ACM5504-5-G-I
Quick Start Guide

Thank you for purchasing the ACM5504-5-G-I Remote Infrastructure Management (RIM) appliance. This Quick Start walks you through both installation and configuration. For more details refer to the *User Manual* on the CDROM.

Step1 Check kit contents

ACM5504-5-G-I device. External rack and DIN rail mount tabs. External green connector block and 3G antenna. UTP cables & straight (319014) & crossover (319015) DB9F-RJ45S. Quick Start and CDROM. 12V DC power pack.

Step 2 Configure the hardware

- Attach rubber feet to base. Also attach the desired mounting tab and screw the 3G antenna on to the main *Cell (M)* connector

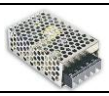
Note: If you have purchased a diversity or GPS antenna, screw it on to *Cell A*

- The ACM5504-5-G-I works with GSM carriers globally. Your carrier will provide a SIM card for activating you data plan. Unscrew the SIM card access panel and **insert the SIM card in the bottom SIM slot with contacts facing downward** and the notch to RHS. Then replace the SIM card access panel. Refer User manual for multiple SIM installation
- Connect the Ethernet *LAN* port to your network. Connect your management LAN devices to the *ETHERNET 1-4* ports
- Plug your serial console devices into *SERIAL 1-4* (all Cisco RJ45 pin-out). Connect your USB devices to the two *USB* ports
- Plug in the green screw terminal block and attach external sensors and DIO

Note: Refer ACM5500-I Addendum for RS422/485 and DIO details

- Apply power. The ACM5504-5-G-I can now be powered externally by either:
  - connecting the provided external power pack to the *12VDC* barrel socket or
  - connecting an external 9 to 24 VAC source to the *12VDC* barrel socket or
  - connecting +9V to 30 VDC to *DC PWR* and *GND* on the green terminal block

Note: If you ordered the -SDC option you'll have an external DC-DC power converter (input voltage +/- 36V DC to 72V DC. The converter power cable/ connector plugs into the *12VDC* socket



The ACM5504-5-G-I is ready for activation when the PWR status LED on the front panel of the unit is lit steady, and the H/B (heartbeat) LED is flashing.

Step 3 Set up RMM appliance

The default IP Address is *192.168.0.1* (subnet mask *255.255.255.0*). With a web browser on any computer that is network connected to the ACM5504-5-G-I:

- Enter **https://192.168.0.1** into the address bar

Note: The *LAN* connected computer must have an IP address in the same network range (192.168.0.xxx) as the ACM5504-5-G-I. If this is not convenient, you can use the ARP Ping command to set the IP address. Refer to the User Manual or online FAQ for details. The ACM5504-5-G-I also has DHCP enabled by default, so it will automatically accept any network IP address assigned by any DHCP server on your network. It will then respond at both 192.168.0.1 and its DHCP address

- Log in using the default system user name *root* and the password *default.* A **Welcome** screen listing the basic configuration steps is displayed

It is recommended that you set up a new Administrator user (in the *admin* group with full access privileges) and login as this new user for all ongoing administration functions (rather than continuing as *root*).

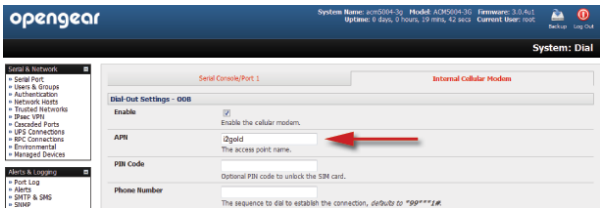
- Select **System: Administration**. Enter and confirm a new **System Password** and click **Apply**
- To assign your ACM5504-5-G-I a static IP address or to permanently enable DHCP on the primary Ethernet network, select **System: IP** then **Network Interface** and check **DHCP** or **Static** for **Configuration Method**. Leave the **Failover Interface** set to *None*

Configure the RMM appliance connectivity:

- Configure the serial port settings and enable the desired protocols and logging levels via **Serial & Network: Serial Port**
- Attached USB devices are auto-configured so you can access to USB console ports, modems or external USB flash (the ACM5504-5-G-I also has an internal 4GB flash)
- You may also enable SSH tunneled access through the ACM5504-5-G-I to locally networked devices (*hosts*) using **Serial & Network: Network Hosts**
- Configure user access to serial ports via **Serial & Network: Users & Groups**

Step 4 Connect the cellular modem

- Select the **Internal Cellular Modem** tab on the **System: Dial** menu
- Check **Enable** for **Dial-Out Settings-OOB** and enter the carrier's **APN** e.g. for AT&T (USA) simply enter *i2gold*, for T-Mobile (USA) enter *epc.tmobile.com*, for InterNode (Aust) enter *internode* and for Telstra (Aust) enter *telstra.internet*



Note: *Your GSM carrier may have provided you with connection details. However, you generally will only need to enter your provider's APN and leave the other fields blank. If provided a Pin Code you may need to use it to unlock the SIM card.*

You may also need to use alternate DNS servers from those provided by your carrier:

- Enable **Override DNS**. Then check the **Override returned DNS Servers** box and enter the IP of the DNS servers into the spaces provided.
- Check **Apply** and a radio connection will be established with your cellular carrier. *Out-of-band access* is enabled, so the cellular modem connection is always ON.
- Verify the *Connection Status* in the **Statistics - Failover& Out-of-Band** tab is shown as *Connected*. You can also check your allocated *IP address*
- You can measure the received signal strength *RSSI* from the **Cellular Statistics** page on the **Status: Statistics** screen. -99 dbm to –90 dbm = Weak Coverage, -89 dbm to – 70 dbm = Medium, -69 dbm or greater = Strong

Note: You can also see the connection status from the WWAN LED. OFF is shown when in reset mode or not powered. When powered, it will go ON and while searching for service it will flash off briefly every 5sec. Once a radio connection has been established with your cellular carrier (ie, after an APN has been properly configured) the WWAN LED will blink at a rate proportional to traffic signal strength detected i.e. OFF =Low, Blinking Slow = Low to Medium Blinking Fast = Medium to High and ON=Strong

Step 5 OoB access

To directly access the ACM5504-5-G-I, it needs a Public IP address and must not have SSH access firewalled. Almost all carriers offer corporate mobile data service/plans with a Public (static or dynamic) IP address. These plans often have a service fee attached.

- If you have such a static Public IP address plan, you can now try accessing the ACM5504-5-G-I using the Public IP Address provided by the carrier. However, by default, only HTTPS and SSH access is enabled on the OoB connection. So you can browse to the ACM5504-5-G-I, but you cannot *ping* it
- If you have a dynamic Public IP address plan, then a DDNS service will need to be configured. Once this is done, you can then also try accessing the ACM5504-5-G-I using the allocated domain name

By default, most providers offer a consumer grade service which only provide dynamic Private IP address assignments to 3G devices. This IP address is not visible across the Internet but generally it is adequate for home and general business use.

- With such a plan, the **Failover & Out-of-Band** tab on the **Status: Statistics** page, will show your carrier allocated a Private *IP Address* (i.e. in the range 10.0.x.x, 172.16.x.x or 192.168.x.x)
- For an inbound OoB connection with such a plan, you will need to use Call Home with a VCMS/CMS6110 or set up a VPN connection

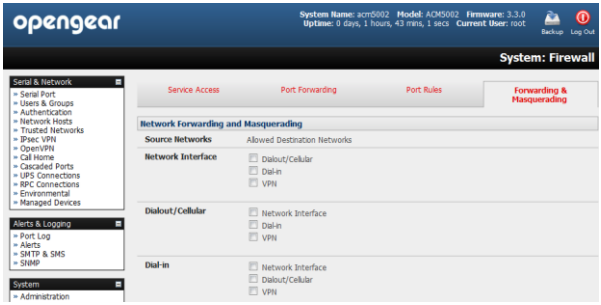
In this default **out of band access mode**, the connection to the carrier cellular network is always on - awaiting any incoming access to the ACM5504-5-G-I or attached serial consoles/network hosts.

An alternative is **failover mode.** This will tell the internal cellular connection to remain idle in a low power state. Only when primary and secondary probes are not successful will it connect to the cellular carrier (refer to the User Manual)

Step 6 Enable cellular router features

The ACM5504-5-G-I can provide cellular routing (although this is disabled by default). In this mode the connection to the carrier cellular network is always on, but IP traffic is selectively routed between the cellular connected network and the local Ethernet network (LAN):

- Select the **Forwarding &Masquerading** tab on **System: Firewall**
- *Network Forwarding* allows devices on the local private LAN to IP connect through to the public network. To enable, check **Dialout/Cellular** to be enabled as the *Destination Network* for the **Network Interface** *Source Network*



- *IP Masquerading* allows devices on the LAN to hide behind and share the one public IP address when cellular connecting to the public network. To enable check **Enable IP Masquerading (SNAT)** on **Dialout/Cellular**
- Configure **Port Forwarding** and set **Port Rules** so external users can selectively initiate connections to the masqueraded devices on the LAN
- Set the **Service Access** rules for routed connections to the ACM5504-5-G-I itself
- Configure the devices on the LAN with new *Gateway* and *DNS* settings

Step 7 Other Functions

The ACM5504-5-G-I also offers many more advanced functions including *an Automated Response, Alerts & Logging* facility, management of third party UPSs with *Manage: Power, Serial Port Cascading*, *Authentication*, *Trusted Networks*, *Secure Tunneling*, *Distributed Monitoring*, *Custom Scripting* and a *Command Line* interface. Refer to the *User Manual* on the CDROM.

Note: On the CDROM, you will find the PortShare and SDT Connector software tools. SDT Connector provides you with secure, point and click access to the console server and all the attached devices. PortShare connects the COM/tty port applications on your Windows PC, Linux server or virtual machine to the serial devices attached to the ACM5500. **Refer to the provided Quick Starts**

Please register your product to activate the warranty and to automatically receive advice of future firmware updates. Go to: *http://opengear.com/product-registration.html*