

Working with Cellocator+ using a Private APN

Application Notes



Cellocator Division
Pointer Telocation Ltd.

Proprietary and Confidential

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POINTER



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1 Introduction

This application note details a specific method to connect Cellocator units to the Cellocator+ maintenance platform while using a private APN.



Note that Cellocator offers its assistance in the deployment of such a configuration as well as debugging connectivity issues related to such connection. If you have any questions or are in need of assistance, please address your request through our Customer Support Portal.

1.1 Revision History

Version number	Date	Description
1.0	February 19, 2015	First version



2 The Problem

Many telematics service providers (TSP) prefer to have Cellocator units communicate with their gateway equipment using a private APN due to the obvious reasons of enhanced security, improved communication stability and so on.

One drawback of using a private APN is the inability of Cellocator units to communicate with the Cellocator+ platform. This drawback is imposed by the VPN tunnel technology used by the cellular provider which is point-to-point communication, from the cellular provider network to the TSP network.

Cellular providers can technically allow a specific firewall rule in the private APN configuration that permits world-wide-web (WWW) access to a specific site, but we found these cases to be rare.



3 The Solution

The proposed solution that enables Cellocator devices to access the Cellocator+ maintenance platform while using a private APN utilize the network equipment used by the TSP (physical router, firewall or software based solution) with dedicated access rules, as well as having the TSP configure the private APN to forward all IP address requests generated by Cellocator units to the TSP network.

3.1 Solution Walkthrough

The Cellocator unit should be configured with a Cellocator+ public IP address and port (62.90.141.201; 7435). The communication equipment (configured accordingly below) will detect requests to that specific address and then will act as a router between the Cellocator device and Cellocator+, sending communication packets back and forth.

3.2 Network Rules

3.2.1 Virtual Server / Network Object

A Virtual Server should be configured to forward any communication (Source; 0.0.0.0) requests generated by Cellocator devices to the Cellocator+ public IP address and port (Host; 62.90.141.201; 7435) as Host type.

3.2.2 Static Route

A static route should be configured to route any requests for the Cellocator+ public IP address through the WWW gateway of the network equipment.

3.3 Configuration Examples

The following configuration relates to F5 Local Traffic Manager and Checkpoint firewall equipment.

Terminology differences might apply between network equipment vendors.

Virtual Server	
Type	Forwarding (IP)
Source	0.0.0.0
Destination Type	Host
Destination Address	62.90.141.201
Destination Port	7435

Static Route	
Destination Network	62.90.141.201
Subnet Mask	255.255.255.255
Gateway Address	WAN IP address



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3.3.1 F5 Virtual Server (Local Traffic Manager)

The screenshot shows the F5 Local Traffic Manager interface. The left sidebar contains navigation options: Main, Help, About, Statistics, iApp, Link Controller, Local Traffic (Network Map, Virtual Servers, Policies, Profiles, iRules, Pools, Nodes, Monitors, Traffic Class, Address Translation, DNS Express Zones, DNS Caches), Acceleration, Device Management, Network, and System. The main content area is titled 'Local Traffic >> Virtual Servers : Virtual Server List >> CellocatorPlus'. The 'Properties' tab is active, showing the following configuration:

General Properties	
Name	CellocatorPlus
Partition / Path	Common
Description	62.90.141.201_CPLUS
Type	Forwarding (IP)
Source	0.0.0.0/0
Destination	Type: Host Network Address: 62.90.141.201
Service Port	7435 Other: [v]
Link	None
Availability	<input checked="" type="checkbox"/> Unknown (Enabled) - The children pool member(s) either don't have service checking enabled, or service check results are not available yet
Synccookie Status	Off
State	Enabled [v]

Configuration: Basic [v]

VLANs and Tunnels	
Protocol	TCP [v]
VLAN and Tunnel Traffic	Enabled on... [v]
Selected	/Common external
Available	/Common internal
Source Address Translation	Auto Map [v]

Acceleration

Rate Class	None [v]
SPDY Profile	None [v]

[Update] [Delete]

3.3.2 F5 Static Route

The screenshot shows the F5 Network configuration interface. The top status bar displays: Hostname: [redacted], Date: Jan 12, 2015, User: [redacted], IP Address: [redacted], Time: 3:50 PM (IST), Role: [redacted]. The interface shows the device is ONLINE (ACTIVE) and Standalone. The left sidebar contains navigation options: Main, Help, About, Statistics, iApp, Link Controller, Local Traffic, Acceleration, Device Management, Network (Interfaces, Routes, Self IPs). The main content area is titled 'Network >> Routes >> CellocatorPlus'. The 'Properties' tab is active, showing the following configuration:

Properties	
Name	CellocatorPlus
Partition / Path	Common
Description	192.168.5.250
Destination	62.90.141.201
Netmask	255.255.255.255
Resource	Use Gateway... [v]
Gateway Address	IP Address [v] 192.168.5.250
MTU	0

[Update] [Delete]



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3.3.3 Checkpoint Firewall (R7150)

Firewall NAT IPS Anti-Spam & Mail Mobile Access Data Loss Prevention Anti-

NO.	SOURCE	DESTINATION	VPN	SERVICE	ACTION
63	* Any	CellocatorPlus Bla2 dc1	* Any Traffic	TCP TCP_7430-7440 UDP UDP_7430-7440 ?? icmp-proto TCP http TCP tcp-high-ports TCP https	accept
64	CellocatorPlus Bla2	* Any	* Any Traffic	TCP TCP_7430-7440 UDP UDP_7430-7440 TCP TCP_7611 TCP tcp-high-ports	accept

Network Objects

Name	IP Address	MAC Address	Static NAT
Cellocator_plus	192.168.10.162		62.90.141.201