Radware's Inflight Proactive Monitoring Solution

Inflight is an intelligent, out-of-path, network-based monitoring solution that captures all user transactions from 'in-flight' network traffic and delivers real-time intelligence for business applications. Inflight enables organizations to leverage these valuable business insights to identify business events or security threats embedded in web transactions and respond instantaneously.

Inflight extracts critical business events with detailed user transactions and patterns, showing user actions in business terms, such as money transfers, login events made, or attempted items purchased or viewed. In addition, Inflight can further enrich the information to enable full compliance as well as analyze user transaction patterns to create valuable business information outputs such as security threats or site performance drops alarms. This vital information is delivered in relevant business terms to the relevant processing unit, such as event analytics applications or to other network appliances – for networking based proactive actions.

Key Business Benefits

- **Add new security layer to online presence**
  Identify security breach including fraud, content theft or any other threat by analyzing traffic content and patterns
- **Enabling real time marketing**
  Extract actionable business insights and produce marketing business intelligence – for real time marketing campaigns, otherwise not available through the web application
- **Maintain high QoE**
  Monitor site performance and provide QoE statistics detailed down to the user level – by monitoring actual user traffic, and if needed, trigger a corrective action in real time
- **Simplify and centralize logging tasks**
  required for regulatory compliance, while enriching the logs produced

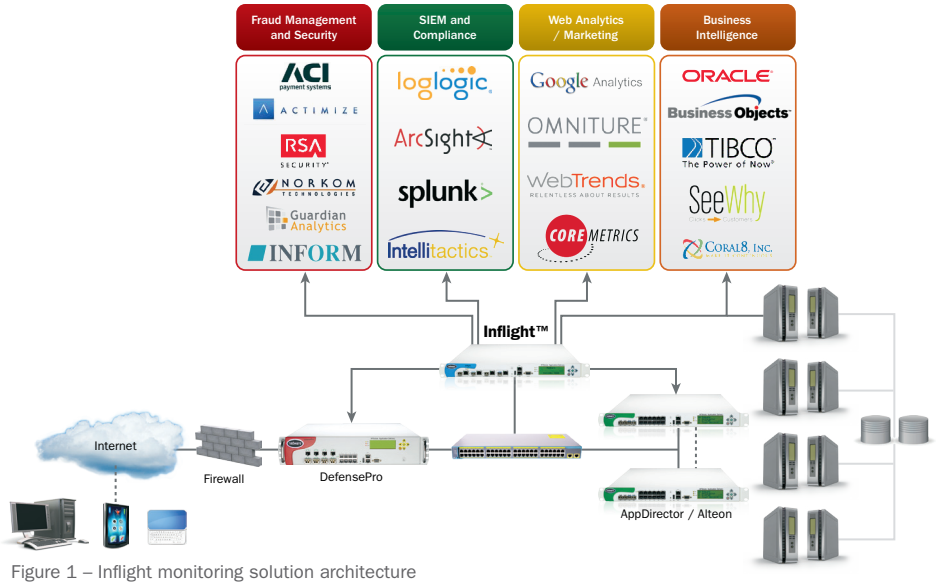

Figure 1 – Inflight monitoring solution architecture

Unique Architecture Enabling Agile Monitoring Solution with Fast TTM

- Independent, out-of-path monitoring solution
- Separating the (evolving) monitoring function from the development of the Web application
- Requiring no integration with production application
- Requiring shorter staging and testing cycles and no site downtime for any upgrade or change

On-Going Business Security and Performance Challenges

Most organizations rely on providing online services to customers, partners and employees, as part of their standard business operation. This drives the following business critical needs:

- Secure the organization's online operation from fraudulent activity
- Comply with regulatory standards such as PCI, by logging online transactions in real time
- Monitor and improve the performance of customer's web applications
- Enable targeted and personalized marketing campaigns through real time business intelligence

Addressing the above needs efficiently requires real time, high quality, actionable intelligence input. However, providing this intelligence is a complex task which often requires a costly integration of mediation agents into the Web application code, risking the production environment.

The Power of a Simple Mediation Solution

Radware's Inflight solution delivers a cost-effective, riskless mediation approach, which enables organizations not to compromise their business's resilience and performance when addressing their security, performance monitoring and other mediation-dependent needs. Using a non-intrusive smart monitoring device to extract actionable business events intelligence from online activity channels, organizations can feed their anti fraud solutions, PCI compliance logs, and other applications, with real time rich business intelligence information, while receiving the following benefits:

Inflight Capabilities	Benefits
Integrated Complex Event Processing (CEP) engine which oversees a session transaction pattern from start to end in real time	• **Provides high quality event feeds** and processed information, in real time, to analytical engines such as anti-fraud and authentication solutions. • **Offloads CPU intensive tasks** from analytical solutions, while simplifying integration into existing web presence deployments. • **Expedites detection of transaction anomalies** such as browsing patterns or high rate of successive login/money transfers events. • **Performs advanced complex event processing in real time**, on all actual web traffic, as transaction occurs
"Off-production-path" solution architecture, passive and non-intrusive to the production environment – while enabling full separation between the web application server and the security solution deployment	• **Fastest TTM** – from decision to production • **Maximize agility** – to minimize time period between threat detection and protection deployment, with minimal risk to production environment • **Reduced losses** – caused by fraudulent activity
Interoperable solution enabling flexible and user configurable reporting options	• **Plug-and-play adapters** characterize the output and feed downstream systems in the appropriate format (i.e., TCP/IP, JMS, SMB, SQL-JDBC, SOAP, HTTP, Syslog and third-party proprietary) • **Vendor-specific adapters** ensure interoperability with leading analytical, logging and SIEM solutions as well as the fastest, most secure transfer of events
High-performance and scalable monitoring solution	• **Scalable, on-demand throughput** and functionality to meet business growth and evolving requirements • **Integrated software and hardware-based secure socket layer (SSL)** decryption in real time, enabling seamless monitoring of SSL encrypted traffic

Inflight for Online Finance Environments

The Challenge

Financial institutions that operate online services strongly rely on their ability to protect themselves and their customers from fraudulent activity. Detecting fraudulent transactions in real-time requires monitoring of all traffic coming in and out of the business's web site. Furthermore, anti fraud solutions must provide agility and fast integration with existing systems and fast time to market, in order to address the constantly changing security threats.

The Solution

The Inflight monitoring solution provides **real time web traffic mediation and business event extraction, optimized for fraud activity detection, enabling on time fraud assessment and prevention** – minimizing loss and damages to your online business, through rich, real time logs, smart multistep transaction correlation and actionable event feed generation.

Inflight provides an agile protection solution – through an independent off-production-path monitoring solution, enabling fast deployment and full separation between production application and security monitoring.

Inflight Capabilities	Benefits
• **Real time, full visibility of all inbound and outbound traffic** – with the ability to extract information, using complex and resource intensive regular expressions and an integrated CEP engine.	• **Maximal fraud mitigation** – enabling anti fraud solutions to provide better protection than any other mediation alternative, minimizing loss and damages to the online finance business environment.
• **Inter session information correlation** – enables logs enrichment with traffic pattern information and additional parameters such as user geo-location.	• **Lower OPEX and CAPEX** – of the security solution, while maintaining high QoE, with no performance penalty to the web application servers.

Inflight for E-Commerce Sites

The Challenge

E-commerce competitiveness relies on the defense of core business information assets. Any e-commerce site, whether it is aware of it or not, is potentially under constant attacks of automated bots and site scrapers, which are trying to automatically replicate its core business information assets – the same information which is publicly open to its customers. Besides the direct negative business impact such data theft may have, those automated bots also overload the site's web application servers as well as utilize high percentage of its costly internet connection.

The Solution

Inflight can improve e-commerce site competitiveness and maintain business advantage by enabling real time protection of publicly available data, from bots and scrapers serving competitors. By **preventing knowledge leaks and core business information loss** – customers can ensure full extraction of the monetary benefit from their investments. In addition, protecting IT assets from being replicated or stolen enables e-commerce sites to sell data extracted from their **core business databases** – which can provide additional sales revenues from the protected IT assets.

Inflight Capabilities	Benefits
Real time monitoring of all inbound and outbound traffic – traffic content and pattern analysis, enabling detection of automated bots and scrapers activity stealing valuable web site content.	**Prevent knowledge leaks and core business information loss** – ensuring full extraction of the monetary benefit from your investments.
Actionable feeds – to external analytical engines and other network devices, this powerful detection is natively converted into real time active protection.	**Increase the value of your publicly available data** – preventing data scraping to enable legitimate sales and revenues from the protected data (as databases), for non-competing purposes.

Inflight for Online Gambling Sites

The Challenge

Increasing revenues per gambler requires real time business intelligence on game patterns of each specific gambler. Extracting this information from existing gambling applications is often complex, risking production environment stability, while offering little to no future agility on business intelligence being extracted.

The Solution

Radware's Inflight monitoring solution extracts information at the user/transaction level and provides real time feeds of rich business events, enabling marketing analytics engines to create real time, personalized effective promotions.

Inflight's unique solution architecture provides the marketing team with easy adjustments to optimize effectiveness of such real time promotions, with minimal risk to the production gambling web application.

Inflight Capabilities	Benefits
Extracting real time monetary information – at the user level, taking place on the gambling site.	**Increased average revenue per user** – by enabling effective and personalized real time promotion.
Real time actionable user balance tracking, enabling real time promotions based on user actual status, combined with historic user gambling patterns.	**Optimized gambler spending** – through real time money transfers between different games balances and between different gambling applications.

Technical Specifications	Inflight 5000 (ODS1)	Inflight 10000 (ODS3)
		
Processor	2 AMD Opteron dual-core 2.2 GHz	2 AMD Shanghai quad-core 2.5 GHz
Memory	6 GB	16 GB
10 Gigabit/Gigabit/GBIC Ethernet Ports	4 Gigabit Ethernet Ports (Copper or Fiber)	4 (XFP pluggable optics) 8 x 10/100/1000 BaseT ports 4xGigabit Fiber Ports (SFP-GBIC Mini)
1000Base-SX/LX/ZX Ports	All Gigabit Fiber ports deliver SX/LX/ZX interfaces depending on GBIC	
Monitored Protocols	HTTP, HTTPS, TCP, UDP, RADIUS	
Publishing Interfaces	Streaming via TCP/IP, JMS Direct database via SQL HTTP	Log file transfer via NFS/SMB Web Services
1000Base-SX (850 nm) Operating Distance	62.5 micron MM fiber .2 m to 275 m	50 micron MM fiber .2 m to 550 m
1000Base-LX/ZX Operating Distance	LX: Up to 10 km (6.2 mi)	ZX: Up to 80 km (49.7 mi)
USB Port	On front panel	
LCD Screen	On front panel	
RS-232C Console	DB -9 serial connection	Female DCE interface for out-of-band management
Dimensions	1U: Width: 424 mm (17 in.) Depth: 600 mm (24 in.) Height: 44 mm (1.7 in.) EIA rack or standalone: 482 mm (19 in.)	2U: Width: 424 mm (17 in.) Depth: 600 mm (24 in.) Height: 88 mm (3.4 in.) EIA rack or standalone: 482 mm (19 in.)
Weight	1U: 9.5 kg (20 lbs)	2U: 15.1kg (33.3 lbs)
Environmental	Operating temperature: 0°C to 40°C (32°F to 104°F) Humidity: 5% to 95% non-condensing	
Power	Auto-range supply: AC: 100-240V 50-60Hz Frequency: 47Hz - 63Hz Heat dissipation: 511.5 BTU/h	DC: -36~-72V Power consumption: 150 W Dual power supply (AC/DC) in 2U form
Certifications	Safety: EN, UL, CSA, IEC #60950-1 EMC: EN 55022, EN 55024, FCC Part 15B Class A CE, FCC, VCCI, CB, TUV, UL/cUL, CCC, C-Tick, RoHS	Safety: EN 60950-1:2006, CB - IEC 60950-1, CCC, cULus, EMC: CE - EN 55022, EN 55024, EN 61000-3-2, EN 61000-3-3, IEC 61000 4-2 to 4-6, IEC 61000 4-8 & IEC 61000-4-11, FCC Part 15B Class A, ICES-003, VCCI Class A, C-Tick, RoHS 6

Learn More

To learn more about how Radware's integrated application delivery solutions can enable you to get the most of your business and IT investments, email us at info@radware.com or go to www.radware.com.