

# LoadMaster® Hardware Datasheet

#### DATA SHEET

## Scalable High-Performance Application Delivery

Progress<sup>®</sup> Kemp<sup>®</sup> LoadMaster<sup>®</sup> hardware load balancers offer the scalability, feature depth and security required to enable resilient delivery of a wide range of application workloads for organizations of all sizes and capabilities. LoadMaster simplifies application delivery with easy management via web UI, API and Progress<sup>®</sup> LoadMaster<sup>®</sup> 360 with a compelling TCO and outstanding customer support.

## The Benefits of Kemp LoadMaster

#### Resilient

LoadMaster can enhance application availability and resilience with the option for Highly Available (HA) paring of appliances and geographic server load balancing (GSLB) removing single points of failure in the data center and across data centers. Application server health checks enable redirection of traffic to healthy servers and the insights provided through LoadMaster 360 will help maintain continuous application availability.

#### Secure

As the access point for applications, LoadMaster provides authentication and attack mitigation services to prevent malicious and unauthorized access to application resources. The Edge Security Pack (ESP) enables pre-authentication of clients (LDAP, OIDC, Active Directory, RADIUS and SAML) while the Web Application Firewall (WAF) offers continuous application-level protection through OWASP CRS with updated reputation data daily.

#### Easily Managed

LoadMaster appliances can be managed via the intuitive web UI, via API (PowerShell/RESTful). Application templates simplify deployment and optimization, while the API provides an easy way to automate configuration and management tasks whether through DevOps toolsets or operational frameworks.

### Scalable

As application delivery demands grow, LoadMaster can scale by clustering multiple appliances together into a single load balancer entity. As well as scaling to meet increasing capacity requirements, clustering also provides resilience as the failure of a cluster member is gracefully handled with remaining members continuing to provide service.

### Low Cost of Ownership

LoadMaster delivers performance and functionality at a compelling price point when measured against the key metrics of SSL transactions per second, application throughput and active connections. Coupled with the low operational overheads delivered by features such as application templates and our world class customer support services, organizations can achieve significant TCO reductions on application delivery.

## **Fully Featured**

LoadMaster includes a robust set of features to enable deployment of application delivery and interfaces and API to integrate with existing authentication, logging, management and provisioning systems.

## Support Subscriptions

LoadMaster support subscriptions offer flexibility, simplicity and value to meet your application delivery requirements and challenges. Support subscriptions are annual and can be upgraded and downgraded as application delivery demands change for maximum flexibility. The tiers are mapped to common customer challenges and requirements, simplifying the task of selecting the appropriate feature set and support levels. This also offers additional value of up to 40% when compared to individually selecting features.

## LoadMaster Support Subscription Tiers

Each subscription tier adds to the features and services delivered by lower tiers as follows:

| Standard support           | Enterprise support         | Enterprise Plus support   |
|----------------------------|----------------------------|---|
| 10x5 Customer Support      | 24x7 Customer Support      | 24x7 Customer Support   |
| Software Updates           | Software Updates           | Software Updates  |
| Security Patches           | Security Patches           | Security Patches  |
| L4-L7 Application Delivery | L4-L7 Application Delivery | L4-L7 Application Delivery  |
| Network Telemetry          | Network Telemetry          | Network Telemetry   |
| Intrusion Prevention       | Intrusion Prevention       | Intrusion Prevention  |
|                            | Edge Security Pack         | Edge Security Pack  |
|                            |                            | Web Application Firewall (WAF) with updated reputation data daily |
|                            |                            | GSLB with updated reputation data daily                           |
|                            |                            | Floating License  |

## Features

## **Network Telemetry**

- Export network flow data to Flowmon Collector in the industry standard IPFIX protocol format
- Leverage the power of Flowmon Collector to store and analyze flow data, gaining visibility into the entire application value delivery chain to identify bottlenecks, misconfigurations and potential security issues
- Combine LoadMaster-exported data with IPFIX data from other network nodes on Collector to gain a complete picture of your infrastructure
- View LoadMaster data on Flowmon Collector in dashboards and widgets specific to LoadMaster and the Virtual Services defined on it

## Web Application Firewall (WAF)

- Real-time application threat mitigation
- Updated reputation data daily
- Threats mitigated:
  - Cookie tampering
  - Cross site request forgery
  - Cross site scripting
  - Data loss prevention
  - SQL injection
  - PCI-DSS Section 6.6 compliance

## **Edge Security Pack**

- Microsoft TMG replacement
- Pre-authentication
- Multi-domain authentication and SSO
- X.509 client certificate authentication
- Custom login forms
- Two-factor authentication

- OIDC, SAML, Active Directory, RADIUS and LDAP
- Forms to Forms based authentication

## **Intrusion Prevention**

- Snort compatible IPS
- Allow/Deny IP by address

## Global Server Load Balancing (GSLB)

### Scheduling and Balancing

- Round Robin
- Weighted Round Robin
- Chained Failover (Fixed Weighting)
- Regional
- Real Server Load
- Location Based
- Scale to 256 nodes per FQDN
- Use EDNS to direct client traffic

### Security

- Allow/Deny List (Access Control List)
- Updated reputation data daily
- DDoS mitigation

### Health Checking and Failover

- ICMP health checking of server farm machines
- Layer 4 TCP checking
- HTTP/HTTPS health check
- Active/Active High Availability

## L4-L7 Application Delivery

### General

- Server Load Balancing (SLB) for TCP/UDP based protocols
- TLS (SSL) Offload
- Layer 7 Content Switching
- Transparent caching for HTTP/HTTPS
- Compression of static and dynamic HTTP/ HTTPS content
- HTTP/2 Support
- Up to 1000 Virtual and 1000 Real Servers
- NAT-based forwarding
- Support for Direct Server Return (DSR) configurations
- Configurable S-NAT support
- VLAN Trunking (802.1Q)
- Link interface bonding (802.3ad)
- USGv6 certified
- IPv6 support for addressing and features
- IPv6 to IPv4 gateway/proxy using a NIST USGv6 network stack

## Health Checking

- Aggregated health checks
- ICMP health checking
- Layer 7 checking against any target server port
- Active/Hot Standby configurations for High Availability
- Stateful Failover
- Scale-out Clustering (not available on LM-X1)

## Session Persistence

- Source IP (L4)
- TLS (SSL) SessionID (L4)
- HTTP/HTTPS Browser-session (L7)
- HTTP/HTTPS WebClient-session (L7)
- RDP Login ID (L7)
- Port Following for mixed HTTP/HTTPS sessions
- Session reconnection for Microsoft RDS

## Scheduling and Balancing Methods

- Round Robin
- Weighted Round Robin
- Least Connection
- Weighted Least Connection
- Agent-based Adaptive
- Chained Failover (Fixed Weighting)
- Source-IP Hash
- Layer 7 Content Switching
- Global Server Load Balancing (GSLB)
- AD Group based traffic steering

## SSL/TLS Feature

- Configurable TLS (1.0, 1.1, 1.2, 1.3) and SSL (2.0, 3.0)
- Support for EV (Extended Validation) certificates
- OCSP certificate validation
- Server Name Identification (SNI) support
- Support for up to 1,000 TLS (SSL) certificates
- Automated TLS (SSL) certificate chaining
- Certificate Signing Request (CSR) generation
- FIPS 140-2 Level 1
- STARTTLS mail protocols (POP3, SMTP, IMAP)

## Administration

- Change auditing
- Web User Interface (WUI)
- SSH and physical console
- RESTful and PowerShell APIs
- VMware vRealize Orchestrator
- Context based help (WUI)
- Real time display of performance and availability
- Application templates
- Remote syslog support
- Automated configuration backup
- Selective restore of configuration
- Connection draining

- Robust logging and reporting
- SNMP support
- Diagnostic shell with in-line tcpdump

## Security

- Common Criteria (ISO/IEC 15408) Certified
- Allow/Deny List (Access Control List)
- IP address filtering
- IPsec Tunnel support
- DDoS mitigation, including L7 rate-based attacks
- IPSec VPN to Azure, AWS and public clouds
- Authenticated NTP

## LoadMaster 360

- Application analytics and telemetry
- Incident management
- Certificate lifecycle management
- Enhanced Web Application Firewall (WAF)

|                                      | LM-X1                       | LM-X3-NG                    |
|--------------------------------------|-----------------------------|-----------------------------|
| Support Subscription Tiers           | All                         | All                         |
| Performance                          |                             |                             |
| Application throughput (Layer 4)     | 1 Gbps                      | 3.6 Gbps                    |
| Application throughput (Layer 7)     | 1 Gbps                      | 3.4 Gbps                    |
| Bulk Encryption                      | 1 Gbps                      | 2 Gbps                      |
| SSL TPS (2K Keys)                    | 1,000                       | 1,700                       |
| Concurrent Layer 4 Connections       | 4,000,000                   | 8,600,000                   |
| Concurrent Layer 7 Connections       | 32,800                      | 125,000                     |
| _ayer 7 HTTP requests/sec            | 70,000                      | 300,000                     |
| _ayer 4 requests/sec                 | 78,000                      | 500,000                     |
| _ayer 4 connections/sec              | 25,000                      | 200,000                     |
| Hardware Platform                    |                             |                             |
| CPU                                  | 2.2GHz, 4C/4T               | 2.3GHz, 4C/8T               |
| Memory (RAM Size)                    | 4GB                         | 8GB                         |
| Storage                              | 500GB HDD                   | 1TB HDD                     |
| Gigabit Ethernet Ports               | 4                           | 8                           |
| 10 Gigabit Ports (SFP+)              | N/A                         | N/A                         |
| Monitor / Display Ports              | VGA                         | HDMI                        |
| Console Ports                        | 1 RJ45                      | 1 RJ45                      |
| Rack Size                            | 1U                          | 1U                          |
| Dimensions                           | 430 x 310 x 44mm            | 430 x 300 x 44mm            |
| Neight                               | 8.31lbs / 3.77kg            | 14.33lbs / 6.5kg            |
| Storage Temperature                  | -4 to 167 °F (-20 to 75 °C) | -4 to 167 °F (-20 to 75 °C) |
| Operating Temperature                | 32 to 104 °F (0 to 40 °C)   | 32 to 104 °F (0 to 40 °C)   |
| Storage Humidity                     | 10% to 90% non-condensing   | 10% to 90% non-condensing   |
| Operating Relative Humidity          | 10% to 90% non-condensing   | 10% to 90% non-condensing   |
| Max Altitude in Operational Mode     | 16,404 feet (5,000 meters)  | 16,404 feet (5,000 meters)  |
| Max Altitude in Non-Operational Mode | 30,000 feet (9,144 meters)  | 16,404 feet (5,000 meters)  |
| nput Voltage and Frequency Ranges    | 100-240VAC, 50-60Hz         | 100-240VAC, 50-60Hz         |
| Hot-Swap, Redundant Power Supply     | No                          | No                          |
| Max power supply (W)                 | 65                          | 300                         |
| Average Power Consumption (W)        | 28.44                       | 45                          |
| Total Amp Drawn (A)                  | 0.54 Max                    | 0.41 Max                    |
| Heat Output (BTU)                    | 96.9 Max                    | 150.3 Max                   |
| Acoustic Noise (dB)                  | 50.7                        | 50.9                        |

Progress<sup>®</sup>

| All     24.1     25.2     25.2     25.3     20.3 <tr< th=""><th></th></tr<>  |          |
|--|----------|
| 25 Gbps<br>20 Gbps<br>20 Gbps<br>25,000<br>75,800,000<br>525,000<br>1,000,000<br>1,000,000<br>2,000,000<br>1,000,000<br>2,000,000<br>1,000,000<br>2,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,0000 |          |
| 25 Gbps<br>20 Gbps<br>20 Gbps<br>25,000<br>75,800,000<br>525,000<br>1,000,000<br>1,000,000<br>2,000,000<br>1,000,000<br>2,000,000<br>1,000,000<br>2,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,000<br>1,000,0000 |          |
| 20 Gbps<br>25,000<br>75,800,000<br>525,000<br>1,000,000<br>2,000,000<br>2,000,000<br>725,000<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10   |          |
| 25,000<br>75,800,000<br>525,000<br>1,000,000<br>2,000,000<br>2,000,000<br>725,000<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10  |          |
| 75,800,000     75,800,000     525,000     1,000,000     2,000,000     725,000     725,000     2x 2.3GHz, 20C/40T     64GB  |          |
| 525,000     1,000,000     2,000,000     725,000     2     3     4  |          |
| 1,000,000     2,000,000     725,000     725,000     2     2     2     2     2     2     2     2     2     2     2     3     3     4  |          |
| 2,000,000<br>725,000<br>T 2x 2.3GHz, 20C/40T<br>64GB   |          |
| TT 2x 2.3GHz, 20C/40T<br>64GB  |          |
| T 2x 2.3GHz, 20C/40T<br>64GB   |          |
| 64GB   |          |
| 64GB   |          |
|  |          |
|  |          |
| (RAID 1) 2 x 1TB HDD (RAID 1)  |          |
| 2  |          |
| 8  |          |
| VGA  |          |
| 1 RJ45   |          |
| 20   |          |
| 44mm 438 x 650 x 88mm  |          |
| 5 kg 35.2lbs / 16kg  |          |
| -20 to 75 °C) -4 to 167 °F (-20 to 75 °C   | 'C)      |
| (0 to 40 °C) 32 to 104 °F (0 to 40 °C  | ))       |
| non-condensing 10% to 90% non-conden   | nsing    |
| non-condensing 10% to 90% non-conden   | nsing    |
| 5,000 meters) 16,404 feet (5,000 meter   | ers)     |
| 15,200 meters) 49,000 feet (15,200 met   | ters)    |
| , 47-63Hz 100-240VAC, 47-63Hz  |          |
|  |          |
| Yes  |          |
| Yes<br>2 x 1300  |          |
|  |          |
| 2 x 1300   |          |
|  | 2 x 1300 |

|                                      | LM-X40-NG                   |
|--------------------------------------|-----------------------------|
| Support Subscription Tiers           | All                         |
| Performance                          |                             |
| Application throughput (Layer 4)     | 35 Gbps                     |
| Application throughput (Layer 7)     | 35 Gbps                     |
| Bulk Encryption                      | 20 Gbps                     |
| SSL TPS (2K Keys)                    | 35,000                      |
| Concurrent Layer 4 Connections       | 75,800,000                  |
| Concurrent Layer 7 Connections       | 525,000                     |
| Layer 7 HTTP requests/sec            | 1,250,000                   |
| Layer 4 requests/sec                 | 2,600,000                   |
| Layer 4 connections/sec              | 850,000                     |
| Hardware Platform                    |                             |
| CPU                                  | 2x 2.3 GHx, 20C/40T         |
| Memory (RAM Size)                    | 64GB                        |
| Storage                              | 2 x 1TB HDD (RAID 1)        |
| Gigabit Ethernet Ports               | 2                           |
| 10 Gigabit Ports (SFP+)              | 8                           |
| Monitor / Display Ports              | VGA                         |
| Console Ports                        | 1 RJ45                      |
| Rack Size                            | 2U                          |
| Dimensions (with Bezel)              | 438 x 650 x 88mm            |
| Weight                               | 35.2lbs / 16kg              |
| Storage Temperature                  | -4 to 167 °F (-20 to 75 °C) |
| Operating Temperature                | 32 to 104 °F (0 to 40 °C)   |
| Storage Humidity                     | 10% to 90% non-condensing   |
| Operating Relative Humidity          | 10% to 90% non-condensing   |
| Max Altitude in Operational Mode     | 16,404 feet (5,000 meters)  |
| Max Altitude in Non-Operational Mode | 49,000 feet (15,200 meters) |
| Input Voltage and Frequency          | 100-240VAC, 47-63Hz         |
| Hot-Swap, Redundant Power Supply     | Yes                         |
| Max power supply (W)                 | 2 x 1300                    |
| Average Power Consumption (W)        | 361.68                      |
| Total Amp Drawn (A)                  | 7.2 Max                     |
| Heat Output (BTU)                    | 1131.96 Max                 |
| Acoustic Noise (dB)                  | 79.4                        |



| ecification                          | LM-XHC55-NG                 | LM-XHC75-NG                 |
|--------------------------------------|-----------------------------|-----------------------------|
| Support Subscription Tiers           | All                         | All                         |
| Performance                          |                             |                             |
| Application throughput (Layer 4)     | 57 Gbps                     | 77 Gbps                     |
| Application throughput (Layer 7)     | 55 Gbps                     | 75 Gbps                     |
| Bulk Encryption                      | 35 Gbps                     | 40 Gbps                     |
| SSL TPS (2K Keys)                    | 40,000                      | 40,000                      |
| Concurrent Layer 4 Connections       | 151,600,000                 | 151,600,000                 |
| Concurrent Layer 7 Connections       | 1,050,000                   | 1,050,000                   |
| Layer 7 HTTP requests/sec            | 1,500,000                   | 1,500,000                   |
| Layer 4 requests/sec                 | 3,000,000                   | 3,000,000                   |
| Layer 4 connections/sec              | 1,000,000                   | 1,000,000                   |
| Hardware Platform                    |                             |                             |
| CPU                                  | 2x 3.0GHz, 18C/36T          | 2x 3.0GHz, 18C/36T          |
| Memory (RAM Size)                    | 128GB                       | 128GB                       |
| Storage                              | 2 x 1TB HDD (RAID 1)        | 2 x 1TB HDD (RAID 1)        |
| Gigabit Ethernet Ports               | 2                           | 2                           |
| 10 Gigabit Ports (SFP+)              | 8                           | 8                           |
| 25 Gigabit Ports (SFP28)             | 4                           | 4                           |
| 100 Gigabit Ports (QSFP28)           | 4                           | 4                           |
| Monitor / Display Ports Monitor      | VGA                         | VGA                         |
| Console Ports                        | 1 RJ45                      | 1 RJ45                      |
| Rack Size                            | 2U                          | 20                          |
| Dimensions (with Bezel)              | 438 x 650 x 88mm            | 438 x 650 x 88mm            |
| Weight                               | 35.2lbs / 16kg              | 35.2lbs / 16kg              |
| Storage Temperature                  | -4 to 167 °F (-20 to 75 °C) | -4 to 167 °F (-20 to 75 °C) |
| Operating Temperature                | 32 to 104 °F (0 to 40 °C)   | 32 to 104 °F (0 to 40 °C)   |
| Storage Humidity                     | 10% to 90% non-condensing   | 10% to 90% non-condensing   |
| Operating Relative Humidity          | 10% to 90% non-condensing   | 10% to 90% non-condensing   |
| Max Altitude in Operational Mode     | 16,404 feet (5,000 meters)  | 16,404 feet (5,000 meters)  |
| Max Altitude in Non-Operational Mode | 30,000 feet (9,144 meters)  | 49,000 feet (15,200 meters) |
| Input Voltage and Frequency          | 100-240VAC, 47-63Hz         | 100-240VAC, 47-63Hz         |
| Hot-Swap, Redundant Power Supply     | Yes                         | Yes                         |
| Max power supply (W)                 | 2 x 1300                    | 2 x 1300                    |
| Average Power Consumption (W)        | 442.6                       | 442.6                       |
| Total Amp Drawn (A)                  | 7.2 Max                     | 7.2 Max                     |
| Heat Output (BTU)                    | 1285.4 Max                  | 1285.4 Max                  |
| Acoustic Noise (dB)                  | 79.4                        | 79.4                        |

Progress<sup>\*</sup>

# Support Subscription Tiers

| por subscription riers               | LM-XHC100-NG                |
|--------------------------------------|-----------------------------|
| Support Subscription Tiers           | All                         |
| Performance                          |                             |
| Application throughput (Layer 4)     | 91 Gbps                     |
| Application throughput (Layer 7)     | 90 Gbps                     |
| Bulk Encryption                      | 45 Gbps                     |
| SSL TPS (2K Keys)                    | 45,000                      |
| Concurrent Layer 4 Connections       | 151,600,000                 |
| Concurrent Layer 7 Connections       | 1,050,000                   |
| Layer 7 HTTP requests/sec            | 1,500,000                   |
| Layer 4 requests/sec                 | 3,000,000                   |
| Layer 4 connections/sec              | 1,000,000                   |
| Hardware Platform                    |                             |
| CPU                                  | 2x 3.0GHz, 18C/36T          |
| Memory (RAM Size)                    | 128GB                       |
| Storage                              | 2 x 1TB HDD (RAID 1)        |
| Gigabit Ethernet Ports               | 2                           |
| 10 Gigabit Ports (SFP+)              | 8                           |
| 25 Gigabit Ports (SFP28)             | 4                           |
| 100 Gigabit Ports (QSFP28)           | 4                           |
| Monitor / Display Ports              | VGA                         |
| Console Ports                        | 1 RJ45                      |
| Rack Size                            | 2U                          |
| Dimensions                           | 438 x 650 x 88mm            |
| Weight                               | 35.2lbs /16kg               |
| Storage Temperature                  | -4 to 167 °F (-20 to 75 °C) |
| Operating Temperature                | 32 to 104 °F (0 to 40 °C)   |
| Storage Humidity                     | 10% to 90% non-condensing   |
| Operating Relative Humidity          | 10% to 90% non-condensing   |
| Max Altitude in Operational Mode     | 16,404 feet (5,000 meters)  |
| Max Altitude in Non-Operational Mode | 49,000 feet (15,200 meters) |
| Input Voltage and Frequency          | 100-240VAC, 47-63Hz         |
| Redundant Power Supply               | Yes                         |
| Hot-Swap, Max power supply           | 2 x 1300                    |
| Average Power Consumption (W)        | 442.56                      |
| Total Amp Drawn (A)                  | 7.2 Max                     |
| Heat Output (BTU)                    | 1285.4 Max                  |
| Acoustic Noise (dB)                  | 79.4                        |



# Specifications – Multi-Tenant Platforms

|                                      | LM-X25MT-NG                 |
|--------------------------------------|-----------------------------|
| Support Subscription Tiers           | All                         |
| Performance                          |                             |
| Application throughput (Layer 4)     | 8.2 Gbps                    |
| Application throughput (Layer 7)     | 8.0 Gbps                    |
| Bulk Encryption                      | 3.0 Gbps                    |
| SSL TPS (2K Keys)                    | 4,000                       |
| Recommended Tenants                  | 8                           |
| Maximum Tenants                      | 16                          |
| Concurrent Layer 4 Connections       | 75,800,000                  |
| Layer 4 requests/sec                 | 400,000                     |
| Hardware Platform                    |                             |
| CPU                                  | 2x 2.3GHz, 20C/40T          |
| Memory (RAM Size)                    | 64GB                        |
| Storage                              | 2 x 1TB HDD (RAID 1)        |
| Gigabit Ethernet Ports               | 2                           |
| 10 Gigabit Ports (SFP+)              | 8                           |
| Monitor / Display Ports              | VGA                         |
| Console Ports                        | 1 RJ45                      |
| Rack Size                            | 2U                          |
| Dimensions                           | 438 x 650 x 88mm            |
| Weight                               | 35.2lbs / 16kg              |
| Storage Temperature                  | -4 to 167 °F (-20 to 75 °C) |
| Operating Temperature                | 32 to 104 °F (0 to 40 °C)   |
| Storage Humidity                     | 10% to 90% non-condensing   |
| Operating Relative Humidity          | 10% to 90% non-condensing   |
| Max Altitude in Operational Mode     | 16,404 feet (5,000 meters)  |
| Max Altitude in Non-Operational Mode | 49,000 feet (15,200 meters) |
| Input Voltage and Frequency          | 100-240VAC, 47-63Hz         |
| Hot-Swap, Redundant Power Supply     | Yes                         |
| Max power supply (W)                 | 2 x 1300                    |
| Average Power Consumption (W)        | 361.68                      |
| Total Amp Drawn (A)                  | 7.2 Max                     |
| Heat Output (BTU)                    | 1131.96 Max                 |
| Acoustic Noise (dB)                  | 79.4                        |



# **Certification and Compliance**

|  | LM-X1  | LM-X3-NG  |
|--|--|---|
| FIPS   | FIPS 140-2 Level 1 NIST Cert 4639  | FIPS 140-2 Level 1 NIST Cert 4639   |
| Common Criteria  | CCEVS-VR-VID11280-2023   | CCEVS-VR-VID11280-2023  |
| Safety Agency<br>Approval:<br>(IEC, EN, BS, CSA,<br>UL)                                  | IEC 62368-1:2014 2nd Ed.<br>EN 62368-1:2014+A11:2017<br>AS/NZS 62368.1:2018<br>CAN/CSA C22.2 No. 62368-1-14<br>UL 62368-1 2nd Ed.  | IEC 62368-1:2014 2nd Ed.<br>EN 62368-1:2014<br>EN 62368-1:2014/AC:2015<br>EN 62368-1:2014+A11:2017<br>BS EN 62368-1:2014 + A11:2017<br>AS/NZS 62368.1:2018  |
| Electromagnetic<br>Compatibility<br>(EMC)<br>Certifications:<br>(CE, UKCA, FCC,<br>VCCI) | EN 55032:2015 +A11:2020, Class A<br>EN 61000-3-2:2014, Class A<br>EN IEC 61000-3-2:2019 +A1:2021<br>EN 61000-3-3:2013 +A2:2021<br>EN 55035:2017 +A11:2020<br>CISPR 32:2015+COR1:2016<br>AS/NZS CISPR 32:2015, Class A<br>47 CFR FCC Part 15 Subpart B, Class A<br>ICES-003:2016 Issue 6, updated Apr.2019<br>Class A VCCI-CISPR 32:2016, Class A<br>BS EN 55032:2015 +A11:2020, Class A<br>BS EN 61000-3-2:2014, Class A<br>BS EN 1EC 61000-3-2:2019 +A1:2021, Class A<br>BS EN 61000-3-3:2013 +A2:2021<br>BS EN 55035:2017+A11:2020 | EN 55032:2015 +A11:2020<br>EN 55035:2017 +A11:2020<br>EN 61000-3-2:2014<br>EN IEC 6100-3-2:2019/A1:2021<br>EN 61000-3-3:2013/A2:2021<br>BS EN 55032:2015 +A11:2020<br>BS EN 55035:2017 +A11:2020<br>BS EN 61000-3-2:2014<br>BS EN IEC 6100-3-2:2019/A1:2021<br>BS EN 61000-3-3:2013<br>BS EN 61000-3-3:2013/A2:2021<br>FCC 47 CFR PART 15 SUBPART B<br>ANSI C63.4: 2014<br>VCCI-CISPR32: 2016 |
| RoHS Compliant   | Yes  | Yes   |
| WEEE Compliant   | Yes  | Yes   |
| REACH Compliant  | Yes  | Yes   |

## **Certification and Compliance**

|  | LM-X15-NG   | LM-X25-NG/LM-X25MT-NG/LM-X40-NG/<br>LMXHC55-NG/LM-XHC75-NG/LM-XHC100-NG   |
|--|---|---|
| FIPS   | FIPS 140-2 Level 1 NIST Cert 4639   | FIPS 140-2 level 1 evaluation in progress   |
| Common Criteria  | CCEVS-VR-VID11280-2023  | -   |
| Safety Agency<br>Approval:<br>(IEC, EN, BS)  | IEC 62368-1:2014 2nd Ed.<br>EN 62368-1:2014<br>EN 62368-1:2014/AC:2015<br>EN 62368-1:2014+A11:2017<br>BS EN 62368-1:2014 + A11:2017<br>AS/NZS 62368.1:2018  | EN 62368-1:2014,<br>EN 62368-1:2014+A11:2017,<br>IEC 62368-1:2104 and AS/NZS 62368.1:2018<br>BS EN 62368-1:2014+A11:2017  |
| Electromagnetic<br>Compatibility<br>(EMC)<br>Certifications:<br>(CE, UKCA, FCC,<br>VCCI) | EN 55032:2015 +A11:2020<br>EN 55035:2017 +A11:2020<br>EN 61000-3-2:2014<br>EN IEC 6100-3-2:2019/A1:2021<br>EN 61000-3-3:2013<br>EN 61000-3-3:2013/A2:2021<br>BS EN 55035:2017 +A11:2020<br>BS EN 55035:2017 +A11:2020<br>BS EN 61000-3-2:2019/A1:2021<br>BS EN 61000-3-2:2019/A1:2021<br>BS EN 61000-3-3:2013<br>BS EN 61000-3-3:2013/A2:2021<br>FCC 47 CFR PART 15 SUBPART B<br>ANSI C63:4: 2014<br>VCCI-CISPR32: 2016 | EN 55032:2015 +A11:2020<br>EN 55035:2017 +A11:2020<br>EN IEC 6100-3-2:2019/A1:2021<br>EN 61000-3-2:2014<br>EN 61000-3-3:2013<br>EN 61000-3-3:2013/A2:2021<br>BS EN 55032:2015 +A11:2020<br>BS EN 55035:2017 +A11:2020<br>BS EN IEC 6100-3-2:2019/A1:2021<br>BS EN 61000-3-2:2014<br>BS EN 61000-3-3:2013<br>BS EN 61000-3-3:2013/A2:2021<br>FCC 47 CFR PART 15 SUBPART B<br>ANSI C63:4:2014<br>VCCI-CISPR32: 2016 |
| RoHS Compliant   | Yes   | Yes   |
| WEEE Compliant   | Yes   | Yes   |
| REACH Compliant  | Yes   | Yes   |

### **About Progress**

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