

# WEDGE VNF

## WEB APPLICATION FIREWALL (WAF)

### Defend Against Web Attacks on Your Cloud Assets

Critical Web applications are often the nerve center of today's businesses. Increasingly, these applications are located outside the enterprise network and are accessed over mobile networks on a mix of employee sanctioned and personal devices. The Wedge Web Application Firewall (WAF) VNF can run in a private, hybrid or public cloud environment and prevents the full range of application layer attacks. Wedge cost-effectively provides uncompromising protection for cloud assets, securing all data-in-motion from and to the cloud.

### The Difference

The Wedge Web Application Firewall VNF runs on the Cloud Network Defense™ (CND) platform, enabling scalable high-performance security using Network Function Virtualization (NFV), Service Chaining and Elastic computing. The Wedge WAF sets itself apart from other solutions on the market through its ability to apply security dynamically to web traffic as an on-demand elastic service; enabling enterprise grade security functionality as a service of the network at a fraction of the cost of first generation solutions.

- **Deep Content Inspection and Deep Packet Inspection engines** - enables the utilization of three sets of security intelligence, including OWASP Open Source rules, third party commercial rules, and Wedge's own in-house WedgeIQ rule sets; allowing for the extensive security features and services that are inherent to each set.
- **Best-of-breed security intelligence coverage for all segments of vulnerability** - industry-leading accuracy rates are achieved as a result of the multiple complete signature databases used.
- **Flexible rules engine** - allows for powerful virtual patching and application hardening capability.
- **Real time HTTP traffic monitoring** - provides constant visibility to users' interactions with your web applications as well as access control capability to limit attack surfaces.

#### Available Rule Sets

##### OWASP Open Source Rule Set:

- HTTP Protocol Protection
- Real-Time Blacklist Lookups
- HTTP Denial of Service Protections
- Generic Web Attack Protection
- Error Detection and Hiding

##### Third Party Commercial Rule Set:

- Virtual Patching
- IP Reputation
- Web-Based Malware Detection
- Webshell / Backdoor Detection
- Botnet Attack Detection
- HTTP Denial of Service (DoS) Attack Detection
- Anti-Virus Scanning of File Attachments

##### WedgeIQ Rule Set:

- SQL Injection\*
  - XSS Injection\*
  - DLP Rules\*
- (\*Standard Feature of WedgeOS)
- DCI Rules  
(i.e. DCI MIME object-based AV)
  - DPI Rules  
(i.e. Wedge's fix to the Heartbleed rule)
  - L3 DDoS

#### Benefits for Cloud Services

- Eliminates bandwidth abuse.
- Reduces network maintenance and infrastructure costs.
- Improves and enhances network quality.
- Incorporated Security Information and Event Management (SIEM).
- Provides Governance, Risk and Compliance (GRC) reporting.

## Easy to Use Dashboard

Wedge WAF provides a flexible and easily understood graphical dashboard for a quick overview of the important activities within the network.

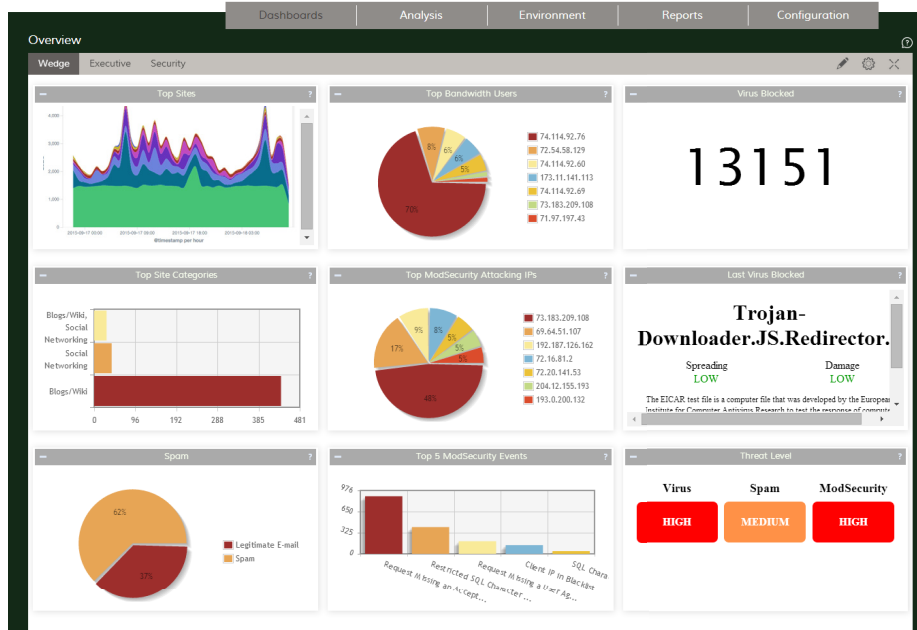


Figure 1. Network Overview Dashboard

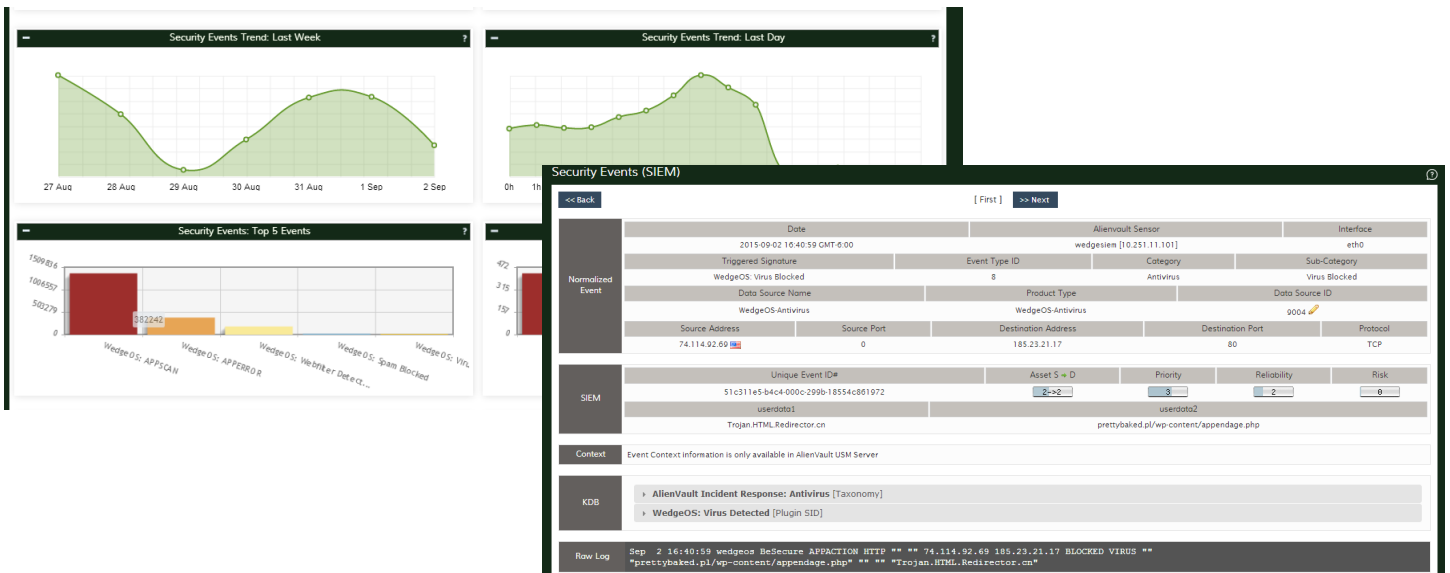


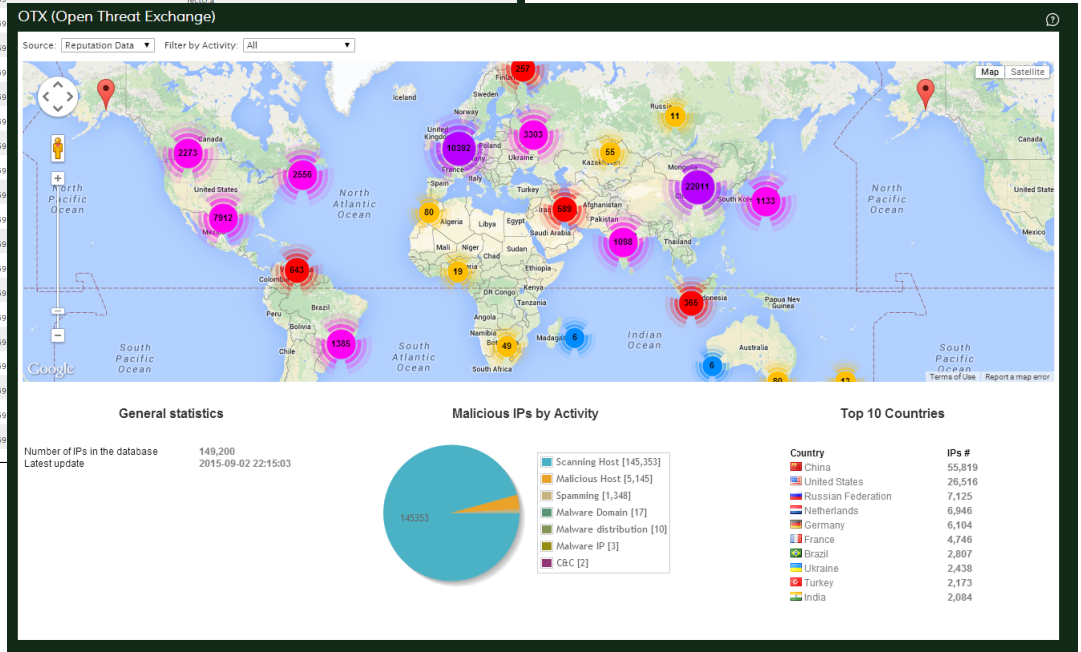
Figure 2. Security Dashboard and Event Description

# Robust and Detailed Analytics

Extensive analytics provides a view into where attacks are coming from and arms administrators with tools to better defend their networks.

Data Source Name	Signature	Date GMT-5:00	Src IP	Dst IP	Dst Port	Userdata1	Userdata2
WedgeOS-Antivirus	WedgeOS: Virus Blocked	2015-09-02 16:40:59	74.114.92.69	185.23.21.17	80	Trojan.HTML.Redirector.cn	prettybaked.pl/wp-content/appendage.php
WedgeOS-Antivirus	WedgeOS: Virus Blocked	2015-09-02 16:40:02	74.114.92.69	72.47.224.125	80	Trojan.Downloader.js.Redirector.a	cityofmusic.com/deathly.php
WedgeOS-Antivirus	WedgeOS: Virus Blocked	2015-09-02 16:39:47	74.114.92.69	182.18.176.17	80	Trojan.Downloader.js.Redirector.a	meditrance.org/biologists.php
WedgeOS-Antivirus	WedgeOS: Virus Blocked	2015-09-02 16:38:05	74.114.92.69	85.95.248.77	80	Trojan.HTML.Redirector.cn	mkalip.net/wp-content/enr_olls.php
WedgeOS-Antivirus	WedgeOS: Virus Blocked	2015-09-02 16:37:51	74.114.92.69	94.23.102.232	80	Trojan.HTML.Redirector.cn	predisonedosage.net/quee_ns.php
WedgeOS-Antivirus	WedgeOS: Virus Blocked	2015-09-02 16:37:22	74.114.92.69	192.185.63.209	80	Trojan.Downloader.js.Redirector.a	thebapp.org/barages.php

Figure 3. Threat Analysis and Global Threat Map



**Alarms**

Next refresh in 281 seconds. Or click here to refresh now.

Date	Status	Intent & Strategy	Method	Risk	Attack pattern	Source	Dest
10:33:22	open	Client IP in Blacklist		69.64.46.86	10.251.11.101	69.64.46.86	10.251.11.101
10:33:18	open	Range field exists and begins with 0		66.220.156.96	10.251.11.101	66.220.156.96	10.251.11.101
10:32:53	open	Client IP in Blacklist		69.64.46.86	10.251.11.101	69.64.46.86	10.251.11.101
10:01:31	open	Request Missing an Accept Header		180.76.15.23	10.251.11.101	180.76.15.23	10.251.11.101
09:59:42	open	Request Missing an Accept Header		180.76.15.31	10.251.11.101	180.76.15.31	10.251.11.101
09:21:57	open	Pragma Header requires Cache-Control Header for HTTP/1.1 request		216.145.5.42	10.251.11.101	216.145.5.42	10.251.11.101
09:21:56	open	Range web site crawler		216.145.5.42	10.251.11.101	216.145.5.42	10.251.11.101
09:19:19	open	Request Missing an Accept Header		193.732.234	10.251.11.101	193.732.234	10.251.11.101
09:19:18	open	Request Missing an Accept Header		193.732.234	10.251.11.101	193.732.234	10.251.11.101
08:51:07	open	Request Missing an Accept Header		180.76.15.160	10.251.11.101	180.76.15.160	10.251.11.101
08:49:41	open	Request Missing an Accept Header		180.76.15.13	10.251.11.101	180.76.15.13	10.251.11.101
08:31:42	open	SQL Injection Attack		67.77.66.130	10.251.11.101	67.77.66.130	10.251.11.101
08:31:12	open	SQL Injection Attack		67.77.66.130	10.251.11.101	67.77.66.130	10.251.11.101
07:47:15	open	Request Missing an Accept Header		180.76.15.23	10.251.11.101	180.76.15.23	10.251.11.101
07:45:58	open	Request Missing an Accept Header		180.76.15.142	10.251.11.101	180.76.15.142	10.251.11.101
07:18:37	open	Client IP in Blacklist		188.138.1.218	10.251.11.101	188.138.1.218	10.251.11.101
07:18:36	open	Client IP in Blacklist		188.138.1.218	10.251.11.101	188.138.1.218	10.251.11.101
07:18:35	open	Client IP in Blacklist		188.138.1.218	10.251.11.101	188.138.1.218	10.251.11.101
07:18:24	open	Client IP in Blacklist		188.138.1.218	10.251.11.101	188.138.1.218	10.251.11.101

Figure 4. System Alarms

**Alarm Detail**

**Client IP in Blacklist**

Source: 69.64.46.86 (Location: United States)

Destination: 10.251.11.101 (Location: PVT\_00 (10.0.0.0/8))

Attack Pattern: external to internal one-to-one

Event Detail:

#	Alarm	Risk	Date	Source	Destination	Correlation Level
1	Client IP in Blacklist	1	2015-09-02 10:32:53	69.64.46.86	10.251.11.101	0

## All Your Network Security Apps - One OS

WedgeOS™ platform provides the next generation security infrastructure to detect, protect against, and control threats, information leaks, and allows future security functions to run on the network.

### Accuracy

- Deep Content Inspection
- Best of Breed Services

### Performance

- Patented Performance
- Unlimited Scalability
- Massive Threading Architecture
- Low Latency

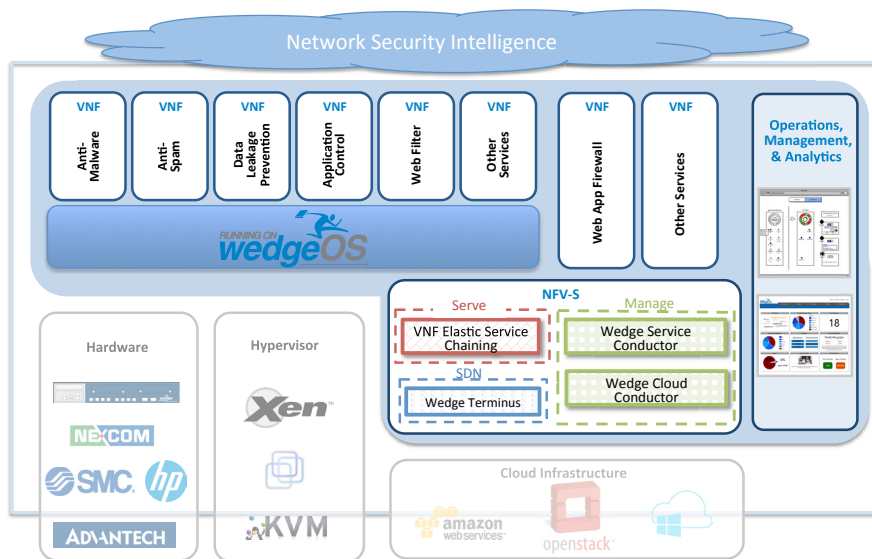
### Network Apps

- Universal Platform for Network Apps
- Anti-Malware, Anti-Spam, DLP, Mobile Security, Web Filter, Web Application Control.

### Integration

- L2 Transparency with Stealth Routing
- Identity-Aware Policies and Analytics
- ICAP, WCCP, Explicit Proxy,
- Web Console, RESTful API, SNMP, CLI
- Load Balancing / High Availability

## Wedge Cloud Network Defense™ Architecture



## WedgeOS™ Form Factors

- Wedge Cloud Network Defense™ (as an NFV-S instance)
- Wedge Virtual Machine
- Wedge Cloud / SaaS
- Wedge Hardware Appliance



## Wedge Networks™, Inc.

is transforming how network security is delivered. Its innovative Cloud Network Defense™ is a true cloud network security platform designed to deliver the elastic, embedded and comprehensive security that is required to combat the shifting threat landscape associated with today's cloud connected world. Unlike first generation security products, cloud-assisted appliances or even dedicated security clouds, Cloud Network Defense™ enables inline inspection of both inbound and outbound traffic embedded within the cloud layer across all platforms and device types without latency. Wedge's products are deployed globally, delivering security protection for tens of millions of users in Fortune 500 companies, government agencies, Internet service providers, and across all industry verticals. Wedge Networks is headquartered in Calgary, Canada, and has international offices in Dallas, USA, Beijing, China, and Manama, Bahrain.

### Awards



## Experience The Benefits Of WedgeOS™

**Service Providers** - request a demonstration of Wedge's Turn-Key Managed Security Platform; enabling cost savings and increasing revenues through additional security services.

**Enterprises** - experience the security benefits of WedgeOS™ through Wedge's Instant-On VM trial - free for 45 days!

**End-users** - sign up for a trial account on WedgeCloud™ to experience security on any mobile device.

**Contact us to find out more!**

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