



 **JAR:emulate**
high precision **network emulators**

www.jarotechnologies.com





JAR:emulate WAN emulators provide precision network simulation to ensure your software and business critical applications will perform as required when deployed.



Reduce the need for endless development and test cycles by testing on a simulated network with all the characteristics of your customer's network, and then deploy with confidence.

Use JAR:emulate to performance test under the wide variety of network characteristics your software will be required to perform on; identify, trouble shoot and resolve related issues before these become customer facing problems.

The JAR:emulate series provides multiple independent emulation links that can be tailored to your exact requirements through a simple 'drag and drop' user interface. No programming or deep technical expertise is required. Open XML protocol ensures full integration with automated testing. Ensure application performance via a real time reporting suite, traffic analyser, traffic record / playback and advanced filtering.

Accurately Simulate

VoIP	Satellite	Cloud	ADSL
Microwave	OC-3	3G	4G
T1	E1	T3	E3
2G	WiMAX	DSL	XDSL
WiFi	RoIP	GPRS	Dial Up

Application Performance:

Determine how your software will perform for the end user on their network before deployment; trouble shoot and resolve issues before the need for re-work, release delay or failure

Optimization:

Adjust application and software settings under replicated network characteristics to optimize performance for different user groups

Trouble Shoot:

Investigate reported problems and test resolutions without disrupting production traffic

Network Design:

'What if' scenario building to evaluate network changes - evaluate different topologies and technologies before expensive implementation. For example evaluate WAN Acceleration Technology. Determine how different WAN optimisation products will perform under the best/average/worst conditions of your network.

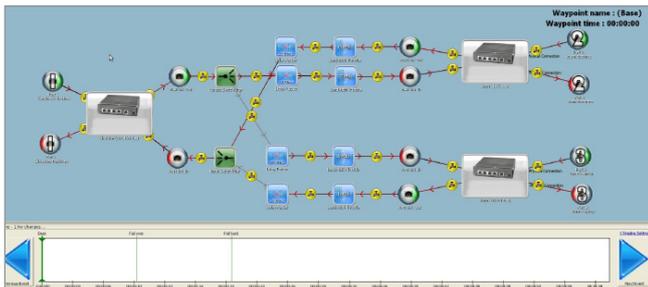
Under Real Network Conditions

Busy Peak Times	Limited Bandwidth
Long Distance	Information Corruption
Jittery Connections	De-sequencing of Data
Duplication of Data	Network Traffic Bursts
Fragmentation of Data	Partial or Total Outage
Traffic Re-routing	Back-up Switch-overs

Features

Virtual Routing

The virtual routing feature allows each physical port on the emulator to act as a dedicated router, transforming the capabilities provided and allowing users to simulate multiple network segments. Each network segment can be interconnected using its own unique bi-directional impairments to simulate data center connections, consumer networks or remote office environments. As you would expect each virtual router provides fully configurable DHCP (or Static) IP addresses, routing tables, ARP and ICMP services. Using JAR:emulate's flexible nature you can simulate link fail overs in routed networks or create routing problems to see how your infrastructure copes.



Simulate routed networks with switchable links

Easy Emulation - Maximum Control

JAR:emulate marries control with ease of use: emulation is carried out by visualising the movement of data packets through your chosen WAN topology. Packets enter via a physical port, pass through the required impairments, and exit through another physical port.

To aid design JAR:emulate provides an intuitive range of on-screen objects representing different features, such as physical ports, bandwidth throttles and packet corrupters. These are simply 'drag and dropped' to form your desired network emulation map.



Visualise your emulated network

Remote Wireshark

JAR:emulate's flexibility extends to Wireshark, the award winning protocol analyser.

Through Wireshark JAR:emulate provides packet and stream capture and detailed analysis of all traffic passing through your emulation. Perform root cause issue analysis and ensure test repeatability by replaying recorded network traffic until resolution.

Reporting

Reporting is an essential part of understanding how your software is coping under different network conditions - what's working, what's not and crucially why.

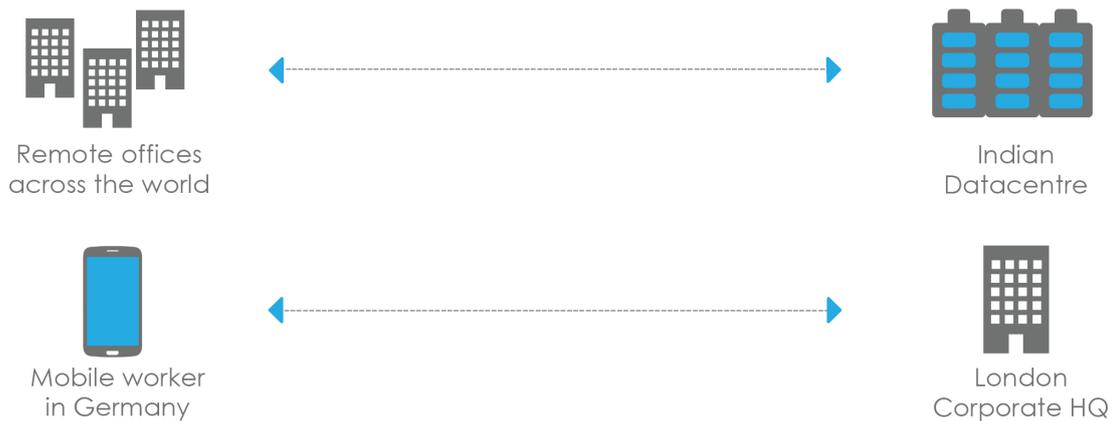
JAR:emulate can be shipped with built in reports such as packet loss, bandwidth, TCP operations, web client operations, etc.

Test Applications or new technologies before deployment, under the exact conditions of the end user network:



Injection of:	Analysis of:
Packet loss	Application Performance
Delay	Quality of Service
Jitter	Proposed Networked Technologies
Corruption	WAN Optimisation Technologies
Congestion	Data Centre Relocation / Consolidations
Other Network Impairments	'What If' Network Planning

Emulating (for example)



Specifications

Management

Drag and Drop User Interface
Wizards and many built-in emulation maps
Fully visualise your emulations
Open XML for test automation
Windows / Linux CLI (local and SSH)

Reporting

Live reporting, Graphs, exports, etc.
Wireshark integration
Snapshot reports
Customisable end of emulation reports

General

Up to 64Gb of storage capacity
Rugged 2U rack or desktop units
Real time changes, Change impairment settings in real-time
Time-Line; Automate real time changes

Virtual Routing

Emulate virtual routers; full gateways
Full protocol support (ARP, ICMP, IGMP, etc)
Configure routing / forwarding tables

Device Operation

Bridged Mode
Virtual Routing
Link fail over and back-up simulations

Link Failure Simulation

Input switch objects to select input switching
Output switch objects to select outputs
Physical Port drop and outage simulation

Link Disruption

Bandwidth Throttling
Ethernet Fragmentation
Delay / Latency
Packet Duplication
Jitter
Bit Error's
Packet Reordering
Accumulate and Burst

Filtering

Generic Filter (bitmasks,etc)
IP and MAC Addresses
TCP, UDP, RTP, etc.
IP Protocol
Packet counting
RTP Filters
MPLS / VLAN / QOS filtering
IPTV / VOIP Corruption / Filtering

Modification

Generic Modifier
Change any bit, byte or sequence of bytes
Correct Checksums

Packet Analysis

Capture traffic
Real-time Wireshark integration
Download Wireshark PCAP files

Standards

TIA.921
G.1050

Video / Audio

RTP Filtering
MPEG Video corruption and filtering

Interfaces

Up to 12 Ports
Mix speeds and RJ45 / Copper
'Any port to Any Port emulation' connect any port, stream or packet to any other port

Load Generation

Background traffic
Link contention ratio emulation
Traffic record and replay



JAR

www.jartechnologies.com

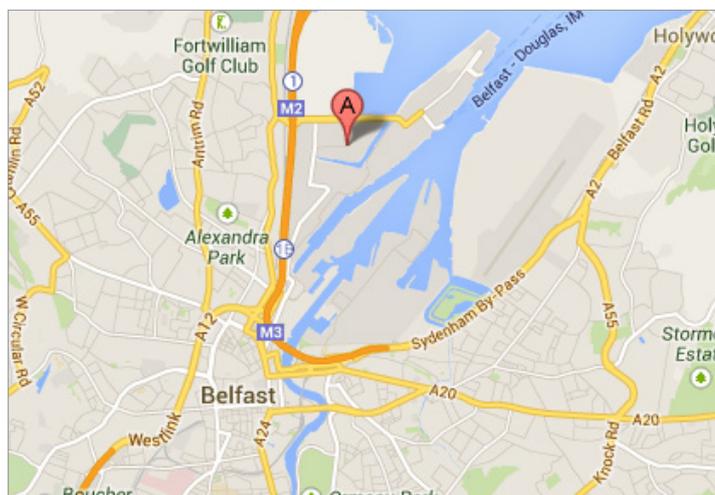
About JAR Technologies

JAR is a leading provider of Web and Application Testing Tools for the Application Performance and Quality Assurance market.

With a wide spectrum of experience and expertise from developing the **'World's first hybrid WAN Emulator'** to offering cloud based web load testing tools, JAR are committed to providing revolutionary and flexible bespoke solutions for our partners and their customers.

For more information on JAR:emulate, including more detailed information on the product range and feature set please visit www.jartechnologies.com

If you would like to discuss how JAR:emulate can benefit your company or are simply interested in finding out more please use the contact details below to get in touch.



Contact Us

T: +44 (0)28 9023 3322

E: info@jartechnologies.com



JAR JAR Technologies, BT3 Business Centre, 10 Dargan Crescent, Duncrue Road, Belfast, Co Antrim, BT3 9JP
T: +44 (0)28 9023 3322 **W:** www.jartechnologies.com **E:** info@jartechnologies.com