

TRAFFICREWIND™ — REGENERATE PRODUCTION NETWORK DYNAMICS IN THE LAB



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PROBLEM: REPRODUCING THE REALISM OF PRODUCTION NETWORKS IN THE LAB

Mirroring production network traffic in a controlled test environment has always been a time-consuming, complicated, and oftentimes frustrating process. Enterprise and service provider network operators as well as network equipment manufacturers (NEMs) waste valuable time and resources trying to replicate production network traffic conditions for fault analysis or to validate architectures and devices before deployment.

With today's increasingly complex networks, dynamic applications, and user behavior, this translates into longer times to identify and fix issues.

SOLUTION: BOLSTER BREAKINGPOINT TRAFFIC REALISM WITH NETWORK INSIGHT

TrafficREWIND combines Ixia's visibility and test expertise to deliver more-efficient service and network rollout by replicating production network traffic.

TrafficREWIND translates production network insight into high-fidelity test traffic configurations that can be used in Ixia's market-leading BreakingPoint application and security test solution. Ixia's AppStack capabilities, available on Vision network packet brokers, include IxFlow, Ixia's unique NetFlow extension, to feed application-level insights into TrafficREWIND. This rich NetFlow metadata includes a wide array of network activities, and application and device behavior seen in production networks.

TRAFFICREWIND BENEFITS

TrafficREWIND is a unique solution that translates production network traffic insights into real traffic stimulus for test environments, opening unprecedented possibilities:

- Faster fault analysis and reproduction capabilities
- Reference architectures and pre-deployment validation with production-like application mixes
- Relevant what-if scenarios by combining real production traffic with other test traffic including security strikes, incremental applications, or even fuzzing

HIGHLIGHTS

- Regenerate production traffic with more realistic application mixes using the new BreakingPoint Live AppSim
- Record network traffic dynamics including application type, bandwidth distribution, and temporal behavior using AppStack IxFlow (NetFlow + specialized extensions)
- Maintain data handling standards by using traffic metadata information (NetFlow), not storing actual traffic payloads like captures
- Store up to 7 days of network traffic metadata and export up to 1 day of traffic summary test configuration
- Scale the test using factor multiplication for even faster validation
- Standalone or distributed deployment enabling elastic deployments and performance scaling
- Analyze and synthesize NetFlow metadata with a simple and visual Web UI

TrafficREWIND



TrafficREWIND uses IxFlow (NetFlow + extensions) metadata to regenerate the dynamics of production networks within BreakingPoint testbeds

KEY FEATURES

- TrafficREWIND is a unique solution that uses NetFlow metadata to translate production network insight into BreakingPoint test configurations
- Growing database of 61 different applications mapped to BreakingPoint canned Superflows
- Store up to 7 days of network traffic metadata and export up to 1 day of traffic summary test configuration
- Preserve network traffic temporal behavior with unique 15-minute time intervals to record the corresponding production network application types and bandwidth distribution
- Upscale or downscale production traffic load using scale factors
- Contract the test duration using time factor multiplication for even faster validation (time expand factor is also available)
- Standalone or scalable distributed architecture supports multiple TrafficREWIND appliances acting as NetFlow collectors

PRODUCT CAPABILITES

TrafficREWIND is a virtual appliance that can be easily deployed anywhere in any production network. It offers a scalable real-time architecture to record and synthesize traffic characteristics over extended periods of time (up to 7 days), without legal- or compliance-related concerns in recording or sharing actual data payloads. This allows not only replicating the traffic profile with the associated real-world applications, but also adds an unprecedented test dimension of dynamically changing traffic composition over time to model the temporal nature of networks and applications.

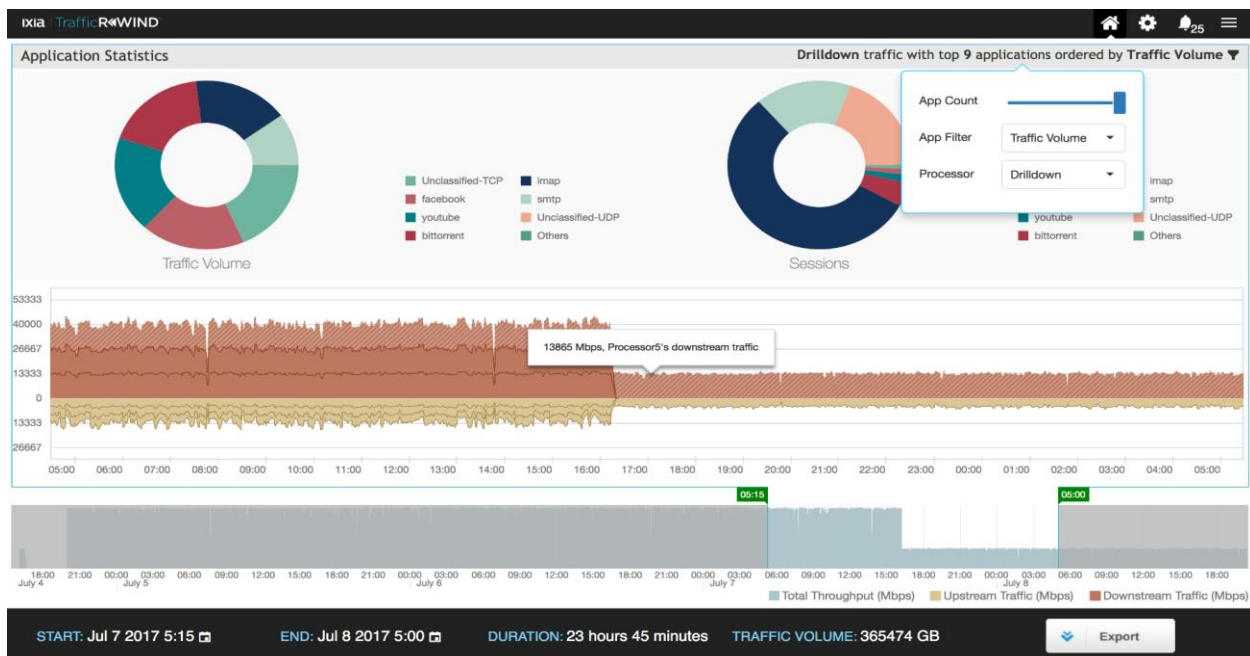
APPLICATION SUPPORT

TrafficREWIND can recognize a growing database of 73 different and commonly used network cleartext applications as well as 20 TLS encrypted applications, which are mapped to canned BreakingPoint Superflows.

Examples of the supported applications include: Facebook, Netflix, YouTube, Instagram, Dropbox, Spotify, iTunes, Gmail, Amazon Video, Baidu, SMTP, IMAP, HTTP, NTP, and QUIC.

In addition to this deeply researched database, in case the network traffic stream does not fall under one of the supported applications, TrafficREWIND also features support for:

- AppStack Dynamic Applications, mapped to a BreakingPoint HTTP Superflow that will automatically use the dynamic application's name as the *Host* header.
- Unknown application classification based on its transport protocol:
 - Unclassified TCP traffic will be mapped to a generic BreakingPoint TCP Superflow
 - Unclassified UDP traffic will be mapped to a generic BreakingPoint UDP Superflow
 - Unclassified SSL traffic will be mapped to a generic BreakingPoint SSL Superflow



TrafficREWIND's simple Web UI to analyze and synthesize the NetFlow metadata includes one-click export of test configuration for use in BreakingPoint

TRAFFIC REGENERATION IN THE LAB

The resulting test configuration from TrafficREWIND (i.e., *Live Profile*) is used in BreakingPoint's Live AppSim test component. While regenerating the traffic with BreakingPoint, each 15-minute interval will have a different traffic-load and application distribution, providing the unique benefit of preserving the production traffic temporal nature.

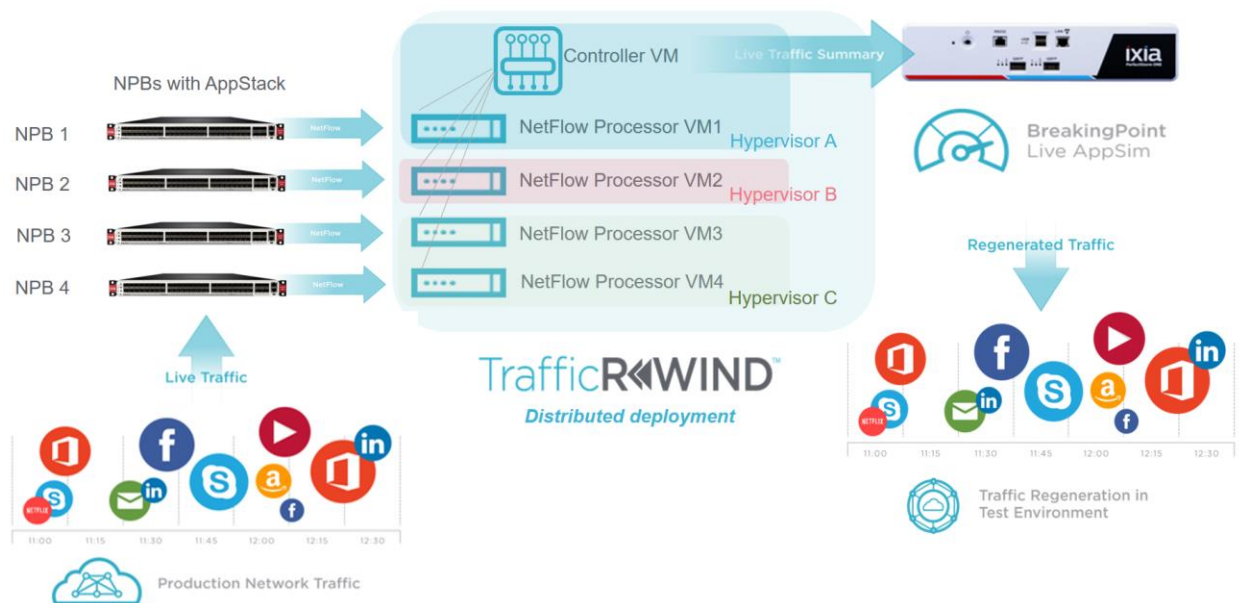
BreakingPoint's Live AppSim test component features the following additional benefits:

- Production traffic regeneration can be vertically scaled (upscale or downscale) using scale factors to validate networks and network devices for future growth needs, or what-if scenarios
- The test duration can be contracted using a time multiplication factor for even faster validation (time expand factor is also available)
- Support for TLS encrypted traffic with explicit insights into encrypted and non-encrypted applications
- Dedicated Live AppSim statistics tab with original vs. achieved per-application throughput graphs

DEPLOYMENT MODES

TrafficREWIND can be deployed in two modes to best fit a wide range of environments and requirements:

- **Standalone mode** for simple deployments, this is an all-in-one system with NetFlow processor and controller Web UI functions on the same VM appliance
- **Distributed mode** has two separate components (different VMs) for elastic deployments and performance scaling:
 - Processor – collects NetFlow data and sends the associated information to a controller for aggregation and summarization (CLI only)
- Controller – aggregates traffic information from all processors (up to 8) and features a Web UI control interface



TrafficREWIND distributed mode deployment model

The performance capability of one TrafficREWIND NetFlow collector (either a standalone unit or a Processor part of a distributed architecture) has the following characteristics:

- For a reference production application mix producing up to 20Gbps, 30K sessions per second, and 200K concurrent connections with a complexity that translates to 200Mbps of IxFlow (with all IxFlow fields enabled), the regenerated traffic volume accuracy is better than 95% of the original production traffic.
- Scaling to higher traffic volumes might entail diminished accuracy, depending on traffic parameters like the number of sessions per second, concurrent connections, etc.

QUALIFIED ENVIRONMNETS

Traffic profiles exported from TrafficREWIND, can be used with all major BreakingPoint platforms, namely:

- CloudStorm
- PerfectStorm
- BreakingPoint Virtual Edition

TrafficREWIND is designed to work best when used in a qualified environment. Our recommendation is to always use one of the qualified versions of the virtualization platforms.

CATEGORY	QUALIFIED
Hypervisor and Host OS	<ul style="list-style-type: none"> • VMware vSphere ESXi 6.x • KVM over CentOS 7.x • KVM over Ubuntu 14.04 LTS

TRAFFICREWIND ORDERING INFORMATION

PART NUMBER	DESCRIPTION
939-9900	TrafficREWIND 1 Year Subscription. Requires adjoining purchase or already purchased and valid BreakingPoint ATI subscription. Requires BreakingPoint version 8.20 or higher running on CloudStorm Fusion or PerfectStorm Fusion or PerfectStorm ONE Fusion or BreakingPoint VE. One license unit is required to activate a standalone TrafficREWIND system or a distributed TrafficREWIND deployment (comprising up to 8 individual TrafficREWIND NetFlow processors)

Learn more at: www.ixiacom.com

For more information on Ixia products, applications, or services, please contact your local Ixia or Keysight Technologies office.

The complete list is available at: www.ixiacom.com/contact/info

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