

FatPipe Auto Configuration

Objectives

Desired Functionality

- Centralised Management of all Appliances
- Pro-active monitoring of WAN Infrastructure
- Ability to analyze and raise alerts when thresholds in wan behavior are crossed.

Fatpipe Orchestration

Standalone or “On Device” Orchestrator

Manage all appliances from a “single window”

Key based branch appliance management

Templates based policy management

Intelligent separation of paths based on ISP Link Types

Mix Mesh or Hub and Spoke topologies based on requirements.

Auto-detection of changes in topology and re-calibrate the network.

Extensive reporting on the WAN.

Identify WAN bottlenecks before they become a major problem.

Types and Licensing

Feature	License string	Functionality	Menu and extra options in the UI
Orchestration	CM	Manage devices & templates.	Orchestration menu option Template Check box in VPN / MPsec Global Policy Routing Rules Global QoS
EnterpriseView Reporting	EV	Gather statistics and show reports	EnterpriseView menu option
HQ Device	HUB	HeadEnd device deployed at DC. Involved in actual routing	No extra options in the UI.
Branch	-	Edge device deployed at branches. Involved in actual routing.	No extra options in the UI.

Orchestration Device Type	Description
CONTROLLER	Work as a Orchestrator only. Will not participate in Routing. No IPSec/MPsec/PRR templates will be applied.
HQ	Work as a HeadEnd device. Participate in routing, download templates and apply them in the device. Able to create multiple key configurations to the same Orchestrator to support multiple topologies.
BRANCH	Work as an edge device. Participate in routing, download templates and apply them in the device. Can create only one key configuration to an Orchestrator .

Process Flow Information

- Node contacts the Orchestrator.
- Orchestrator validates the Contacting device.
- Node provides its Network information to the Orchestrator.
- Node asks for the templates. Orchestrator gives the templates based on the key.
- Node configures itself based on the templates.
- Orchestrator re-configures itself based on the Node details and hands over the node details to the other nodes when those nodes poll for new information.
- Network is auto-populated and connection established.

Deployment Options

Scenario 1 : Large Deployments

Orchestrator and EnterpriseView are deployed on a separate device.

HUBs are deployed at the DC/DR.

Branch is deployed at the edges

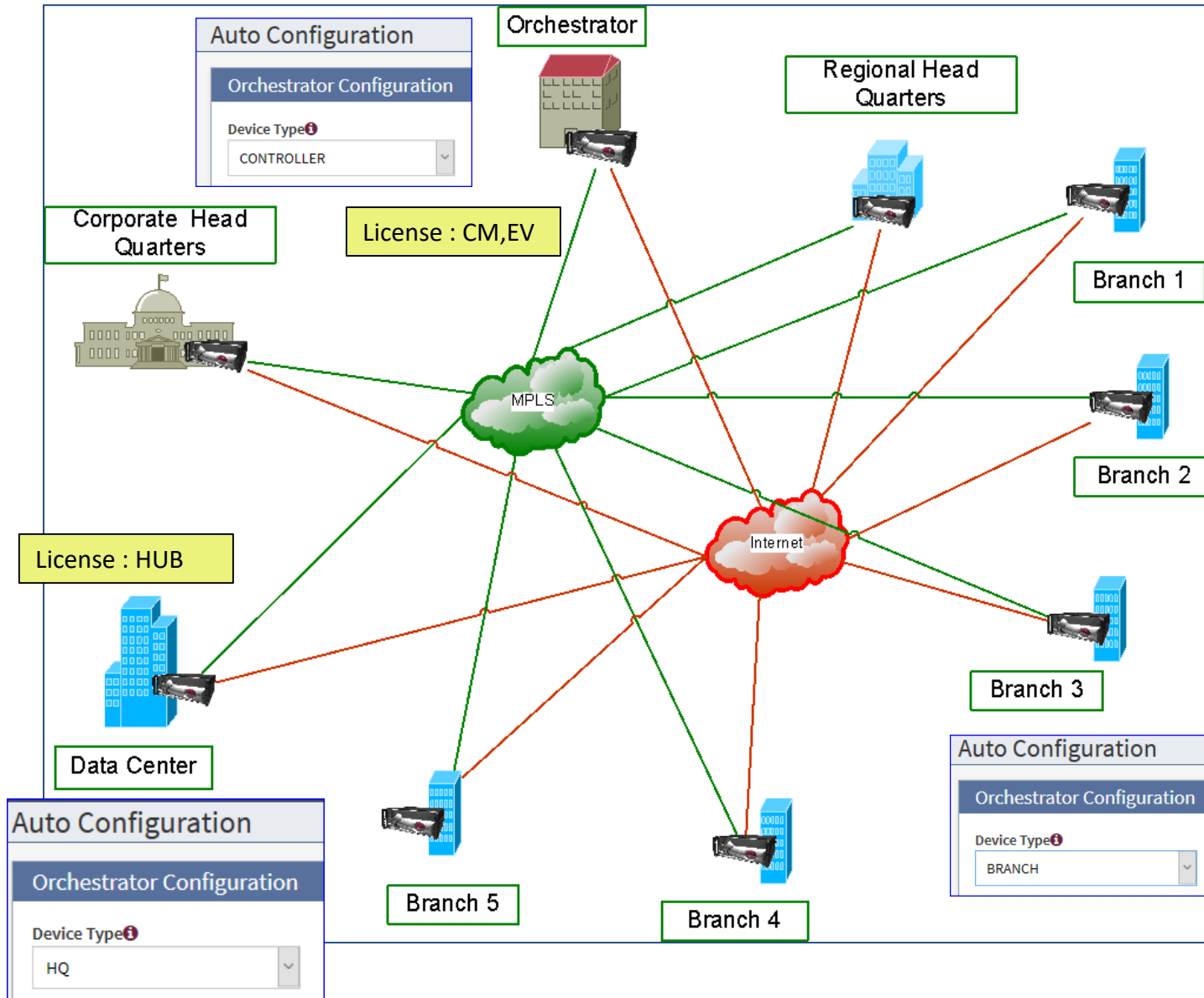
Scenario 2: Medium and Small Deployments

Orchestrator, EnterpriseView and HUB are deployed on the same device.

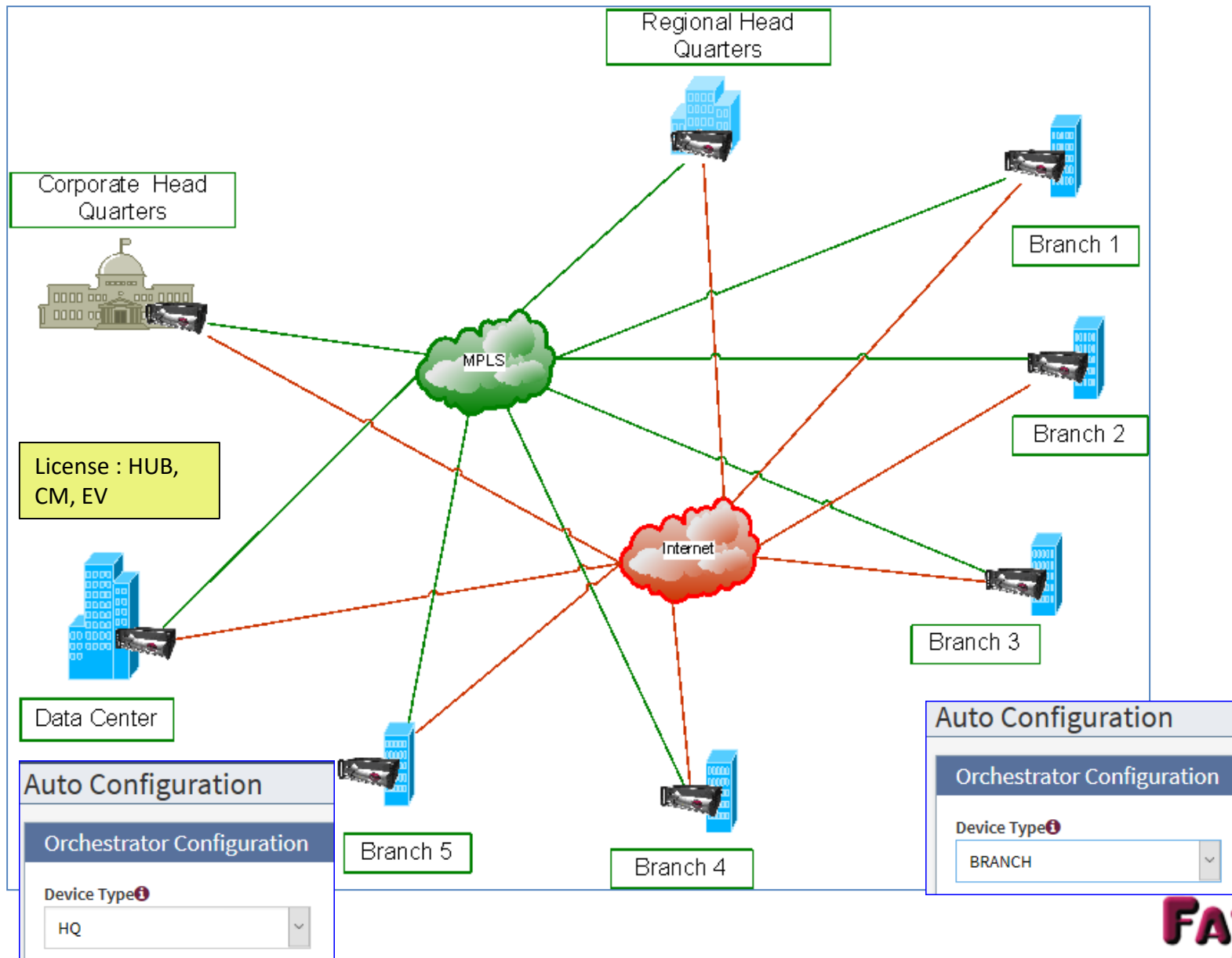
Branch is deployed at the edges

Features can be clubbed on a single device or installed on separate devices depending on the requirement.

Scenario 1



Scenario 2



Orchestrator Configuration

FATPipe — MPVPN Advanced Menu Change Unit Administrator

Home Interfaces System Tools **Orchestration** EnterpriseView

Group and Device Management

Site: HQ Orchestration / Group and Device Management

Group

Default

Device Management

Virtual VPN Network Range: 172.17.0.0/16

Auto Authorize Units

Choose "Orchestration"

Devices

Device	Serial Number	Description	Authorized	Blacklisted	Revoke Config With Device	Revoke Config On Device
HQ	fmpvs2001101100		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Charlotte	fmpvs2001101123		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dallas	fmpvs2001101124		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Memphis	fmpvs2001101117		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pierre	fmpvs2001101115		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Meridian	fmpvs2001101113		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lodi	fmpvs2001101116		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Butte	fmpvs2001101111		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Miami	fmpvs2001101122		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
WashingtonDC	fmpvs2001101121		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Seattle	fmpvs2001101126		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oklahoma	fmpvs2001101114		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bismarck	fmpvs2001101112		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chicago	fmpvs2001101127		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Grand_Island	fmpvs2001101125		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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Device Management

Group and Device Management Site: HQ

Group: Default [Add] [Edit] [Delete]

Device Management: [Manage IP Group] [Key Configuration] [DB Configuration] Virtual VPN Network Range: 172.17.0.0/16

Auto Authorize Units

Device	Serial Number	Description	Authorized	Blacklisted	Revoke Config With Device	Revoke Config On Device
HQ	fmpvs2001101100		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Charlotte	fmpvs2001101123		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dallas	fmpvs2001101124		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Memphis	fmpvs2001101117		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pierre	fmpvs2001101115		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Meridian	fmpvs2001101113		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lodi	fmpvs2001101116		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Butte	fmpvs2001101111		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Miami	fmpvs2001101122		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
WashingtonDC	fmpvs2001101121		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Seattle	fmpvs2001101126		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oklahoma	fmpvs2001101114		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bismarck	fmpvs2001101112		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chicago	fmpvs2001101127		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Grand_Island	fmpvs2001101125		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

[Add] [Edit] [Delete] [Save] [Refresh]

Choose "Default" group. All devices will be added to the default Group. You can create logical groups and Map devices to them for easier Administration

Check to authorise a unit

Devices are auto-detected and added. You can also add devices manually by clicking the Add button.

Click "Edit"

Virtual IP Subnet to be used for assigning 1 IP per Branch device. Assign virtual IP if you are using Dynamic IPs on any of your WANs

If checked all added units will be authorised automatically

Check to remove the config of a device on the orchestrator and restore defaults on the device

Check to remove the config of a device on the orchestrator

Check to blacklist a unit.



Device Management – Device configuration

Add/Edit Device

Name: Serial Number:

Description: Group:

Connect Using: Virtual VPN IP:

External VPN IP:

IP Addresses

21.3.23.2
22.3.23.2
23.3.23.2

Device Location

Address:

City:

State:

Country:

Zip Code:

Name of the Unit

List of groups to which the device can be assigned.

If the VPN is configured on an external device, define the IP here.

WAN – Connect over WAN.
LAN – connect using LAN IP. Choose this to connect through VPN tunnel if you cannot reach the device over WAN IP
ALL – Connect using WAN first and if not reachable, use VPN to connect to the branch.

List Of WAN IPs of the Device

Physical Address where the device is deployed. This helps to plot the location in the Map.

Key Configuration

FATPipe – MPVPN Advanced Menu Change Unit Administrator

Group and Device Management Site: HQ Orchestration / Group and Device Management

Group
Default Add Edit Delete

Device Management
Manage IP Group Key Configuration DB Configuration Virtual VPN Network Range: 172.17.0.0/16
 Auto Authorize Units

Devices

Device	Serial Number	Description	Authorized	Blacklisted	Revoke Config With Device	Revoke Config On Device
HQ	fmpvs2001101100		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Charlotte	fmpvs2001101123		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dallas	fmpvs2001101124		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Memphis	fmpvs2001101117		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pierre	fmpvs2001101115		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Meridian	fmpvs2001101113		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lodi	fmpvs2001101116		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Butte	fmpvs2001101111		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Miami	fmpvs2001101122		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
WashingtonDC	fmpvs2001101121		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Seattle	fmpvs2001101126		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oklahoma	fmpvs2001101114		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bismarck	fmpvs2001101112		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chicago	fmpvs2001101127		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Grand_Island	fmpvs2001101125		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Add Edit Delete

Save Refresh

Click Key Configuration to add new Keys



Key Configuration - Manage Keys

Manage Key Configuration

Name	Key
Group2	group2
Group3	group3
196	group1
BrtoBr	B2B
dynmpsec	dynmpsec

Add Edit Delete

OK Cancel

Click "Add" button

Add/Edit Key Configuration

Name

Key

OK Cancel

Give the key a Name for identification purposes

Configure the Key. This key will be used to identify the Templates and Devices

ISP Management

Group and Device Management Site: HQ

Orchestration / Group and Device Management

Group

Default Add Edit Delete

Device Management

Manage IP Group Key Configuration DB Configuration Virtual VPN Network Range 172.17.0.0/16

Auto Authorize Units

Devices

Device	Serial Number	Description	Authorized	Blacklisted	Revoke Config With Device	Revoke Config On Device
HQ	fmpvs2001101100		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Charlotte	fmpvs2001101123		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dallas	fmpvs2001101124		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Memphis	fmpvs2001101117		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pierre	fmpvs2001101115		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Meridian	fmpvs2001101113		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lodi	fmpvs2001101116		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Butte	fmpvs2001101111		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Miami	fmpvs2001101122		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
WashingtonDC	fmpvs2001101121		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Seattle	fmpvs2001101126		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oklahoma	fmpvs2001101114		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bismarck	fmpvs2001101112		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chicago	fmpvs2001101127		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Grand_Island	fmpvs2001101125		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Add Edit Delete

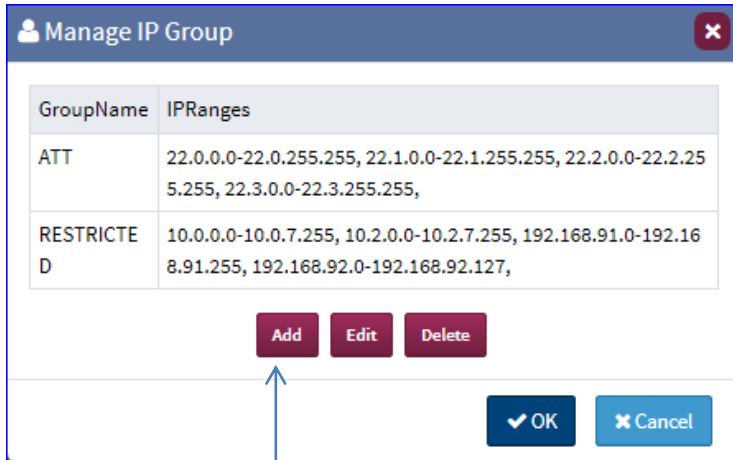
Save Refresh

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If we have private Links (MPLS), Click on “Manage IP Group” to isolate networks based on IP subnets. This ensures a mesh is not created between private links



ISP Management – Manage IP Groups



Manage IP Group

GroupName	IPRanges
ATT	22.0.0.0-22.0.255.255, 22.1.0.0-22.1.255.255, 22.2.0.0-22.2.255.255, 22.3.0.0-22.3.255.255,
RESTRICTED	10.0.0.0-10.0.7.255, 10.2.0.0-10.2.7.255, 192.168.91.0-192.168.91.255, 192.168.92.0-192.168.92.127,

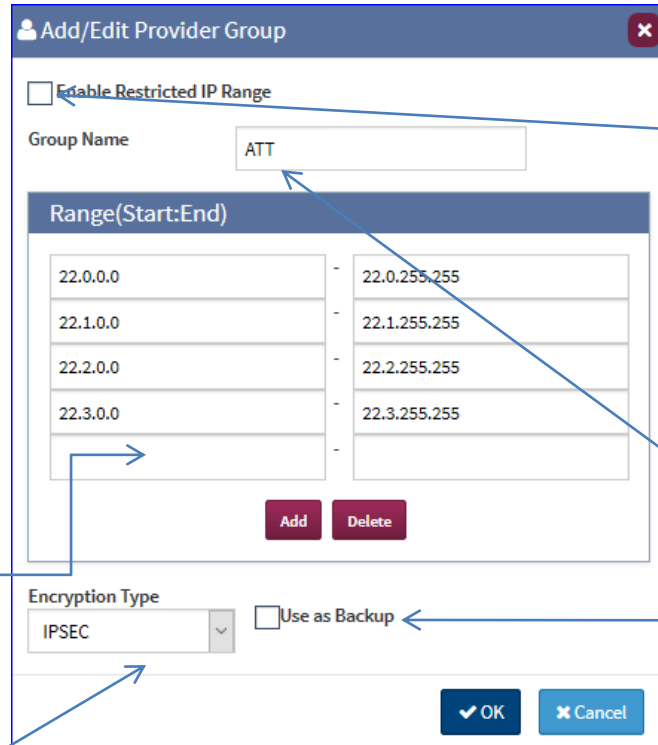
Add **Edit** **Delete**

OK **Cancel**

Click "Add" button to add a new IP Group.

Configure the networks

Choose between IPsec / GRE or NONE



Add/Edit Provider Group

Enable Restricted IP Range

Group Name:

Range(Start:End)

22.0.0.0	-	22.0.255.255
22.1.0.0	-	22.1.255.255
22.2.0.0	-	22.2.255.255
22.3.0.0	-	22.3.255.255

Add **Delete**

Encryption Type: Use as Backup

OK **Cancel**

Check this box if you DO NOT want the networks configured in this group to be part of IPsec /MPsec

Enter a group name preferably ISP Name

Check this box if you want to use paths with endpoints mapped to this group as Backup paths



Database Management

The screenshot displays the FATPipe MPVPN interface. The main window is titled "Group and Device Management" and shows a "Devices" table with columns for Device, Serial Number, and Revok. A "Database Configuration" modal dialog is open, allowing the user to choose between "Local DB" and "Remote DB". The dialog includes fields for "Host IP", "User Name", and "Password".

**Choose Local DB data is stored on the FatPipe.
Choose Remote DB if the data needs to be exported to an external Mysql Database User**

Host IP – IP of the Database Server

User Name – Mysql User name

Password – Mysql Password

Note – The EnterpriseView database has to be installed on the DB server before configuring this screen

Device	Serial Number	Revok
HQ	fmpvs200110110	<input type="checkbox"/>
Charlotte	fmpvs200110112	<input type="checkbox"/>
Dallas	fmpvs2001101124	<input checked="" type="checkbox"/>
Memphis	fmpvs200110111	<input type="checkbox"/>
Pierre	fmpvs200110111	<input type="checkbox"/>
Meridian	fmpvs200110111	<input type="checkbox"/>
Lodi	fmpvs200110111	<input type="checkbox"/>
Butte	fmpvs200110111	<input type="checkbox"/>
Miami	fmpvs200110112	<input type="checkbox"/>
WashingtonDC	fmpvs200110112	<input type="checkbox"/>
Seattle	fmpvs200110112	<input type="checkbox"/>
Oklahoma	fmpvs200110111	<input type="checkbox"/>
Bismarck	fmpvs200110111	<input type="checkbox"/>
Chicago	fmpvs200110112	<input type="checkbox"/>
Grand_Island	fmpvs2001101125	<input checked="" type="checkbox"/>

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Orchestration Creating Templates

VPN Page

FAT Pipe - MPVPN

Advanced Menu

Change Unit Administrator

VPN Site: DC Routing / VPN

VPN Policy List: Enable VPN Failover Preempt

Search:

#	Tunnel Name	Status	Remote SubnetMask	Remote External IP	Local SubnetMask	Local External IP
1	DC1		Remote LAN Networks	Virtual VPN IP	Local LAN Networks	Virtual VPN IP
2	DC1_Pierre	ON	172.18.15.0/24	172.17.0.9	172.172.172.0/24,172.18.0.0/24,172.17.128.0/24,172.18.127.0/24,10.2.0.0/21,10.0.0.0/21	172.17.0.1
3	DC1_Bismarck	ON	172.18.12.0/24	172.17.0.7	172.172.172.0/24,172.18.0.0/24,172.17.128.0/24,172.18.127.0/24,10.2.0.0/21,10.0.0.0/21	172.17.0.1
4	DC1_Memphis	ON	172.18.17.0/24	172.17.0.8	172.172.172.0/24,172.18.0.0/24,172.17.128.0/24,172.18.127.0/24,10.2.0.0/21,10.0.0.0/21	172.17.0.1
5	DC1_Oklahoma	ON	172.18.14.0/24	172.17.0.6	172.172.172.0/24,172.18.0.0/24,172.17.128.0/24,172.18.127.0/24,10.2.0.0/21,10.0.0.0/21	172.17.0.1
6	DC1_Miami	OFF	172.18.22.0/24	172.17.0.2	172.172.172.0/24,172.18.0.0/24,172.17.128.0/24,172.18.127.0/24,10.2.0.0/21,10.0.0.0/21	172.17.0.1
7	DC1_Charlotte	OFF	172.18.23.0/24	172.17.0.4	172.172.172.0/24,172.18.0.0/24,172.17.128.0/24,172.18.127.0/24,10.2.0.0/21,10.0.0.0/21	172.17.0.1
8	DC1_Dallas	OFF	172.18.24.0/24	172.17.0.5	172.172.172.0/24,172.18.0.0/24,172.17.128.0/24,172.18.127.0/24,10.2.0.0/21,10.0.0.0/21	172.17.0.1
9	DC1_Grand_Island	OFF	172.18.25.0/24	172.17.0.3	172.172.172.0/24,172.18.0.0/24,172.17.128.0/24,172.18.127.0/24,10.2.0.0/21,10.0.0.0/21	172.17.0.1
10	DC1_Branch20	OFF	172.18.20.0/24	172.17.0.11	172.172.172.0/24,172.18.0.0/24,172.17.128.0/24,172.18.127.0/24,10.2.0.0/21,10.0.0.0/21	172.17.0.1
11	DC1_Meridian	ON	172.18.13.0/24	172.17.0.10	172.172.172.0/24,172.18.0.0/24,172.17.128.0/24,172.18.127.0/24,10.2.0.0/21,10.0.0.0/21	172.17.0.1
12	DC1_Lodi	ON	172.18.16.0/24	172.17.0.12	172.172.172.0/24,172.18.0.0/24,172.17.128.0/24,172.18.127.0/24,10.2.0.0/21,10.0.0.0/21	172.17.0.1
13	DC1_Branch28	OFF	172.18.28.0/24	172.17.0.13	172.172.172.0/24,172.18.0.0/24,172.17.128.0/24,172.18.127.0/24,10.2.0.0/21,10.0.0.0/21	172.17.0.1
14	DC1_Branch29	OFF	172.18.29.0/24	172.17.0.14	172.172.172.0/24,172.18.0.0/24,172.17.128.0/24,172.18.127.0/24,10.2.0.0/21,10.0.0.0/21	172.17.0.1
15	DC1_Butte	ON	172.18.11.0/24	172.17.0.15	172.172.172.0/24,172.18.0.0/24,172.17.128.0/24,172.18.127.0/24,10.2.0.0/21,10.0.0.0/21	172.17.0.1
16	DC1_Branch1	OFF	172.18.1.0/24	172.17.0.16	172.172.172.0/24,172.18.0.0/24,172.17.128.0/24,172.18.127.0/24,10.2.0.0/21,10.0.0.0/21	172.17.0.1

Add Edit Delete

Save Refresh

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Template

Auto-configured VPN Tunnels



VPN Template

1. Check Template

Template
 Encapsulate traffic before encryption**

Tunnel Name
DC1

Template Key
Group2, dynmpsec

Branch to Branch
Remote End
 Network User

2. Enter a Name

Encryption
AES128

Authentication
SHA1

NAT-T
 Auto Forced
 Custom Ports
IKE Port: 500
Encapsulated UDP Port: 4500

Other
TCPMSS: 1372
DPD Delay: 30
DPD Timeout: 120
 PFS

Local Info
 Local LAN Networks
Network IP Address/Mask
Encapsulating IP
Local VPN IP: WAN1

Remote Info
 Remote LAN Networks
Network IP Address/Mask
Encapsulating IP
Remote VPN IP: WAN1

Key Management
 Pre-Shared Secret RSA Signature RSA Certificates
Pre-Shared Key: Test1234
Remote ID: WAN1
IKE Lifetime: 8 hour 0 minute
Key Lifetime: 8 hour 0 minute

4. Hub and Spoke is the default topology. Check this to create a Mesh topology.

3. Select the Template Keys

Check this to use the branch LAN networks in the remote networks field. Remote Networks can be added if this is unchecked.

Choose an appropriate WAN as the VPN Remote Endpoint.

Check this to create a single IPSec tunnel and encapsulate all matching traffic. This option is used when we have a large number of subnets that need to be encrypted.

5. Check this to use the LAN networks in the Local networks field. Local Networks can be added if this is unchecked.

Choose an appropriate WAN as the VPN Local Endpoint.



MPSec Page

FAT Pipe - MPVPN

Advanced Menu

Change Unit Administrator

MPSec

Site: DC

Routing / MPsec

Local VPN Name: DC Local VPN IP: 172.17.0.1 Polling Interval (ms): 500 **Advanced**

Remote Location

Search:

Index	Remote VPN Name	Remote VPN IP	Load Balancing Option	Load Balancing Type
1	DC-Mpsec	Virtual VPN IP	Session	Static
2	DC-Mpsec_Branch20	172.17.0.11	Session	Static
3	DC-Mpsec_Bismarck	172.17.0.7	Session	Static
4	DC-Mpsec_Grand_Island	172.17.0.3	Session	Static
5	DC-Mpsec_Branch28	172.17.0.13	Session	Static
6	DC-Mpsec_Branch29	172.17.0.14	Session	Static
7	DC-Mpsec_Meridian	172.17.0.10	Session	Static
8	DC-Mpsec_Memphis	172.17.0.8	Session	Static
9	DC-Mpsec_Branch1	172.17.0.16	Session	Static
10	DC-Mpsec_Lodi	172.17.0.12	Session	Static
11	DC-Mpsec_Pierre	172.17.0.9	Session	Static
12	DC-Mpsec_Oklahoma	172.17.0.6	Session	Static
13	DC-Mpsec_Butte	172.17.0.15	Session	Static
14	DC-Mpsec_Dallas	172.17.0.5	Session	Static
15	DC-Mpsec_Miami	172.17.0.2	Session	Static
16	DC-Mpsec_Charlotte	172.17.0.4	Session	Static

Add **Edit** **Delete** **Up** **Down**

Select Site Name: **Configure** **Status** **Clear Cache**

Save **Refresh**

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Navigation menu: SNMP, DHCP Server, Syslog, NetFlow, HostName, Static ARP, Auto Configuration, Auto Upgrade, Maintenance, Load Balancing, Algorithms, Route Test, SmartDNS, TCP Congestion Control, Routing, Application Profile, Network Objects, Inbound Policy, Outbound Policy, Global Outbound Policy, Dynamic Routing(IPv4), Static Routes, QoS, Global QoS, VPN, MPsec, WAN Optimization Settings, IPv6in4 Tunnel, IPv6 Static Routes, Advanced Options, Tools, Speed Chart.

Template

Click the "Add" button to create a new Template



MPsec Template

2. Select the Template Keys
You can choose more than 1 key.

3. Hub and Spoke is the default topology
Check this to create a Mesh topology.

1. Check Template

4. Choose the appropriate VPN Endpoint.
This should match the ones chosen in the VPN template

Add/Edit Entry

Template Branch To Branch

Local VPN IP: WAN1

Remote VPN IP: WAN1

Template Name: Group2

Template Key: Group2

Load Balancing

Session Packet

Path Options

Fully Meshed WAN to WAN

Dynamic Mpsec Load Balancing

Enable Bandwidth Detection (Kbps)

Detect Bandwidth Every: 0 Min

Use Available Bandwidth

Weight Reduce Factor: 1

Use Latency

Threshold (ms): 100 Weight Reduce Factor: 1

Use Packet Loss

Threshold (%): 50 Weight Reduce Factor: 1

Only FatPipe Generated Packet Based

OK Cancel



Global Outbound Policy Routing Rules - configuration

- 1. Create a Template
- 2. Assign Rules to the template

Top : Rules will be applied ABOVE all local rules.
Bottom : Rule will be applied BELOW all local rules.

Global Outbound Policy Site: HQ

Routing / Global Outbound Policy

Show Applied Rules

Template

- Others
- Group2

Add Edit Delete

NOTE: Global Outbound Policy - Policies will be updated automatically from the Orchestrator if the "Policy Routes" check box is checked in the Auto configuration page Applied Policies will not be removed automatically if the "Policy Routes" check box is unchecked in the Auto configuration page.
* Global Policies can have interfaces configured to the max. number of WANs. Only the relevant number of WANs will be considered on application.

Name	Rule	Protocol	Source IP/Mask	Source Port	Dest IP/Mask	Dest Port	Traffic Mode	Interface(s)	Qos	DSCP
top1	Allow	TCP	*	*	*	80	Interface Priority	WAN1 , WAN2 , WAN3	test5	0
top2	Allow	UDP	*	*	172.18.0.0/24	5060	Interface Priority	WAN1 , WAN2 , WAN3		47

Add Edit Delete First Up Down Last

Clear Session(s)

Save Refresh

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Add a Template

Template Name: Group2

Template Key: Group2

OK Cancel

Global Outbound Policy Routing Rules

Add Global Outbound Policy Routing Rule
✕

Name
http

Protocol
TCP

DSCP
0

UDP Aggregation
Enable HTTP Acceleration
Enable WAN Optimization
Enable HTTPs Acceleration*

Source
IP

*

Source
Port

*

Destination
IP

*

Destination
Port

80

Action
Allow

QoS
test5

Application Profiles
None

WebFilter Profiles
None

Application Rules

Add
Edit
Delete

Equal Bandwidth Distribution

Traffic Mode:

Interface Priority
 Interface Specific
 Mixed Priority

Interface	NAT	Port NAT	NAT IP/Mask	NAT Port	DSCP Tagging	Value	Enable DynLoadBalOpt	Latency Threshold	Jitter Threshold	PacketLoss Threshold	Bypass IPSEC
WAN1	Yes	Yes	0.0.0.0-0.0.0.0	0	No	0	No	0	0	0	No
WAN2	Yes	Yes	0.0.0.0-0.0.0.0	0	No	0	No	0	0	0	No
WAN3	Yes	Yes	0.0.0.0-0.0.0.0	0	No	0	No	0	0	0	No

Add
Edit
Delete
Up
Down

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

Su																							
Mo																							
Tu																							
We																							
Th																							
Fr																							
Sa																							

Scheduler

Select all
Clear all

* This will affect Site to Site traffic only

✓ OK
Cancel

The PRR creation rules are the same as the regular Outbound Policy Routing Rules



Branch Configuration

- 1) Configure LAN IP
- 2) Configure WAN IP
- 3) Configure Orchestrator Information in Auto Configuration Page
- 4) Choose the modules that need to be auto configured.

Note : You can add only One Key Per Orchestrator

Branch Configuration – LAN Page

FATPipe – MPVPN | Advanced Menu | Change Unit | Administrator

Site : Charlotte | Interfaces / Lan

Enable Proxy ARP ⓘ

Ethernet

MAC [08:00:27:f4:2a:5b] | Current Negotiation: 1000baseTX-FD
SET

Link Speed / Duplex Mode | Link Detected: No
Auto Negotiation

DHCP Relay

Enable DHCP Relay ⓘ

Reporting IP Address : 0.0.0.0
This IP Address is used for sending local syslog and snmp through VPN or GRE tunnel.

LAN Aliases

IP Address	Subnet Mask	VLAN tag	DHCP Server IP	MTU
172.18.23.1	255.255.255.0	0		1500

Add **Edit** **Delete**

Edit LAN Alias

IP Address: 172.18.23.1
Subnet Mask: 255.255.255.0
VLAN Tag: 0
DHCP Server IP: DHCP IP
MTU: 1500

Save **Refresh**

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OK **Cancel**

Add LAN IP

Branch Configuration – WAN Page

FATPipe – MPVPN | Advanced Menu | Change Unit | Administrator

Home | Interfaces | LAN | **WAN 1** | WAN 2 | WAN 3

WAN 1

 | Site: Charlotte | Interfaces / WAN 1

Line Status: **UP**

ISP Name: Verizon | ISP Notes: Broadband

WAN IP Settings

Obtain an IP address automatically using DHCP
 Connect using PPPoE
 Connect using 3G / 4G device
 Specify an IP address

IPv4 | IPv6

IP Address: 21.3.23.2 | Subnet Mask: 255.255.255.0 | Default Gateway: 21.3.23.1

Bandwidth (Kbps)

Upload: 50000 | Download: 50000

MTU: 1500

Services

Ping | Remote Management | DNS | IPSEC
 SNMP | SSH | WAN Metrics*

Route Test

Perform: Always | Link Stabilizing Factor Up: 1 | Link Stabilizing Factor Down: 1

Ethernet

MAC [08:00:27:fb:71:44] | Current Negotiation: 1000baseTX-FD
Link Speed / Duplex Mode: Auto Negotiation | Link Detected: No

VLAN

Enable | ID: 0

Access List

Enable | Access List Range***

Note: This list controls the access to the Remote Management and SSH console only.

Enable Bridging with LAN** | WAN Hosts List

Type

Weight: 1 | Usage: Primary | Spillover Priority: 1

*An ICMP Ping request is sent to the IP configured in Route Test -> WAN Metrics Host to measure Latency, Jitter & Packet Loss for this link.
**You will need to clear ARP on connected devices when enabling/disabling bridge mode.
***Comma separated ranges in network prefix or using single dash for range format.

Save | Refresh

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Choose the ISP connection type

Configure WAN IP if the IP is Static.



Branch - Auto Configuration Page

1. Choose Device type as Branch

Orchestrator Configuration

Device Type: BRANCH Device Name: Charlotte

Name	IP Address	Keys
DC	21.0.0.2,22.0.0.2,23.0.0.2	group3

Buttons: Add, Edit, Delete

* Each IP should be in separate line.

Auto Configuration

Policy Routing Rule MPSec VPN

Polling Interval (Secs): 30

Buttons: Save, Refresh

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2. Click "Add" to configure Orchestrator information

3. Check the templates that need to be pulled from the Orchestrator

Branch – Add Orchestrator Configuration

Edit Orchestrator Configuration [X]

Name ⓘ
DC

IP Address ⓘ
21.0.0.2
22.0.0.2
23.0.0.2

Domain Name ⓘ
[Empty]

General ⓘ

Keys ⓘ
group3

✓ OK ✕ Cancel

Provide a Name to identify the server

Add an IP of the Orchestrator.
You can add one or more IPs.

Enter the URI if you have one.
E.g. autoconfig.example.com

Check this to copy the General Settings
from this orchestrator including NTP
settings

Add the key configured on the
Orchestrator.
This key will be used to identify the unit
and hand out the respective templates.

HQ Configuration

- 1) Configure LAN IP
- 2) Configure WAN IP
- 3) Configure Orchestrator Information in Auto Configuration Page
- 4) Choose HQ as the Device Type
- 5) Choose the modules that need to be auto configured.

Note : You can configure more than one key per orchestrator to facilitate the HQ/DC unit to talk to multiple Groups.

HQ Device Configuration – Auto Configuration Page

The screenshot shows the FATPipe MPVPN web interface. The top navigation bar includes the logo, 'Advanced Menu', a notification bell, 'Change Unit', and the user 'Administrator'. The left sidebar contains a menu with categories like Home, Interfaces, System, and various services. The main content area is titled 'Auto Configuration' for 'Site: HQ'. It features two main configuration panels: 'Orchestrator Configuration' and 'Auto Configuration'. The 'Orchestrator Configuration' panel has a 'Device Type' dropdown set to 'HQ' and a 'Device Name' field set to 'HQ'. Below this is a table of devices and an 'Add' button. The 'Auto Configuration' panel has checkboxes for 'Policy Routing Rule', 'MPSec', 'VPN', and 'Web Filter', with 'MPSec' and 'VPN' checked. A 'Polling Interval (Secs)' field is set to 90. At the bottom right are 'Save' and 'Refresh' buttons. Three callout boxes provide instructions: 1. 'Choose "HQ" from the dropdown' points to the Device Type dropdown. 2. 'Click "Add" to configure Orchestrator information' points to the Add button. 3. 'Check the templates that need to be pulled from the Orchestrator' points to the Auto Configuration panel.

Choose "HQ" from the dropdown

2. Click "Add" to configure Orchestrator information

3. Check the templates that need to be pulled from the Orchestrator

Name	IP Address	Keys
DC1	127.0.0.1	group1
DC2	127.0.0.1	group2
DC3	127.0.0.1	group3
DC4	127.0.0.1	dynmpsec

* Each IP should be in separate line.

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HQ Device Configuration – Add Orchestrator Configuration

1. Choose "Use Localhost" If the orchestration is done on the HQ unit itself

Edit Orchestrator Configuration [X]

Name [i]

DC1

Use Local Host Server IP

IP Address [i]

127.0.0.1

Domain Name [i]

General [i]

Keys [i]

group1

[OK] [Cancel]

Add Orchestrator Configuration [X]

Name [i]

DC5

Use Local Host Server IP

IP Address [i]

45.55.65.2

Domain Name [i]

General [i]

Keys [i]

group6

[OK] [Cancel]

1. Choose "Server IP" If the orchestrator is a separate device.

2. Configure the Orchestrator's IP(s). You can add multiple Ips.

Enter the URI if you have one. E.g. autoconfig.example.com

Check this to copy the General Settings from this orchestrator including NTP settings

Add the key configured on the Orchestrator. This key will be used to identify the unit and hand out the respective templates.

Thank You