

MaxCore™ MC1000 IPC Platform Quick Start Guide

P/N:6806800V04A (April 2018)

1

What's in the box?

Make sure you receive all items of your shipment:

- One MaxCore™ MC1000 IPC Platform.
- One printed copy of *Quick Start Guide* (this document).
- One printed copy of *Safety Notes Summary*.
- Other items that were ordered.

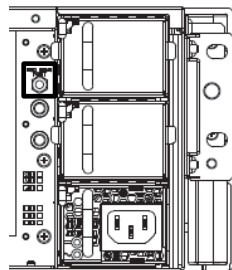


When installing or servicing the system or accessories, strictly observe the safety precautions in the *Safety Notes Summary*. Otherwise, personal injury or property damage may occur. Ignoring these instructions can void the system warranty.

2

Observe ESD-safe measures

- Use either a properly grounded ESD wrist strap or make sure that you are working in an ESD safe environment.
- Connect to the ESD jack/snap at the rear of the system.



3

Prepare the installation site

1. Ensure that all environmental and power requirements defined in the *MaxCore™ MC1000 IPC Platform Installation and Use manual* are met.
2. Remove all items from the box.
3. Gather cables and accessories as required:
 - Earth Ground cable with a minimum copper cross section of 4 mm², terminated with a two-hole lug, 5/8" (15.9 mm) spacing between holes. Suitable for M6 grounding studs and with a current capacity of up to 36A, sustained.
 - Console cable with USB 2.0 characteristics and a standard USB Type-A Male termination at each end to connect to front panel, cable-powered, console port.
 - An AC power cord to connect each AC power supply installed (minimum copper cross section, 1.5 mm², AWG 14). The detachable power supply cord set shall be an approved type, acceptable to the authorities in the country where the unit is installed.
 - Shielded Ethernet cable(s) with Cat5 or better characteristics to connect front panel 1GbE Ports: BMC, ETH1, and ETH2.
 - Auxiliary power cable(s) and mounting hardware, as required for any PCIE add-in cards.
 - USB 2.0 cable to connect to MC1000 front panel USB port (micro USB for Artesyn PCIE cards).
 - Dual In-Line Memory Modules (DIMMs).

4

Install PCIE cards

1. Ensure the system is shut down and AC power is disconnected at the rear of the chassis.
2. Remove the top cover of the system:
Depress the button lock (near the fan assembly on the top cover) and slide the top cover towards the rear of the chassis until it hard stops and can be lifted from the chassis. Total travel is approximately 3/8" (9.5 mm).

Note: When installing (or removing) PCIE cards, maintain a vertical plane of motion to prevent collision with neighboring cards or with the chassis. This is especially important in slot1 where any components on the back side (secondary side) of the card are in close proximity to the chassis.

4

Install PCIE cards (Cont'd)

3. Remove any filler card(s) or filler panel(s) being replaced with a PCIE card.
4. Install PCIE card(s) in their respective slot(s) ensuring that the card edge is level, the card edge connectors are properly aligned, and pressure is evenly applied until firmly seated into the slot.
5. Install PCIE card auxiliary power cables, as required. The motherboard provides six 12-pin polarized auxiliary power headers labeled P401 through P406 on the motherboard silk screen.
6. Fill any empty PCIE slots with filler cards or filler panels. An empty slot adjacent to the component side (primary side) of a high power card should always contain a filler card for better cooling.
7. Install PCIE card mounting hardware. The chassis provides a mounting rail for securing each PCIE card front panel. The chassis also provides a mounting rail for securing full length PCIE cards at the rear of the card.
8. Re-install the top cover, ensuring that the button lock on the top cover latches as the top cover is slid forward. Total top cover travel is approximately 3/8" (9.5 mm).

5

Install the system in the rack

1. Insert the system into a 19" ANSI rack.
2. Fasten the system to the rack via integrated chassis mounting flanges using bolts or screws as defined in the ANSI standard on the left side and on the right side of the system.

6 Ground system

1. Using two M6 grounding studs, connect the Earth grounding cable at the rear of the system (adjacent to Slot 15). Torque the system ground lug nuts to 4.30 Nm (38 in-lbs).
2. Connect the system permanently to the earth ground of the building.

7 Connect to power feed

1. Connect an AC power cord to each installed AC-DC power supply and attach to AC power.
2. The AC Input LED on the power supply is Green when AC power is present. The DC Output LED on the power supply flashes amber when the DC Output is not enabled and Solid Green when the DC Output is enabled by the platform.

8 Connect to MegaRAC® on BMC

The Baseboard Management Controller (BMC) device provides a web-based backdoor entry into MaxCore. This backdoor web server, called MegaRAC, provides remote power control, access to the motherboard CPU, and monitoring and control of chassis infrastructure. This is available as long as AC power is present and the BMC OS has started the "QoM Daemon."

8 Connect to MegaRAC on BMC (Cont'd)

1. Connect PC Ethernet port to the RJ45 Ethernet port labeled BMC on the IO panel on the front of the system.
2. From the PC browser, connect to *192.168.201.9* and login with **Username** and **Password** as *admin/admin*. The MegaRAC dashboard for remote management is displayed.

Note: If the BMC IP address has been altered, the default IP address can be restored by pressing and holding the MC1000 front panel reset button for five or more seconds. Alternatively, BMC console IO can be accessed via the MC1000 front panel USB console port at 115200 BAUD. It is a dual UART interface. By default, you can access BMC console IO as well as the motherboard CPU COMA (UART1) console IO.

9 Power up MaxCore CPUs

Power should only be applied when the equipment is within the specified operating conditions. There are two options to switch on the power supply.

- Momentarily push and release the front panel PWR button. A small diameter tool may be useful since the PWR button is recessed.
Note: To avoid damage to the PWR button, do not apply excessive force.
- In **MegaRAC** application, go to **Remote Control > Server Power Control**, select **Power On Server** and then click **Perform Action** button to power up the box remotely.

9 Power up MaxCore CPUs (Cont'd)

Note: The fans become active after power is applied. The fan speed will vary depending upon the environmental conditions. The MC1000 motherboard CPU will boot BIOS, which can be navigated via MegaRAC.

Alternatively, the motherboard CPU console IO can be accessed via the MC1000 front panel USB console port at 115200 BAUD. It is a dual UART interface. By default, you can access BMC console IO as well as the motherboard CPU COMA (UART1) console IO.

10 Connect to Motherboard CPU over VGA

The motherboard CPU has access to a built-in VGA. Unlike a PC, no VGA cable is required. The MegaRAC interface provides the display and a remote connection is established over the BMC Ethernet connection.

To connect to the motherboard CPU over VGA:

1. Connect your PC to the **BMC** connector and login to MegaRAC (as described in Step 8).
2. Go to **Remote Control > Console Redirection** and click **Java Console** button.

When everything is setup correctly, a **viewer** window will launch displaying VGA graphics output.

Note: You may need to install or update the Java version on your PC and also change the security settings of the Java engine. Only the motherboard CPU has access to built-in VGA.

11

Connect to CPU's serial port through BMC

The MC1000 front panel BMC Ethernet port provides serial port access to CPUs residing on Artesyn proprietary PCIE add-in cards populated in slot 1 or slot 2 or to the motherboard CPU (slot 0). This allows for remote access to add-in cards without network connectivity or as an alternative to a physical console cable connection for BIOS configuration, and so on.

For Artesyn single or dual CPU PCIE boards, each CPU COMB (UART2) is routed to the MC1000 motherboard and is accessible via the BMC. For the motherboard CPU, either COMA (UART1) or COMB (UART2) can be accessed via the BMC. If a BMC connection is established to motherboard CPU COMA (UART1), access to COMA is no longer available at the MC1000 front panel console port (default configuration). It is an "either-or" connection.

To connect to CPU serial port over the BMC:

1. Use a terminal emulator on your PC (you can load one from <http://www.putty.org/>) to open an *ssh* session on the BMC. Use the same IP address and the login credentials as for MegaRAC, described in Step 8.
2. Execute the following command to open a serial console session to a CPU in MaxCore.


```
/opt/fru/bin/sol <slotID> <cpuID>
[baud]
```

 Replace the `slotID` with a slot number between 0 and 2 and `cpuID` with 1 or 2 for one of two target CPUs. Replace the optional `[baud]` parameter with the BAUD Rate of the target CPU UART.

11

Connect to CPU's serial port through BMC (Cont'd)

The default BAUD Rate of the MC1000 motherboard UARTs is 115200. The default BAUD Rate of Artesyn Proprietary PCIE card UARTs is typically 38400.

If no connection is established, the target CPU may be OFF. Turning on the motherboard CPU power (in Section 9) is a pre-requisite to enabling power to CPUs residing on Artesyn proprietary PCIE cards in slot1 or slot2. All power can be applied via commands executed from the BMC: Turn on motherboard CPU1(Slot 0) power:

```
/usr/local/bin/ipmitool -H
127.0.0.1 -U admin -P admin raw
0x2e 0x34 0xae 1 0 0x03 0x60 1
```

Enable Power to CPU1 in Slot1:

```
/usr/local/bin/ipmitool -H
127.0.0.1 -U admin -P admin raw
0x2e 0x34 0xae 1 1 0x03 0x60 1
```

Enable Power to CPU1 in Slot2:

```
/usr/local/bin/ipmitool -H
127.0.0.1 -U admin -P admin raw
0x2e 0x34 0xae 1 2 0x03 0x60 1
```

Note: In general, the command structure above can be used to enable or disable power or execute a reset. The meaning of the right-most argument passed by the command is as follows:
 0: OFF
 1: ON
 2: RESET
 To target CPU2, substitute 0x61 in place of 0x60. It does not apply to Slot 0.

11

Connect to CPU's serial port through BMC (Cont'd)

3. Terminate the *TTY* session by pressing **<ESC + t>** keys at the beginning of a line. It will take you back to the BMC prompt.

Note: CPU COMA (UART1) SOL routing is "sticky" unless the following command is executed from the BMC or a power cycle is performed:

```
/usr/local/bin/ipmitool -H
127.0.0.1 -U admin -P admin raw
0x2e 0x38 0xae 1 0 0x03 0x60 6
```

Executing the above command will restore the default routing of motherboard CPU COMA (UART1) to the front panel USB console port.

For Artesyn single or dual CPU boards, each CPU COMA (UART1) is routed to the PCIE card front panel and is only accessible via the PCIE card front panel (and not from the BMC).

You can access COMA (UART1) of each CPU by cabling your PC USB port to the micro-USB console port on the PCIE card front panel. Once your target CPU is powered, your PC will recognize two serial devices. The default UART settings for Artesyn Proprietary PCIE cards is typically 38400 BAUD, 8 bits, no parity, no flow control.

Note: When executing the commands in this section from a remote host, substitute the MC1000 BMC (eth1) IP Address in place of 127.0.0.1. The default MC1000 BMC (eth1) IP address is 192.168.201.9.

Note: The QR Reader code points you to *MaxCore™ MC1000 IPC Platform Installation and Use manual*.

Finding more information

For more information on the product, see the *MaxCore™ MC1000 IPC Platform Installation and Use* and other related documentation. Go to <http://www.artesyn.com/computing> for technical documentation.



Technical Assistance

To request technical assistance, visit <http://cre-portal.artesyn.com/>