Level 3™ Cloud Security Solutions
Connecting and Protecting the Networked World™
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Call (888) 843-1683 or visit mvdconnect.com
Industry Trends

Key Business Drivers and Challenges

Emergence of Cloud
• A paradigm shift to cloud computing – More than 80 percent of the organizations intend to use the cloud in some form or the other in 2014
• Growth in cloud adoption has increased the complexity of corporate infrastructures, complicated IT/Security management and made security increasingly more difficult

Growth via the Cloud
• The shift towards the cloud has accelerated the BYOD trend and enabled productivity and 24 x 7 access, all while increasing the headaches associated with security
• With more devices than ever connected to corporate networks, more data being sent and received and 24 x 7 access to applications IT/Security departments today face an almost impossible task
• Managing access, authentication, permissions, content controls, etc., amidst the evolving threat landscape is costly and nearly impossible

Securing the Cloud
• In this challenging threat environment, Security is a primary concern for public cloud deployments, it is critical to ensure businesses have secure Internet connections to critical applications and infrastructure
• A 24-hour DDoS outage can cost anywhere from $240k per day to as high as $2.4M or more
• Not only are there financial risks due to downtime and decreased productivity, but sensitive data, intellectual property must be secured in transport with breaches tarnishing your brand/reputation

1 http://www.gartner.com/newsroom/id/2581315
2 http://bit.ly/1zC7dIl
Emerging Challenges In Security

Changing Nature And Evolution of Security Threats

- **2.9 seconds**: Rate at which new infected websites appear.
- **Top 3**: Rank of importance of security in WAN requirements.
- **660%**: Increase in cybersecurity incidents over the past 4 years.
- **25%**: Proportion of executives in a recent survey who admitted having a security breach in the past year.
- **$30 million**: Cost of 24-hour outage for large e-commerce provider.
- **30,000**: Number of websites infected every day.

Source: Internet Crime Complaint Center, 2011 (660% increase in cyber security threats over the past four years)
Source: Forrester, IDC and the Yankee Group ($30 million cost of 24 hour outage for large e-commerce provider)
Source: IDC (Top 3 rank of importance of security in WAN requirements)
Source: Sophos Security Threat Report, 2012 (30,000 number of websites infected every day & 2.9 seconds, rate at which new infected websites appear)
Source: Forrester, 2011 (25% proportion of executives in a recent survey who admitted having a security breach in the past year)
Level 3℠ Security Solutions

Connecting and Protecting The Networked World

SECURITY OPERATIONS CENTER
24 x 7 global support

LEVEL 3℠ SECURITY SOLUTIONS

SECURE CONNECTIVITY
Securing the border

CLOUD SECURITY
Extending security to the cloud

SECURE ACCESS
Mobility Site

MANAGED SOLUTIONS
Firewall
IDS/IPS
UTM

INTERNET THREAT MITIGATION
Firewall
UTM
DDoS

CONTENT SECURITY
Email & Web Security

NETWORK INTEGRATION AND CONSULTING SERVICES
Design  Testing & Assessment  Implementation  Threat Analysis

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Cloud Security

Multi-Layered Internet Threat Mitigation

- **DDOS Mitigation**: Mitigate against layer 1-7 Massive DDOS Attacks
- **Managed Firewalls**: Manage inbound and outbound network traffic based on applied rule sets
- **Intrusion Prevention Systems**: Monitor network or system activities for malicious activities or policy violations
- **Content Security (Email / Web)**: Provides safe and efficient email and web usage, making sure content, sent, received and viewed is safe and secure

*24 x 7 x 365 SOC Monitoring*
Level 3® DDoS Mitigation

Mitigate Against Large, Sophisticated DDoS Attacks

**Protection Services**
- On Demand
  - DNS Based Proxy Solution
  - Routed BGP Solution
  - Direct Connect EVPL

- Always On
  - GRE Based DDoS Mitigation
  - Direct Connect EVPL

**Detection Services**
- Flow Based
- Application Based

**Unparalleled DDoS protection that includes:**
- On Demand / Always on protection
- Real time blacklisting
- 24 x 7 x 365 Monitoring
- Data analytics and forensics

**Key Differentiators:**
- Carrier Agnostic – We do not protect circuits
- Cloud based completely managed solution, Comprehensive layer 1 – 7 protection
- SSL DPI and Application attack mitigation
- Globally distributed scrubbing centres
- Supports industry best SLAs
Level 3℠ Managed Security Services

One Platform Providing Advanced Protection

• Fully managed firewall, intrusion prevention and unified threat management (UTM) service
• Premises or cloud-based deployment options
  ▪ Cloud service is provided with shared hardware
• Layer one or more of these services to a managed firewall for enhanced protection
• Securing Internet connections and enabling employees to safely use critical business applications via the public cloud

UTM Capabilities
• Anti-Virus
• Anti-Spam
• URL Filtering
Managed Firewalls

Protect Your Corporate Network Against Advancing Threats

• Identity Based Policies & Policy Management

• Static NAT and Dynamic NAT Support
  ▪ Outbound NAT Support
  ▪ Inbound NAT Support

• Traffic Support
  ▪ SCTP, GTP, ICMP
  ▪ Session helpers & ALGs

• Control traffic when it traverses through the device
  ▪ Interfaces (DMZs), zones (group of interfaces), VLANs and SSIDs segments

Managed Firewalls enable you to design rules for what traffic is permitted to enter and leave your network.
Intrusion Prevention Systems

Monitoring The Network For Malicious Activities

IPS supplements the effectiveness of firewalls by examining the payload of network traffic that is allowed to pass through the firewall to help ensure there are no hidden attacks and blocks direct compromises of your network infrastructure.

Key Features:

- Custom signatures
- Signature filtering
- More than 7,000 signatures
Level 3SM Email Defense

Content Security - Protecting Your Data, Information and Endpoints

Inbound Email Filtering
• Multi-layered inbound spam, malware & phishing filtering

Email Defense & Continuity
• Multi-layered inbound spam, malware & phishing filtering
• Block outbound emails that contain proprietary, inappropriate, or actionable content
• Outage protection that moves the service to Web email
• Intelligent post-outage synchronization of email

Email Encryption
• Bi-directional encryption, even from mobile devices
• Data Loss Prevention (DLP), ready-to-use compliance templates, document registration
Level 3SM Web Defense

Easy, feature-rich, defenses against dynamic Web-based malware attacks and control of Internet content

Cloud-based, Web protection service securing all aspects of Web 2.0 traffic at the network perimeter with advanced malware protection and Internet use policy enforcement

• **Threat Control** - Advanced Web-filtering technology to help protect against known and unknown spyware, viruses, phishing attacks, blended threats and targeted attacks
  
  • Web traffic is scrutinized - system analyzes the nature and intent of all content and active code on requested Web pages.
  • Helps protect against malware and other exploits by stripping out the threatening aspects and delivering the safe content.

• **Content Control** - Enables monitoring and limits surfing, preventing users from accessing inappropriate or malicious content
Level 3SM Security Consulting Services

Fortifying Your Global Security Architecture

Pre-Sales/Network Design
- Vulnerability assessment
- Penetration testing
- Security design & architecture
- Policy creation
- Sales engineers
- Design engineers

Monitoring and Management
- Security Operations Center
- Logging and reporting
- Policy and rule changes

Implementation/Lifecycle
- Level 3 field engineers
- Test & turn up

Additional Services
- Compliance analysis and reports
- Forensic analysis

Pre-Sales And Network Design
Security Consulting Services
Implementation Life Cycle
Monitoring And Management
Additional Consulting Services

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MyLevel3℠ Customer Portal

Real Time Visibility In To Security Threats

- **End-to-End Visibility**
  - Complete view of UTM platform for policies, configuration rules, consumption data, and security elements purchased

- **Simplified Service Management**
  - Ability to open tickets to change configurations via the SOC

- **Convenient and Secure Billing**
  - Easily and securely view and analyze invoices online; submit and manage billing inquiries and disputes

- **Access Robust Real-Time Reporting**
  - Level 3 Security Analytics Tool
  - Security and Network data in real-time
  - Manipulate data and create custom reports with easy to use filters
Level 3 Security Operations Center (SOC)

Responsible for Securing Our Global IP Network

- 24 x 7 x 365 support, providing always on monitoring and management
- Provide managed security solutions backed by our people, systems and data
- The same team charged with protecting Level 3’s global infrastructure will be monitoring and managing your security solutions
- Our network and visibility into threats provides our security team with exceptional data – we leverage this information to protect your assets

140,000
ROUTE MILES

120,000
NETWORK ELEMENTS

20,000+
ENTERPRISE CUSTOMERS

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Level 3 Security Operations Center

Provided With Exceptional Visibility In To A Dynamic Threat Environment

1000 Command and Control Servers

1+ Million Malicious Packets Per Day

350,000 Alerts Per Day

1.7+ Million Infected Machines with proprietary threat intelligence systems

36+ Billion Netflow Sessions Per Day

40% OF THREATS DETECTED WERE PREVIOUSLY UNKNOWN
## Level 3℠ Cloud Security Solutions

Optimize Security and Connectivity while Maximizing ROI

<table>
<thead>
<tr>
<th>Service</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DDoS Mitigation</strong></td>
<td>Mitigate against massive, sophisticated DDoS attacks; insulating Web and application infrastructure from malicious attacks, helping to ensure business continuity and minimizing revenue loss through unplanned downtime.</td>
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<td><strong>Managed Firewalls</strong></td>
<td>Design rules for what traffic is permitted to enter and leave your network.</td>
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<td>Monitor network or system activities for malicious activities or policy violations.</td>
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<td><strong>UTM</strong></td>
<td>Leverage a completely managed UTM platform to mitigate threats from viruses, block spam and filter web content.</td>
</tr>
<tr>
<td><strong>Content Security</strong></td>
<td>Filter, secure and encrypt inbound and outbound emails; prevent data theft and protect intellectual property. Manage web based threats and control content with web defense.</td>
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Level 3℠ Cloud Security Solutions

What Makes Level 3 Unique?

- **Advanced SOC:** 24 x 7 SOC that can cost effectively monitor, track and mitigate threats, utilizing the expertise and knowledge gained from protecting Level 3’s global network/infrastructure.

- **Unmatched Attack Traffic Visibility:** A global network backbone with visibility into attack traffic and advancing threats (IP, DNS, CDN).

- **Comprehensive Internal And External Security:** Global security provider responsible for securing both your network and cloud-based infrastructures, providing physical (network), logical (IP) and content security.

- **Proactive Versus Passive Mitigation:** Ability to be more proactive, using our data and analytics to see threats forming while taking proactive measures ahead of an attack or more quickly mitigating an attack if/when one does occur with our visibility, control and data.