

## onBoard™ MOBILE GATEWAY

### RUGGED, RELIABLE MULTI-NETWORK COMMUNICATIONS

#### oMG 2000

The onBoard Mobile Gateway (oMG) is a multi-network, rugged communications platform designed to deliver secure, wireless wide area networking for vehicles. The oMG extends the enterprise network and management to the fleet, ensuring reliable, secure corporate network access for mobile users in the field. The oMG functions as a multi-radio mobile router and broadband access point.

#### VEHICLE AREA NETWORKING: CONSOLIDATE CONNECTIONS

The oMG includes a built-in 802.11 b/g/n Wi-Fi access point that creates a mobile hotspot in and around the vehicle allowing multiple devices to connect, reducing the proliferation of radio modems, antennas and wireless accounts otherwise needed. The oMG allows devices to connect via Ethernet, Serial, USB, Wi-Fi and Bluetooth.

#### SECURITY: SECURE SWITCHING BETWEEN WI-FI AND CELLULAR NETWORKS

The oMG can be configured with multiple wireless modems that provide access to a combination of cellular data, 802.11 a/b/g/n Wi-Fi, 4.9 GHz broadband, carrier 4G LTE, public safety broadband LTE (FirstNet) and other broadband network services. Multiple radio form factors are supported including USB/ExpressCard, PCI Express Mini (PEM) and MiniPCI for maximum radio flexibility. The oMG's network policy engine enables intelligent switching between networks, based on a variety of operational factors. A patent-pending cognitive wireless system automatically senses, assesses and selects the best available network. Wi-Fi links are protected using the latest security standards and an embedded mobile VPN capability (onBoard Connection Manager - oCM) can secure communications for all connected devices and applications across wide area connections. The oMG is available with an optional FIPS 140-2 compliant IPsec client.

#### MANAGEABILITY: MANAGE, MONITOR AND ADMINISTER YOUR FLEET REMOTELY

The oMG includes a built-in GPS receiver and microcomputer, enabling value-added applications such as vehicle tracking, RFID asset tracking, vehicle telemetry, and remote device access. Remote management of the oMG is provided by the onBoard Mobility Manager (oMM), a powerful software suite that provides status monitoring, device management, and application interfaces. A dashboard provides an up-to-date view of the entire fleet, and a comprehensive reporting suite presents data on-demand, or via pre-scheduled reports.

#### KEY FEATURES

Creates mobile hotspot in and around vehicle

Connects devices using Ethernet, Serial, USB, Wi-Fi and Bluetooth

Automatically senses and selects best network and switches based on user-defined policies

Supports multiple wireless broadband networks including 4G LTE, FirstNet, 4.9GHz Public Safety

Optimized remote monitoring, management and configuration

Integrated security for all connections and devices

Advanced integrated GPS with multi-cast and WAAS

Field upgradeable



**INMOTION**  
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WIRELESS

## BENEFITS

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### SINGLE PLATFORM FOR ALL COMMUNICATIONS

- Reduces operating and capital costs for infrastructure
- Simplifies management and maintenance of field IT equipment
- Reduces communications costs by consolidating traffic over single/preferred network connections
- Enables organizations to leverage Wi-Fi infrastructure
- Provides a core platform for upcoming applications and devices

### CREATES A MOBILE HOTSPOT

- Connects all wired and wireless devices in and around the vehicle
- Enables quick and easy deployment of new applications
- Reduces distraction of mobile crews enabling them to focus on day to day responsibilities

### ENDURING

- Supports all IP devices in the vehicle
- Supports current and future wireless wide area networks, including Public Safety Band Class 14 LTE (FirstNet)
- Field upgradeable

### REDUNDANCY

- Selects “best available” network using up to 6 modem card slots and seamlessly switches traffic
- Maintains user sessions preventing false connection status

### SECURE, RELIABLE

- LAN-to-LAN VPN client to provide secure communications for all connected devices and applications and supports VPN pass-through
- Eliminates the need for VPN software clients for individual devices and applications
- Sends logs and other data to management system

### REMOTE MANAGEMENT

- Remote mass configuration
- Over-the-air updates
- Remote troubleshooting
- Log data stored locally and transmitted to the onBoard Mobility Manager server

### HOST APPLICATIONS

In Motion Technology applications include:

- GPS vehicle tracking
- Asset tracking of RFID Wi-Fi tags
- Vehicle diagnostic telemetry via OBDII
- Remote device trouble-shooting
- Turn by turn navigation via Garmin Fleet Management Interface

### RUGGEDIZED

- Built for in-vehicle use

FEATURE	SPECIFICATION
<p><b>VEHICLE AREA NETWORK (VAN)</b>  <i>Support for all on-board devices - wired and wireless</i></p>	<ul style="list-style-type: none"> <li>• IEEE 802.11 b/g/n with 2x2 MIMO (built-in vehicle AP)</li> <li>• Ethernet: RJ45 x 4 ports (10/100/1000BT)</li> <li>• Ethernet USB</li> <li>• Serial: PPP, RS232, DB9</li> <li>• DHCP Server (RFC 2131)</li> <li>• USB: USB 2.0 x 2 (Serial or Ethernet)</li> <li>• Bluetooth: DUN (optional external adapter required)</li> <li>• Antenna Connectors: SMA (1), RP-SMA (up to 10) to support MIMO/diversity capable radios</li> <li>• Rear panel supports custom connector configurations</li> </ul> <p><i>Compatibility</i></p> <ul style="list-style-type: none"> <li>• Operates with Wi-Fi certified client devices</li> <li>• Supports all major client operating systems</li> </ul>
<p><b>WIDE AREA NETWORK (WAN)</b>  <i>Radio form factor diversity to support multiple, evolving network data services</i></p>	<p><i>Wireless Networking</i></p> <ul style="list-style-type: none"> <li>• Up to 6 modem card slots; accepts USB, ExpressCard, PCIExpress Mini (PEM) and MiniPCI formats</li> <li>• Integrated compatibility with wireless WAN standards: 1xRTT, EVDO, GPRS, EDGE, UMTS, HSPA, HSPA+, LTE</li> <li>• IEEE 802.11 a/b/g/n with 2x2 MIMO</li> <li>• IEEE 802.11-based 4.9GHz Public Safety</li> <li>• Satellite (via Ethernet)</li> <li>• Future compatibility with new wireless WAN standards using standard ExpressCard, USB or MiniPCI or MiniPCle form factors</li> <li>• Future support for Public Safety Band Class 14 LTE</li> </ul> <p><i>Transmit voice, video and data through the oMG QoS</i></p> <ul style="list-style-type: none"> <li>• Applications priority queuing</li> </ul>
<p><b>SECURITY</b>  <i>Secures all data transmitted to and from vehicle without the need for VPN client software on every device</i></p>	<p><i>WLAN Security and Authentication</i></p> <ul style="list-style-type: none"> <li>• WEP, WPA, WPA2</li> <li>• Key management WPA-PSK and WPA-EAP</li> </ul> <p><i>Firewall</i></p> <ul style="list-style-type: none"> <li>• Port forwarding</li> <li>• Port blocking</li> </ul> <p><i>Encryption</i></p> <ul style="list-style-type: none"> <li>• IPsec including LAN-to-LAN (FIPS 140-2 compliant modules available as an option)</li> </ul> <p><i>Authentication and Accounting</i></p> <ul style="list-style-type: none"> <li>• 802.1x/RADIUS authentication</li> </ul> <p><i>Network Selection</i></p> <ul style="list-style-type: none"> <li>• Multiple WAN connections</li> <li>• WAN connection policy managed by network priority, availability, signal strength, GPS location, time-of-day</li> </ul> <p><i>Protocols Supported</i></p> <ul style="list-style-type: none"> <li>• Transparent support for HTTP, HTTPS, SMTP, POP, IMAP, FTP</li> <li>• PPP (RFC 2516)</li> </ul>
<p><b>GPS</b>  <i>Track vehicle locations on maps, provides location awareness and mapping to reporting suite</i></p>	<ul style="list-style-type: none"> <li>• Embedded 12 channel GPS receiver</li> <li>• WAAS and Double Precision LLA</li> <li>• NMEA and TAIP messaging</li> <li>• Local and remote forwarding via TCP or UDP</li> <li>• Available to all IP devices on LAN</li> </ul>
<p><b>PHYSICAL</b>  <i>Compact, purpose built for mobile applications</i></p>	<ul style="list-style-type: none"> <li>• Weight: 6.5 lb/2.9 kg</li> <li>• Length: 10.8 in/27.4 cm</li> <li>• Width: 8.8 in/22.3 cm</li> <li>• Height: 2.4 in/6.0 cm</li> </ul>

FEATURE	SPECIFICATION
<p><b>POWER</b> <i>Runs on standard vehicle power or shore power</i></p>	<p><i>Power Supply</i></p> <ul style="list-style-type: none"> <li>• Compatible with 12/24 VDC systems; support for under and over-voltage conditions</li> <li>• Internal DC-to-DC converter with reverse polarity</li> <li>• Locking power connector</li> <li>• AC adapter (option)</li> </ul> <p><i>Power Management System</i></p> <ul style="list-style-type: none"> <li>• Auto power-up on ignition sense including programmable start timer and shut-down delay</li> <li>• Input voltage monitoring with auto-shutdown at low voltage</li> <li>• Out-of-range temperature detection and shutdown protection</li> </ul>
<p><b>MANAGEMENT</b> <i>Manage mobile network, vehicle and network health</i></p>	<ul style="list-style-type: none"> <li>• Operational support services for fault, configuration, accounting, performance and security</li> <li>• Network coverage reporting</li> <li>• Location-based reporting</li> <li>• Historical logging</li> <li>• Remote software updates</li> <li>• Secure VNC reach-through</li> <li>• Email alerts for configurable thresholds</li> </ul>
<p><b>ENVIRONMENTAL</b> <i>Purpose-built for mobile environment</i></p>	<p><i>Temperature/Humidity</i></p> <ul style="list-style-type: none"> <li>• Operating Temperature: -20°C to +60°C</li> <li>• Optional: -30°C to +60°C</li> <li>• Storage Temperature: -40°C to +80°C</li> <li>• Operating Humidity: 5-95% relative humidity; non-condensing</li> <li>• Storage Humidity: 5-95% relative humidity; non-condensing</li> </ul> <p><i>Platform</i></p> <ul style="list-style-type: none"> <li>• AMD Geode LX processor</li> <li>• Linux operating system</li> <li>• 1 GB onboard solid state storage</li> </ul> <p><i>Ingress Protection</i></p> <ul style="list-style-type: none"> <li>• IP54</li> </ul> <p><i>Vibration/Shock</i></p> <ul style="list-style-type: none"> <li>• In accordance with SAE J1455</li> </ul> <p><i>EMI/EMC</i></p> <ul style="list-style-type: none"> <li>• FCC Part 15</li> </ul> <p><i>Standards/Approvals</i></p> <ul style="list-style-type: none"> <li>• FCC/Industry Canada</li> <li>• PTCRB</li> <li>• AT&amp;T and Verizon Wireless certified</li> </ul> <p><i>Ordering Information</i></p> <p>Please contact In Motion Technology for updated list of supported radio configurations</p>

**DuraTech USA Inc.**  
**A Certified 8(a), SDB, DBE, SBE, MBE, WBE firm.**  
**Phone: (714) 898-2171 Fax: 866-704-9132**  
**Email: [sales@DuraTechUSA.com](mailto:sales@DuraTechUSA.com) [www.DuraTechUSA.com](http://www.DuraTechUSA.com)**