 2017/10/24

Alarm 1 History

Export All Delete Delete All

No.	Time	Device Name	MAC Address	Alarm Level	Alarm Message	Alarm Type	Ack Status
126	2017/10/17 05:18:01 PM	2860Ln_001DAA5B1800	001DAA5B1800	Critical	Device Loss Connection	Device Loss Connection	Not Ack
122	2017/10/17 05:10:31 PM	2860Ln_001DAA5B1800	001DAA5B1800	Critical	Device Loss Connection	Device Loss Connection	Not Ack
117	2017/10/17 04:54:08 PM	2860Ln_001DAA5B1800	001DAA5B1800	Critical	Device Loss Connection	Device Loss Connection	Not Ack
109	2017/10/17 04:28:34 PM	2860Ln_001DAA5B1800	001DAA5B1800	Critical	Device Loss Connection	Device Loss Connection	Not Ack
102	2017/10/17 04:08:28 PM	2860Ln_001DAA5B1800	001DAA5B1800	Critical	Device Loss Connection	Device Loss Connection	Acked
96	2017/10/17 03:19:50 PM	2860Ln_001DAA5B1800	001DAA5B1800	Critical	Device Loss Connection	Device Loss Connection	Not Ack

4.2 VigorACS 2 Menu Options

Network Menu – Monitoring Logs

DrayTek VigorACS2 User84 System Administrator

Search...

2860Ln_001DAA5B1800 (1)

DEVICE MENU

- Dashboard
- Monitoring**
- Alarm
- Logs**
- Diagnostics
- Configuration

SYSTEM MENU

- Maintenance

Monitoring > Log

Log Type: All CPE Actions search ID / Device Name / Device ID / MAC / IP / Action / Action ID Time Interval : 2017/09/24 to 2017/10/24

Export All Delete Delete All

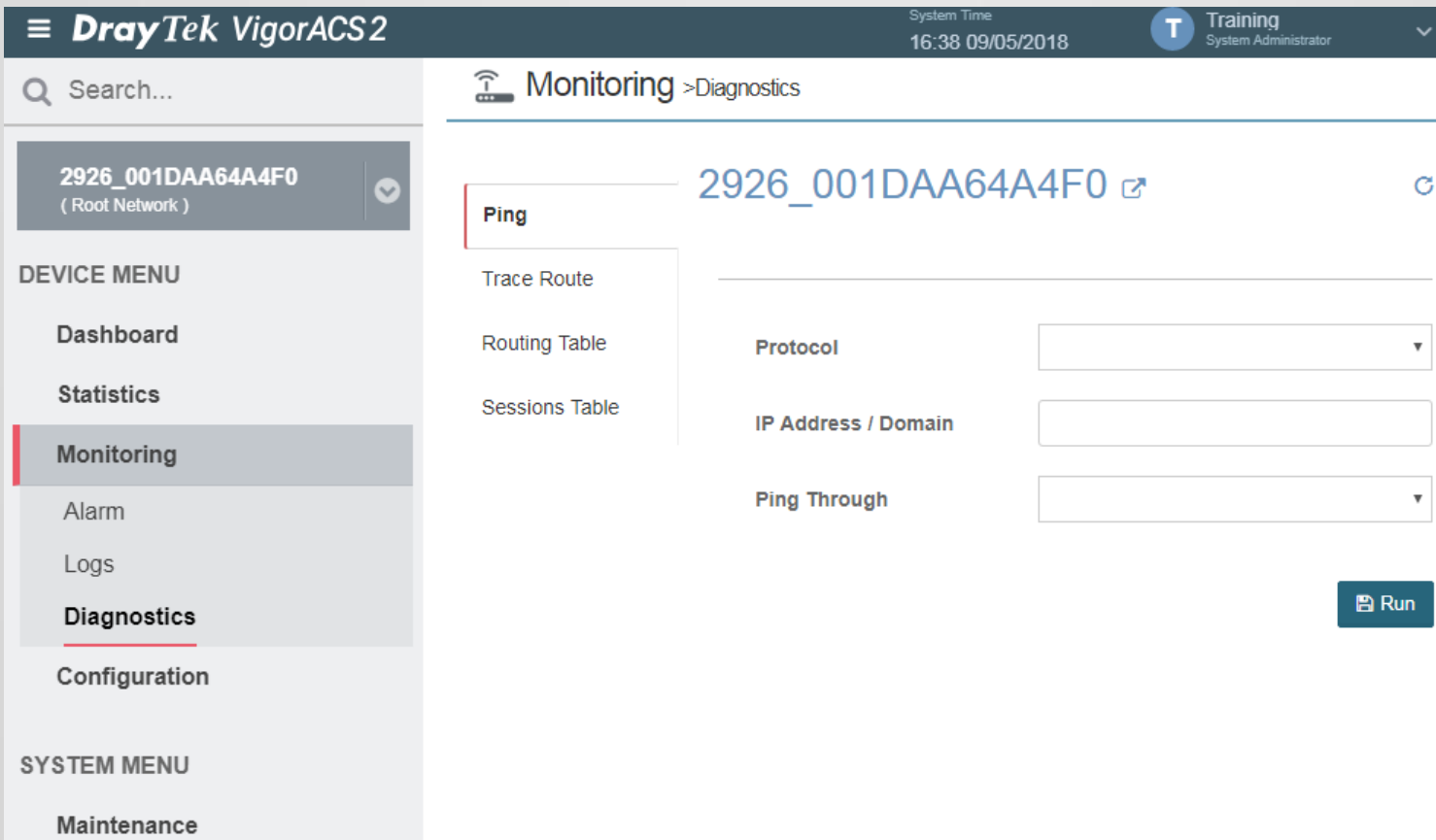
ID	Device Name	Device ID	MAC Address	Device IP	Action	Action ID	Time
44	2860Ln_001DAA5B1800	1	001DAA5B1800	192.168.101.178	Inform	44	2017/10/24 03:27:42 PM
43	2860Ln_001DAA5B1800	1	001DAA5B1800	192.168.101.178	Inform		
34	2860Ln_001DAA5B1800	1	001DAA5B1800	192.168.101.178	Inform		
30	2860Ln_001DAA5B1800	1	001DAA5B1800	192.168.101.178	Inform		
29	2860Ln_001DAA5B1800	1	001DAA5B1800	192.168.101.178	Inform		
22	2860Ln_001DAA5B1800	1	001DAA5B1800	192.168.101.178	Inform		
19	2860Ln_001DAA5B1800	1	001DAA5B1800	192.168.101.178	Inform		

Log Type: All CPE Actions

- All CPE Actions
- Device Reboot
- Reboot By CPE
- Reset System Password
- Set Parameter
- File Transfer
- Setting Profile
- Device SysLog
- CPE Notify
- Device Register
- Device Operate

4.2 VigorACS 2 Menu Options

Network Menu – Monitoring Diagnostics



DrayTek VigorACS2 System Time 16:38 09/05/2018 Training System Administrator

Search...

2926_001DAA64A4F0 (Root Network)

DEVICE MENU

- Dashboard
- Statistics
- Monitoring**
- Alarm
- Logs
- Diagnostics**
- Configuration

SYSTEM MENU

- Maintenance

Monitoring > Diagnostics

2926_001DAA64A4F0

Ping

Trace Route

Routing Table

Sessions Table

Protocol

IP Address / Domain

Ping Through

Run

Ping

Trace Route

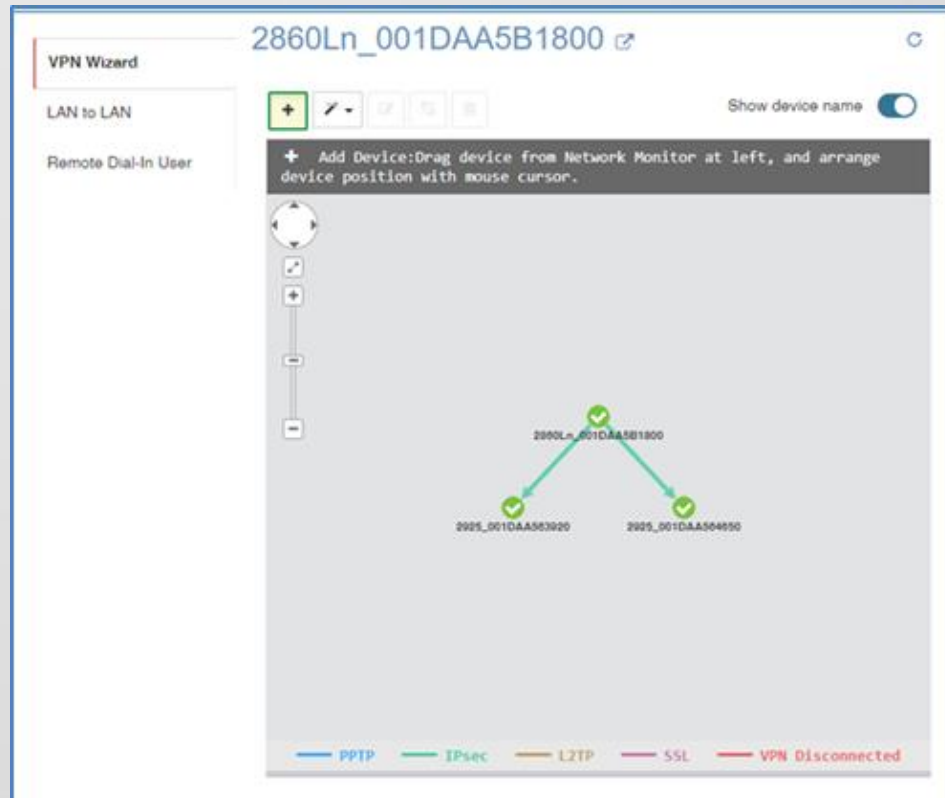
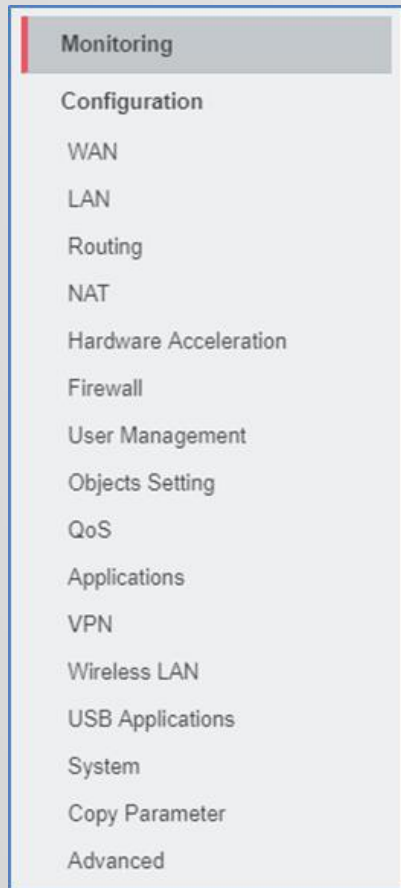
Routing Table

Sessions Table

4.2 VigorACS 2 Menu Options

Network Menu – Configuration

VPN



4.2 VigorACS 2 Menu Options

System Menu

DrayTek VigorACS 2 System Time: 16:45 09/05/2018

Search...

Root Network (4)

Monitoring

Configuration

SYSTEM MENU

- Maintenance**
- Reports
- Provisioning
- Network Management
- System
- User
- About

Maintenance > Scheduled Backup

User Group: RootGroup

Networks & Devices Backup Settings Profile

Name	File Type
Root Network(4)	Configuration File
902_001DAA3D57CA	Configuration File
2862Lac_001DAA6C3258	Configuration File
2926_001DAA64A4F0	Configuration File
2926_001DAA64B518	Configuration File

SYSTEM MENU

Maintenance

Reports

Provisioning

Network Management

System

User

About

4.2 VigorACS 2 Menu Options

System Menu – Maintenance

DrayTek VigorACS2 System Time: 16:47 09/05/2018 Training System Administrator

Search...

Root Network (4)

Maintenance

- Scheduled Backup**
- Configuration Restore
- Firmware Upgrade
- Device Reboot**
- System Password Reset
- Schedule Profile
- File Manager

Reports

Provisioning

Network Management

User Group: RootGroup

Networks & Devices Backup Settings Profile

Name	File Type	Backup S
Root Network(4)	Configuration File	
902_001DAA3D57CA	Configuration File	
2862Lac_001DAA6C3258	Configuration File	
2926_001DAA64A4F0	Configuration File	
2926_001DAA64B518	Configuration File	

Save

SYSTEM MENU

Maintenance

Scheduled Backup

Configuration Restore

Firmware Upgrade

Device Reboot

System Password Reset

Schedule Profile

File Manager

4.2 VigorACS 2 Menu Options

System Menu – Reports

DrayTek VigorACS 2 System Time: 13:23 18/05/2018 Training System Administrator

Search...

Root Network (4)

NETWORK MENU

- Dashboard
- Statistics
- Monitoring
- Configuration

SYSTEM MENU

- Maintenance
- Reports** (1)
- Report Tasks
- Provisioning

Create a Report (2)

+ Create new report (3)

Firmware Overview

Firmware Overview

Model Name: ALL Modem Version: ALL Severity: ALL

4

Name	Model Name	Firmware Version
Root Network(4)		
Brisbane(1)		
Training-Seven Hills(0)		
2926_001DAA64A4F0	Vigor2926	3.8.8

5

Cancel Query

Report

Create a Report

Report 3

VigorACS Report
Status Overview Report

Device Total Count:4

Severity	Device Name	MAC Address	IP	Model
Normal	DrayTek_001DAA_Vigor2860Ln_001DAA	001DAA5B1800	192.168.101.178	Vigor2860Ln
Normal	DrayTek_001DAA_Vigor2925_001DAA56	001DAA563920	192.168.101.26	Vigor2925
Normal	DrayTek_001DAA_Vigor2925_001DAA56	001DAA564650	192.168.101.25	Vigor2925
Normal	DrayTek_001DAA_VigorAP	001DAA3D578A	192.168.1.2	VigorAP 902

4.2 VigorACS 2 Menu Options

System Menu – Provisioning

Usually an XML file needs to be created with the required configuration parameters. This file is then used to update the selected CPE devices.

SYSTEM MENU

Maintenance

Reports

Provisioning

Network & Devices

Global Parameters

CPE Set Parameters

CPE Keep Parameters

The screenshot shows the 'Provisioning > Network & Devices' section of the VigorACS 2 web interface. At the top, there is a 'User Group' dropdown menu set to 'RootGroup'. Below this is a table with two columns: 'Name' and 'Profile Id'. The table lists three network groups: 'Root Network(4)', 'Brisbane Office(1)', and 'Training Lab(3)'. Each group has a corresponding 'Profile Id' dropdown menu. The 'Root Network(4)' dropdown is currently set to 'Empty', while the other two are set to 'Block YouTube v1'.

Name	Profile Id
Root Network(4)	Empty
Brisbane Office(1)	Block YouTube v1
Training Lab(3)	Block YouTube v1

4.2 VigorACS 2 Menu Options

System Menu – Network Management

Root System Administrator

Network Management

- Root Network(4)
 - Brisbane Office(1)
 - 2925_001DAA563920
 - Training Lab(3)
 - 2860Ln_001DAA5B18
 - 2925_001DAA564650
 - AP 902_001DAA3D57

Setting | **Map**

[Delete This Device](#) | [Change Network](#) | [Change Username/Password](#)

Status **Known Device**

Device ID **Network ID**

Model Name **Device Name**

Note 1 **Note 2**

Serial number **MAC Address**

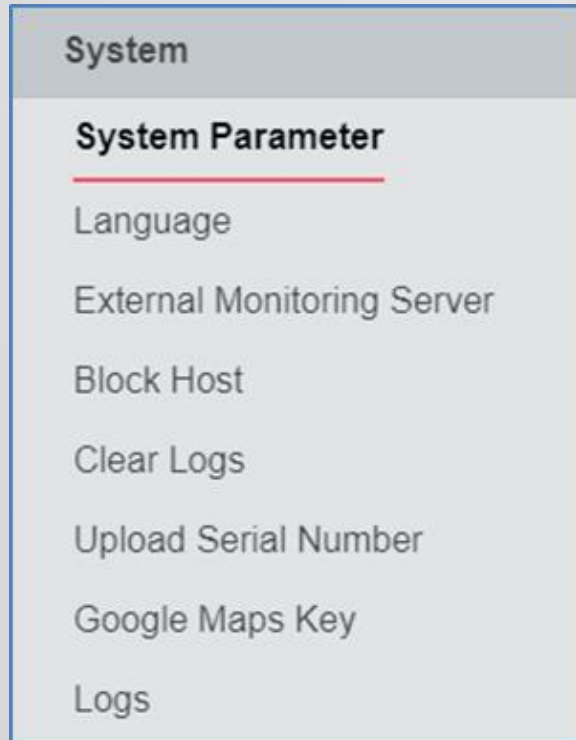
Location **IP**

Phone No. **Port**

Domain Name **URI**

4.2 VigorACS 2 Menu Options

System Menu – System Parameter



System > System Parameter

ID	Name	Value
74	EnableFirmwareCheck	true
73	HealthWebFolder	web
72	HealthExposelp	192.168.100.92
71	EnableSendCPENotify	true
70	ShowTreeCount	100
68	DisableSaveInformLog	false
67	EnableAutoChangeWebPort	true
66	CheckCPEValidByNetworkUser	false
65	New_DeleteOldDeviceBySameIP	false
64	CheckCPEValidByAuthKey	false
63	EnableBackUpCheck	false
62	EnableRecordActionLog	true
61	TimeFormat	1
60	EnableForceSetCPEPeriodicInformInterval	true
59	CPEPeriodicInformInterval	900
58	FWUpgradeFailInterval	86400
57	EnableChangeNetworkByNetworkUser	true
56	UseStunAddressForVpn	false

[Reset to default](#) Cancel Save

4.2 VigorACS 2 Menu Options

System Menu – User

DrayTek VigorACS2

System Time: 17:16 09/05/2018

Training System Administrator

Search...

2926_001DAA64A4F0 (Root Network)

Maintenance

Reports

Provisioning

Network Management

System

User

User Management

Group Management

Device Group

External Authentication Server

Mail Server

User > User Management

+ Add | Delete

Search:

	Username	Authentication	Role	Status	Mail Notify	SMS Notify	Err
☐	root	Internal	1 System Administrator	Active	-	-	roc
☐	admin	Internal	3 Administrator	Active	-	-	ad
☐	operator	Internal	4 Operator	Active	-	-	op
☐	training	Internal	System Administrator	Active	-	-	
☐	GroupAdmin	Internal	2 Group Administrator	Active	-	-	
☐	ViewOnly	Internal	5 View Only Operator	Active	-	-	

User

User Management

Group Management

Device Group

Mail Server

Function Management

Wholesale Wizard

SMS Server

SNMP Server



4.2 VigorACS 2 Menu Options

System Menu – About

≡

DrayTek VigorACS2

System Time

17:00 09/05/2018

T

Training
System Adminis

Q Search...

2926_001DAA64A4F0
(Root Network)

▼

SYSTEM MENU

Maintenance

Reports

Provisioning

Network Management

System

User

About

License Information

License Agreements

License Information

License Information

Host ID

ACS1804000

License ID

0001f7

License Type

Trial

Start Date

2018-04-22

Expire Date

2018-05-22

Max Node

20

Activate License

+ Click here to activate license

Notify Mail Configuration

Enable

○

○

About

License Information

License Agreements

5. VigorACS 2 – Configuring CPE Devices



6. Exercises

Video Demonstration

How to Register a CPE device into DrayTek VigorACS 2



<https://youtu.be/GNSJIWvFW2g>

[CLICK Here](#)

5. Configuring CPE Devices

Default ACS TR-069 Settings - CPE

Username: *vigor*
Password: *password*

DrayTek VigorACS2

System Time: 22:52 17/05/2018 | Training System Administrator

Search...

Brisbane (1)

Monitoring
Configuration

SYSTEM MENU

Maintenance
Reports
Provisioning
Network Management
System
User
About

Network Management

- Root Network(4)
 - Brisbane(1)
 - 2926_001DAA64A4F0
 - 902_001DAA3D57CA
 - 2862Lac_001DAA6C3258
 - Training-Seven Hills(0)

Setting | Map

+ Add New Network | Delete This Network | Change Network

Network ID: 3

Name: Brisbane

Location: Brisbane - AUstralia

User Name: brisbane

Password: password

Save

5.3 Router TR-069 Setting

Ensure that both “TR069 Server” and “Allow management from the Internet” are enabled

Auto Logout ▾ IPv6

Firewall
User Management
Objects Setting
CSM
Bandwidth Management
Applications
VPN and Remote Access
Certificate Management
SSL VPN
USB Application
System Maintenance
System Status
TR-069
Administrator Password
User Password
Login Page Greeting
Configuration Backup
SysLog / Mail Alert
Time and Date
SNMP
Management
Panel Control
Self-Signed Certificate
Reboot System
Firmware Upgrade
Firmware Backup
Activation
Internal Service User List
Diagnostics

System Maintenance >> Management

IPv4 Management Setup

IPv6 Management Setup

Router Name DrayTek

☒ Default:Disable Auto-Logout
☐ Enable Validation Code in Internet/LAN Access

Internet Access Control
☒ Allow management from the Internet
Domain name allowed

☐ FTP Server
☒ HTTP Server
☒ HTTPS Server
☒ Telnet Server
☒ TR069 Server
☐ SSH Server
☒ Disable PING from the Internet

Management Port Setup
☒ User Define Ports ☐ Default Ports
Telnet Port 23 (Default: 23)
HTTP Port 80 (Default: 80)
HTTPS Port 443 (Default: 443)
FTP Port 21 (Default: 21)
TR069 Port 8069 (Default: 8069)
SSH Port 22 (Default: 22)

TLS/SSL Encryption Setup
☒ Enable TLS 1.2
☒ Enable TLS 1.1
☒ Enable TLS 1.0
☐ Enable SSL 3.0

5.3 Router TR-069 Setting

Auto Logout ▾ IP6

Dashboard
Wizards
Online Status

WAN
LAN
Hotspot Web Portal
Routing
NAT
Hardware Acceleration
Firewall
User Management
Objects Setting
CSM
Bandwidth Management
Applications
VPN and Remote Access
Certificate Management
LTE
Wireless LAN (2.4 GHz)
Wireless LAN (5 GHz)
SSL VPN
USB Application
System Maintenance
System Status
TR-069
Administrator Password
User Password
Login Page Greeting
Configuration Backup
SysLog / Mail Alert
Time and Date

Admin mode
Status: Ready

ACS and CPE Settings

Export Parameters

Tr069 ☐ Disable ☒ Enable

ACS Server On Internet ▾

ACS Server

URL http://192.168.100.94:80/ACSServer/services/ACSServlet ⓘ Wizard

☐ Acquire URL from DHCP option 43

Username acs

Password ⓘ

Test With Inform Event Code PERIODIC ▾

Last Inform Response Time :Wed May 9 7:23:3 2018 ●

CPE Client

☒ Http ☐ Https

URL http://192.168.100.35:8069/cwm/CRN.html

Port 8069

Username vigor

Password ⓘ

Periodic Inform Settings

☒ Disable ☐ Enable

Interval Time 900 second(s)

STUN Settings

☐ Disable ☒ Enable

Server Address http://192.168.100.94

Server Port 3478

6. Exercises

page 44



Q3. Teaser question

What are the 5 levels of User management in ACS 2 ?

- 1. System Administrator**
- 2. Group Administrator**
- 3. Administrator**
- 4. Operator**
- 5. View Only - Operator**

6. Exercises

Exercise 1 – Configure CPE devices and register to VigorACS 2

Configuration of all CPE devices for Remote Management and then set the TR069 parameters for registration onto ACS server

Refer to Section 6
Pages 52 – 56 for instructions

DrayTek Vigor2862 Series

System Maintenance >> Management

IPv4 Management Setup

Router Name: DrayTek

☐ Default: Disable Auto-Logout
☐ Enable Validation Code in Internet/LAN Access

Internet Access Control

☒ Allow management from the Internet
 Domain name allowed:

☐ FTP Server
☒ HTTP Server ☐ Enforce HTTPS Access
☒ HTTPS Server
☐ Telnet Server
☒ TR069 Server
☐ SSH Server
☐ SNMP Server
☒ Disable PING from the Internet

Management Port Setup

☒ User Define Ports ☐ Default Ports

Telnet Port: (Default: 23)
 HTTP Port: (Default: 80)
 HTTPS Port: (Default: 443)
 FTP Port: (Default: 21)
 TR069 Port: (Default: 8069)
 SSH Port: (Default: 22)

Brute Force Protection

☐ Enable brute force login protection
☐ FTP Server
☐ HTTP Server
☐ HTTPS Server
☐ Telnet Server
☐ TR069 Server
☐ SSH Server

Maximum login failures: times
 Penalty period: seconds

Access List from the Internet

List	Index in IP Object	IP / Mask
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

TLS/SSL Encryption Setup

☒ Enable TLS 1.2
☒ Enable TLS 1.1
☒ Enable TLS 1.0
☐ Enable SSL 3.0

CVM Access Control

☐ CVM Port: (Default: 8000)
☐ CVM SSL Port: (Default: 8443)

AP Management

☒ Enable AP Management

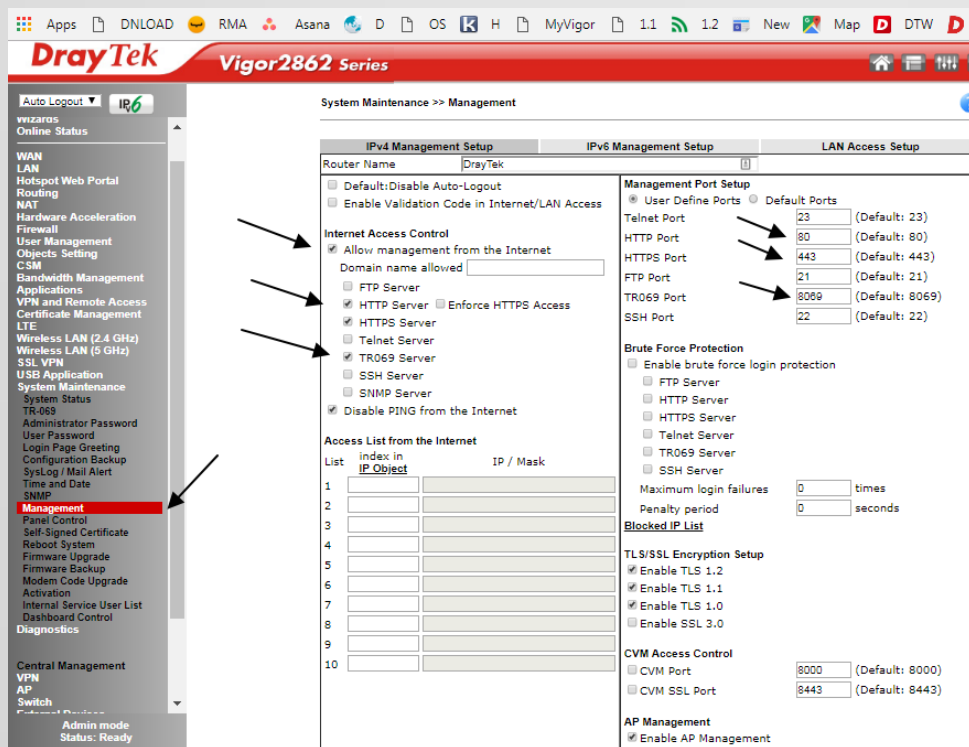
6. Exercises Hands on Exercise 1

Exercise 1.1 – Configure CPE devices and register to VigorACS 2

2862Lac – Enable Remote management

Step 1: Plug the notebook to 2862Lac -Type 192.168.1.1 on the web browser to connect

Step 2: Go to System Maintenance >> Management – Tick “ Allow Management from Internet” and check the arrows–Click OK to save



Refer to Section 6.4
Pages 52 for instructions

6. Exercises Hands on Exercise 1

Exercise 1.1 – 2862Lac – Configure CPE Client settings & test connection

Step 4: Stay on the same System Maintenance >> TR069 setting – Follow Arrows 1-12

Tricky part for those using the same Notebook for both ACS server and configuration of CPEs. The green light will not appear until you remove the patch cable from the 2862Lac to the switch.

Step 5 : Click on Test with Inform Button – Green Indicator will light up if ACS 2 responded- see 11-12

ACS server in example
has IP=192.168.100.94
But use your own IP

use STUN server if the
CPE devices are behind
NAT or firewall

6. Exercises Hands on Exercise 1

Exercise 1.1 – 2862Lac – Configure CPE Client settings & test connection

Step 5 b : set the STUN for the AP with the Server IP address – Follow the arrows

The screenshot shows the DrayTek Vigor2862 Series configuration web interface. The left sidebar contains a menu with various configuration options, including 'Auto Logout', 'IR6', 'Dashboard', 'Wizards', 'Online Status', 'WAN', 'LAN', 'Hotspot Web Portal', 'Routing', 'NAT', 'Hardware Acceleration', 'Firewall', 'User Management', 'Objects Setting', 'CSM', 'Bandwidth Management', 'Applications', 'VPN and Remote Access', 'Certificate Management', 'LTE', 'Wireless LAN (2.4 GHz)', 'Wireless LAN (5 GHz)', 'SSL VPN', 'USB Application', 'System Maintenance', 'System Status', 'TR-069', 'Administrator Password', 'User Password', 'Login Page Greeting', 'Configuration Backup', 'SysLog / Mail Alert', 'Time and Date', 'SNMP', 'Management', 'Panel Control', 'Self-Signed Certificate', 'Admin mode', and 'Status: Ready'.

The main configuration area is divided into several sections:

- Periodic Inform Settings:** Includes radio buttons for 'Http' and 'Https', a 'URL' field (http://192.168.100.35:8069/cwm/CRN.html), 'Port' (8069), 'Username' (vigor), and 'Password' (masked).
- STUN Settings:** Includes radio buttons for 'Disable' and 'Enable', 'Server Address' (192.168.100.181), 'Server Port' (3478), 'Minimum Keep Alive Period' (60 second(s)), and 'Maximum Keep Alive Period' (-1 second(s)).
- Apply Settings to APs:** Includes radio buttons for 'Disable' and 'Enable', 'AP Password' (masked), a checked checkbox for 'Apply Specific STUN Settings to APs', radio buttons for 'Disable' and 'Enable', 'Server Address' (192.168.100.181), 'Server Port' (3478), 'Minimum Keep Alive Period' (60 second(s)), and 'Maximum Keep Alive Period' (-1 second(s)).
- Bandwidth Utilisation Notification Settings:** Includes radio buttons for 'Disable' and 'Enable', and a 'Time Period' dropdown set to '15 mins'.

Numbered arrows (1-6) point to specific fields: 1 points to the 'Interval Time' field (900 second(s)), 2 points to the 'Apply Settings to APs' section, 3 points to the 'AP Password' field, 4 points to the 'Apply Specific STUN Settings to APs' checkbox, 5 points to the 'Enable' radio button, and 6 points to the 'Server Address' field (192.168.100.181).

Note: Please turn off Hardware Acceleration in the router to receive Alerts Notifications,

6. Exercises Hands on Exercise 1

Exercise 1.2 – Configure CPE devices and register to VigorACS 2

2926-A – Enable Remote management

Step 1: Plug the notebook to 2926-A Type 192.168.10.1 on the web browser to connect to the 2926-A

Step 2: Go to System Maintenance >> Management – Tick “ Allow Management from Internet” and check the red Boxes

Step 2b : connect the 2926 A to the switch - use the WAN 2 Ethernet port

System Maintenance >> Management

IPv4 Management Setup	IPv6 Management Setup
Router Name DrayTek	
☒ Default: Disable Auto-Logout ☐ Enable Validation Code in Internet/LAN Access	Management Port Setup ☒ User Define Ports ☐ Default Ports
Internet Access Control ☒ Allow management from the Internet Domain name allowed	Telnet Port 23 (Default: 23) HTTP Port 80 (Default: 80) HTTPS Port 443 (Default: 443) FTP Port 21 (Default: 21) TR069 Port 8069 (Default: 8069) SSH Port 22 (Default: 22)
☐ FTP Server ☒ HTTP Server ☒ HTTPS Server ☒ Telnet Server ☒ TR069 Server ☐ SSH Server ☒ Disable PING from the Internet	TLS/SSL Encryption Setup ☒ Enable TLS 1.2 ☒ Enable TLS 1.1 ☒ Enable TLS 1.0 ☐ Enable SSL 3.0

6. Exercises Hands on Exercise 1

Exercise 1.2 – Configure CPE devices and register to VigorACS 2

2926-A – Configure TR069

Step 3: Go to System Maintenance >> TR069 setting – Tick “ Enable ” then click on the Wizard box and enter the ACS 2 server url eg 192.168.100.94

Refer to Section 6.4
Pages 52 for instructions

6. Exercises Hands on Exercise 1

Exercise 1.2 – Configure CPE devices and register to VigorACS 2

2926-A – Configure CPE Client settings & test connection

Step 4: Check the arrows 1- 5 below username =acs password = password - see arrows 1-2

Step 5 : Click on Test with Inform Button – Green Indicator will light up if ACS 2 responded-

DrayTek Vigor Series

Auto Logout IR6

Dashboard
Wizards
Online Status

WAN
LAN
Hotspot Web Portal
Routing
NAT
Hardware Acceleration
Firewall
User Management
Objects Setting
CSM
Bandwidth Management
Applications
VPN and Remote Access
Certificate Management
SSL VPN
USB Application
System Maintenance
System Status
TR-069
Administrator Password
User Password
Login Page Greeting
Configuration Backup
SysLog / Mail Alert
Time and Date
SNMP
Management
Panel Control
Admin mode

ACS Server

URL Wizard

☐ Acquire URL from DHCP option 43

Username **1**

Password **2**

Event Code

Last Inform Response Time :Thu May 10 4:56:38 2018 ●

CPE Client

☒ Http ☐ Https **3**

URL

Port

Username

Password

Periodic Inform Settings

☒ Disable ☐ Enable

Interval Time second(s)

STUN Settings

☐ Disable ☒ Enable **4**

Server Address **5**

Server Port

Minimum Keep Alive Period second(s)

Maximum Keep Alive Period second(s)

6. Exercises Hands on Exercise 1

Exercise 1.2 – Configure CPE devices and register to VigorACS 2

2926-B – Enable Remote management

Step 1: Plug the notebook to 2926-B Type 192.168.10.1 on the web browser to connect to the 2926-B

Step 2: Go to System Maintenance >> Management – Tick “Allow Management from Internet” and check the red Boxes

Step 2b : connect the 2926 B to the switch - use the WAN 2 Ethernet port

System Maintenance >> Management

IPv4 Management Setup	IPv6 Management Setup
Router Name DrayTek	
☒ Default:Disable Auto-Logout ☐ Enable Validation Code in Internet/LAN Access	Management Port Setup ☒ User Define Ports ☐ Default Ports
Internet Access Control ☒ Allow management from the Internet Domain name allowed	Telnet Port 23 (Default: 23) HTTP Port 80 (Default: 80) HTTPS Port 443 (Default: 443) FTP Port 21 (Default: 21) TR069 Port 8069 (Default: 8069) SSH Port 22 (Default: 22)
☐ FTP Server ☒ HTTP Server ☒ HTTPS Server ☒ Telnet Server ☒ TR069 Server ☐ SSH Server ☒ Disable PING from the Internet	TLS/SSL Encryption Setup ☒ Enable TLS 1.2 ☒ Enable TLS 1.1 ☒ Enable TLS 1.0 ☐ Enable SSL 3.0

6. Exercises Hands on Exercise 1

Exercise 1.2 – Configure CPE devices and register to VigorACS 2

2926-B – Configure TR069

Step 3: Go to System Maintenance >> TR069 setting – Tick “ Enable ” then click on the Wizard box and enter the ACS 2 server url eg 192.168.100.94

The screenshot displays the DrayTek Vigor2926 Series web interface. The sidebar on the left lists various system settings, with 'System Maintenance' and 'TR-069' highlighted. The main panel shows the 'TR-069 Setting' configuration. The 'Tr069' status is set to 'Enable'. The 'ACS Server On' dropdown is set to 'Internet'. The 'ACS Server URL' is configured as 'http://192.168.100.94:80/ACSServer/services/ACSServlet'. A 'Wizard' button is available next to the URL field. The 'Username' is 'acs' and the 'Password' is masked. A 'Default ACS URL - Google Chrome' dialog box is open, showing the URL 'https://192.168.100.65/doc/defaulturl.htm' and fields for 'Server' (192.168.100.94), 'Port' (80), and 'Handler' (/ACSServer/services/ACSServlet). The 'Interval Time' is set to 900 seconds.

6. Exercises Hands on Exercise 1

Exercise 1.2 – Configure CPE devices and register to VigorACS 2

2926-B – Configure CPE Client settings & test connection

Step 4: Check the arrows 1- 5 below username =acs password = password - see arrows 1-2

Step 5 : Click on Test with Inform Button – Green Indicator will light up if ACS2 server is connected to the switch

DrayTek Vigor Series

Auto Logout IR6

Dashboard
Wizards
Online Status

WAN
LAN
Hotspot Web Portal
Routing
NAT
Hardware Acceleration
Firewall
User Management
Objects Setting
CSM
Bandwidth Management
Applications
VPN and Remote Access
Certificate Management
SSL VPN
USB Application
System Maintenance
System Status
TR-069
Administrator Password
User Password
Login Page Greeting
Configuration Backup
SysLog / Mail Alert
Time and Date
SNMP
Management
Panel Control
Admin mode

ACS Server

URL Wizard

☐ Acquire URL from DHCP option 43

Username ← 1

Password ← 2

Event Code

Last Inform Response Time :Thu May 10 4:56:38 2018 ●

CPE Client

☒ Http ← 3 ☐ Https

URL

Port

Username

Password

Periodic Inform Settings

☒ Disable ☐ Enable

Interval Time second(s)

STUN Settings

☐ Disable ☒ Enable ← 4

Server Address ← 5

Server Port

Minimum Keep Alive Period second(s)

Maximum Keep Alive Period second(s)

6. Exercises

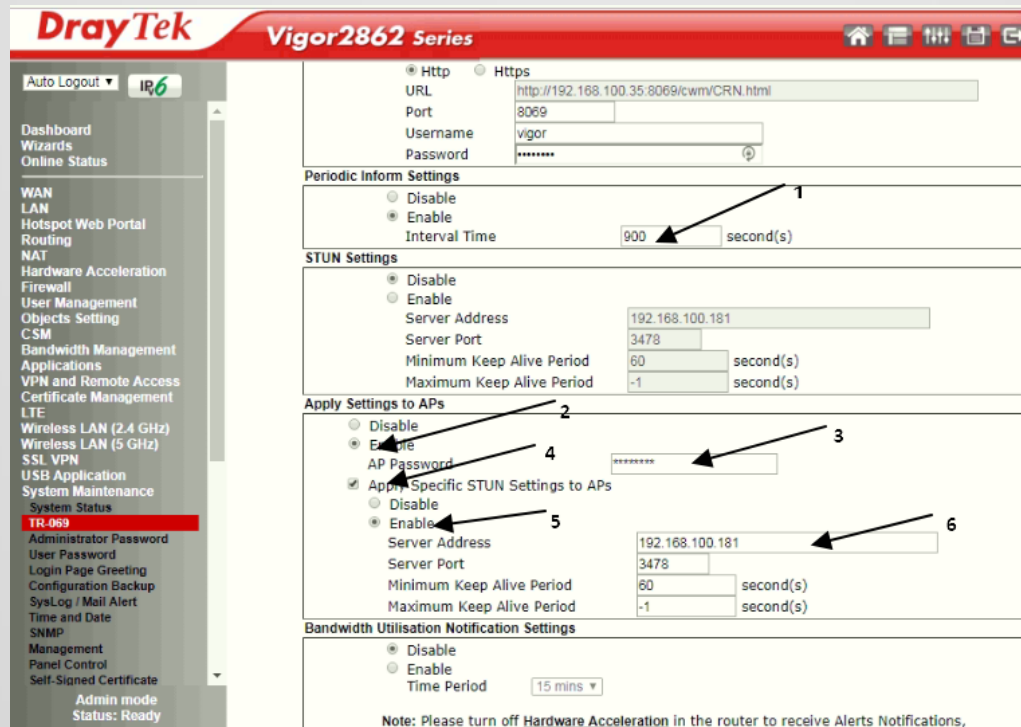
Exercise 1.4 – Configure CPE devices and register to VigorACS 2

AP902 – Enable Remote management

Step 1: Connect LAN port 4 of the 2862Lac to the AP 902 LAN A using a patch cable

Step 2: The connection to the ACS 2 server will be done automatically

Remember the settings of the 2862Lac- Apply settings to AP



The screenshot shows the DrayTek Vigor2862 Series configuration interface. The left sidebar contains a menu with options like Dashboard, WAN, LAN, and System Maintenance. The main content area is titled 'Vigor2862 Series' and contains several configuration sections. The 'Apply Settings to APs' section is highlighted with numbered annotations:

- 1: Points to the 'Periodic Inform Settings' section, specifically the 'Interval Time' field set to 900 seconds.
- 2: Points to the 'Apply Settings to APs' section, specifically the 'Enable' radio button.
- 3: Points to the 'AP Password' field.
- 4: Points to the 'AP Password' field.
- 5: Points to the 'Enable' radio button under 'Apply Specific STUN Settings to APs'.
- 6: Points to the 'Server Address' field.

Other visible settings include:

- Periodic Inform Settings:** Enable (selected), Interval Time: 900 second(s).
- STUN Settings:** Enable (selected), Server Address: 192.168.100.181, Server Port: 3478, Minimum Keep Alive Period: 60 second(s), Maximum Keep Alive Period: -1 second(s).
- Apply Settings to APs:** Enable (selected), AP Password: [redacted], Apply Specific STUN Settings to APs: Enable (selected).
- Bandwidth Utilisation Notification Settings:** Enable (selected), Time Period: 15 mins.

Note: Please turn off Hardware Acceleration in the router to receive Alerts Notifications,

6. Exercises Network Configuration- Prepare ACS server

Connect to ACS server

Step 1: Open the web browser -Type localhost or the URL of ACS2 Server 192.168.100.181

Step 2: Type Username = training Password = xyz123

The image illustrates the connection to the DrayTek VigorACS 2 server. On the left, a login form titled "Login to VigorACS 2" is shown. It contains fields for "root" (username), "6934" (password), and a "Remember me" checkbox. A red "Login" button is at the bottom. Below the button, it says "Copyright © 2017 DrayTek Corp. All Rights Reserved." A blue arrow points from the login form to the VigorACS 2 dashboard on the right. The dashboard is titled "DrayTek VigorACS2" and shows a "Root Network" overview. It includes a sidebar menu with options like "Dashboard", "Statistics", "Monitoring", "Configuration", "Maintenance", "Reports", "Provisioning", "Network Management", "System", "User", and "About". The main content area displays network status cards for "Root Network" and "ILAN_Networ...", a map overview, and active clients/traffic statistics.

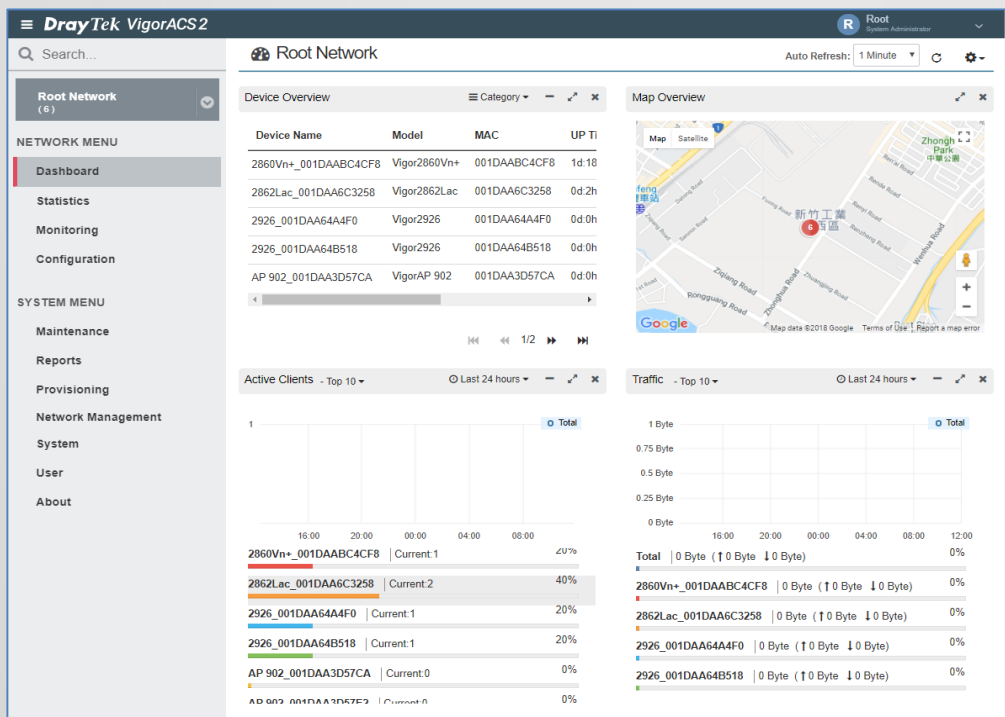
Fig 3

6. Exercises

Exercise 1.5 – Verify if CPE devices have registered to ACS2

Step 3 : Click on the Root network and you should see 4 CPE devices listed.

*Statistics for registered devices will also be displayed on this page as well as the Map Overview.
The map does not show the local area and this will be configured in the next exercise*



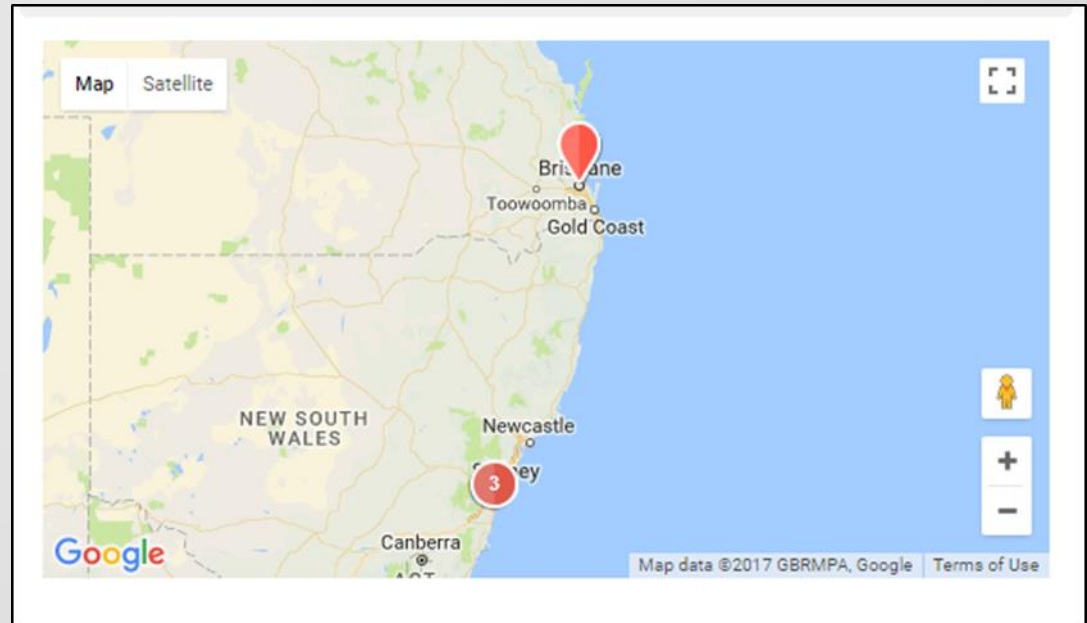
At the bottom of the Root Network page is a list of new devices registered with ACS 2. By default, they all appear under the root network.

New Devices			
Action	IP Address	Device Name	Device Type
+	192.168.101.71:80	2926_001DAA64A4F0	Vigor2926
+	192.168.101.70:80	2926_001DAA64B518	Vigor2926
+	192.168.1.2:80	AP 902_001DAA3D57CA	VigorAP 902

6. Exercises

Exercise 2 – Managing CPE Devices in VigorACS 2

Create two networks
(Brisbane & Training Lab)
And assign CPE devices to
networks



Refer to Section 7
Pages 58 – 61 for instructions

7. Exercises

Managing CPE devices in VigorACS2

Exercise 2.1 – Creating Networks in ACS 2

Step 2 : Click on Network Management >> Add New network

Step 3: Add full details : Training Lab – seven Hills - username =acs1
password = password- click on Save

Step 4: do same for Brisbane network enter the full : Brisbane Network
– Brisbane , Queensland username =acs1 password = password-
click on Save

Seven Hills network

Brisbane Network

Add location details so it will
appear on the Map

7. Exercises

Managing CPE devices in VigorACS2

Exercise 2.2 – Move CPE Devices into the Networks

Step 4: Check Root network – It should look like fig 1 with the two networks on top and the devices listed below. See fig 1

Step 5: Changing the TR069 “ACS server username” in the CPE settings to the username for each network will move the device to that network when it registers for eg Change Username of 2862Lac to acs 1 and it will move it to Seven Hills Network - See fig2

Step 6: click on the 2862Lac – set device from unknown to known -see fig 3 .

Fig 2

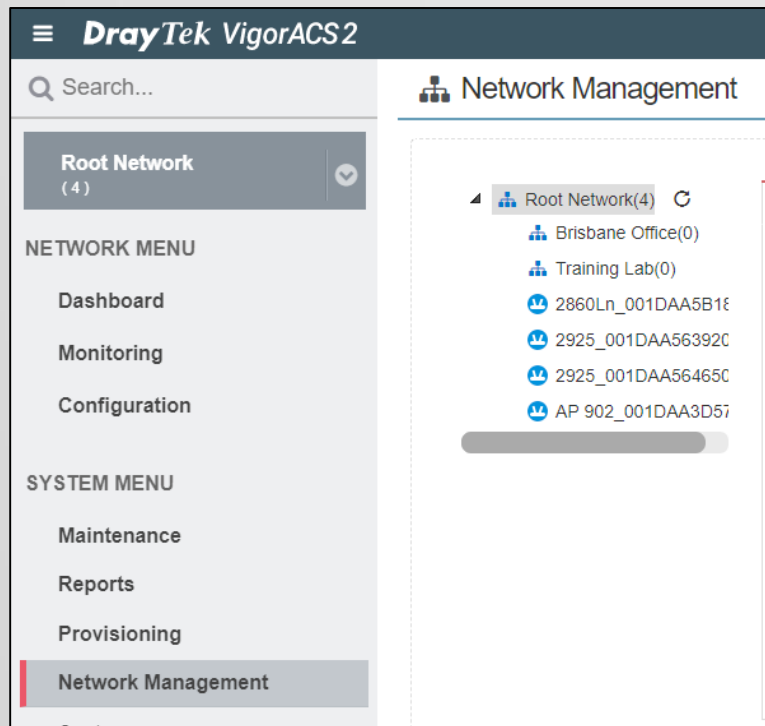


Fig 1

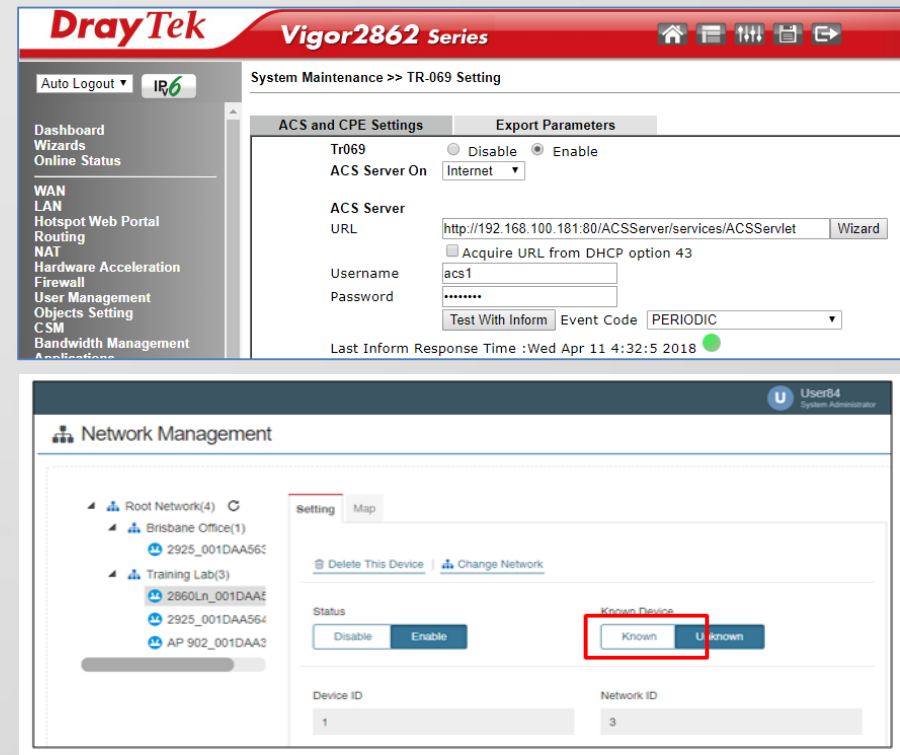


Fig 3
Click
Known
for each
Device -
save

7. Exercises Managing CPE devices in VigorACS2

Exercise 2.2– Moving CPE devices into networks (contd)

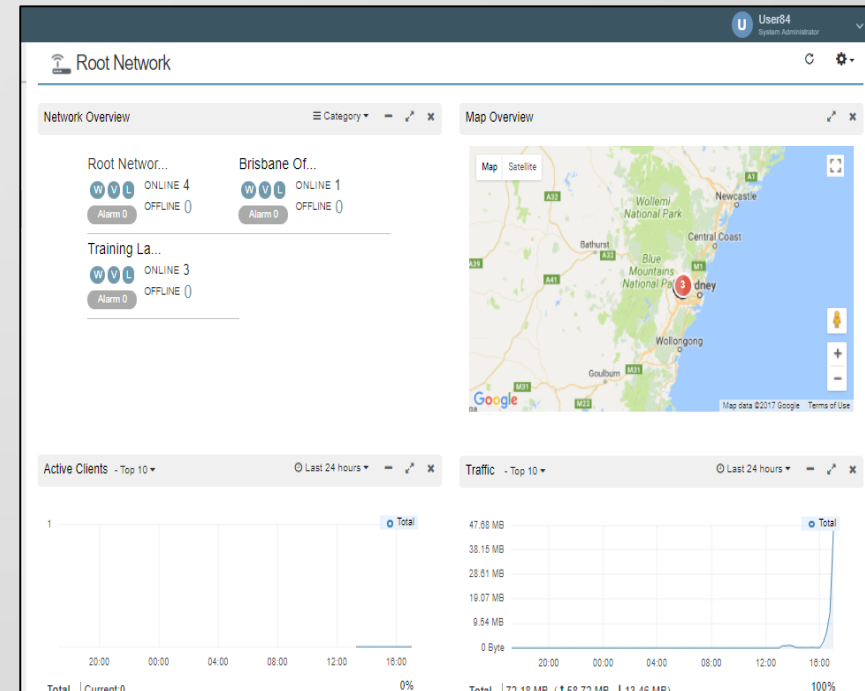
Step 7: add the address 128 Station rd Seven Hills NSW Australia

Step 8 : Select 2926A click Known device and add the address Seven Hills NSW Australia

Step 9: Select AP 902 click Known device and add the address Seven Hills NSW Australia

Step 10: Select 2926B in Brisbane - click Known device and finally add the address Brisbane , Queensland

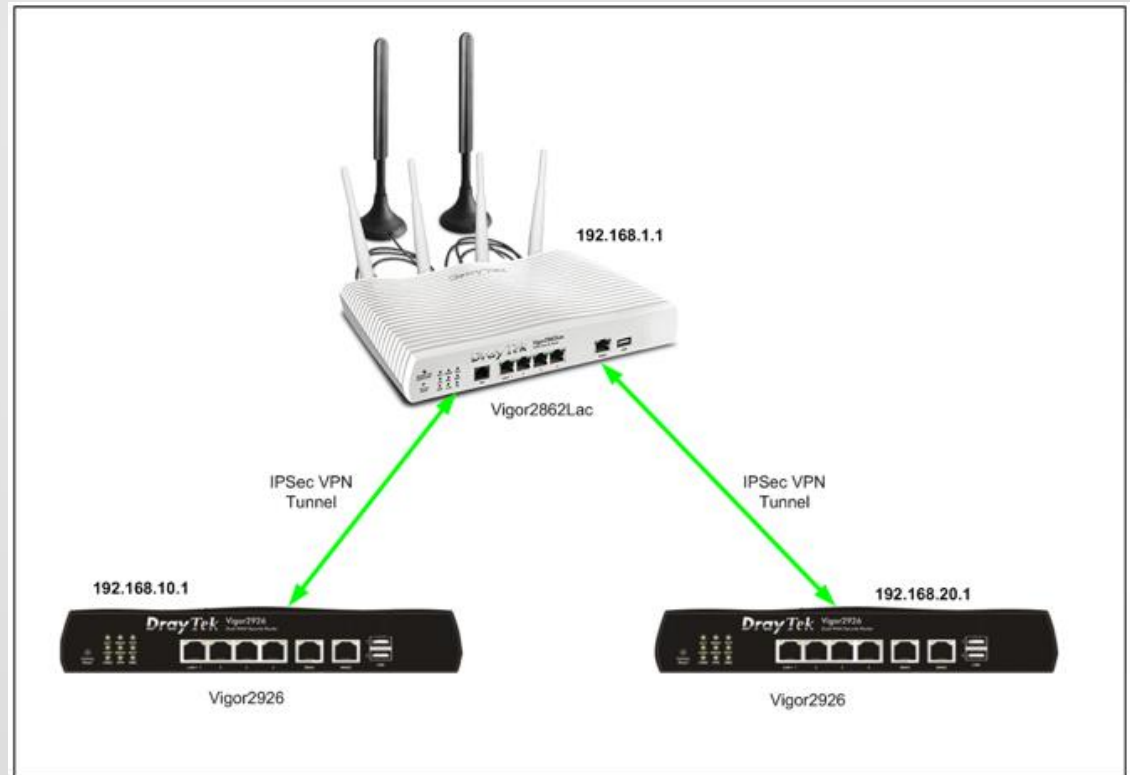
Dashboard View when set up Complete



8. Exercises

Exercise 3 – Create VPN Tunnels Using VigorACS 2

Create two VPN tunnels from Vigor2860Ln and the Vigor2925 routers.



Refer to Section 8

Pages 65 – 68 for instructions

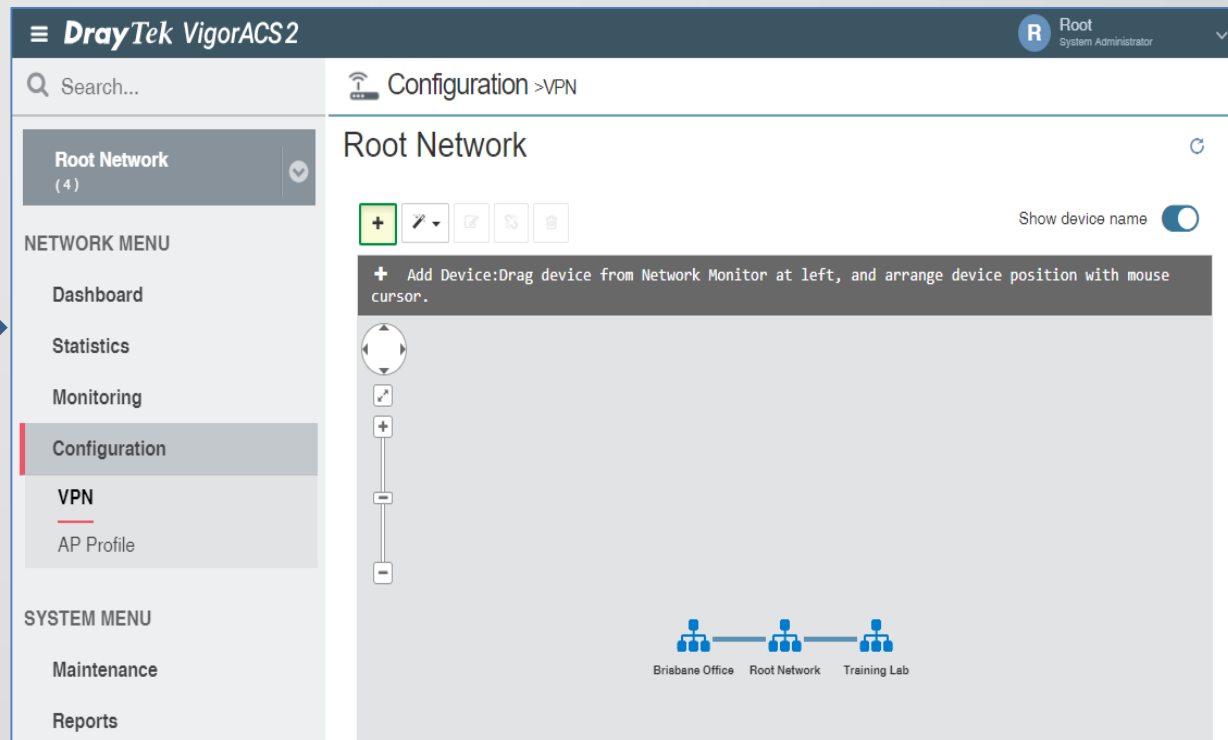
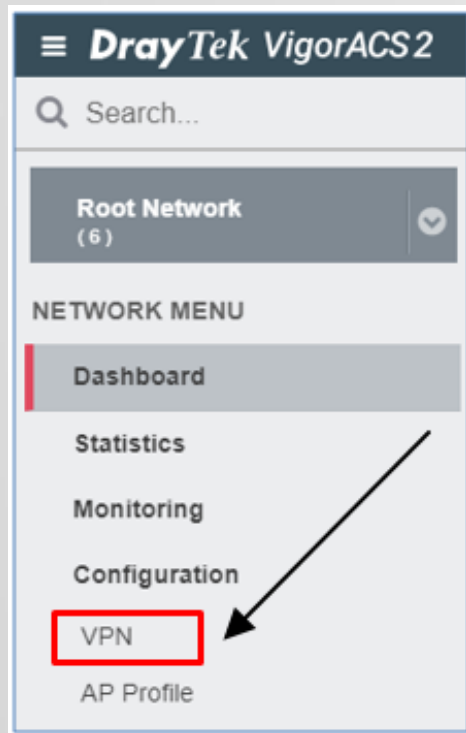
8. Exercises

Create VPN Tunnels using VigorACS2

Exercise 3 – Create 2 VPN Tunnels between the routers

Step 1: In Vigor ACS2 Menu – click on Root Network >Configuration >> VPN- see page showing VPN configuration for root Network

Pg 65 -Notes

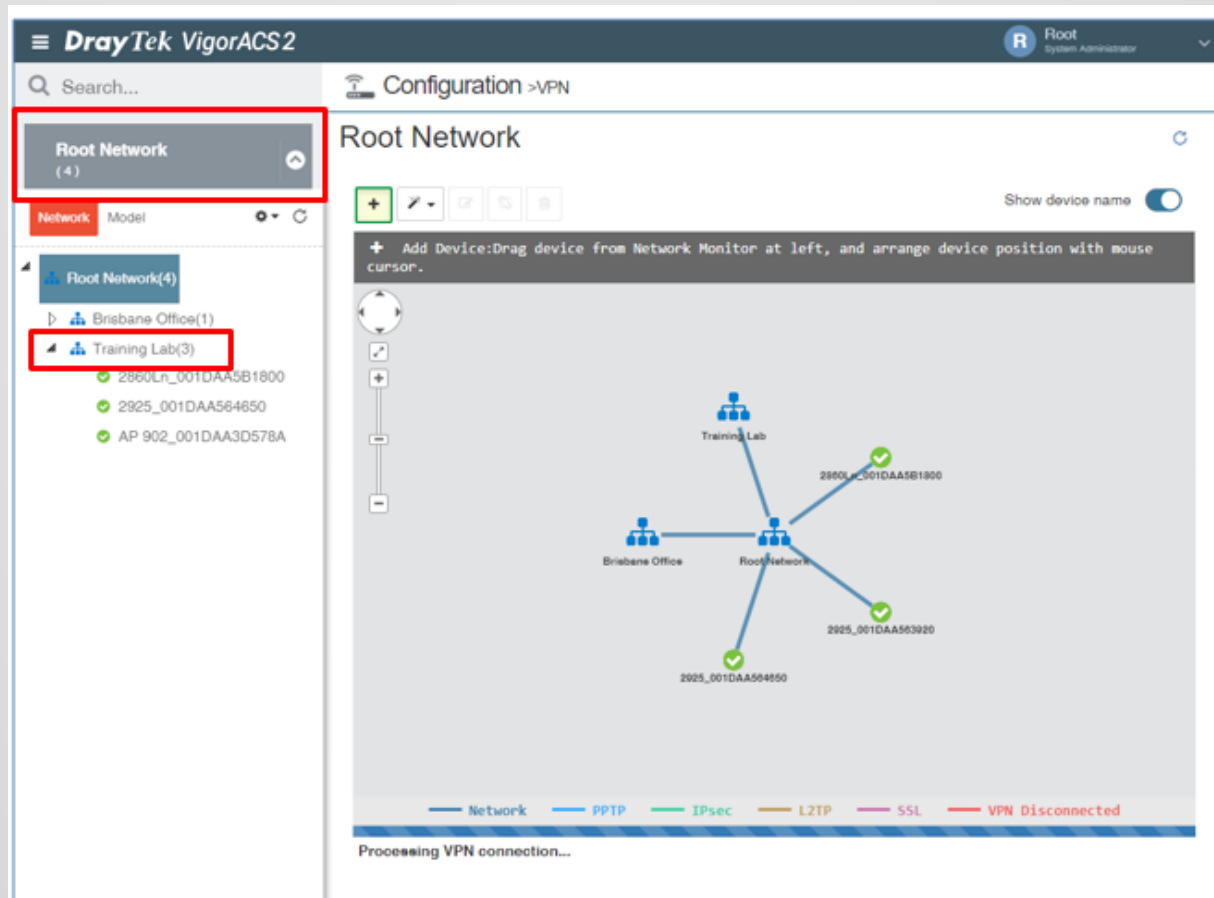


8. Exercises

Create VPN Tunnels using VigorACS2

Exercise 3 – Create 2 VPN Tunnels between the routers

Step 2: Now click on the Root Network at the top of the Menu and expand the networks as shown below.
You should see the routers appear in the diagram



8. Exercises **Create VPN Tunnels using VigorACS2**

Exercise 3 – Create 2 VPN Tunnels between the routers

Step 3 : Click on [+] to start adding devices to the VPN configuration page

Step 4 : Select the Vigor2862Lac router from the Training Lab network and drag into the VPN configuration page.

Step 5 : Similarly click the Vigor2925 router from the Brisbane network and drag to the VPN configuration page.

Step 6 : Click on the pull-down menu and select IPSEC Wizard – see fig 2

Fig 1

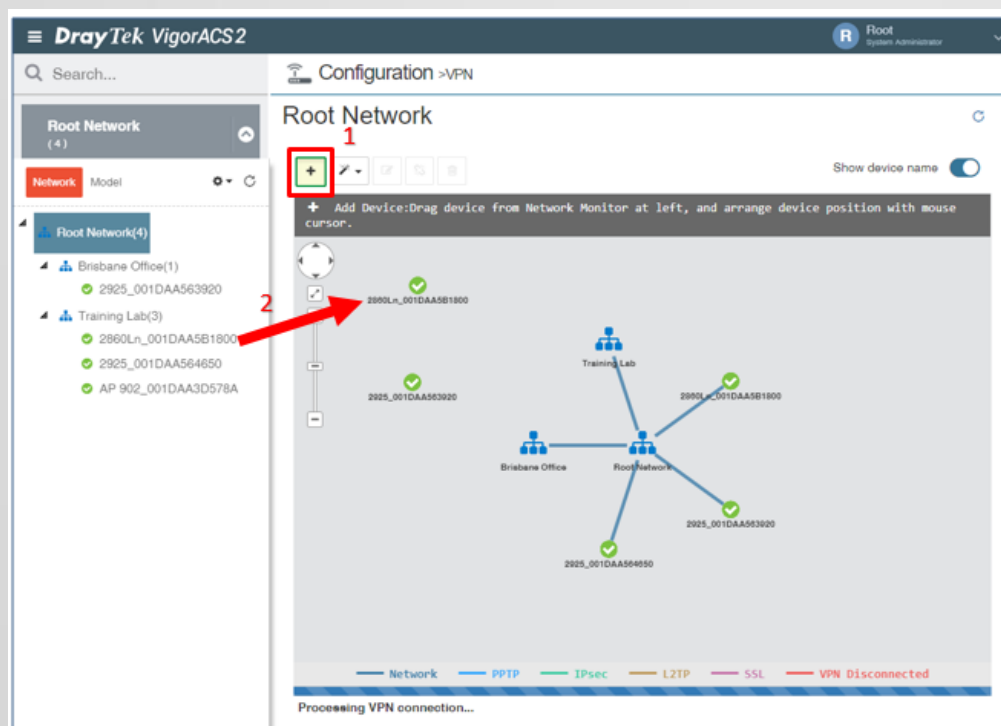
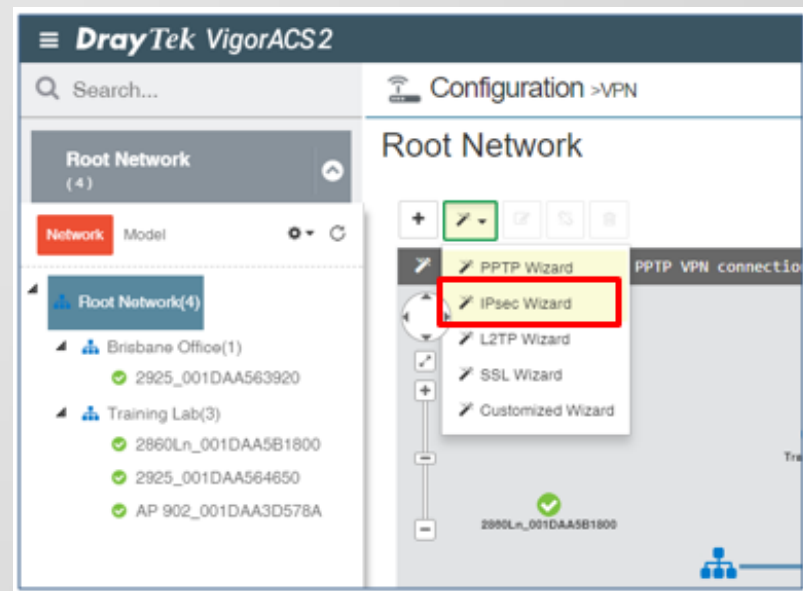


Fig 2

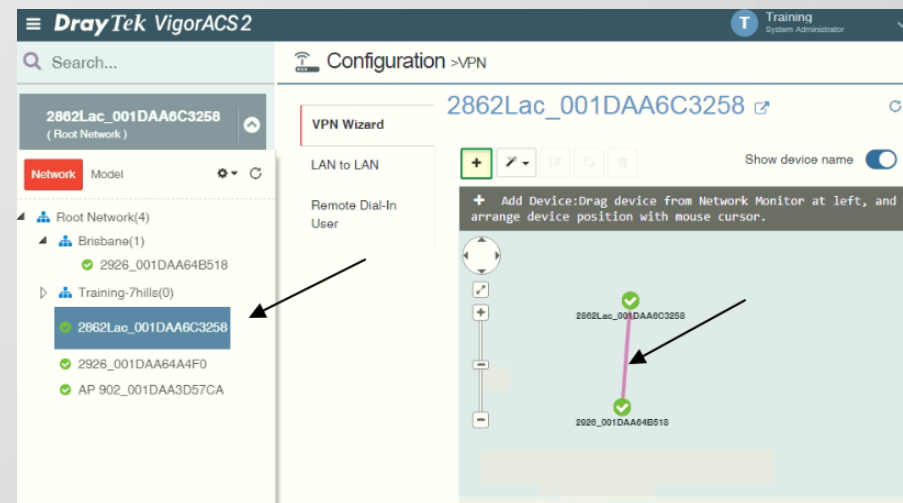
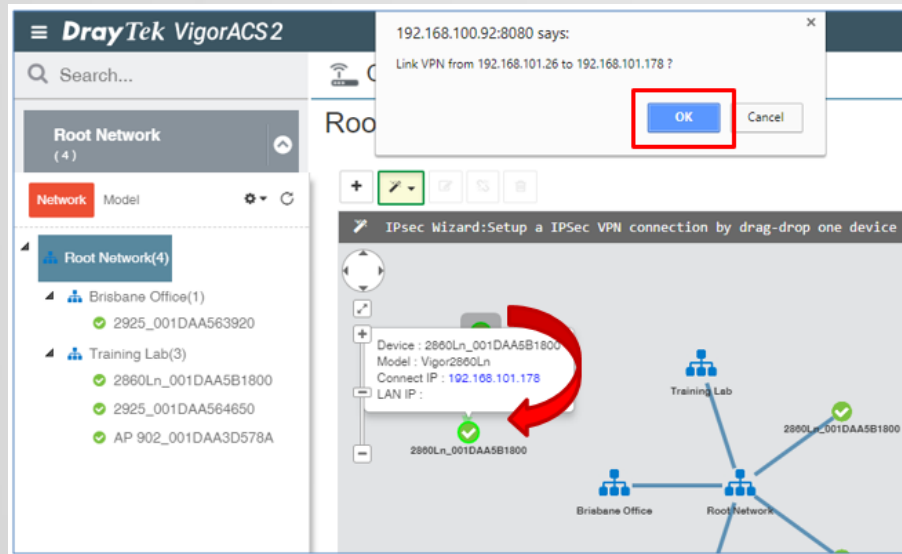


8. Exercises

Create VPN Tunnels using VigorACS2

Exercise 3 – Create 2 VPN Tunnels between the routers

- Step 7 :** Place mouse over the Vigor2862Lac router icon and drag over the Vigor2926 router icon –keep the mouse left click pressed on while dragging.
- Step 8 :** You should see a message appear indicating the VPN tunnel is being created.
- Step 9 :** Click OK to create the VPN tunnel. This will take around 15 secs
- Step 10 :** Similarly create a VPN tunnel between the Vigor2862Lac and the other Vigor2926 router.
click on the 2862LAC and You should see the VPN tunnels appear between the routers. The coloured lines indicate the type of VPN tunnel. (You may wish to select a different VPN type, e.g. SSL)

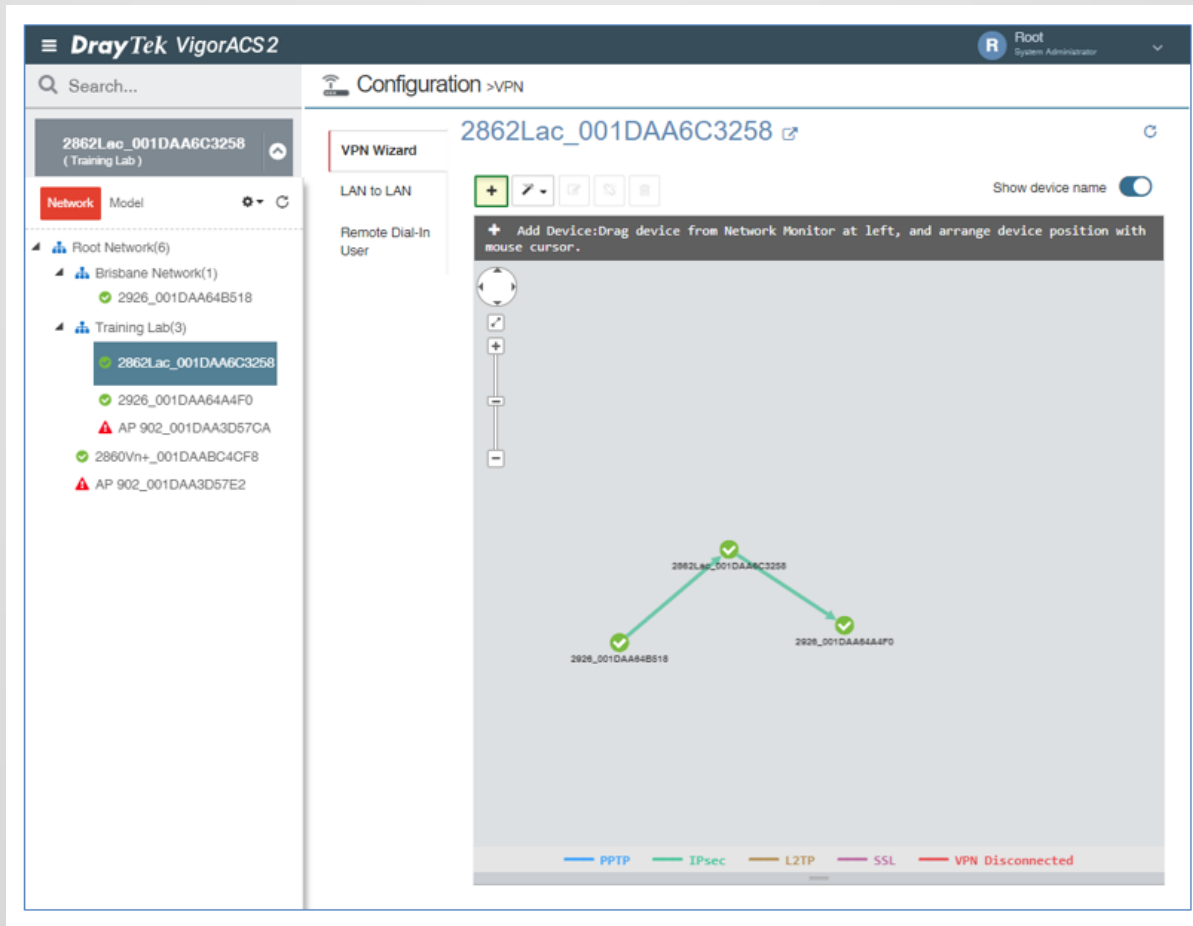


8. Exercises

Create VPN Tunnels using VigorACS2

Exercise 3 – Create 2 VPN Tunnels between the routers

Step 11: Click on the Vigor2860Ln router in the Training Lab network to see all the VPN tunnels originating from this router.



8. Exercises

Exercise 3 b—

Create VPN Tunnels using VigorACS2

Check VPN tunnel Configuration in the Routers



Step 1: Go to the Root Network Dashboard and click on the IP address of the 2862Lac to log in -

Step 2: Go to VPN and Remote Access >> LAN to LAN menu. You should see two VPN profiles that have been created. See fig 1.

Step 3: Go to VPN and Remote Access >> Connection Management and see the 2 VPNs listed in green –see fig 2

Fig 1

Fig 2

DrayTek

Vigor2862 Series

Auto Logout IP6

VPN and Remote Access >> LAN to LAN

LAN-to-LAN Profiles: Set to Factory Default

View: All Trunk

Index	Name	Active	Status	Index	Name	Active	Status
1.	i_4F0_258	☒	Online	17.	???	☐	---
2.	i_258_518	☒	Online	18.	???	☐	---
3.	???	☐	---	19.	???	☐	---
4.	???	☐	---	20.	???	☐	---
5.	???	☐	---	21.	???	☐	---
6.	???	☐	---	22.	???	☐	---
7.	???	☐	---	23.	???	☐	---
8.	???	☐	---	24.	???	☐	---
9.	???	☐	---	25.	???	☐	---
10.	???	☐	---	26.	???	☐	---
11.	???	☐	---	27.	???	☐	---
12.	???	☐	---	28.	???	☐	---
13.	???	☐	---	29.	???	☐	---
14.	???	☐	---	30.	???	☐	---

DrayTek

Vigor2862 Series

Auto Logout IP6

VPN and Remote Access >> Connection Management

Dial-out Tool

General Mode: (i_4F0_258) 192.168.101.71 Dial

Backup Mode: Dial

Load Balance Mode: Dial

VPN Connection Status

LAN-to-LAN VPN Status				Remote Dial-in User Status				
VPN	Type	Remote IP	Virtual Network	Tx Pkts	Tx Rate(bps)	Rx Pkts	Rx Rate(bps)	UpTime
1 (i_4F0_258)	IPsec Tunnel 3DES-No Auth	192.168.101.71 via WAN2	192.168.10.0/24	0	0	2	24	0:3:25 Drop
2 (i_258_518)	IPsec Tunnel 3DES-No Auth	192.168.101.70 via WAN2	192.168.20.0/24	0	0	1	24	0:1:57 Drop

xxxxxxxx : Data is encrypted.
xxxxxxxx : Data isn't encrypted.

8. Exercises

Exercise 3c – Create VPN Tunnels using VigorACS2

Check VPN tunnel Configuration in the Routers



- Step 1: Go to the Root network Dashboard and click on the IP address to Log into the Vigor2926A .
- Step 2: Go to VPN and Remote Access >> LAN to LAN menu. You should see the VPN profile 1 that has been created. See fig 1.
- Step 3: Go to VPN and Remote Access >> Connection Management and see the VPN listed in green –see fig 2

Fig 1

Fig 2

DrayTek

Vigor2926 Series

Auto Logout

IP6

Dashboard

Wizards

Online Status

WAN

LAN

Hotspot Web Portal

Routing

NAT

Hardware Acceleration

VPN and Remote Access >> LAN to LAN

LAN-to-LAN Profiles: [Set to Factory Default](#)

View: ☒ All ☐ Online ☐ Offline ☐ Trunk

Index	Name	Active	Status	Index	Name	Active	Status
1.	i_258_4F0	☒	Online	17.	???	☐	---
2.	???	☐	---	18.	???	☐	---
3.	???	☐	---	19.	???	☐	---

VPN and Remote Access >> Connection Management

Dial-out Tool

General Mode: (i_258_4F0) 192.168.101.64

Backup Mode:

Load Balance Mode:

VPN Connection Status

LAN-to-LAN VPN Status

Remote Dial-in User Status

VPN	Type	Remote IP	Virtual Network	Tx Pkts	Tx Rate(Kbps)	Rx Pkts	Rx Rate(Kbps)	UpTime
1	IPsec Tunnel	192.168.101.64	192.168.1.0/24	1397	85.72	901	7.78	0:7:54 Drop
(i_258_4F0)	3DES-No Auth	via WAN1						

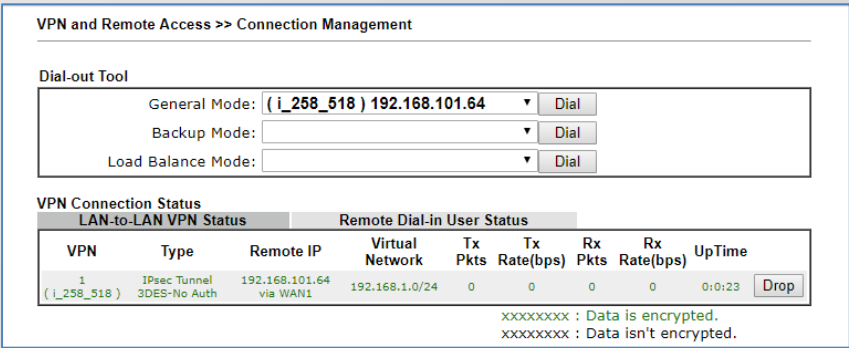
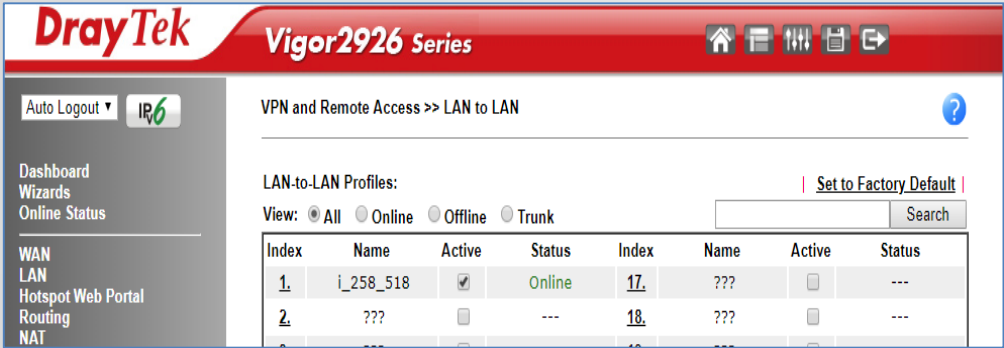
xxxxxxxx : Data is encrypted.

xxxxxxxx : Data isn't encrypted.

- Step 1: : Go to the ACS 2 Dashboard and click on the IP address to Log into the Vigor2926B .
- Step 2: Go to VPN and Remote Access >> LAN to LAN menu. You should see the VPN profile 1 that has been created. See fig 1.
- Step 3: Go to VPN and Remote Access >> Connection Management and see the VPN listed in green –see fig 2
- This concludes our Hands on exercises for today**

Fig 1

Fig 2



9. Exercises

How to create reports using VigorACS2

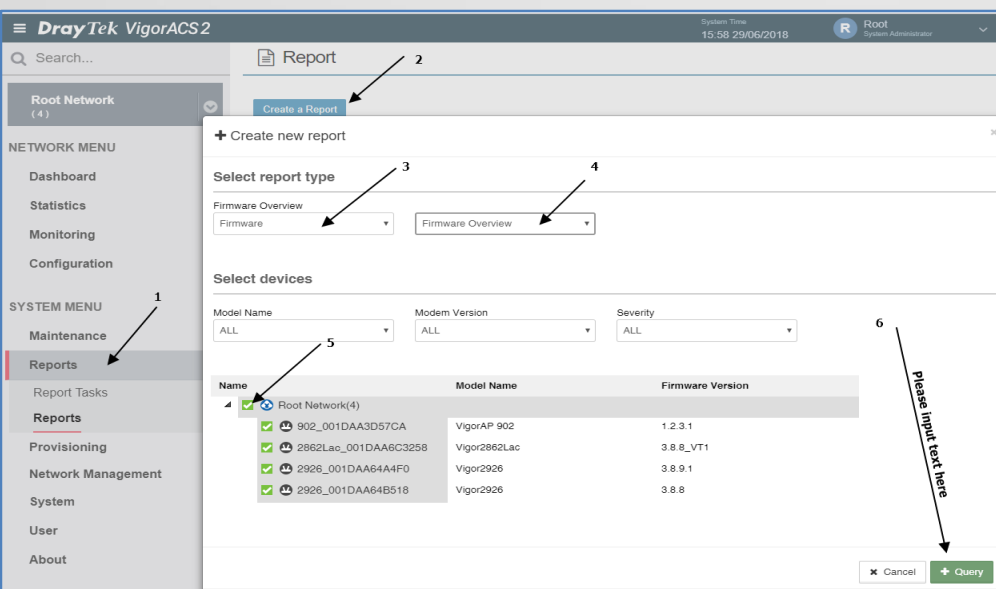
Step 1: Go to **SYSTEM MENU** - Click on **Reports** -Click on **Reports** submenu.

Step 2: Click on **Create a Report** at the top of the page on the right.

Step 3: Under “Select report type” select **Firmware** - **Step 4:** Select **Firmware Overview**.

Step 5: Select all devices in Root Network -

Step 6: Click on Query to generate the report



DrayTek VigorACS2

Search...

Report

Create a Report

+ Create new report

Select report type

Firmware Overview

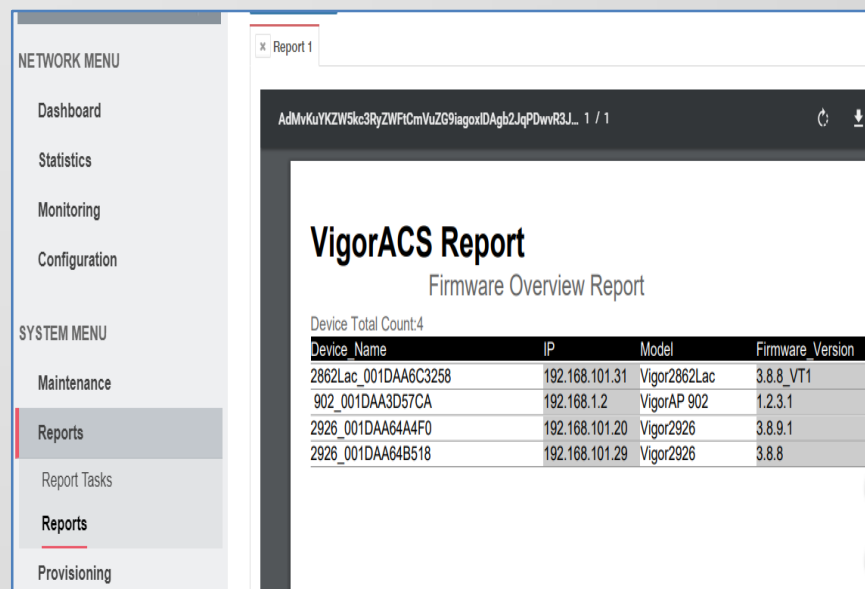
Firmware Overview

Select devices

Model Name: ALL, Modem Version: ALL, Severity: ALL

Name	Model Name	Firmware Version
Root Network(4)		
902_001DAA3D57CA	VigorAP 902	1.2.3.1
2862Lac_001DAA6C3258	Vigor2862Lac	3.8.8_VT1
2926_001DAA64A4F0	Vigor2926	3.8.9.1
2926_001DAA64B518	Vigor2926	3.8.8

Cancel Query



Report 1

AdMvKuYKZW5kc3RyZWFiCmVuZG9iaG9lDQh2LjQpDwvR3J... 1 / 1

VigorACS Report

Firmware Overview Report

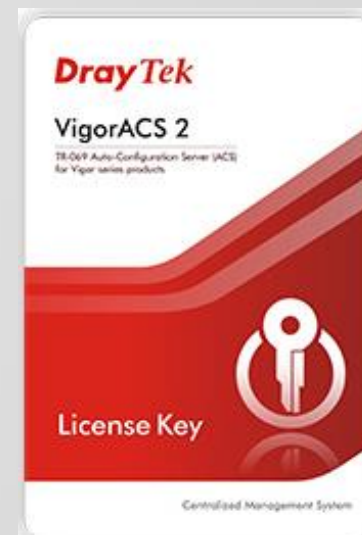
Device Total Count:4

Device Name	IP	Model	Firmware Version
2862Lac_001DAA6C3258	192.168.101.31	Vigor2862Lac	3.8.8_VT1
902_001DAA3D57CA	192.168.1.2	VigorAP 902	1.2.3.1
2926_001DAA64A4F0	192.168.101.20	Vigor2926	3.8.9.1
2926_001DAA64B518	192.168.101.29	Vigor2926	3.8.8

1. Summary

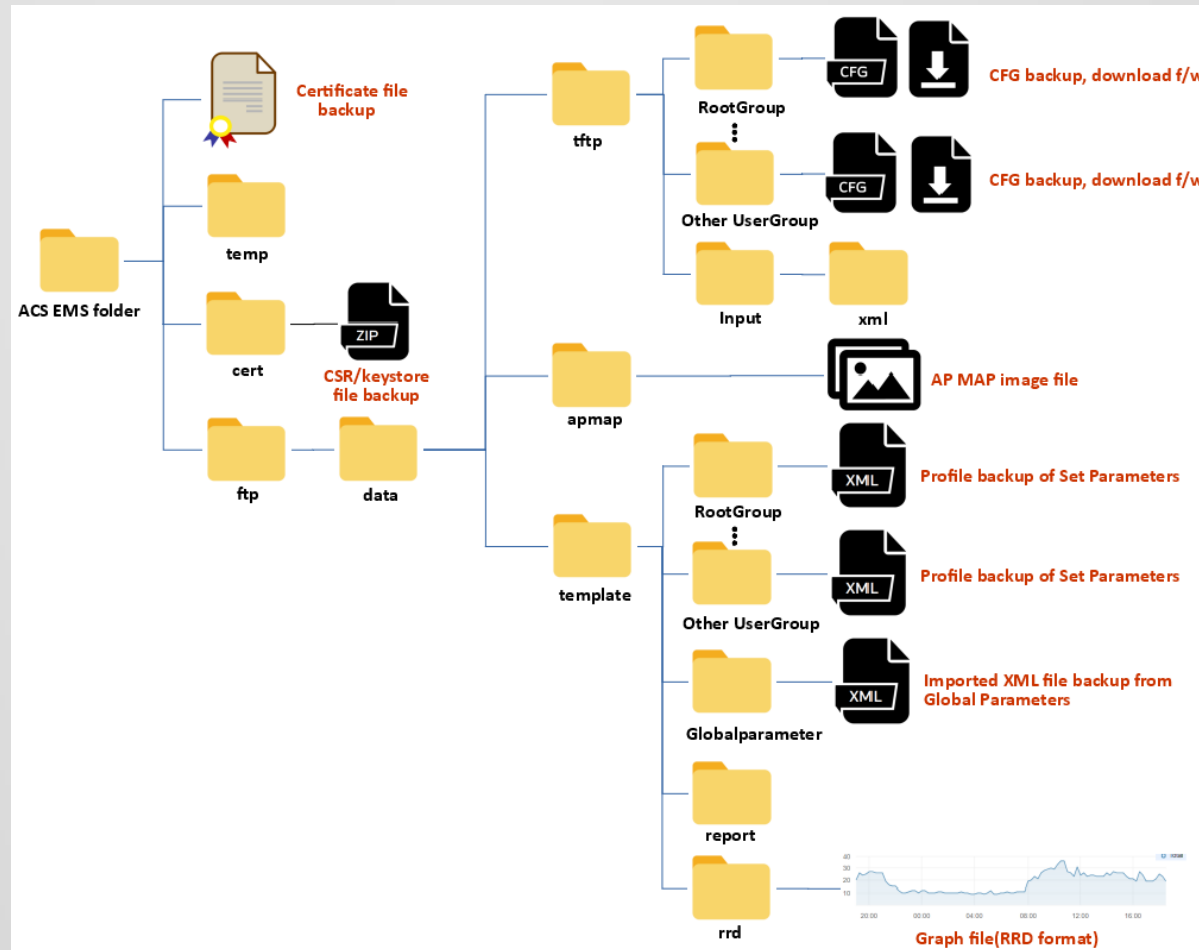
- **Summary of Training Exercises**

- How to Register CPE Devices using Tr069 and remote Management
- How to group CPE Devices in different Networks
- How to Create VPN tunnels using the VPN Wizard and check the VPN profiles created on each CPE
- How to create reports



1. Last note:

Schematic layout to show where the Backup files are stored in the ACS 2

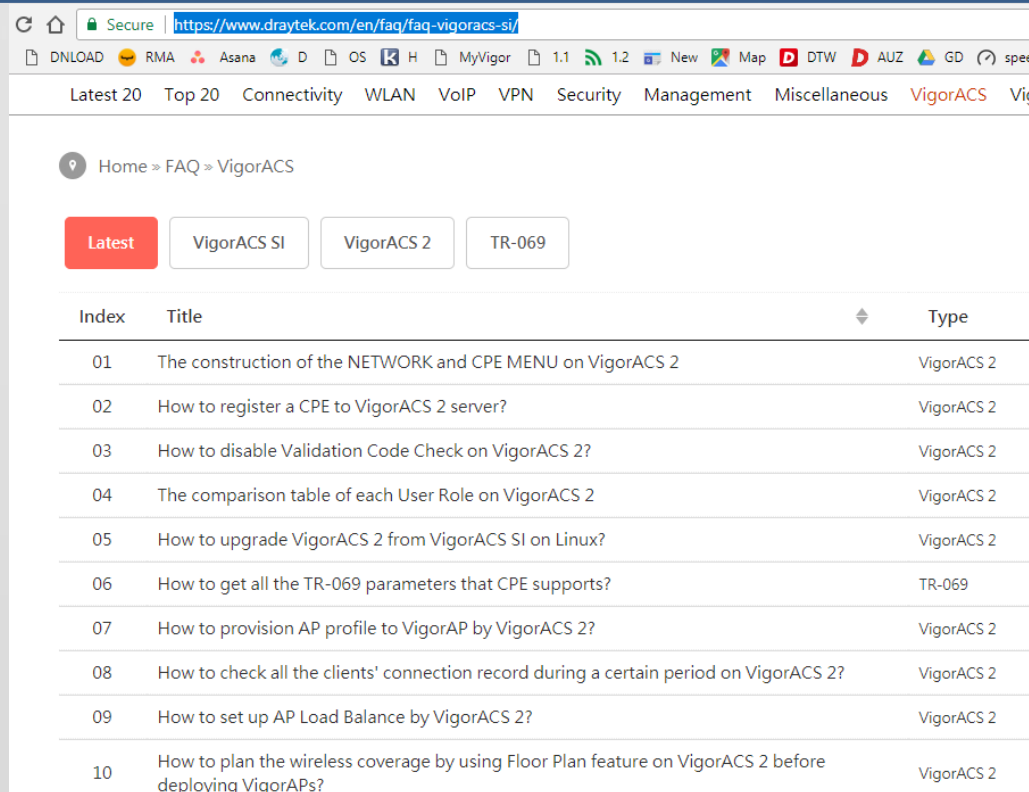


Question Time

Knowledge base

Web: <https://www.draytek.com/en/faq/faq-vigoracs-si/>

Email: support@draytek.com.au



Secure | <https://www.draytek.com/en/faq/faq-vigoracs-si/>

DNLOAD RMA Asana D OS H MyVigor 1.1 1.2 New Map DTW AUZ GD speed

Latest 20 Top 20 Connectivity WLAN VoIP VPN Security Management Miscellaneous VigorACS VigorACS SI

Home » FAQ » VigorACS

Latest VigorACS SI VigorACS 2 TR-069

Index	Title	Type
01	The construction of the NETWORK and CPE MENU on VigorACS 2	VigorACS 2
02	How to register a CPE to VigorACS 2 server?	VigorACS 2
03	How to disable Validation Code Check on VigorACS 2?	VigorACS 2
04	The comparison table of each User Role on VigorACS 2	VigorACS 2
05	How to upgrade VigorACS 2 from VigorACS SI on Linux?	VigorACS 2
06	How to get all the TR-069 parameters that CPE supports?	TR-069
07	How to provision AP profile to VigorAP by VigorACS 2?	VigorACS 2
08	How to check all the clients' connection record during a certain period on VigorACS 2?	VigorACS 2
09	How to set up AP Load Balance by VigorACS 2?	VigorACS 2
10	How to plan the wireless coverage by using Floor Plan feature on VigorACS 2 before deploying VigorAPs?	VigorACS 2

Q4. Teaser question

How do you obtain a copy of the ACS 2 Server software ?

- 1. Request for a Trial Account for 30 Days -Demonstrate**
- 2. Then request by email to support@draytek.com.au**

OR

- 3. Participate in a Hands on Training session on ACS 2**

More Information VigorACS 2 Trial

Web: www.draytek.com.au

Email: sales@draytek.com.au

Thank You for attending this Presentation

Herve liu

DrayTek Aust & NZ



Smart & Innovative™
www.i-lan.com.au

7. Video - How to install the ACS 2 Server (Windows) [Click Here](#)



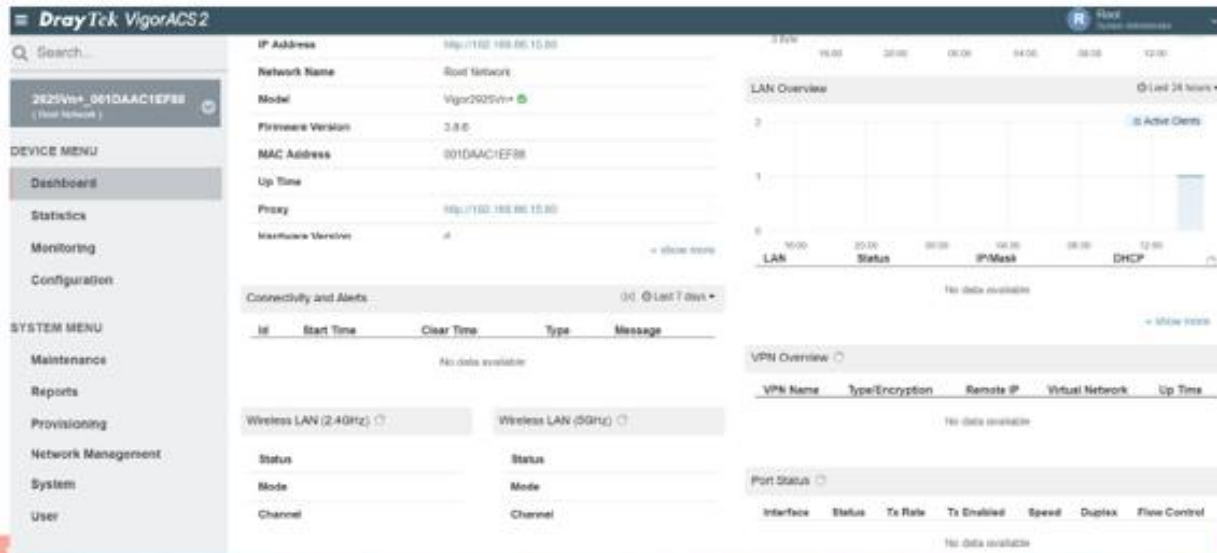
ACS 2- Why CPE gets offline

- **Some troubleshooting guides**

Why I cannot get the CPE status or the status keep loading?

Slide 1

- Polling Action
- Mostly caused by we cannot access the tr069 port of CPE
- Check the Advanced parameter



Why I cannot get the CPE status or the status keep loading?

slide 2

- Check the CPE setting:
 - TR-069 remote access (System Maintenance >> Management)

DrayTek Vigor2925 Series

System Maintenance >> Management

IPv4 Management Setup	IPv6 Management Setup	LAN Access Setup
Router Name: DrayTek ☐ Default:Disable Auto-Logout ☐ Enable Validation Code in Internet/LAN Access Internet Access Control ☒ Allow management from the Internet Domain name allowed: ☐ FTP Server ☐ HTTP Server ☐ Enforce HTTPS Access ☒ HTTPS Server ☐ Telnet Server ☒ TR069 Server ☐ SSH Server ☐ SNMP Server ☒ Disable PING from the Internet	Management Port Setup ☒ User Define Ports ☐ Default Ports Telnet Port: 23 (Default: 23) HTTP Port: 80 (Default: 80) HTTPS Port: 443 (Default: 443) FTP Port: 21 (Default: 21) TR069 Port: 8069 (Default: 8069) SSH Port: 22 (Default: 22)	Brute Force Protection ☐ Enable brute force login protection ☐ FTP Server ☐ HTTP Server ☐ HTTPS Server

Why I cannot get the CPE status or the status keep loading?

Slide 3

- Check the CPE setting:
 - client username/password

System Maintenance >> TR-069 Setting

ACS and CPE Settings

Tr069 ☐ Disable ☒ Enable

ACS Server On LAN/VPN

ACS Server URL
 ☐ Acquire URL from DHCP option 43

Username
 Password

 Last Inform Response Time :Sun Sep 30 12:3:25 201

CPE Client
 ☒ Http ☐ Https
 URL
 Port
 Username
 Password

Periodic Inform Settings
 ☐ Disable ☒ Enable
 Interval Time second(s)

Network Management

Setting

Network ID
 Name
 Location

User Name
 Password

Device ID
 Model Name
 Name 1
 Serial number
 Location
 Phone No.
 Device Name
 Management Protocol

CPE Client IP
 CPE Client Port
 CPE Client URL
 CPE Client Username
 CPE Client Password

DrayTek

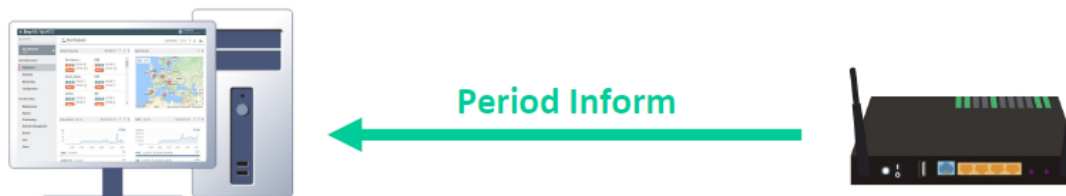
Slide 3b

TR-069 communication

Go to System - System Parameters and check ID 59 and 60

- TR-069 communication: Period inform

Default=900 Try 15 if CPE Goes OFFLINE too often



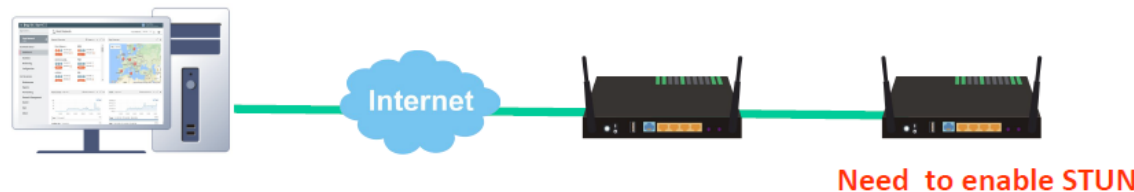
id	Parameter Name	Value
59	CPEPeriodicInformInterval	positive integer (unit: second)
60	EnableForceSetCPEPeriodicInformInterval	true/fase

DrayTek

Why I cannot get the CPE status or the status keep loading?

Slide 4

- Check the CPE setting:
 - STUN is enable or not if your CPE is under NAT device
 - STUN server is only allowed to specify ACS server



DrayTek VigorACS2	
Search...	IP Address http://192.168.66.15:80
2925Vn+ 001DAAC1EF88 (Root Network)	Network Name Root Network
	Model Vigor2925Vn+ ✓
	Firmware Version 3.8.6
	MAC Address 001DAAC1EF88
	Up Time
	Proxy http://192.168.66.15:80
	Hardware Version r1 show more

Why I cannot get the CPE status or the status keep loading?

Slide 5

- Check the CPE status:
 - 8069 port response or not

System Maintenance >> TR-069 Setting

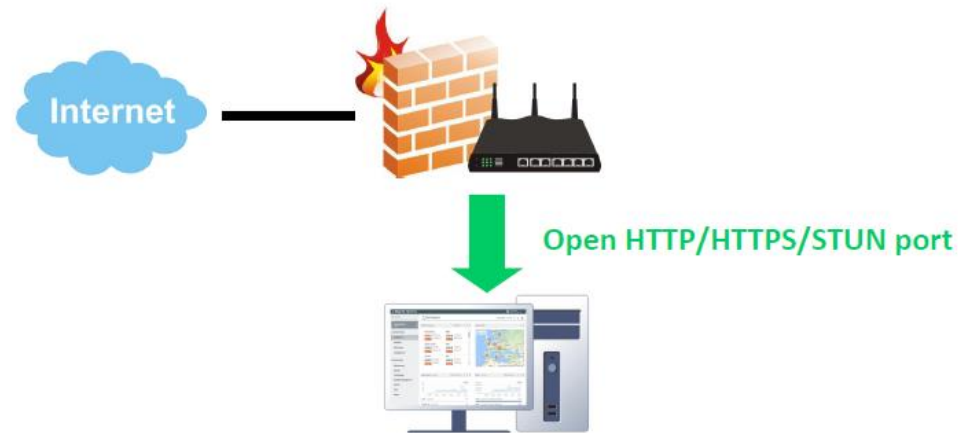
ACS and CPE Settings	Health Parameters	Export Parameters
Tr069 ☐ Disable ☒ Enable ACS Server On WAN1 ▼ ACS Server URL http://192.168.66.100:20011/ACSServer/services/ACSServlet Wizard ☐ Acquire URL from DHCP option 43 Username acs Password ***** Test With Inform Event Code PERIODIC ▼ Last Inform Response Time :Wed Jan 31 7:33:30 2018 ● CPE Client ☒ Http ☐ Https URL http://192.168.66.15:8069/cwm/CRN.html Port 8069 Username vigor Password *****		

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Why I cannot get the CPE status or the status keep loading?

Slide 6

- Check the ACS side:
 - Firewall setting
 - Open port setting



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