



LOAD MULTIPLIER

Load Multiplier Pvt. Ltd.

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About Load Multiplier

The Load Multiplier is a highly scalable testing solution catering to the **Load** testing, **Performance** testing, **Capacity** testing and **Stress** testing need in the areas of VoIP, Web, IP based Protocols, WebRTC, Socket.IO, Custom protocols, etc. It supports any text or binary based custom or proprietary protocol testing. Additionally, this tool can also be used for **Functionality** testing as well as **Test Automation**.

CAPABILITIES

Any application over HTTP/ JSON/XML/ Websites

WebRTC based products

Products based on custom protocols (text/binary)

Protocols:

1. HTTP, HTTPS, SIP, IMS, RTP/RTCP, SRTP, SOAP, REST, JSON, XML, XBML, VXML.
2. STUN, TURN, ICE.
3. UDP, TCP, SCTP.
4. TLS, DTLS.
5. Supports any text or binary based custom / proprietary protocol testing.

Codecs: G711μ, G711a, AMR, OPUS, VP8, VP9 (WIP), H.264 (Just Released)

TARGET DOMAIN

Telecom. products: Test IP (Internet Protocol) based Voice & Data Services, like VoIP, IMS, RC.

BFSI products (Financial Technology): Test Internet Banking , Financial and Insurance based server side applications, etc.

Web / WebRTC / HTTP products: Test applications like E-Commerce & Web Services for performance under load/ stress scenarios.

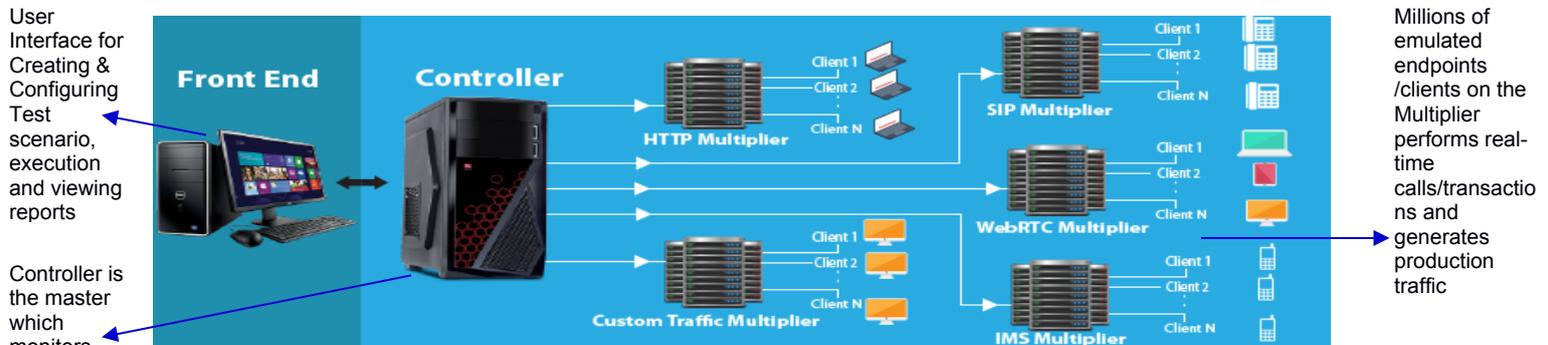
JSON products: Test WebRTC call flows with JSON signalling.

XML based products: Any product which has XML based call flows/contents.

Mobile Apps Server: Test the Mobile App Sever call flows via record and replay of the user scenarios.

Supports Customization: Load Multiplier can act as a wrapper over any software and bring up large number of such instances to simulate a real field scenario.

SYSTEM ARCHITECTURE:



High Level System Diagram**

** The UI/Front end, the Controller and the Multiplier can be installed in the same or different COTS Server / VM.

The Load Multiplier consists of the Web Server, the Controller and Multiple Protocol Specific Multipliers.

Using any browser, the user can access the Load Multiplier frontend / UI which is hosted on the Web Server. The User invokes the start of the test from front end. Upon receiving signal from the Web Server, the Test Suites are loaded onto the Controller. The Controller then forwards specific test instructions to the assigned Multipliers. The Multipliers simulates tens of thousands of virtual users/endpoints and executes the test instructions received from the Controller at the configured rate (CPS/RPS). As the test execution progresses, the Multipliers update the status / statistics to the Controller, which in turn updates the same in the Web Server. The end user can view the statistics in the front end (i.e. through the web browser). The distributed architecture of Load Multiplier supports over a million virtual endpoints, subject to the hardware capabilities of the hosted infrastructure.



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TECHNICAL ADVANTAGE

| | |
|--|--|
| Production Traffic Generation | Capable of emulating millions of end-points & generating the production traffic of thousands of calls or transactions per second. |
| Protocols Compliant | Compliant to various IETF, 3GPP and W3C standards. |
| Cloud Ready | Can be installed and used over local machine or in the Cloud infrastructure. |
| No Proprietary / Sophisticated Hardware Requirement | Can run on normal desktop machines, it does not require any complex hardware. However, if Load requirement is high, it can also run on COTS / BLADE Servers. |
| Proprietary Client Emulation | Can emulate any proprietary client software via shared libraries. |
| Proprietary Protocol Testing | Multiplier is capable of testing any proprietary (text / binary) protocols by emulating custom call-flows. |

USER ADVANTAGE

| | |
|--|--|
| Scripts Free* | User does not need to write complex scripts, instead it uses text format logical syntax to create the test scenarios. * For advanced users or developers, the option to script in LUA is also available |
| Completely Automated | No manual intervention required. |
| Detailed Report of Executed Scenarios | Summary & per Scenario Analysis based statistics with reasons of failure (if any), CPS, RPS, etc. are provided. |

PRODUCT FEATURE ROAD MAP

1. H.264 Supports – Just Released
2. Media QOS – Jan.'18
3. IP V6 support – Feb.'18
4. Direct access to the front end through Android App. - TBD
5. Support for Red Hat Linux – TBD

SYSTEM REQUIREMENTS

Minimum Hardware Requirements

Intel i5 2.X Ghz or above, 64 bits, RAM: 4GB, HDD: 20GB available, Network Interface: 100/1000 Mbps,

* The hardware can be hosted locally or in the cloud e.g. AWS , Digital Ocean.

Minimum Operating System Requirements

Linux: Ubuntu 14.04 LTS,

Windows OS:

Need VM in the machine running Windows operating system, to create VM instances, to instance xUbuntu 14.04 64 bits*.

* Running on VM reduces efficiency of the Load Multiplier.

LICENSING

Trial License: Free for a week (*from the date when the system starts functioning*).

Two types of License are offered:-

1. **"Monthly Subscription Plan"** / "Pay as you use license" and
2. **"Perpetual Licenses"** (i.e. Lifetime Commercial License)".

1. "Monthly license"/ "Pay as you use license", kindly refer to the URL:

<https://loadmultiplier.com/licensingcost>

2. "Perpetual Licenses" (i.e. lifetime commercial license), kindly contact us at info@loadmultiplier.com

SELECT USE CASES

Telecom products (with e.g. *Kamailo SIP server*):

1. VoIP – IETF & 3GPP call flows with audio codec G711µ, G711a, AMR-NB, OPUS)

WebRTC (*Janus, Coturn, Kurento*)

1. HTTP/HTTPS/Proprietary text/ binary protocol based call flows for media server / gateway with real audio/video.
2. SIP call flows with Audio
3. Video call (codec VP8, H.264 and VP9)

HTTP / JSON / XML products

1. LM can test products based on HTTP/HTTPS/JSON/XML/EBM L/XML

BFSI products (Fin. tech)

1. In addition to HTTP / HTTPS transactions, transactions like Web socket transactions can be simulated, any proprietary activity you can simulated during HTTP/HTTPS session.