OPERATIONS & INTELLIGENCE EXECUTIVE CYBER SECURITY REPORT

Metrobank S.A.

September, 2018

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About This Report

The purpose of this document is to report on the "state" of security for your organization. It must be noted that GLESEC bases its information analysis on the services under contract. The information generated by these services is then aggregated, correlated and analyzed. The more complete the set of services under contract the more accurate and complete the results will be.

The report is organized in three parts; the first is the Executive Summary with recommendations (as necessary or applicable), the second is the Intelligence Section with more detail information and analysis dashboards and the last is Operational Section with status of the services and counter-measures under contract, tickets for change management and incidents reported and consulting activity for the month.

We at GLESEC believe that information security is a holistic and dynamic process that requires on-going research and follow up and should be handled with the right tools, systems, processes, skill personnel and focus attention. The process is dynamic due to the constant discovery of new security vulnerabilities and exploits, the proliferation of hacking tools that make it easier for script-kiddies with minimal knowledge to cause damage. The increase in malware, phishing, insider threats, espionage, organized crime, intellectual property theft, and hacktivism are the very cause of information security exposure and are most commonly driven by financial gain. GLESEC's outsourcing services, based on its proprietary TIP™ platform portfolio provide the ideal response to the above.

Confidentiality

GLESEC considers the confidentiality of client's information as a trade secret. The information in this context is classified as:

- Client name and contact information
- System architecture, configuration, access methods and access control
- Security content

All the above information is kept secure to the extent in which GLESEC secures its own confidential information.

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Scope of this Report

GLESEC Contracted Services Table
This table list of GLESEC TIP™ services and indicate which are contracted and the corresponding service expiration dates of the contracts.

Type	Service	Contracted?	Service Expiration
Threat Mitigation	MSS-APS	YES	06/01/2019
Threat Mitigation	MSS-APS-SSL		
Threat Mitigation	MSS-APS-PS		
Threat Mitigation	MSS-APFW	YES	06/01/2019
Vulnerability Testing	MSS-VME	YES	06/01/2019
Vulnerability Testing	MSS-VMI		
Compliance	MSS-EPS		
Threat Mitigation	MSS-SIEM		
Risk assessment	MSS-BAS		
Threat Mitigation	MSS-EDR		
Threat Mitigation	MSS-UTM		
Threat Mitigation	MSS-INT		
Access Control	MSS-TAS		

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Executive Summary

This report corresponds to the period from September, 2018.

The following table describes the major categories that GLESEC has identified to report on the state-of-security of its member-clients. The categories in the table below are based on risk-management methodology. This is a principal foundational aspect of GLESEC.

RISK

Risk management is the ongoing process of identifying, assessing, and responding to risk. To manage risk, organizations should understand the likelihood that an event will occur and the resulting impact. With this information, organizations can determine the acceptable level of risk for delivery of services and can express this as their risk tolerance. The NIST Cyber-Security Framework

One of GLESEC's foundational columns is basing all its activities to support RISK determination and mitigation. What any organization should want to know if what is their level of RISK, and in this case in particular to cyber-security. Cyber-Security RISK has a direct impact to the business and as such is of paramount importance to the Board and Management of the company.

We at GLESEC measure RISK through a number of perspectives and using several of

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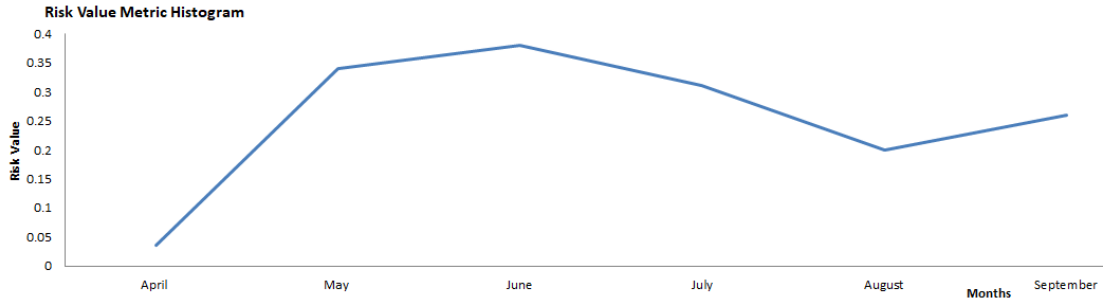
the TIP™ platform portfolio of services. The MSS-VM or Managed Vulnerability Service provides us with one view, how weak are the systems of the organization. The MSS-BAS provides us a view of how weak are the defenses of the organization to the latest threats. The MSS-APS, MSS-SIEM, MSS-UTM, MSS-EIR, MSS-EPS provides us with attack information both internal and external, DDOS, Malware, Ransomware and other attack vector information as well as provide protection level services. The MSS-EPS also provides us RISK level information for non-compliance with internal or external requirements and/or regulations. All in all a variety of services provide us with different views and together we have the most complete view of our client's security posture.

We determine that the risk condition for the Metrobank S.A for the month of September is Critical. This can be seen in the security indicator as indicated below.

Risk Indicator	Service	Condition	Comments
Risk Value Metric	MSS-VME	CRITICAL	1 critical and 5 high vulnerabilities are reported. Any one of these can cause an impact to the Metrobank S.A.

The RISK VALUE METRIC histogram below represents the changes in the Vulnerability based Risk Value Metric over the past six months.



During the month of September, it was possible to access 15 of its systems, 1 host (190.34.183.154) more compared to the previous month.

The vulnerabilities of high, medium and low severity have increased compared to the month of August.

The level of risk for your organization in the month of September has increased; this is due in part because visibility of host 190.34.183.154 was regained and presents vulnerabilities and because hosts 190.34.183.149 and 190.34.183.152 showed

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vulnerabilities during the last scan.

The details regarding the systems that present vulnerabilities, are detailed in our monthly technical report

VULNERABILITIES

GLESEC's MSS-VM(E/I) service is used to conduct two weekly testing to external and/or internal systems (depending on the options of the contracted service). Of the two tests performed weekly, one is to test for discovery of assets on the network and the other to test for vulnerabilities. The external testing is performed from GLESEC' cloud platform and the internal is conducted with the GLESEC Multi-Security Appliance (GMSA).

Vulnerabilities are weaknesses that if exploited can compromise the organization and as such are a component of RISK for the organization. If there are vulnerabilities and also threats, there is RISK that the organization can be impacted. The vulnerabilities reported by GLESEC should be considered all important and addressed according to the priority (Critical, High, Medium and Low). An effective process is to work with the GLESEC provided information and GLESEC consulting team to address the recommendations provided in a systematic and continuous way. Progress can be determined by the weekly testing.

For this period Metrobank S.A, the total number of vulnerabilities has increased to 64 compared to the previous month. This is because the number of vulnerable hosts increased to 10, out of the 15 hosts that were analyzed. The total number of vulnerabilities is classified as follows: 1 for the critical risk, 5 for the high risk, 37 for the medium risk and 21 for the low risk. It is necessary to follow the recommendations to reduce the number of current vulnerabilities.

Among the categories with the greatest number of vulnerabilities, we can mention: General with 36 this represents 56%, Misc. with 16 this represents 25% and service detection with 8 this represents 12.5%. Within these categories, the 3 most frequent vulnerabilities are: SSL Medium Strength Cipher Suites Supported (14%), SSL Certificate Cannot Be Trusted (8%) and SSL Version 2 and 3 Protocol Detection (8%). For more details on these and other vulnerabilities mentioned, see our monthly technical report in the section on severity vulnerabilities.

The 4 most vulnerable ports for this period are: 443 (HTTPS), 3389 (RDP), 22 (SSH) and 25 (SMTP). Most hosts have vulnerability on port 443. Host 190.34.183.131 still presents the critical vulnerability of type MS15-034: Vulnerability in HTTP.sys Could

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Allow Remote Code Execution (3042553) (uncredentialed check) in ports 80 and 443.

The most vulnerable hosts for this period are: 190.34.183.139, 190.34.183.142, 190.34.183.152, 190.34.183.154 and 190.34.183.149. Most of these hosts were presented as vulnerable in the previous month. The hosts 190.34.183.139, 190.34.183.142, 190.34.183.152, 190.34.183.154 and 190.34.183.149 have a high-risk vulnerability belonging to the SSL Version 2 and 3 Protocol Detection category.

Risk Value Metric

GLESEC utilizes a metric to provide a way to quantify the vulnerabilities-based risk of an organization. This metric is to measure the relative value of vulnerabilities and also the record of change over time.

It is important to mention that this metric considers a median value for the vulnerabilities classified as "critical", "high", "medium" and "low", giving them a weight of 100%, 75%, 50% and 10% respectively.

This takes into consideration all of the vulnerabilities but is important to point out that these values (100%, 75%, 50% and 10%) are arbitrarily chosen by us, so this measure can in time change as we understand more of the risks involved. We can use this metric to evaluate the progress in time and to compare one over the other using a common amount set.

The following external network ranges 190.34.183.0/24 for Metrobank S.A. were scanned for vulnerabilities.

The following table indicates the external vulnerability metric.

Total IP's Scanned	IP's Vulnerable
15	10

Risk Distribution				
Critical	High	Medium	Low	Total
1	5	37	21	64

According to the metrics:

RV= 0.2640625

The following values are to clarify RV:

RV=1 Points to every IP address in the infrastructure that are susceptible to attacks

RV=0 Points to no IP address in the infrastructure aret susceptible to attacks

RV=0.1 Point to 1/10 IP address in the infrastructure that are susceptible to attacks

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External listing of vulnerabilities by condition:

Vulnerable Hosts	Critical	High	Medium	Low	Total
190.34.183.90	0	0	4	1	5
190.34.183.91	0	0	4	1	5
190.34.183.131	1	0	0	0	1
190.34.183.132	0	0	4	1	5
190.34.183.139	0	1	6	5	12
190.34.183.142	0	1	7	3	11
190.34.183.148	0	0	2	0	2
190.34.183.149	0	1	4	2	7
190.34.183.152	0	1	3	4	8
190.34.183.154	0	1	3	4	8

The following table provides a comparison of persistent external vulnerabilities of the current month and previous month.

host-ip	Previous Month	Current Month
190.34.183.131	1	1
190.34.183.132	5	5
190.34.183.139	8	12
190.34.183.142	11	11
190.34.183.148	2	2
190.34.183.149		7
190.34.183.152		8
190.34.183.154		8
190.34.183.90	5	5
190.34.183.91	5	5

Please view Recommendations for more details. This can be seen on the GLESEC MEMBER PORTAL (GMP).

Vulnerability Categories

The following table indicates the categories that we use for vulnerabilities as a way to provide context to them and facilitate the prioritization of how to handle remediation.

Preliminary Analysis	Firewalls	Network Devices
SMB/NetBIOS	SSH Servers	Malformed Packets
Simple Network Services	Mail Servers	Proxy Servers
Policy Checks	SQL Servers	Wireless AP
Web Servers	FTP Servers	Webmail Servers
RPC Services	Server Side Scripts	NFS Services
Backdoors	SNMP Services	Printers
Encryption and Authentication	DNS Servers	

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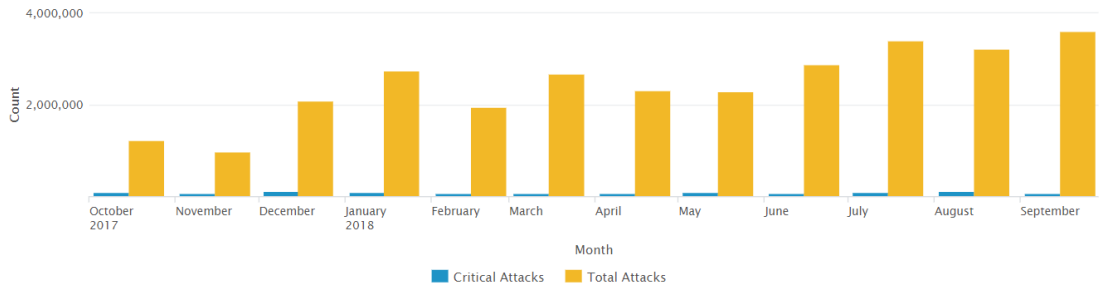
Based on the above the following table shows a matrix of the total external vulnerabilities by category.

Category	Critical	High	Medium	Low	Total
General	0	0	28	8	36
Misc.	0	0	7	9	16
Service detection	0	5	0	3	8
Windows	1	0	2	0	3
Web Servers	0	0	0	1	1

THREATS

GLESEC uses its MSS-APS, MSS-EPS, MSS-SIEM, MSS-EIR and MSS-UTM to determine threat intelligence activity.

The Threats as reported by the MSS-APS, MSS-EPS, MSS-SIEM, MSS-EIR, MSS-UTM for this month are mostly anti-scan attacks.



For this month, we see an increase in the total attacks of 11% and a decrease in critical attacks of 58% compared to the previous month.

Most attacks are less than a minute and more than an hour, they are directed to several ports. Some of the destination ports are port 3389 (RDP), 23 (telnet), 8080 and 81 (HTTP-Alternative).

Most of the attacks seem to be of reconnaissance (scanning). About 95% of the attacks for this month came from scanning which can be considered reconnaissance and it is what precedes further attacks. Other categories that present attacks for this period are: Access (2.8%) and Behavorial-DoS (1.2%).

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The sources of the attacks come from the following countries: Russian Federation (61%), Panama (11%), United States (11%), China (5.5%) and Germany (2.7%). The types of attacks that these countries frequent are: TCP Scan and TCP Scan (Horizontal).

Based on the information gathered from the security countermeasures during these period 3,596,487 attacks on Metrobank S.A.; 51,427 of which were considered critical were all stopped by the GLESEC managed security countermeasures.

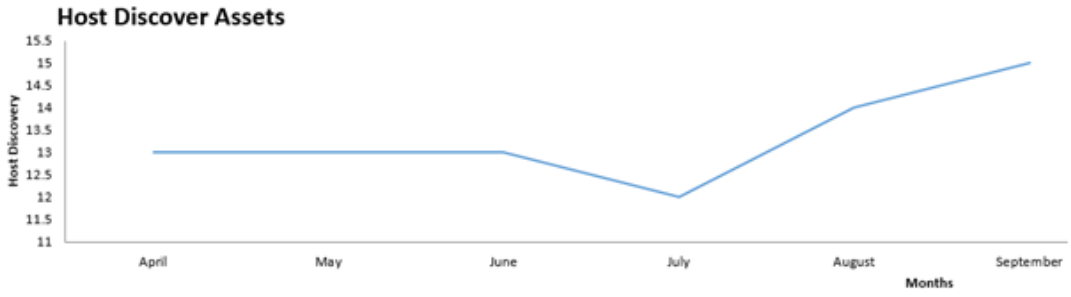
Metrobank S.A, receives an average of 2,452,695 total attacks and 85,029 critical attacks on a monthly basis. This equates to an average of 81,756 total daily attacks and 2,834 critical daily attacks.

ASSETS

The MSS-VM(E/I), MSS-EPS conduct weekly testing. The MSS-VM(E/I) identify network assets while the MSS-EPS identify applications. Depending on the contracted services is the listing that can be provided of system or application assets.

We believe that we cannot protect what we don't know and to know the assets (systems and applications) is critical to having a sound cyber security practice. Therefore, we encourage you to verify the information that we provide and let us know if anything is suspicious or just not right. We can work with your organization to create a baseline that can be used to identify deviations. Please contact our GOC for assistance in this matter.

The following histogram shows the past six-month total of number of systems discovered in the perimeter of your organization.



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Knowing what is in your network is extremely important. Our monitoring team in our GOC has been tracking all these host discovery results and has not found anything unusual.

An increase in the number of hosts (15) was found compared to the month of August.

The hosts that was added to the analysis of this period is: 190.34.183.154

CYBER SECURITY VALIDATION

Security Validation implies the validation of the entire security by conducting testing with simulated attacks. This is conducted with the Managed Breach Attack Simulation Service (MSS-BAS). The MSS-BAS is a collection of advanced pre-exploitation, post- exploitation and awareness testing services. The testing is on real targets based on simulated attacks; therefore, these provide conclusive (no false positive) results. The different attack vectors test the organization's configurations, countermeasures, implementations and ability to respond in a continuous fashion producing valuable intelligence and recommendations.

The services that provide us with information for this section have not been contracted.

TRUSTED ACCESS

The new IT model brings with it a greater attack surface, comprised by employees that use their own devices for work, while working remotely. The proliferation of cloud applications for nearly every business need has also contributed to increased technical complexity. These days, attackers can expose much different vulnerability in multiple vectors — in a single attack. Traditional security is designed to address separate, siloes attacks, making these solutions ineffective against modern threats. These new threats center on gaining remote access to your apps and data — whether it's with stolen passwords or exploited known vulnerabilities targeting your users, their out-of- date devices, cloud applications and remote access software.
The Managed Trusted Access Service (MSS-TAS) is a holistic security service to (a) ensure that the users' access is trusted (valid user) and (b) the devices used by the user to authenticate meet the organization's security standards.

The services that provide us with information for this section have not been contracted.

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Recommendations

GLESEC recommends for Metrobank S.A. to address the following
The details of the vulnerabilities per host are presented in our technical report in the Managed Vulnerability Service section (MSS-VM).

- We recommend applying security updates to your servers.
- Enable support for TLS 1.1 and 1.2 and disable support for TLS 1.0.
- Disable SSL 2.0 and 3.0. Use TLS 1.2 (with approved cipher suites) or higher instead. Many of the vulnerabilities present in the scanned devices correspond to the use of SSL protocols, SSL has become an obsolete protocol and has many well-documented vulnerabilities, such as Bar Mitzvah. The recommended practice is to implement TLS version 1.2, which is the most secure implementation to date.
- Disable CBC mode cipher encryption and enable CTR or GCM cipher mode encryption.
- Enable Network Level Authentication (NLA) on the remote RDP server. This is generally done on the 'Remote' tab of the 'System' settings on Windows. Host 190.34.183.139 is affected by many vulnerabilities that target port 3389 (RDP).
- Replace the certificate in the chain with the RSA key less than 2048 bits in length with a longer key and reissue the certificates signed by the previous certificate. This is one of the most frequent vulnerabilities.
- There are Vulnerabilities that affect the SSH protocol. These vulnerabilities can usually be solved by keeping the systems with the latest software versions and applying the latest patches. In some cases that the devices can't be upgraded to the latest version, restricting or blocking the SSH from being accessible from the external network can be a remediation.

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Intelligence Section Per Service Module

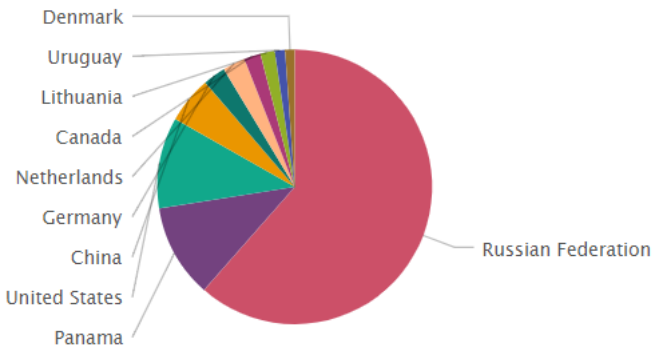
MANAGED ATTACK PROTECTION SERVICE (MSS-APS) SECURITY INTELLIGENCE SECTION

The MSS-APS is a comprehensive Managed Attack Protection Service that provides protection against: Directed or automated intrusion attacks, DDOS attacks, Internal and external attacks, network-based level attacks, encrypted attacks, attacks to cloud based services, attacks that can consume the bandwidth of the Internet Service Providers to your organization. The service responds to Risk of lack of availability for critical systems due to a DDOS attack, Risk of data leakage due to an intruder, Risk of loss of funds due to an intruder, Risk of corporate image tainting thru a defacement of organization public sites.

The purpose of this section is to highlight intelligence gathered from the services under contract as well as outside sources such honeypots, known malicious sources, vulnerability databases, relationships with CERT and CSIRT teams that GLESEC possesses, together with various other threat feeds.

The following graphs are dashboards generated by GLESEC's TIP™ platform. These dashboards are representative of metrics for this service.

The distribution of attack sources can be seen in the following chart.



The distribution of attacks per type can be seen in the following diagram.

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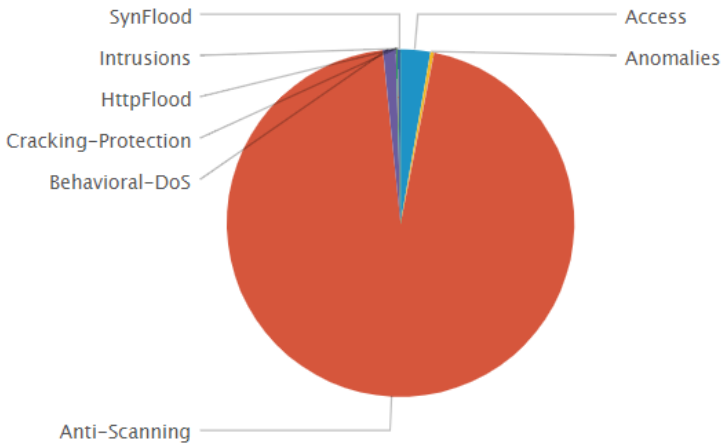
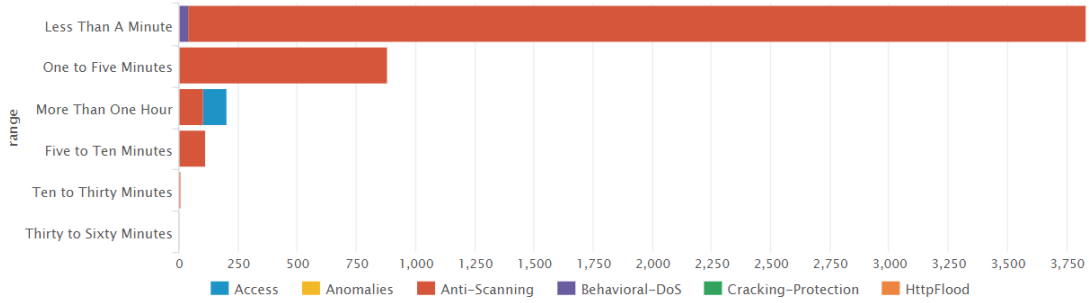


Duration

Attack duration for specific categories for this report period is illustrated below.



Bandwidth

The following table presents the traffic dropped by category.

Category	Gbps	Mbps
Behavioral-DoS	25.84	26461.38
Anti-Scanning	3.84	3935.54
Access	3.51	3590.67
Anomalies	0.17	171.42
Intrusions	0.12	123.30
Cracking-Protection	0.01	5.18
SynFlood	0.00	0.25
HttpFlood	0.00	0.00
Total Bandwidth in Gbps/Mbps	33.49	34287.74

*Please view the Bandwidth Information, and Graph: Bandwidth by Blocked Threat

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Category by Hour of Day and Graph: Top Attacks Blocked by Bandwidth and Graph: Attack Categories Blocked by Bandwidth available in the Security Intelligence section of the report.

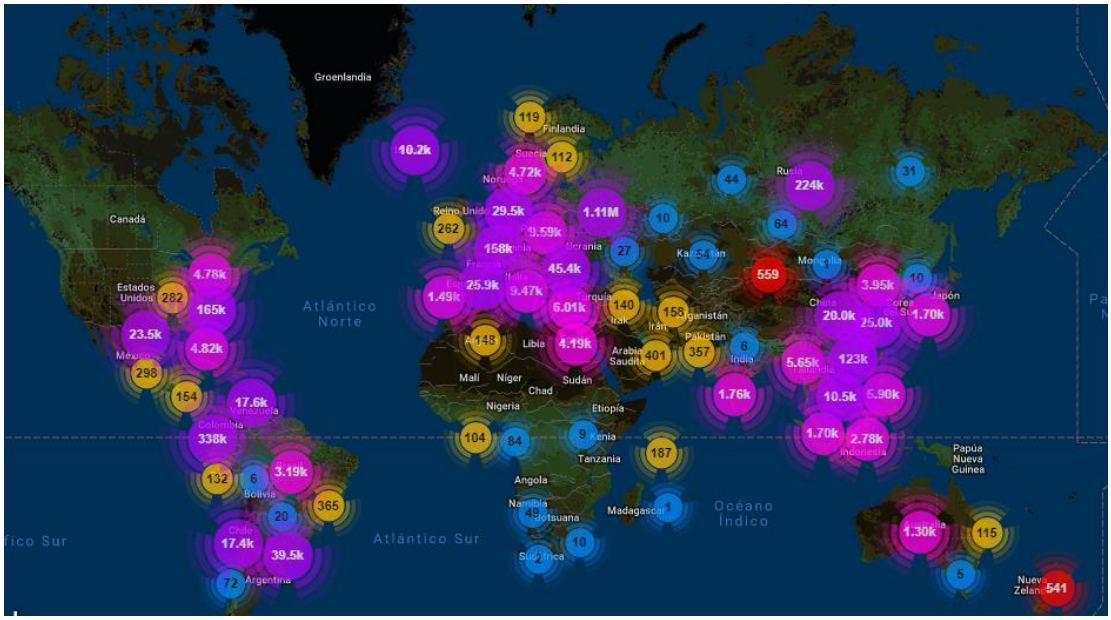
Port Activity

The advanced intrusion detection and prevention capabilities offered by the DefensePro IPS NBA, DoS and Reputation Service provides maximum protection for network elements, hosts and applications. It is composed of different application-level protection features to prevent intrusion attempts such as worms, Trojan horses and single-bullet attacks, facilitating complete and high-speed cleansing of all malicious intrusions.

The DefensePro assisted in preventing attacks directed at network and server level which were directed at well-known port numbers as seen in the following diagram.

Port number information utilized is based on IANA Service Name and Transport Protocol Port Number Registry and additional outside sources are used to illustrate the relationship to commonly exploited attacks vectors.

The vast majority of attacks on Metrobank S.A. originated geographically from the following countries as seen in the attached diagram. Some results do not include location information that allows map plotting.



Graph: Top 10 Attacking Countries Blocked

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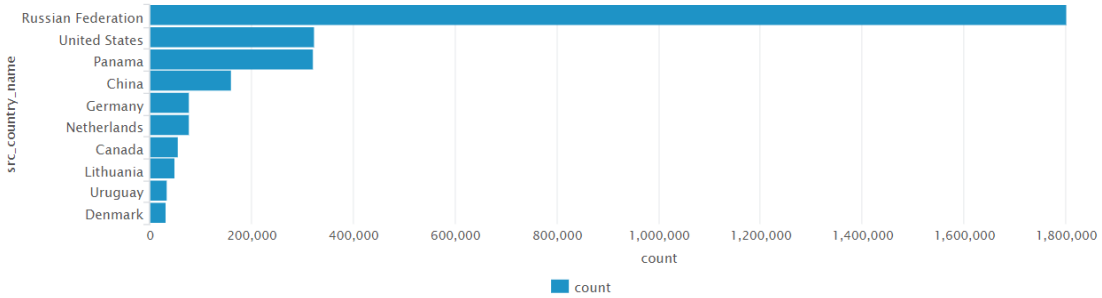
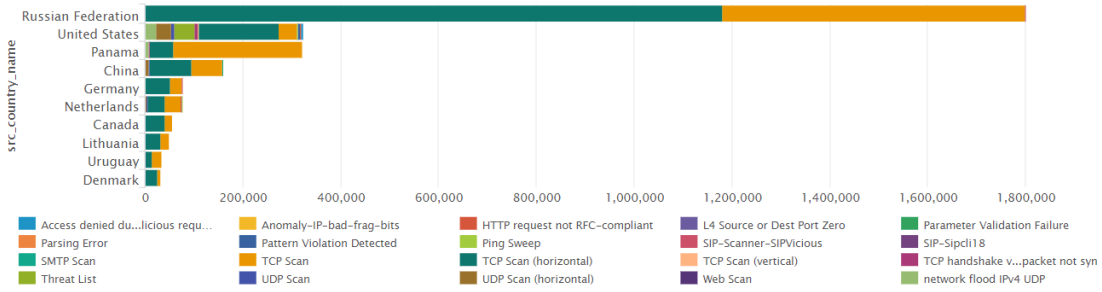
This report provides the count of total attacks blocked by country.



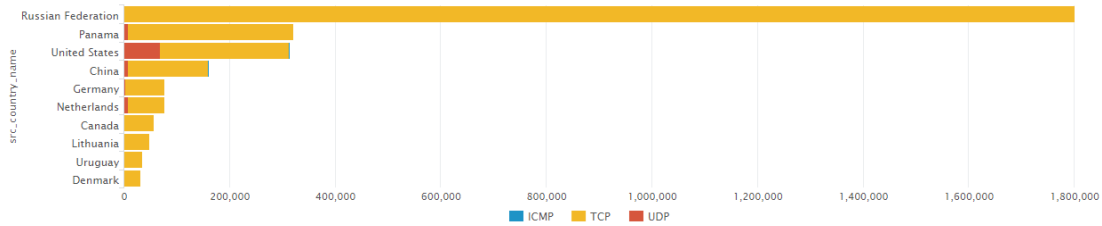
Graph: Top 10 Attacking Countries Blocked by Attack Type

This report provides the count of total attacks types blocked by country



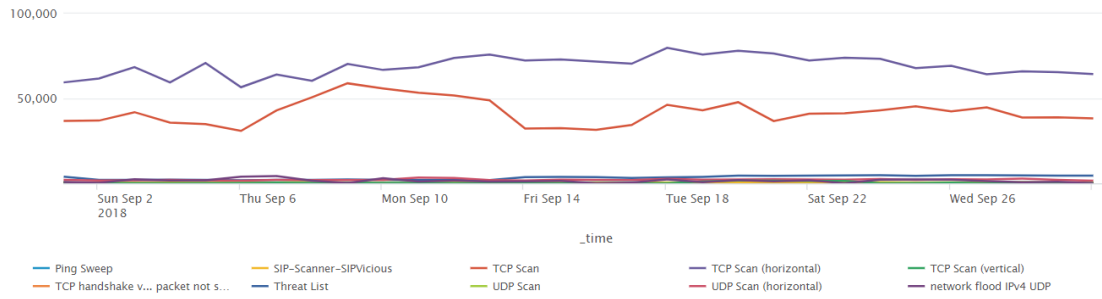
Graph: Top 10 Attacking Countries Blocked by Protocol

This report provides the count of attack protocols blocked by country



Graph: Attacks Types Blocked by Week

This report provides the count of attacks blocked by week



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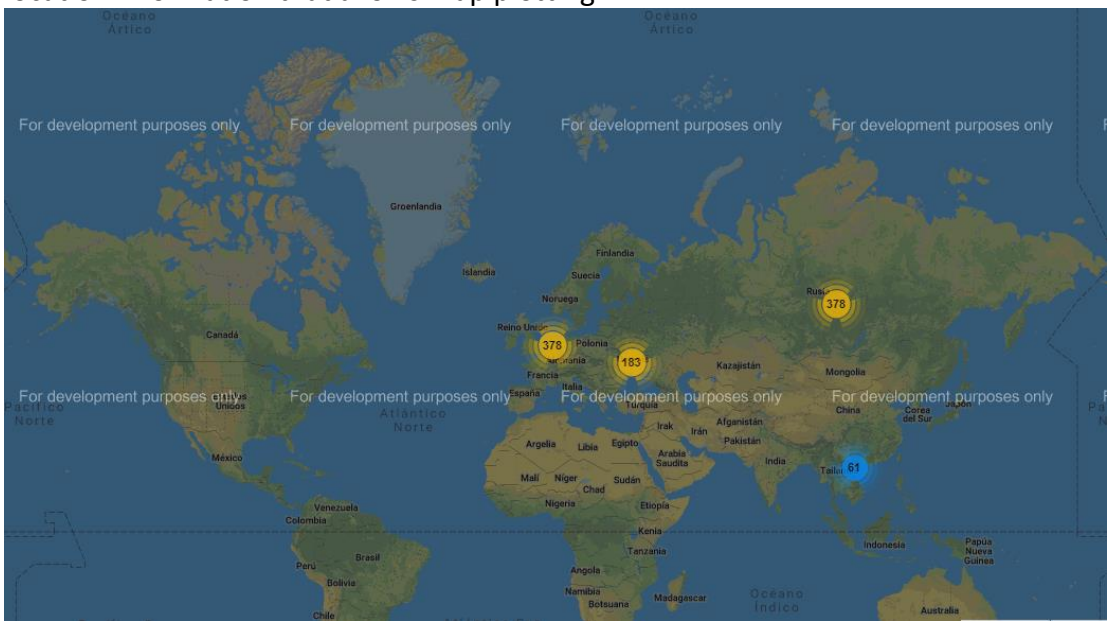
Known Threat Source Information

Of the attacks on Metrobank S.A are from known threat sources that have been compiled and correlated with attack source IPs gathered from the DefensePro attack logs and outside sources such honeypots, known malicious sources, vulnerability databases, relationships with CERT and CSIRT teams that GLESEC possesses, together with various other threat feeds.

The **33,681** attacks on Metrobank S.A. from the DNS Blacklist were obtained by correlating values from the Project Honey Pot Database. Some results do not include location information that allows map plotting.



Map of geographic distribution of **33,681** attacks on Click here to enter text. from known threat sources obtained by correlating values from AlienVault Labs; Emerging Threats; Zeus, Spyeye, and Palevo Tracker. Some results do not include location information that allows map plotting.

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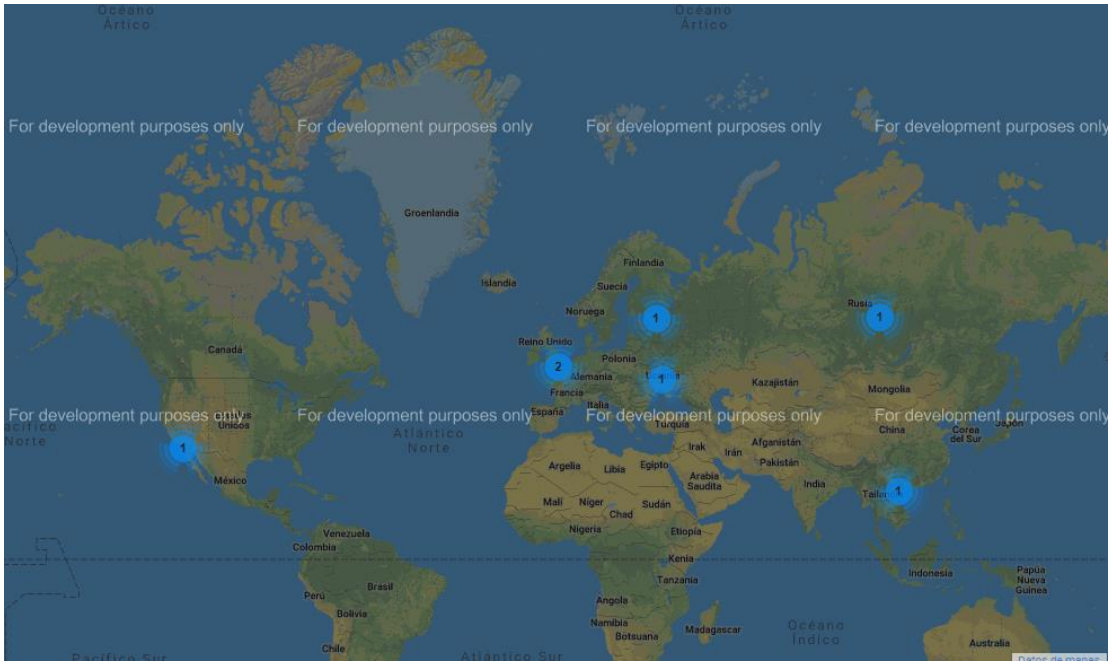
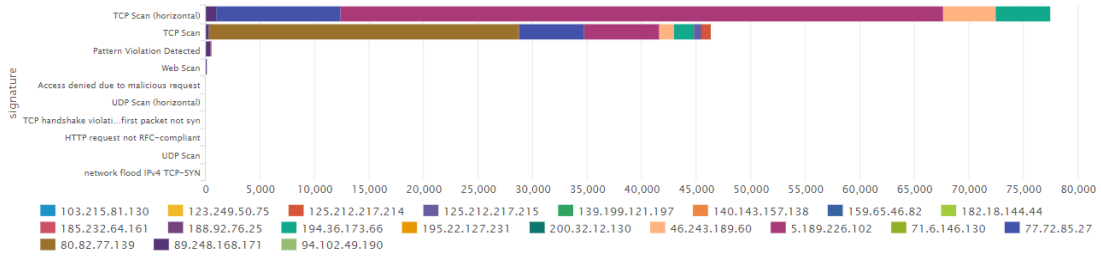
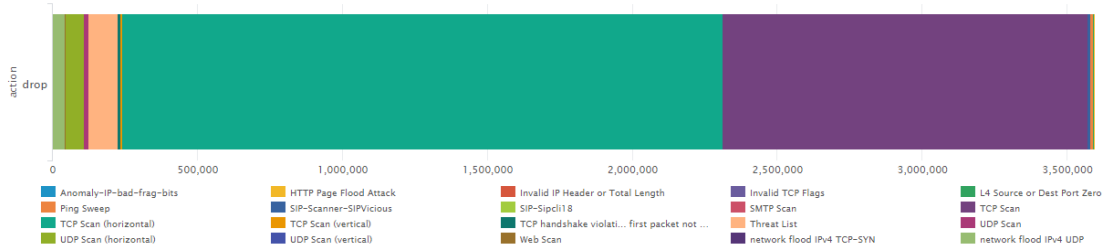


Graph: Known Threat Sources by Threat Type
This report provides the Top 20 known threat sources by IP and their respective infringing threat type.



Graph: Attacks Denied
This report provides the count of total denied attacks along with network security rule.



<u>Port Information</u>

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Port Information: Port 80 (http), Port 1443 (ms-sql), Port 8080 (https-alt), Port 3306 (mysql) Commonly scanned in order to attack web servers. SQL injection is currently the most common form of web site attack in that web forms are very common, often they are not coded properly and the hacking tools used to find weaknesses and take advantage of them are commonly available online. This kind of exploit is easy enough to accomplish that even inexperienced hackers can accomplish mischief. However, in the hands of the very skilled hacker, a web code weakness can reveal root level access of web servers and from there attacks on other networked servers can be accomplished. Structured Query Language (SQL) is the nearly universal language of databases that allows the storage, manipulation, and retrieval of data. Databases that use SQL include MS SQL Server, MySQL, Oracle, PostgreSQL, MongoDB, Access and Filemaker Pro and these databases are equally subject to SQL injection attack.

Web based forms must allow some access to your database to allow entry of data and a response, so this kind of attack bypasses firewalls and endpoint defenses. Any web form, even a simple logon form or search box, might provide access to your data by means of SQL injection if coded incorrectly.

OWASP Top 10 lists A1-Injection as the greatest threat and defines this category as:

Injection flaws, such as SQL, OS, and LDAP injection occur when untrusted data is sent to an interpreter as part of a command or query. The attacker's hostile data can trick the interpreter into executing unintended commands or accessing data without proper authorization.

A SQL injection attack consists of insertion or "injection" of a SQL query via the input data from the client to the application. A successful SQL injection exploit can read sensitive data from the database, modify database data (Insert/Update/Delete), execute administration operations on the database (such as shutdown the DBMS), recover the content of a given file present on the DBMS file system and in some cases issue commands to the operating system. SQL injection attacks are a type of injection attack, in which SQL commands are injected into data-plane input in order to effect the execution of predefined SQL commands.

Graph: Attacks Blocked by Destination Port
This report provides information on the total number of attacks blocked that were attempted on which port and for how many times.

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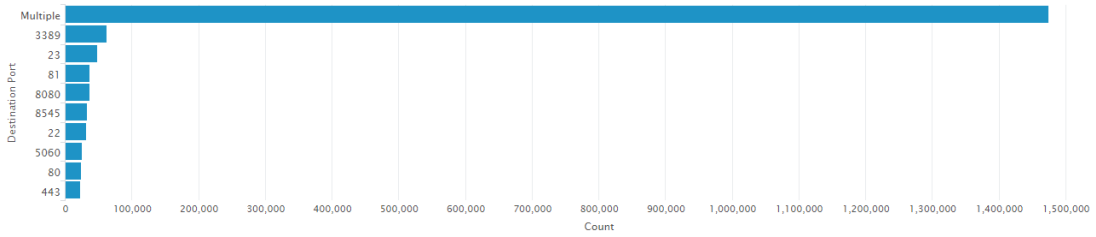
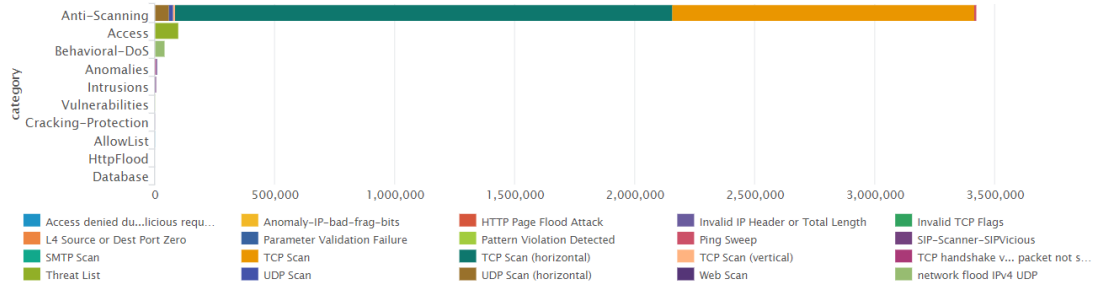
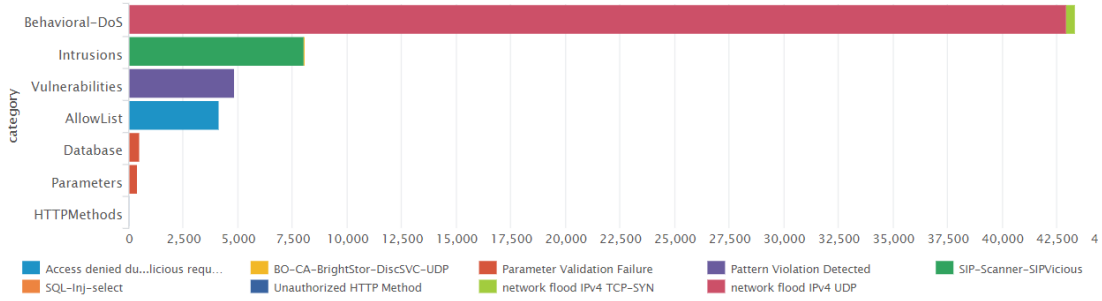


Graph: Attacks Blocked By Threat Category
This report lists the attacks blocked per Attack Category, listing the attack name.



Graph: Critical Attacks Blocked
This report provides Critical Attacks information, attack name, network security rule along with the number of times the attack was launched.



Graph: Top Attacked Destinations Blocked
This report provides information on the system IPs, which were the destination of the attacks for most number of times along with the network security rule.

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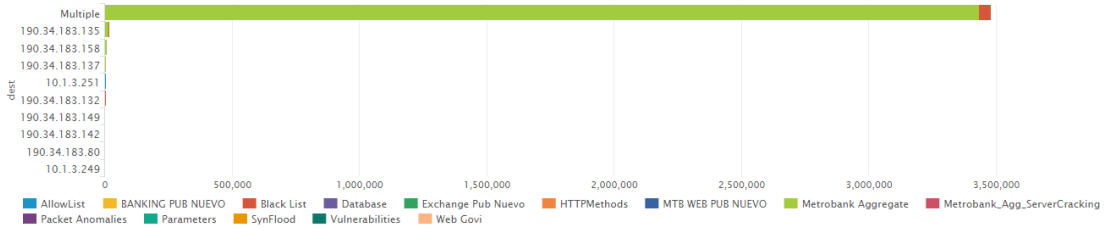
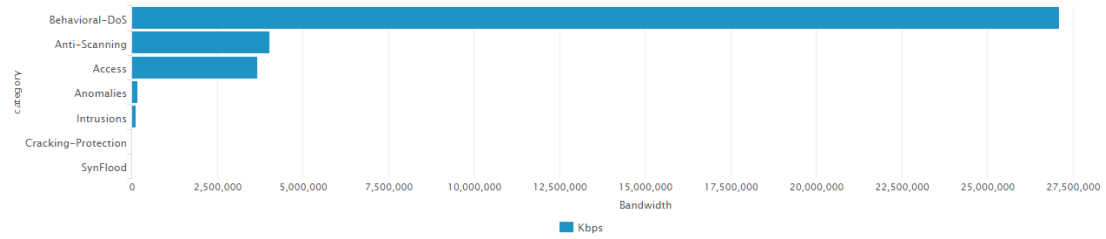
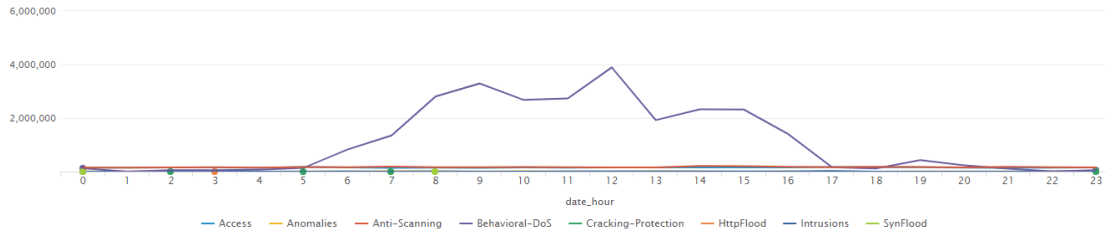


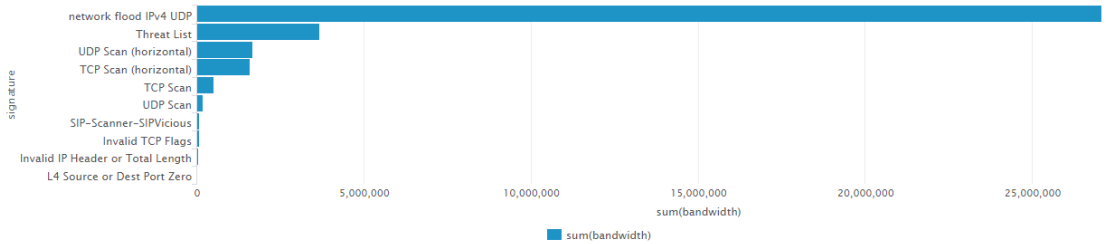
Graph: Attack Categories Blocked by Bandwidth
This report shows the attack categories based on the BW of the attacks sharing the same category including Kbps.



Graph: Bandwidth by Blocked Threat Category by Hour of Day
This report shows the most bandwidth consuming threat categories based on the bandwidth of the attacks sharing the same threat category for each hour of day.



Graph: Top Attacks Blocked by Bandwidth
This report shows the most bandwidth consuming attacks based on the BW of the attack including Kbits.



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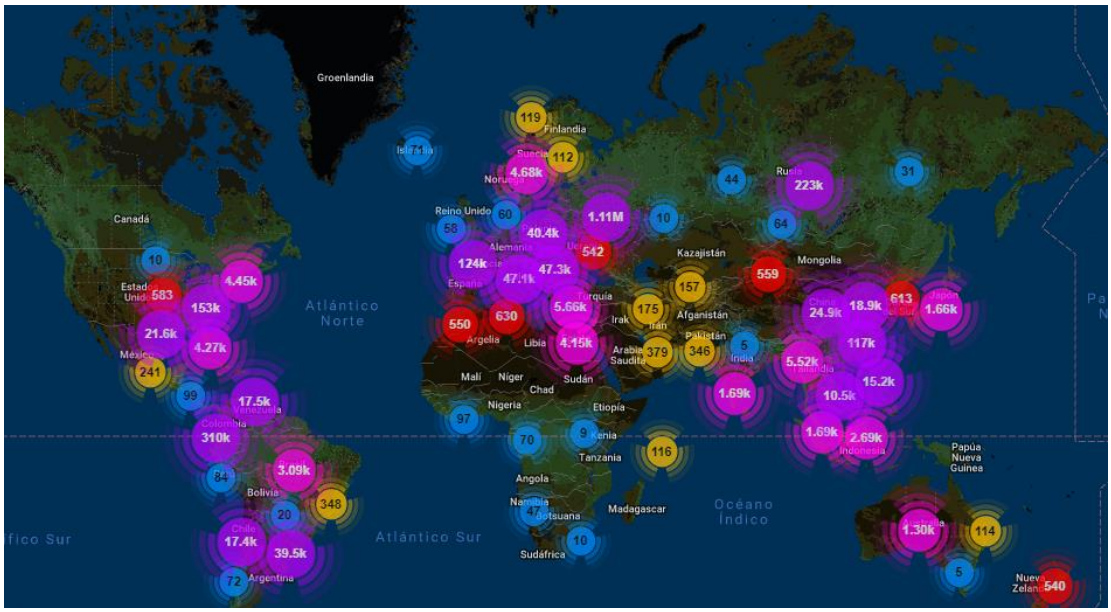
Scanning Information

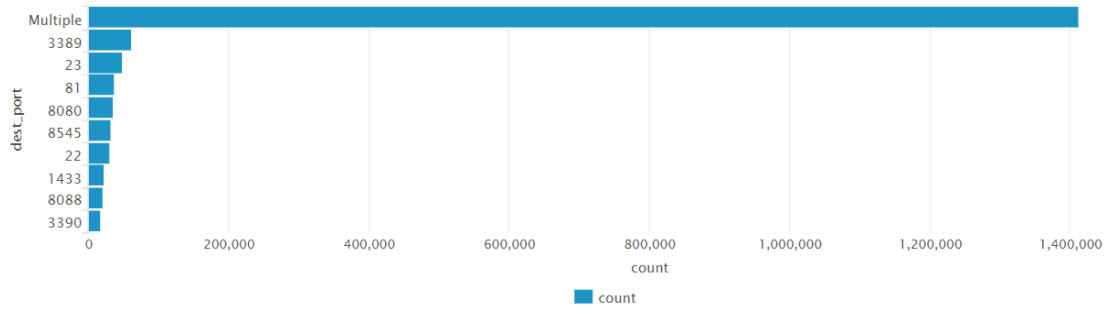
The following map displays geographic distribution of **2,982,174** attacks on Metrobank S.A. from scanning sources. Some results do not include location information that allows map plotting.



Network-wide Anti Scanning protections dropped enumeration attempts which otherwise thwart any effort for threat modeling, commonplace after the information gathering phase of a targeted or planned attack.

Graph: Top Probed Applications Blocked

This report shows historical view of the Top probed L4 ports.



Graph: Top Probed IP Addresses Blocked

This report shows historical view of the Top probed IP addresses that were being

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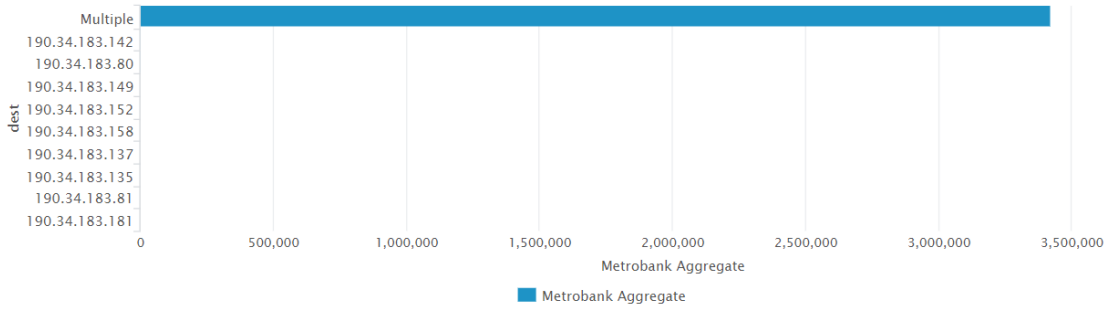
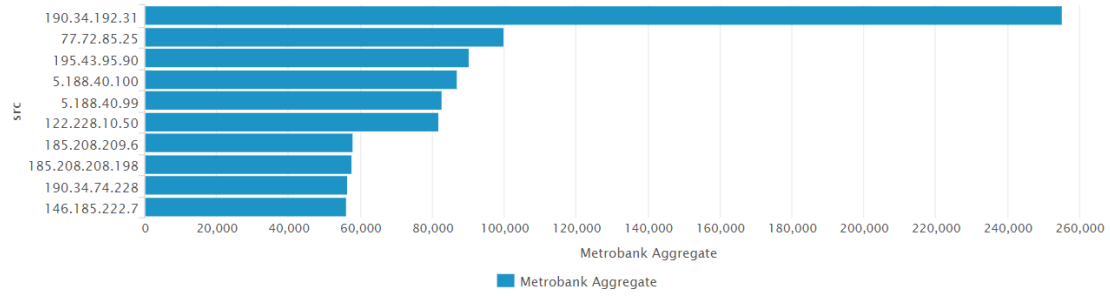
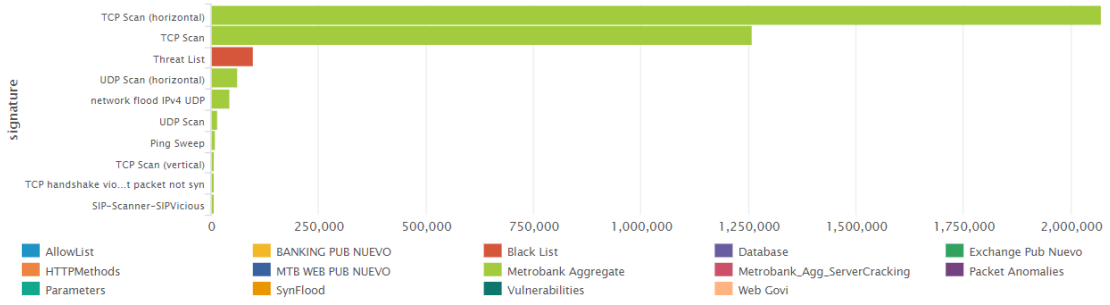
scanned along with the network security rule.



Graph: Top Scanners Blocked (Source IP Addressed)
This report shows historical view of the Top source IP addresses that have scanned the network-by-network scanning activities along with the network security rule.



<u>NOTE: See Appendix 2 – Top Scanners Blocked (Source IP Addressed)</u>
Graph: Top Attacks Blocked
This report provides information on the Top Attacks Blocked, the attack name, network security rule and the total number of attacks blocked with this combination.



Graph: Top Attacks Blocked by Destination

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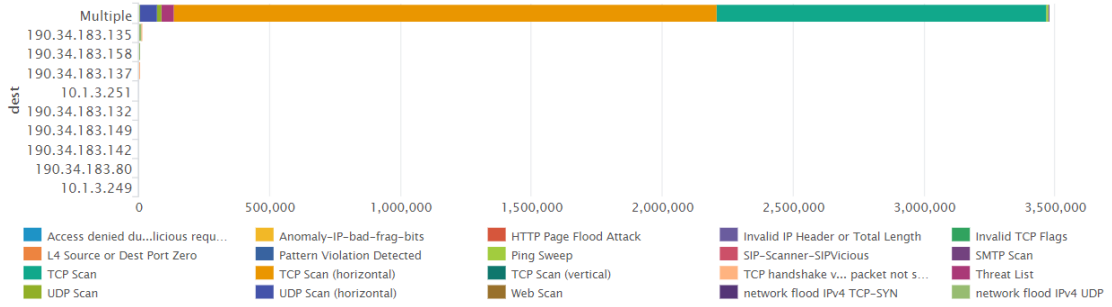
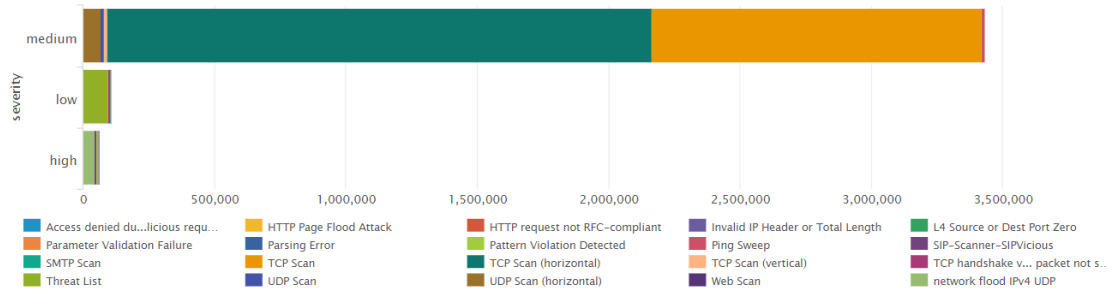
This report provides information on the top attacks targeted at destinations that were blocked on the DP IPS. In this report the destination on which the attack was targeted, attack name, and count are shown.



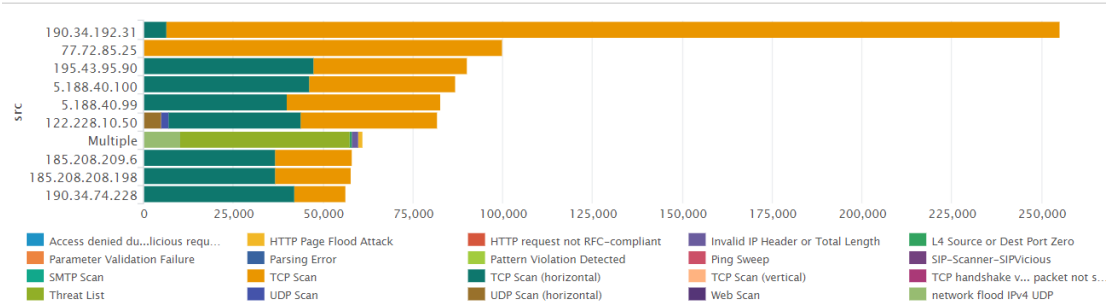
Graph: Top Attacks Blocked by Risk

This report provides information on the attacks, which were blocked on DP IPS based on their risk. In this report the risk of the attack and attack name are shown.



Graph: Top Attacks Blocked by Source

This report provides information on the top attacks blocked, categorized by attacks for each source that was the source of attacks along with the attack name and the number of attacks that triggered with this combination.



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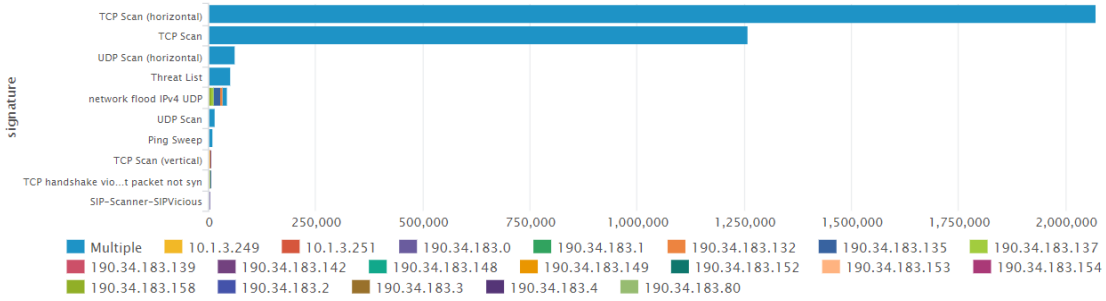
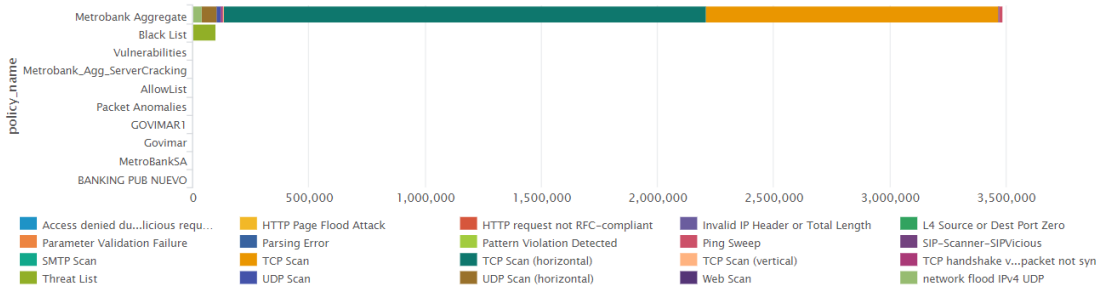
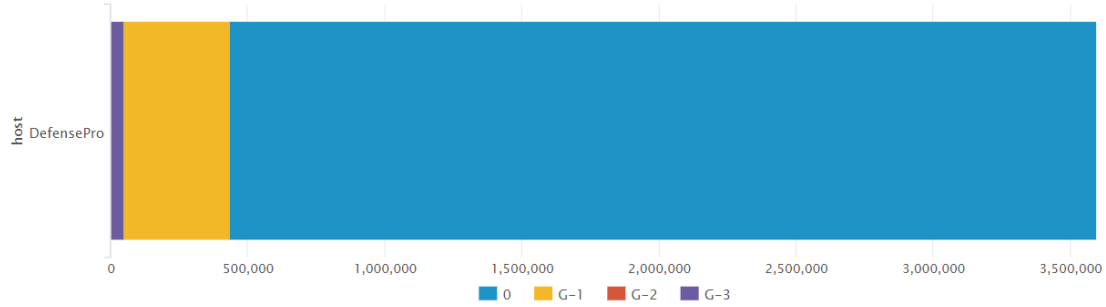
Graph: Top Destinations by Attacks Blocked
This report provides information on the attacks attempted for the most number of times on the destination's protected system IPs.



Graph: Attacks Blocked by Network Security Rule
This report lists the attacks per network security rule, listing the attack name.



Graph: Attacks Blocked by Physical Port (per single IPS device)
This report lists the attacks per physical port.



<u>Bandwidth</u>
The following diagram shows the bandwidth of the attacks for the month.

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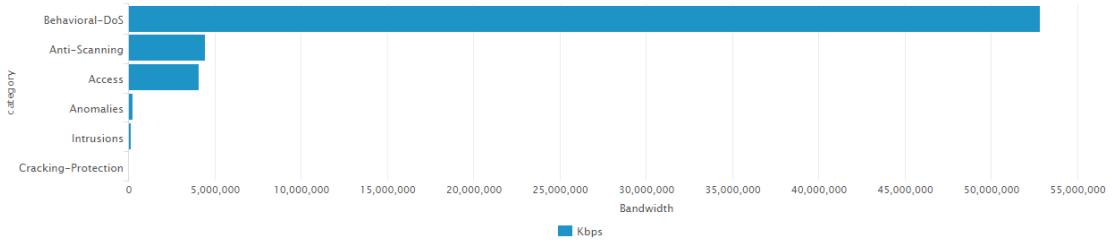
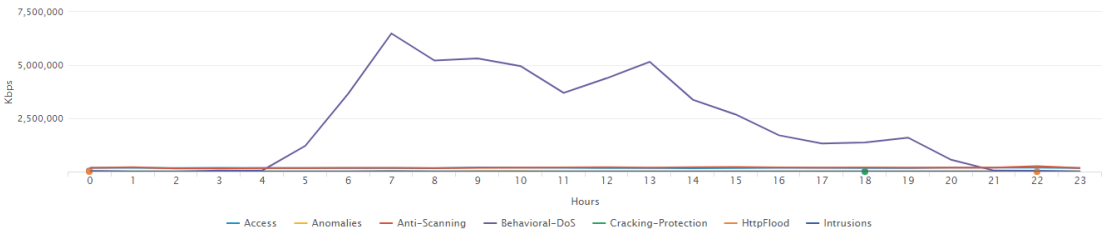
category	Kbps
Behavioral-DoS	52873485
Anti-Scanning	4446722
Access	4082483
Anomalies	237399
Intrusions	159924
Cracking-Protection	2087

Graph: Attack Categories Blocked by Bandwidth
This report shows the attack categories based on the BW of the attacks sharing the same category including Kbps.



Graph: Bandwidth by Blocked Threat Category by Hour of Day
This report shows the most bandwidth consuming threat categories based on the bandwidth of the attacks sharing the same threat category for each hour of day.



Graph: Top Attacks Blocked by Bandwidth
This report shows the most bandwidth consuming attacks based on the BW of the attack including Kbits.

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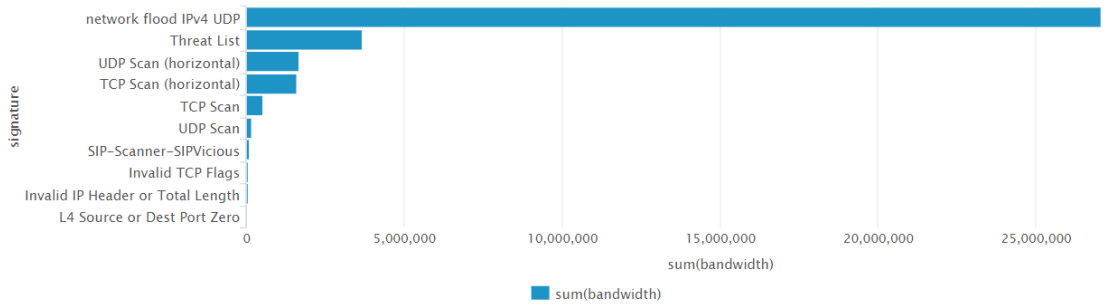

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Managed Vulnerability Service (MSS-VM) Intelligence Section

The Managed Vulnerability Service (MSS-VM) enables organizations to minimize the risk of vulnerabilities by quickly discovering weaknesses, measuring the potential risk and exposure, reporting, providing remediation information necessary to mitigate those risks on an on-going basis and facilitating reporting and compliance with regulations and best practices.

The purpose of this section is to highlight intelligence gathered from this and other services under contract as well as outside sources such honeypots, known malicious sources, vulnerability databases, relationships with CERT and CSIRT teams that GLESEC possesses, together with various other threat feeds.

The following graphs are dashboards generated by GLESEC's TIP™ platform. These dashboards are representative of metrics for this service.

It is important to establish a vulnerability management program as part of the information security strategy because soon after new vulnerabilities are discovered and reported by security researchers or vendors, attackers engineer exploit code and then launch that code against targets of interest. Any significant delays in finding or fixing software with dangerous vulnerabilities provides ample opportunity for persistent attackers to break through, gaining control over the vulnerable machines and getting access to the sensitive data they contain. Organizations that do not scan for vulnerabilities and proactively address discovered flaws face a significant likelihood of having their systems compromised.

Many of the vulnerabilities will provide CVE data. CVE (Common Vulnerabilities and Exposures) is a list of information security exposures and vulnerabilities sponsored by US-CERT and maintained by the MITRE Corporation. The CVE mission is to provide standard names for all publicly known security exposures as well as standard definitions for security terms. The CVE can be searched online at http://nvd.nist.gov/.

Vulnerability Score

The score of a vulnerability is determined by its risk factor; Critical, High, Medium or Low, as well as its value in the Common Vulnerability Scoring System (CVSS). The CVSS "base score" represents the innate risk characteristic of each vulnerability. CVSS is a vulnerability scoring system designed to provide an open and standardized method for rating IT vulnerabilities. CVSS helps organizations prioritize and coordinate a joint response to security vulnerabilities by communicating the base, temporal and environmental properties of each vulnerability. In addition to numeric

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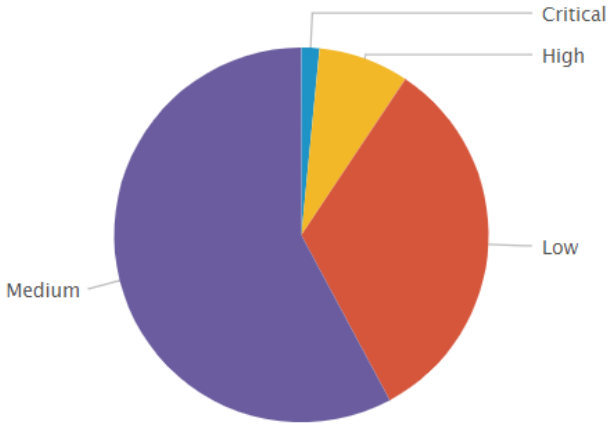
scores, the CVSS provides severity rankings of High, Medium, and Low but these qualitative rankings are simply mapped from the numeric CVSS scores. Vulnerabilities are labeled as:

Low risk if they have a CVSS base score of 0.0 – 3.9
Medium risk if they have a CVSS base score of 4.0 – 6.9
High risk if they have a CVSS base score of 7.0 – 10.0

Vulnerability Information

Graph: Risk Distribution
This report depicts the risk distribution of vulnerabilities discovered this report period



Graph: Most Frequent Vulnerability Category
This report depicts the most frequent vulnerabilities by category discovered this report period

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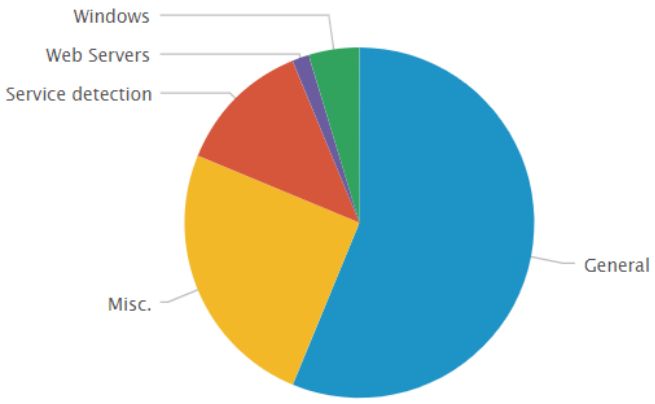
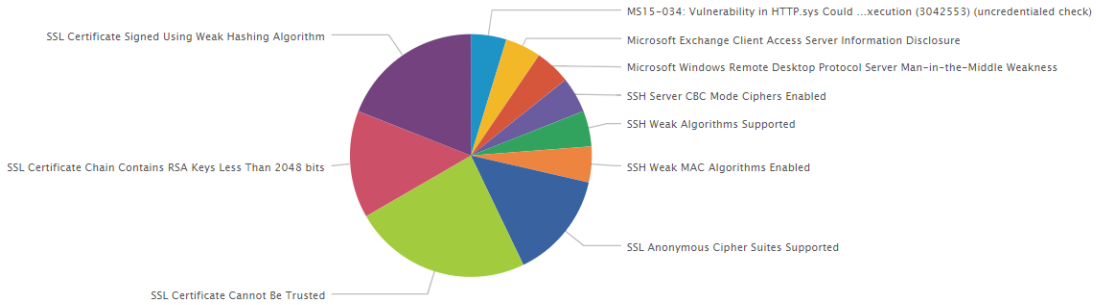
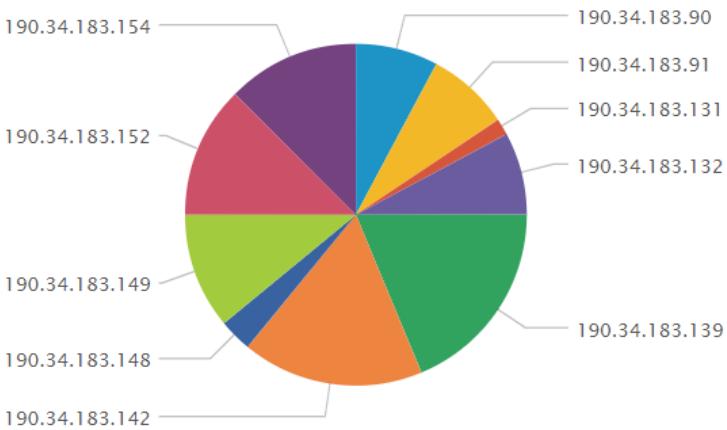


Graph: Most Frequent Vulnerability Name
This report depicts the most frequent vulnerabilities discovered this report period



Graph: Most Vulnerable Host
This report depicts the most vulnerable hosts discovered this report period



Graph: Vulnerability Risk by Vulnerability Name
This report illustrates the vulnerability risk and count by vulnerability name

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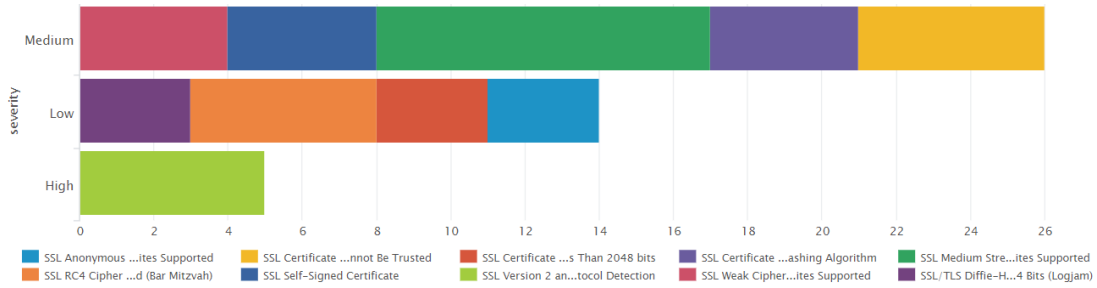
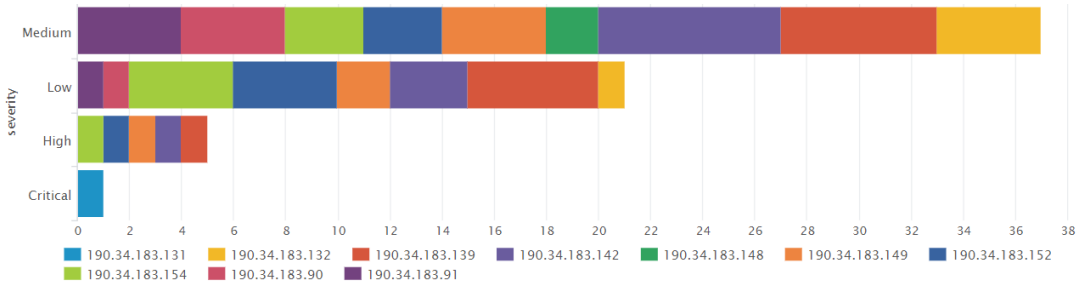
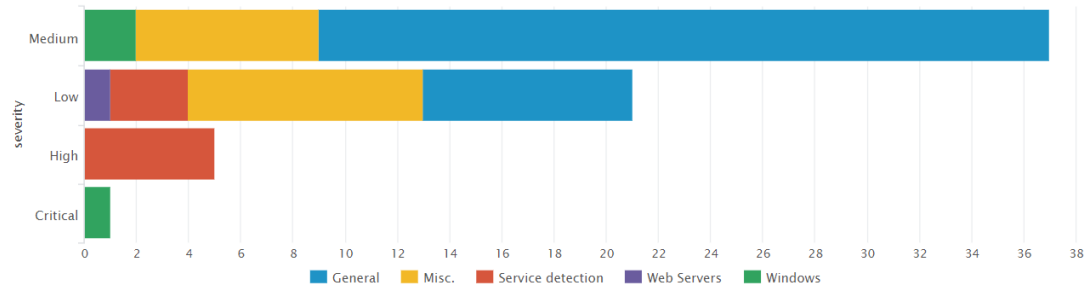
discovered this report period



Graph: Vulnerability Risk by Host
This report illustrates the vulnerability risk and count by category discovered this report period



Graph: Vulnerability Risk by Category
This report illustrates the vulnerability risk and count by category discovered this report period



Graph: Vulnerability Risk by Port
This report illustrates the vulnerability risk and count by port discovered this report period

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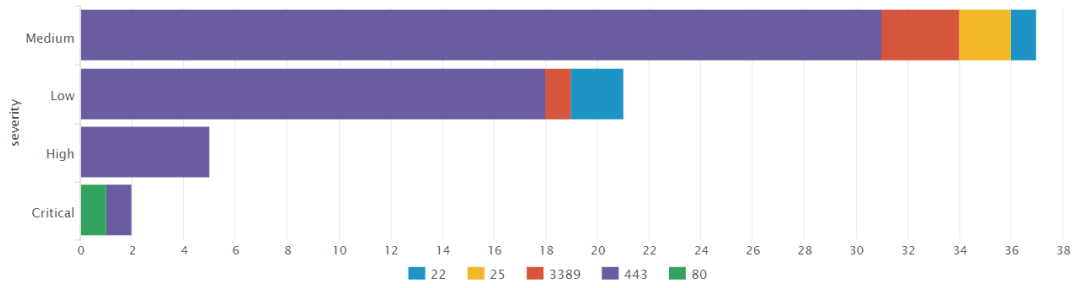
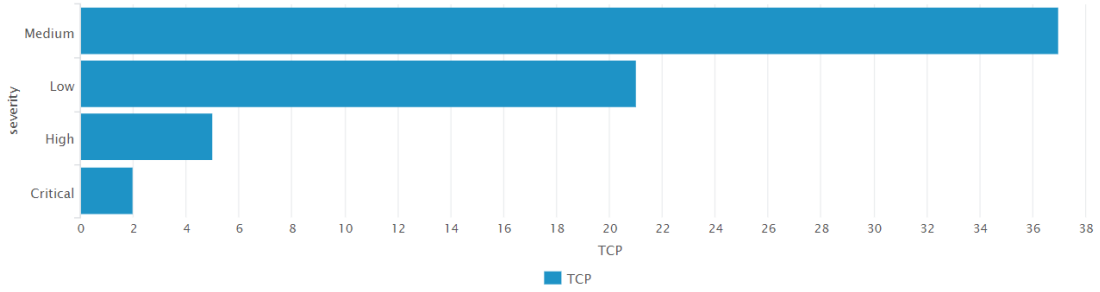
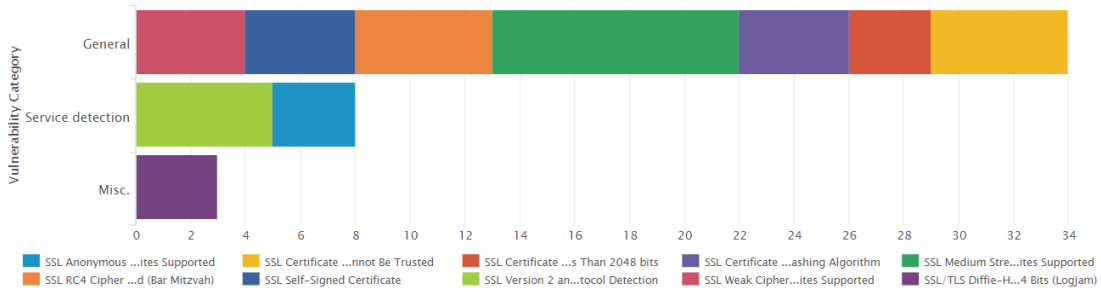


Graph: Vulnerability Risk by Protocol
This report illustrates the vulnerability risk and count by protocol discovered this report period



Graph: Vulnerability Category by Vulnerability Name
This report illustrates the vulnerability category and count by vulnerability name discovered this report period



Graph: Vulnerability Category by Host
This report illustrates the vulnerability category and count by host discovered this report period

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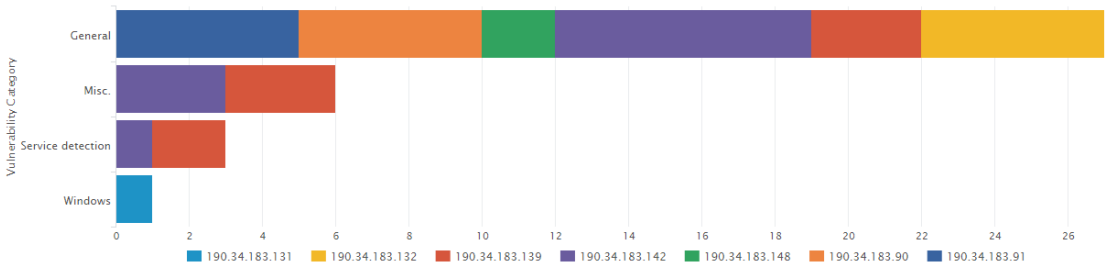
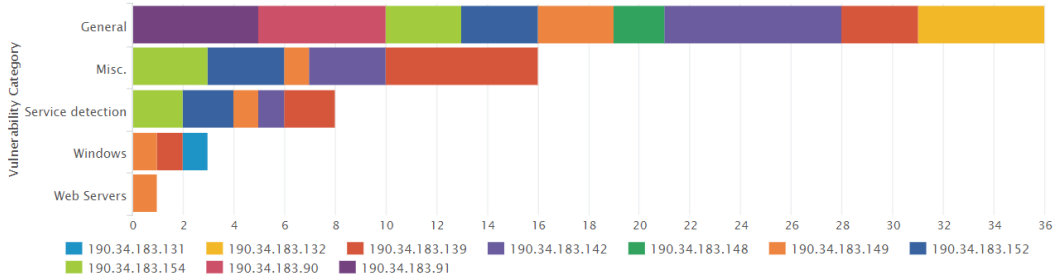
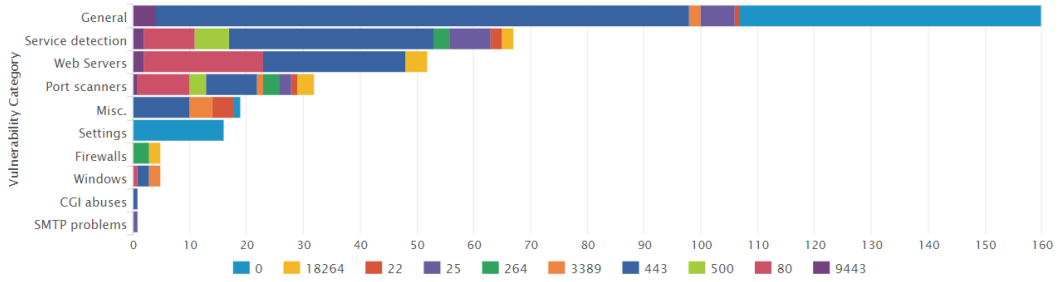


Graph: Vulnerability Category by Risk
This report illustrates the vulnerability category and count by risk discovered this report period



Graph: Vulnerability Category by Port
This report illustrates the vulnerability category and count by port discovered this report period



Graph: Vulnerability Category by Protocol
This report illustrates the vulnerability category and count by protocol discovered this report period

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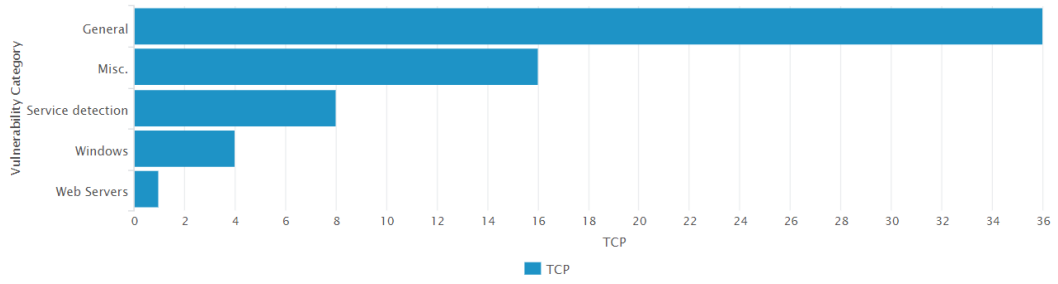
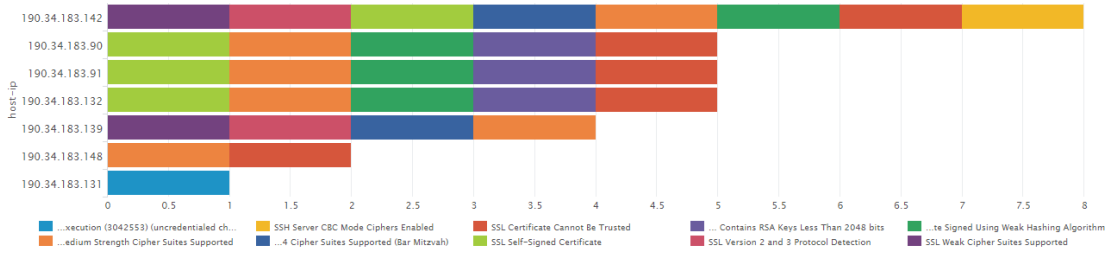
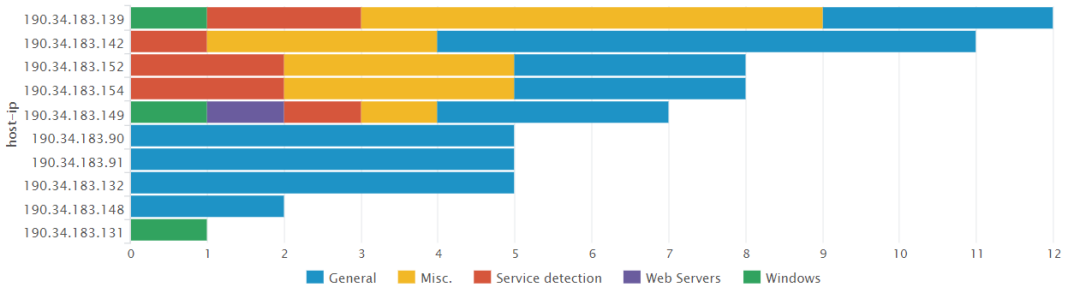


Graph: Host by Vulnerability Name
This report illustrates the vulnerability name and count by hosts discovered this report period



Graph: Host by Vulnerability Category
This report illustrates the vulnerability category and count by hosts discovered this report period



Graph: Host by Vulnerability Risk
This report illustrates the vulnerability risk and count by hosts discovered this report period

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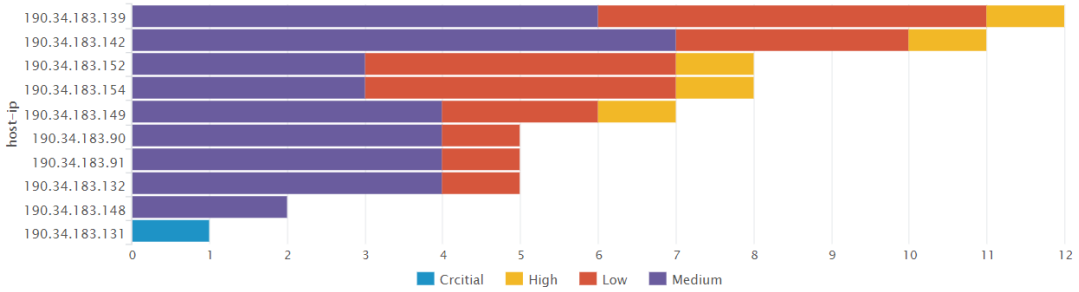
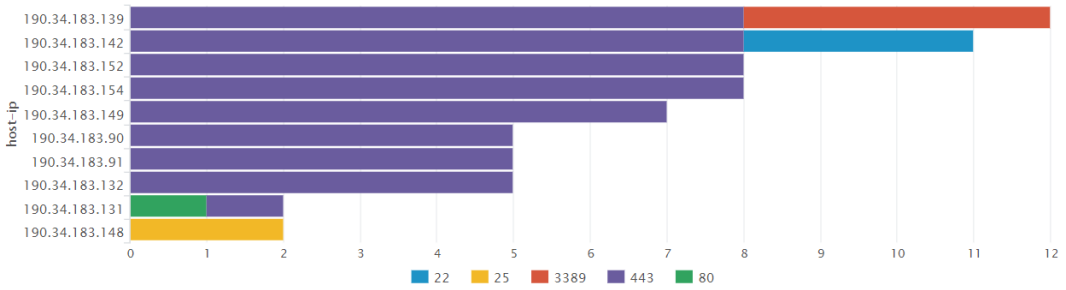


Graph: Host by Port
This report illustrates the port and count by hosts discovered this report period



Managed Application Firewall Service (MSS-APFW) Intelligence Section

The MSS-APFW monitors and protects against application level attacks to the organization's servers 7x24x365. The service also sends data for correlation and intelligence processing.

The purpose of this section is to highlight intelligence gathered from this and other services under contract as well as outside sources such honeypots, known malicious sources, vulnerability databases, relationships with CERT and CSIRT teams that GLESEC possesses, together with various other threat feeds.

The following graphs are dashboards generated by GLESEC's TIP™ platform. These dashboards are representative of metrics for this service.

Graph: Top 10 Attacking Countries Blocked by Attack Type – AppWall

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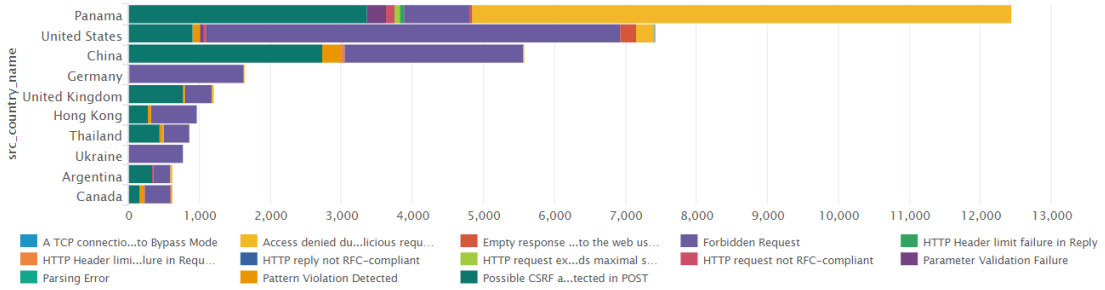
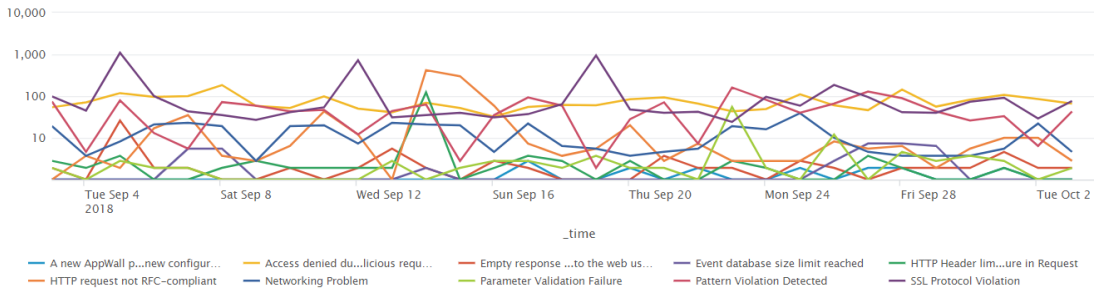
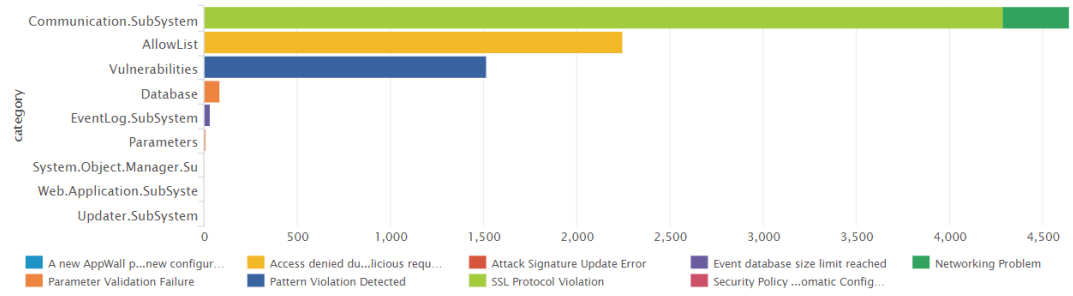


Graph: Attacks Types Blocked by Week – AppWall
This report provides the count of attacks blocked by week



Graph: Attacks Blocked by Threat Category – AppWall
This report lists the attacks blocked per Attack Category, listing the attack name.



Graph: Critical Attacks Blocked – AppWall
This report provides Critical Attacks information, attack name, network security rule along with the number of times the attack was launched.

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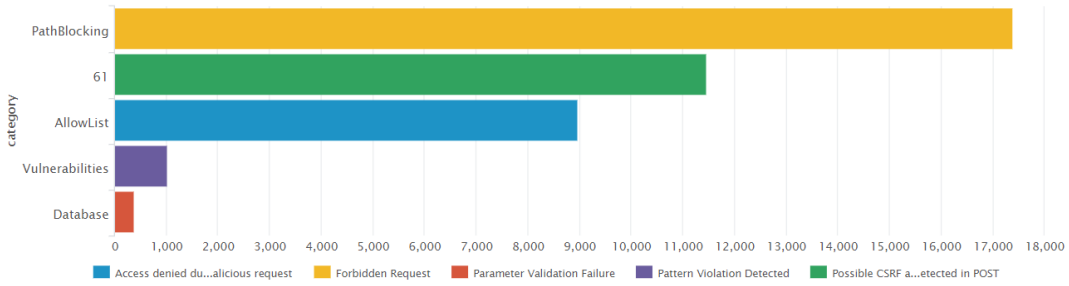
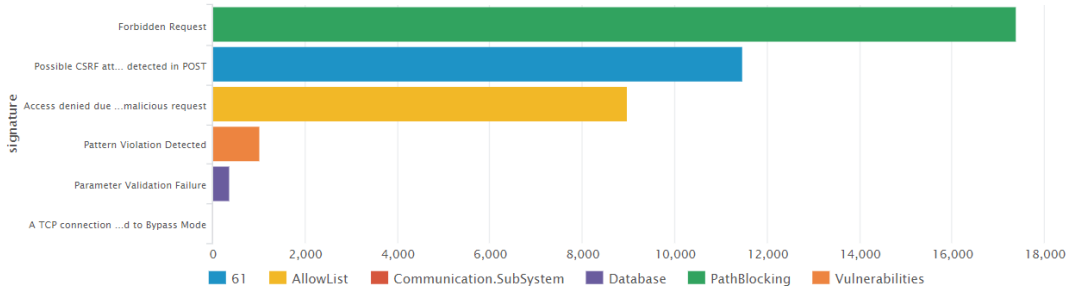


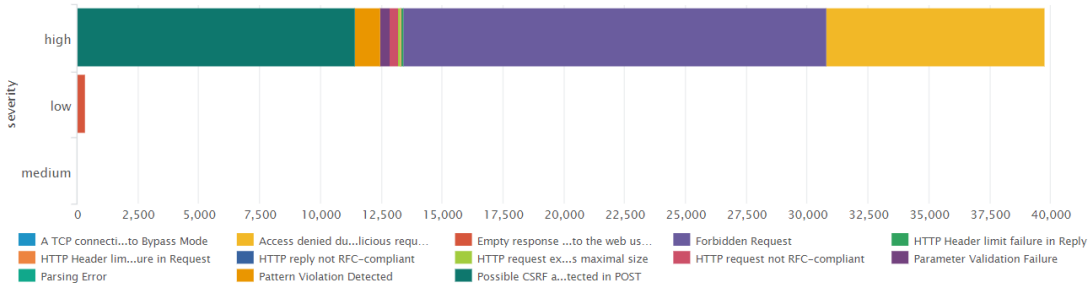
Graph: Top Attacks Blocked – AppWall

This report provides information on the Top Attacks Blocked, the attack name, network security rule and the total number of attacks blocked with this combination.



Graph: Top Attacks Blocked by Risk – AppWall

This report provides information on the attacks, which were blocked on AFW IPs based on their risk. In this report the risk of the attack and attack name are shown.



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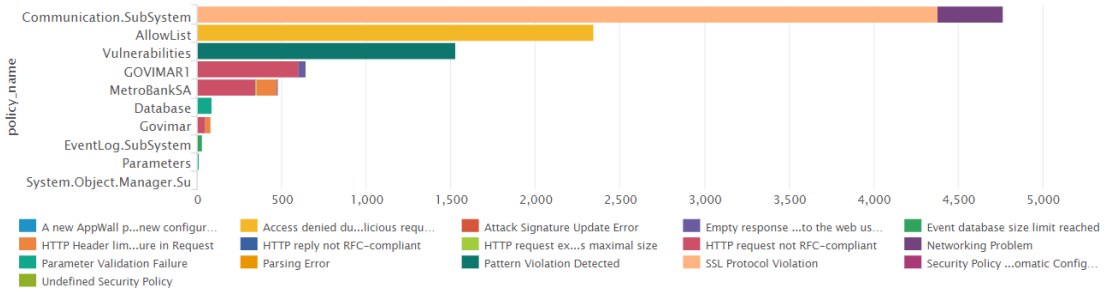
Graph: Attacks Blocked by Network Security Rule – AppWall
This report lists the attacks per network security rule, listing the attack name.



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Cyber Security Operations

The purpose of this section is to highlight the activities performed by GLESEC's Global Operations Center (GOC) including: monitoring availability and performance of services under contract, Change Management, Incident Response activities and Consulting Activities.

MONITORING AVAILABILITY

This section reports on the availability of the countermeasures under GLESEC's contract.

The AppWall was considered up and available 99.98% during this report period.

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Host State Breakdowns:

State	Type / Reason	Time	% Total Time	% Known Time
UP	Unscheduled	29d 23h 51m 30s	99.980%	99.980%
	Scheduled	0d 0h 0m 0s	0.000%	0.000%
	Total	29d 23h 51m 30s	99.980%	99.980%
DOWN	Unscheduled	0d 0h 8m 30s	0.020%	0.020%
	Scheduled	0d 0h 0m 0s	0.000%	0.000%
	Total	0d 0h 8m 30s	0.020%	0.020%
UNREACHABLE	Unscheduled	0d 0h 0m 0s	0.000%	0.000%
	Scheduled	0d 0h 0m 0s	0.000%	0.000%
	Total	0d 0h 0m 0s	0.000%	0.000%
Undetermined	Nagios Not Running	0d 0h 0m 0s	0.000%	
	Insufficient Data	0d 0h 0m 0s	0.000%	
	Total	0d 0h 0m 0s	0.000%	
All	Total	30d 0h 0m 0s	100.000%	100.000%

State Breakdowns For Host Services:

Service	% Time OK	% Time Warning	% Time Unknown	% Time Critical	% Time Undetermined
PING	99.931% (99.931%)	0.000% (0.000%)	0.000% (0.000%)	0.069% (0.069%)	0.000%
Average	99.931% (99.931%)	0.000% (0.000%)	0.000% (0.000%)	0.069% (0.069%)	0.000%

The DefensePro was considered up and available 99.97% during this report period.

Host State Breakdowns:

State	Type / Reason	Time	% Total Time	% Known Time
UP	Unscheduled	29d 23h 49m 10s	99.975%	99.975%
	Scheduled	0d 0h 0m 0s	0.000%	0.000%
	Total	29d 23h 49m 10s	99.975%	99.975%
DOWN	Unscheduled	0d 0h 10m 50s	0.025%	0.025%
	Scheduled	0d 0h 0m 0s	0.000%	0.000%
	Total	0d 0h 10m 50s	0.025%	0.025%
UNREACHABLE	Unscheduled	0d 0h 0m 0s	0.000%	0.000%
	Scheduled	0d 0h 0m 0s	0.000%	0.000%
	Total	0d 0h 0m 0s	0.000%	0.000%
Undetermined	Nagios Not Running	0d 0h 0m 0s	0.000%	
	Insufficient Data	0d 0h 0m 0s	0.000%	
	Total	0d 0h 0m 0s	0.000%	
All	Total	30d 0h 0m 0s	100.000%	100.000%

State Breakdowns For Host Services:

Service	% Time OK	% Time Warning	% Time Unknown	% Time Critical	% Time Undetermined
PING	99.920% (99.920%)	0.000% (0.000%)	0.000% (0.000%)	0.080% (0.080%)	0.000%
Average	99.920% (99.920%)	0.000% (0.000%)	0.000% (0.000%)	0.080% (0.080%)	0.000%

MONITORING PERFORMANCE OF COUNTERMEASURES

In this section we monitor and report on the response time from GLESEC IDCs to the

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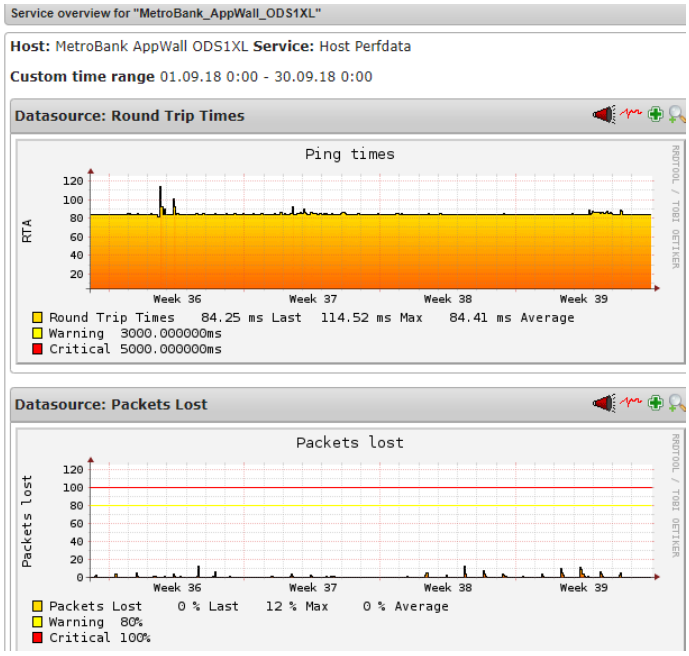
countermeasures under GLESEC management.
Round trip ping times averaged 84.41 ms from the GLESEC GOC to Metrobank S.A. AppWall with 0 % average packet loss.



Metrobank S.A. DefensePro Host Performance
Round trip ping times averaged 86.23 ms from the GLESEC GOC to Metrobank S.A. with 0 % average packet loss.

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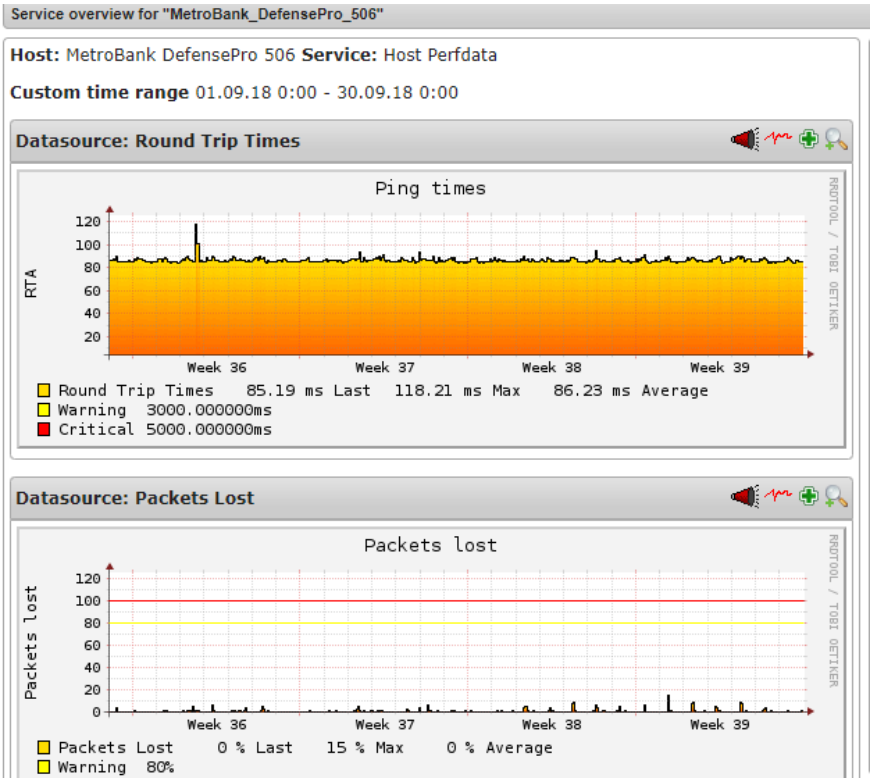

PROFESSIONAL SERVICES ACTIVITY

Below we outline the usage of the consulting retainer of professional services activity for the corresponding month. In this we show the total billable and non-billable hours, the contracted retainer, the total hours used in the month and the hours above the retainer.

Billable consulting hours	Non-billable consulting hours	Contracted retainer hours	Total Hours utilized	Hours above retainer
0	0	1	0	0

TICKET ACTIVITY

In this section we report on all the change management and incidents tickets for the month.

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Ticket#	Title	Created
2018091210000409	Reporte Mensual de Operaciones e Inteligencia, Agosto 2018	2018-09-12 18:01:20
2018090610000073	perdida de comunicación momentánea	2018-09-06 15:35:31

During this period of the month the teams managed by GLESEC, (appwall and defensepro), showed intermittence in the communication.
The client was contacted, which notifies that they had a failure at the data center of their provider.
When solving the internet failure the equipment has been 100% operational.

Definitions

A more complete list is available on the GMP portal

High Vulnerabilities are defined as being in one or more of the following categories: Backdoors, full Read/Write access to files, remote Command Execution, Potential Trojan Horses, or critical Information Disclosure (e.g. passwords).

Medium Vulnerabilities describes vulnerabilities that either expose sensitive data, directory browsing and traversal, disclosure of security controls, facilitate unauthorized use of services or denial of service to an attacker.

Low Vulnerabilities describes vulnerabilities that allow preliminary or sensitive information gathering for an attacker or pose risks that are not entirely security related but maybe used in social engineering or similar attacks.

SMB/NetBIOS vulnerabilities could allow remote code execution on affected systems. An attacker who successfully exploits these vulnerabilities could install programs; view, change, or delete data; or create new accounts with full user rights. Firewall best practices and standard default firewall configurations can help protect networks from attacks that originate outside the enterprise perimeter. Best practices recommend that systems that are connected to the Internet have a minimal number of ports exposed.

Simple Network vulnerabilities affect protocols like NTP, ICMP and common network applications like SharePoint among others. This is not meant to be a comprehensive list.

Authentication and encryption are two intertwined technologies that help to insure that your data remains secure. Authentication is the process of insuring that both ends of the connection are in fact “who” they say they are. This applies not only to

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the entity trying to access a service (such as an end user) but to the entity providing the service, as well (such as a file server or Web site). Encryption helps to insure that the information within a session is not compromised. This includes not only reading the information within a data stream, but altering it, as well.

While authentication and encryption each has its own responsibilities in securing a communication session, maximum protection can only be achieved when the two are combined. For this reason, many security protocols contain both authentication and encryption specifications.

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