OFFERING MANAGED SERVICES WITH OPENGEAR REMOTE INFRASTRUCTURE MANAGEMENT GATEWAYS

Integrating a secure Remote Infrastructure Management (RIM) platform at the customer premise location is essential for efficiently delivering managed services and generating recurring revenue.

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EXECUTIVE SUMMARY

Managed Service Providers (MSPs) offer an array of service offerings to their customers that include: monitoring, management, control, security, and the maintenance of their customer's network, applications, and operating environments that are located in either hosted, co-location or remote customer sites.

As the customers' demand for additional and unique industry-specific services, high availability, superior performance, services to geographically distributed networks and multiple remote locations grows, MSPs must be ready to meet the challenges and provide solutions to their customers in a timely, cost-effective manner.

There will be a number of complex challenges for MSPs to deliver these extensive services in such a competitive environment, while simultaneously expanding their current service offerings and positioning them as a complete solution to their customers.

Some of the challenges include:

- Creating unique, value-added service offerings that differentiate your company from the competition.
- Offering industry specific service solutions.
- Differentiating service offerings to penetrate a broad market.
- Having the right technology partners, vendor and suppliers to create comprehensive service solution offerings.
- Including automation tools within your offerings to reduce your staff expenses.
- Providing the appropriate levels of security for both your customers and yourself.
- Retaining the highest possible profit margin while providing the best service to your customers.

In this whitepaper, Opengear will discuss areas where MSPs can use secure Remote Infrastructure Management (RIM) products as part of a complete service solution offered to their customers.

INTRODUCTION

Remote Infrastructure Management (RIM) products and technologies provide an excellent way for MSPs to expand their service offerings at a low cost while providing exceptional value to their customers and generating an excellent return on investment (ROI).

Integrating a Remote Infrastructure Management (RIM) solution inside various customer environments and locations is essential for efficiently delivering a superior service offering, as well as, generating recurring revenue with a high ROI.

Opengear secure RIM solutions enable service providers to expand their current service offerings to their customers in a number of different ways. With the Opengear RIM management software plus the RIM Gateways (hardware agents) MSPs have the flexibility to create industry-specific and/or customer-specific service solutions that allow them to be differentiated from their competitors. This flexibility does not mean complexity. In fact, the Opengear secure RIM solutions are powerful, yet easy to deploy/use and provide MSPs the perfect addition to their customer service offerings thereby, increasing revenues, profits and customer satisfaction.

Some of the benefits and capabilities of the Opengear secure RIM solution include:

Automation | Automated and configurable actions based on customizable scenarios and thresholds reduce the MSP's expenses, while at the same time increasing responsiveness to various customer situations, as well as, MSP profits.

Differentiation | Differentiate MSP service offerings from competitors and penetrate more easily into industry verticals with customizable and flexible solutions tailored for those markets that incorporate the widest range of features, security and connectivity options, ensuring compatibility to your customer's environments.

Security | Securely manage customers' applications, environments, communications, network, power, security and computing equipment, with access control (authorization and authentication) and encrypted communications.

Open Standards | Create industry and customer specific service solutions in a non-proprietary way. Design-in flexibility, options and openness for integration into MSP service solutions offerings.

Access | Anytime, Anywhere, Secure Remote Access. Provides extensive and secure In-Band and Out-Of-Band access to enable MSPs the ability to monitor, manage, control and access all of the devices at customers' sites - even when behind firewalls or the primary network connection is down. Using Opengear's secure RIM solutions is like being "Virtually There".

THE ECONOMICS OF MANAGED SERVICES

Recent industry analyst studies predict growing demand for managed services even with an unpredictable global economy. Visiongain, a specialist business information company, reported in July 2011 that the managed services market was almost at $55 billion in 2010, and projected to reach $86 billion by 2016. Capitalizing on this predicted growth is likely to be very challenging for MSPs as they will need to differentiate and expand their offering to succeed in a highly competitive market. Specifically, the MSPs will need to focus on new industry verticals, market strategies and solutions to acquire new customers and foster existing customers into a more complete managed services model.

Recent studies by Gartner Research, depict an above-average percentage of upper midsize businesses are planning to engage MSPs in 2012 for outsourcing various IT functions and responsibilities. This is a prime opportunity for MSPs to revisit their SMB offerings and to capitalize on new, secure RMM technologies to extend their customer solutions.

Respondents Who Currently Do Not Have an IT Services Contract, but Plan to Get One in 2012

ITO Areas	Average for All Respondents, Including Large Enterprises (%)	100-499 FTEs Low-End Midsize (%)	500-999 FTEs Upper-End Midsize (%)
Applications	22.5	23.1	24.8
Data Centers	20.1	19.2	22.2
Desktops	18.1	15.9	18.1
Network/Communications	18.6	20.2	18.8
PaaS	22.8	23.1	23.5
IaaS	21.7	21.2	16.8
BPO (Horizontal Industry — CRM, etc.)	19.4	18.3	20.8
BPO (Vertical Industry — Healthcare, etc.)	18.1	16.4	16.8
BPU	17.5	20.2	17.5
Cloud-Based Information Systems	33.8	33.7	34.2

Note: Yellow shading = 2% above average; blue shading = 2% below average.

Source: Gartner (November 2011)

STRATEGIES FOR DIFFERENTIATED SERVICES WITH OPENGEAR SECURE RIM GATEWAYS

MSPs need to expand their service offerings and solutions to be able to penetrate a broader market opportunity by identifying Operational Technology (OT) service gaps where IT and OT intersect. Recent Gartner Research studies report that by 2015, OT regulations will be the fastest-growing area for company spending.   Cross-industry OT security investments in 2015 will be twice as much as the investments made in 2011 due to regulatory requirements, new laws, as well as, major security breaches that are inevitable and sure to happen. Strategic growth opportunities from the emerging convergence of IT and OT will produce immediate service needs that MSPs can fulfill.

One area ripe for MSPs is to deploy secure Remote Infrastructure Management gateways (hardware agents) to their customers' sites and environments. These RIM hardware agents will act as a "virtual technician" gathering vital data, generating alerts and reports for centralized management software and most importantly performing automated actions in response to varying pre-set conditions. By deploying the secure RIM solutions, MSPs will be able to provide a higher level of service and support to their customers, without the need to have a larger techni-cal staff that would need to travel to customer locations thereby reducing a lot of unneeded expenses and increasing the MSP profit potential.

By having a secure RIM hardware agent "call home" to centralized management software elimi-nates the need for the MSP to have "inbound access" at the customer sites and can be easily accessed behind firewalls. Of course the secure RIM hardware agent can also simultaneously reduce complexity when working in multi-tenant environment or medical markets.

The secure RIM hardware agents are able to span the virtual world and the physical world with access to a variety of IT and OT devices, software applications, surveillance and environmental conditions while gathering data, creating alerts and performing actions all done automatically as part of the MSP's service solutions. MSPs can also greatly improve their service solutions by automating routine maintenance of IT, OT and networking devices. By automating and develop-ing the secure RIM solution to function similar to a "virtual" on-site IT or OT staff capable of diagnosing and responding to problems, MSPs will have a solution that automatically triggers recovery actions within mere moments of an incident or problem situation. Service automation is an easy way to reduce overhead and costs for MSPs by decreasing expensive and time-consuming tech support trips to remote customer locations.

The primary MSP strategy should be to meet and exceed their customers' needs while keeping the MSP's costs competitive. The MSP driving force and motivation for the deployment of secure RIM hardware agents and managed RIM services are:

- ▸ **Cost and ROI** | Allows for an increase in the service offerings without the need to hire additional staff – generating a high ROI.

- ▸ **Downtime and Satisfaction** | With the secure RIM automation capability, many problems leading to downtime can be eliminated automatically leading to higher customer satisfaction.

- ▸ **IT + OT** | Create custom solutions that bridge the customer's need for both IT and OT managed services solutions.

- ▸ **Virtual and Physical** | Provide solutions that span the Data (virtual) and Physical worlds to be able to enter into new and high growth markets.

CREATING DIFFERNTIATED SERVICES WITH OPENGEAR SECURE RIM GATEWAYS

The challenge for MSPs is the need to be able to differentiate themselves and their service offerings from the competition. Opengear sees these challenges as opportunities for our RIM management software and our product-line of secure remote monitoring and management gateways to integrate into various MSP solutions. Opengear has developed the secure RIM Gateways specifically to work within and integrate with MSP service offering solutions, while providing enhanced security, monitoring, alerting, automated actions/responses and an extensive array of out-of-band connectivity options.

FEATURES FOR SERVICE PROVIDERS

MSPs demand a lot and Opengear delivers. The need for powerful, secure, flexible, non-proprietary and easy to deploy secure RIM hardware agents (Gateways) that can be integrated into an MSP's solution set is what's required. To fulfill that requirement, Opengear's secure RIM Gateways have been designed to operate as a standalone hardware agent designed specifically to deliver remote monitoring and management with the most flexible hardware and software architecture or they can integrate into existing MSP or customer management systems.

Opengear provides service providers with powerful "Virtual Hands" that can be used to monitor, manage, access and control all the elements of their customer's distributed infrastructure or environment. The Opengear secure RIM gateways integrate all the features needed to monitor, manage, access and control the entire IT and OT infrastructure at an MSP's customer's site – from software applications and computers; through networking/security equipment, surveillance cameras and power systems; down to door/vibration sensors, temperature/humidity and digital I/O. All this power and flexibility is available for MSPs to use in crafting their own customer or industry specific solution offerings.

INTRODUCTION TO THE OPENGEAR SECURE RIM GATEWAYS

The Opengear Secure RIM Gateways (hardware agents) can be remotely accessed either In-Band or Out-of-band using 10/100 Ethernet, embedded cellular 3G (4G LTE coming soon), V.92 modem, 802.11 Wi-Fi, and optional dual Ethernet connections. The Out-Of-Band connectivity methods can be triggered by dial-in, dial-out, automatic failover and the ability to "call home" from behind a firewall to the Opengear RIM management platforms (e.g., CMS or VCMS). All of the communications sessions to/from the Opengear RMM Gateways are secured using robust advanced encryption. Opengear RIM platforms offer a unique blend of features to give MSPs the ability to monitor, manage, access and control all devices from one single screen.

AVAILABLE SOLUTIONS INCLUDE:

Opengear CMS/VCMS - Centralized management platforms that provide secure monitoring, management, access and control to the Opengear secure RIM Gateway hardware devices - even behind remote firewalls and through VPNs. Scalable to manage up to thousands of distributed secure RIM Gateways and offers an auto upload of device configurations with a simple click-and-connect to the RIM Gateways.

Opengear RIM - Available in form factors that scale from 4 to 48 managed serial ports, embedded management LAN switches, Digital I/O and wide selection of wired and wireless Out-Of-Band options.

IM4200 | Infrastructure Manager
available in 8, 16, 32 and 48 port models that extend advanced management features for Data Centers, CoLo's and Branch Offices. It is also available with integrated 34 port 10/100 Ethernet management LAN switch.

ACM5000 | Secure RIM Gateways
available in 2, 3, 4 port models that provide advanced features in a small form factor. Designed for sites with 4 or fewer serial connections, includes environmental monitoring and is available in extended temperature and industrial models.

ACM5500 | Secure RIM Gateways
available in 4 and 8 port models with optional 10/100 management switch that provide for the most comprehensive secure RIM offering and in the most flexible platform available in the market.
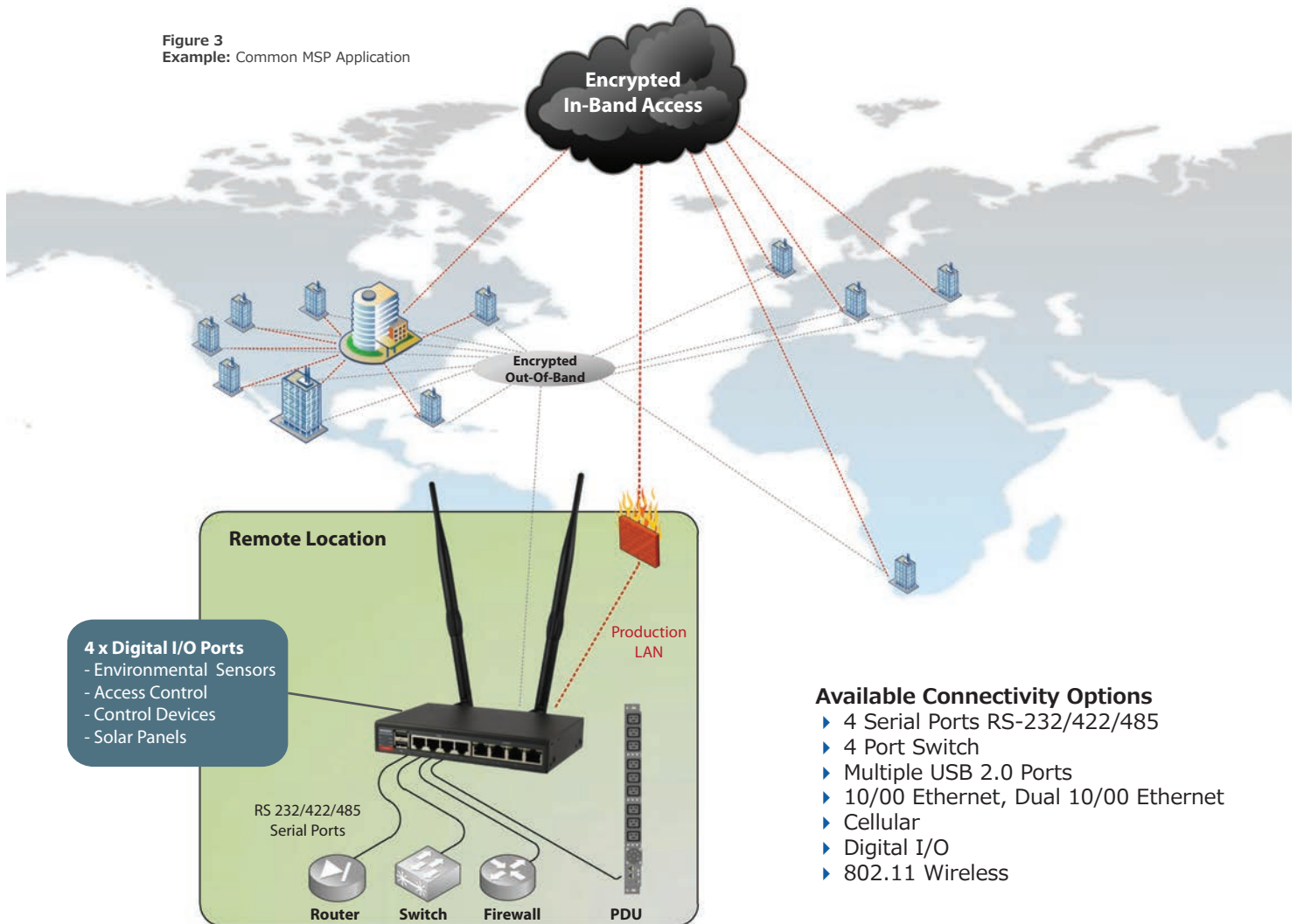
Common Device Connectivity

Opengear secure RIM Gateways are an integrated component of the IT and OT infrastructure they are designed to manage. To effectively and securely manage remote site locations, RIM solutions need to be deployed where they are needed most; at the edge of your customer's premise network.

OPENGEAR RIM GATEWAYS IN A COMMON MSP APPLICATION

Figure 3
Example: Common MSP Application

Encrypted In-Band Access

Encrypted Out-Of-Band

Remote Location

Production LAN

4 x Digital I/O Ports
- Environmental Sensors
- Access Control
- Control Devices
- Solar Panels

RS 232/422/485 Serial Ports

Router   **Switch**   **Firewall**   **PDU**

Available Connectivity Options
▶ 4 Serial Ports RS-232/422/485
▶ 4 Port Switch
▶ Multiple USB 2.0 Ports
▶ 10/00 Ethernet, Dual 10/00 Ethernet
▶ Cellular
▶ Digital I/O
▶ 802.11 Wireless

AUTOMATED REMOTE MANAGEMENT AND SUPPORT

Opengear's Automated Remote Management and Support (ARMS) is a comprehensive auto-remediation feature designed to proactively solve problems, issues, heal IT and OT infrastructure and reduce downtime.

Opengear secure RIM Gateways enable MSPs to remotely monitor, manage, access and control IT and OT equipment from anywhere in the world – even if the network is down. Using Opengear's ARMS functionality, allows MSPs to design policies for automatic remediation of IT and OT equipment and infrastructure issues. Opengear's ARMS is an embedded rule engine that is available on all of Opengear's secure RIM Gateways.

Key Benefits (partial):
‣ Minimize costs and increase profits by reducing the actual number of staff required to
   service your customers.
‣ Increase customer satisfaction and retention by automatically fixing issues and healing
   customer infrastructure problems and issues.
‣ Automatically generate alarms, alerts and notifications when events trigger established thresholds.
‣ Increase infrastructure lifespan with proactive monitoring and controls.
‣ Provide additional security by marrying both data and physical security to the alert
   and action capability for your solutions.
‣ Automatically generate trouble tickets and dispatch repair technicians upon certain
   criteria being met.
‣ Reduce the likelihood of false alarms and incidents due to human error.
‣ Simplify remote control with SMS and web page initiated customizable local actions.

ARMS monitors and collects data from the network, servers, managed devices and sensors located at remote sites anywhere in the world. If an alert condition is raised, the Opengear secure RIM Gateway will automatically trigger various, predetermined actions and resolve incidents/problems (in real-time) – all without the need for MSP technical staff to oversee the situation (auto remediation).

By automating these action resolutions the Opengear secure RIM gateway reduces the time that most standard management tools take to find the problem – often before customers even know there was an issue. What could amount to hours or days of customer downtime can be avoided by implementing Opengear's ARMS on the secure RIM gateways.

‣ ARMS decreases labor costs by automating routine daily maintenance tasks and reducing the
   dispatch of costly, limited, IT or OT personnel to remote customer locations.

‣ ARMS can strengthen existing IT, OT, network and systems management with the unique
   ability to alert, but to take immediate localized actions to remedy problems and issues.

‣ ARMS efficiently monitors the state of managed software applications and devices with no
   burden placed on the customer's network and can trigger autonomous Out-Of-Band
   connections to centralized management during outages.

Alert Condition → Trigger Action → Remediation

CELLULAR OUT-OF-BAND ACCESS

Out-of-band access to distributed IT and OT equipment is crucial for MSPs and enterprise customers to eliminate the need and expense for onsite staff to handle outages. Not only does cellular out-of-band access save travel expenses; but, out-of-band access also reduces recovery time in the event of unplanned outages to ensure remote site productivity and up-time.

Traditionally, out-of-band access to remote sites during unplanned network out-ages has been accomplished by using analog modem connections through the public or private telephone network. This solution is not as secure or robust as other solutions; however, it is still widely deployed throughout the world. As technology changes, the overhead for maintaining analog modem banks at a central location has become an issue for IT management. In today's world, most modern laptops lack internal modems to even allow for IT or OT staff on the road or working from home to easily connect to remote sites via analog modems. The cost of provisioning analog lines at both host and remote locations has increased dramatically in part, due to the advent of VOIP technologies. This also creates a paradigm whereby the remote sites rely on core network switching to provide VOIP analog line access. These same core network switches are the gateway for VOIP analog lines which rules out analog modem connectivity during a network outage.

Opengear has developed a solution to help control operational costs, eliminate the need for analog modem connectivity and provide for a high speed out-of-band access by using cellular technologies. The competitive landscape of the cellular marketplace has reduced the cost for cellular data plans making it even more affordable than using traditional analog telephone lines. With the Opengear solution, MSPs can securely gain access to all the IT and OT devices allowing them to perform in-depth diagnostics and troubleshooting within seconds of an incident, and before it affects productivity at the remote site.

Standardize on cellular solutions to reduce complexity
The Opengear cellular-enabled, secure RIM solutions reduce the complexity found in traditional dial-up out-of-band applications where international dialing costs and restrictions prevent ease of access. Opengear's secure RIM solutions are available with temperature monitoring, optional environmental sensors and enables secure management of assets connected via serial console ports, USB, Ethernet and digital I/O's. These cellular, secure RIM gateways use the cellular carrier network to deliver real-time access, monitoring, management and control regardless of location.

CELLULAR OUT-OF-BAND ACCESS

High speed wireless connectivity
Opengear secure RIM solutions can be used as the primary wireless network connectivity to assets at remote locations, or they can be used as a backup to existing wired landline connections. Equipped with built-in failover capability, these secure RIM gateway devices automatically switch from a primary wired network connection to a wireless mobile broadband network connection during primary service outages and automatically fails back (without interruption to service) when the wired network connection is restored.

**Deploy flexible solutions**
With several methods of accessing distributed IT and OT infrastructure Opengear provides flexible solutions for any MSP connectivity scenario:

- Public IP Address
- Dynamic DNS
- Automatic Failover
- Call Home to CMS/VCMS
- Call Home to OpenSSH
- IPSec Failover

MSPs, IT and OT staff need to be able to connect to and control remote devices even when the network is down. All remote access and network triage need to be done securely and audited for regulatory compliance policies. When the primary in-band network connection is unavailable, a secure, out-of-band path is vital for accessing, monitoring, managing and controlling IT and OT devices.

Managing distributed IT and OT infrastructure is hard enough why make it more complex and expensive by having to buy, deploy and manage multi-vendor propri-etary management tools? An integrated out-of-band RIM solution should be a flexible solution that deploys quickly, begins working immediately, is simple to use and manage, while integrating seamlessly with existing MSP, IT and OT manage-ment systems.

Figure 4. Cellular Out Of Band
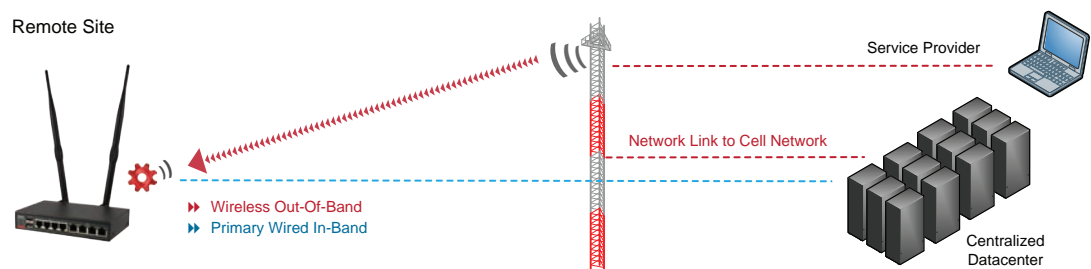
OPERATIONAL TECHNOLOGY

Strategic differentiators from the emerging convergence of IT and OT will produce immediate opportunities for MSPs that are prepared to meet the demand. Likely, MSPs could create new, profitable and exciting opportunities by introducing their customers to emerging RIM technologies for improving the customer's operations. Much of this growing OT market is driven by regulatory compliance, efficiencies, budget constraints and cost reductions, as well as, various laws to protect a nation's critical infrastructure.

MSP opportunities to expand from IT services to OT services include:

Industrial Technology | Installation, Monitoring and Management of IP-Based Control Networks such as SCADA, PLC's, Building Automation.

Utilities Industry | Smart grid, Oil and Gas, Water treatment, Sewage treatment, and Power plants all have SCADA or other RTU devices that need to be monitored and managed. In addition, advanced consumer metering systems requires a link between the meters (an OT) and the customer information and billing system (an IT) as well as integrated web management and billing solutions.

Renewable Energy | Offer Solutions for remote monitoring and management of deployed solar and wind assets. Enterprise based commercial deployments, as well as, industrial, utility-grade deployments of solar power arrays and wind turbines.

The scope of enterprise information management is to ensure that, in a dynamic workplace, every person has the right information, in the right format and at the right time, to make the best possible decision. Any time a fault goes undetected, or maintenance is delayed because the consequences were not visible, means competitive advantage is being reduced. MSPs have a valuable role to play in ensuring that information can flow in a secure manner, wherever it needs to go at any time and Opengear's secure RIM gateways can help MSPs deliver the right solutions into the right IT or OT customer environment.

Figure 5. IT and OT Are Similar, but have Differences

	IT	OT
Purpose	• Managing Information, Automating Business Processes	• Managing Assets, Controlling Technology Processes
Architecture	• Transactional or Batch, RDBMS or Text	• Event-Driven, Real-Time, Embedded Software, Rule Engines
Interfaces	• Web Browser, Terminal and Keyboard	• Sensors, Coded Displays
Ownership	• CIO and Computer Grads, Finance, Procurement	• Engineers, Technicians and LOB Managers
Connectivity	• Corporate Network, IP-Based	• Control Networks (Increasingly IP-Based and Wireless)
Examples	• ERP, SCM, CRM Email, EAM, Billing	• SCADA, PLCs, Modeling, Control Systems

EAM = enterprise asset management; LOB = line of business; PLC = programmable logic controller; SCADA = supervisory control and data acquisition; SCM = supply chain management

Source: Gartner (November 2011)

CONCLUSION

The ever-increasing appetite of businesses, public and private organizations to outsource their IT and OT functions, coupled with Opengear's secure RIM Gateways, present a winning combination for MSPs.

The ongoing growth of the managed services provider market is a direct result of the increasing complexities of the IT and OT environments, as well as, the various compelling challenges that arise from those dynamic environments. However, MSPs have been hindered by their customer's IT and OT equipment that was not designed to meet the high uptime requirements required by the agreements that customers have with their service providers. Opengear has addressed these requirements (and more) in the secure RIM Gateway products being offered. MSPs can now deliver secure, managed customer and industry specific solutions, better, faster, at competitively-priced costs and with higher profit margins by using Opengear's secure RIM solutions.

The Opengear secure RIM Gateway is an integrated, all-in-one solution offering the most flexible connectivity options, comprehensive security, and out-of-band management capabilities contained within a single hardware platform designed specifically to meet the demanding requirements of MSPs. Opengear has a proven track record of providing, open standards-based, flexible, secure, high availability, easy to use and deploy technology into the market.

Opengear RIM Gateways enable service providers achieve the following:

‣ Offer differentiated, flexible and future service offerings to penetrate customer specific, industry specific and broad markets.

‣ Provide ongoing solutions that can be priced competitively and still generated a high ROI.

‣ Capture new customers while increasing existing customer satisfaction and retention.

‣ Increase staff productivity via Opengear ARMS.

‣ Retain highest possible profit margin while keeping staff costs under control.

Managed services that include the Opengear RIM Gateway will produce significant costs savings, efficient Out-Of-Band access, less technician time and fewer SLA non-compliance payouts. Opengear RIM Gateways enables service providers to develop new differentiated services, provision services more rapidly, improve customer loyalty and retention, and support future services.

ABOUT OPENGEAR

Opengear designs and manufactures next generation console servers, cellular routers and remote monitoring and management gateways for secure remote access and control of routers, switches, servers, firewalls, telephony equipment, uninterruptible power supplies, power distribution units and environmental monitoring devices.

Opengear is a leading provider of secure enterprise and industrial grade console servers, cellular routers and automated remote monitoring and management solutions that enable our customers to tame IT and OT complexity easily and cost-effectively by being "virtually there".

Opengear delivers solutions that secure and simplify remote monitoring and management tasks, while providing MSPs, IT, OT, and security professionals with tangible cost savings benefits and a high ROI.

Opengear's extensive support for automated response and true "out-of-band management", ensures that our customers maintain control over their managed devices; even when their network is down – resulting in rapid problem resolution and drastic reduction of expensive on-site staff visits.

Opengear's open standards platforms give MSPs, IT and OT managers, as well as, system/network/security administrators / managers the most flexible, powerful, extensible and secure remote monitoring and management solution available on the market today.

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