CASE STUDY

ISC8 and zvelo Partnership Provides Next Generation Content Filtering Solution to Help Service Providers Block Adult, Malicious Websites

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Challenge

The OEM partner, ISC8®, a leading provider of hardware, software and service offerings for web filtering, deep packet inspection with big data analytics, and malware threat detection for Advanced Persistent Threats (APTs), required a URL database and content categorization engine to complement its Cyber NetControl™ content control platform. The platform helps service providers protect their millions of subscribers from accessing inappropriate content and malicious websites on a network-wide or per-user basis.

Profile

Leading network cyber-security solution provider ("ISC8")

Industry

Network Security

Deployment Requirement

ISC8 required an on-disk SDK flexible enough to be deployed at a data center, internet gateway, or point of presence.

> *"Our global customers include corporate enterprises, telecom operators, mobile operators and government agencies and the requirement was for an extensive URL database flexible enough to be deployed within all of these environments and one that could scale with new business growth," –* ***Kelly Anderson, VP of Sales, ISC8***

The Problem

ISC8 experienced strong demand for a high performance and cost-effective web filtering solution to help wireless service providers satisfy government regulatory mandates, related to content filtering, as well as to allow for accurate control of network policies and security.

ISC8 identified a number of requirements for a URL database and content categorization engine, including:

- *Comprehensive coverage* – coverage of a wide range of new and dynamic websites with deep content categorization at the domain, sub-domain, sub-path and page level, most critical deep within blogs, forums and social networks.

- *Highly accurate categorizations* – an accurate database of categorized URLs backed by human quality assurance review.
- *High URL query performance* – ISC8 required a content categorization engine capable of categorizing the clickstream of millions of mobile service subscribers with extremely fast query performance.
- *Adult content detection* – extensive accuracy and coverage of "blockable" adult content to include child abuse sites and materials, anonymizers & proxies, in addition to safe-browsing support.
- *Malicious and compromised website detection* – provide real-time detection of malicious and compromised websites, particularly those hosting spyware, malware, botnets, phishing, fraud and other exploits. Also important was the ability to quickly revisit and "clear" legit websites after being cleaned.
- *Broad languages support* – contextual content categorization support of websites in the most popular languages for the Asian, European and North American markets where ISC8 has broad global distribution capabilities.
- *Scalability* – a SDK implementation capable of scaling up with new business customers – mobile service providers and enterprises – and their millions of subscribers and end-users was required.
- *Flexible pricing model* – network-wide or per-user pricing options.
- *Dedicated support* – always available and dedicated technical support during the evaluation, integration and production phases as well as with day-to-day business and technical matters thereafter.

"Coverage, accuracy and performance were critical factors in determining an ideal content categorization partner and we required one that would help provide real-time detection of and protection from adult, inappropriate and malicious websites," – ***Kelly Anderson, VP of Sales, ISC8***

The Evaluation

ISC8 evaluated the web coverage, accuracy and performance of the zveloDB URL database and zveloDB SDK, with specific emphasis on dynamic content, adult content and malicious website detection. The evaluation criteria included:

- *Coverage and accuracy* – an evaluation of the accuracy of the zveloDB URL database was conducted, with an in-depth analysis of over 150,000 URLs pulled from actual mobile subscriber clickstream traffic, which consisted of varied web content in English and several more of the leading European and Asian languages.
- *Performance* – an evaluation of the URL query speed and performance the zveloDB SDK was conducted to ensure satisfactory query response times and to ensure the zveloDB SDK kept pace and could scale with projected subscriber clickstream growth.
- *Detection of Porn and other objectionable content* – an extensive test was performed for coverage of porn, child sexual abuse, violence and other objectionable content in various languages.
- *Malicious website detection* – zvelo's coverage and detection of malicious websites, particularly those targeting mobile devices and hosting spyware, malware, botnets, phishing, fraud and other exploits. Specific tests were also performed that evaluated zvelo's URL revisit logic and frequency, to clear and re-categorize websites that have been cleaned or taken offline.
- *Ease of integration* – the on-disk zveloDB SDK was assessed to verify it would satisfy the fast and high volume query speeds being seen by the ISC8's wireless customers and their subscribers.

- *Dedicated support* – ISC8 closely graded the quality of the technical support provided during the evaluation period as a precursor to the level of responsiveness to be delivered following the production roll out.

Following the thorough evaluation, the ISC8 and zvelo agreed to a technology partnership for the integration and deployment of the zveloDB URL database and content categorization engine to enhance its Cyber NetControl web filtering product.

ISC8 and zvelo in Action

ISC8's Cyber NetControl web filtering offering runs integrated with the zveloDB URL database on servers deployed within the data center of its customer, a wireless service provider. After the appropriate use policies are implemented, clickstream traffic conducted by the customer's mobile service subscribers is checked against the zveloDB's millions of categorized URLs. Access to URLs containing adult, malicious or any other inappropriate content is blocked as determined by the network-wide or per-user policy controls established by the wireless service provider. New URLs not already stored in the zveloDB URL database are queried asynchronously to the zveloNET® cloud network automated categorization systems and processes. The newly categorized URLs are then inserted into the zveloDB URL database so that the next time the content, web page or full path is clicked on by a subsequent mobile subscriber, the appropriate "allow" or "block" web filtering control can take effect. Newly categorized URLs are also submitted for quality, human review to guarantee utmost accuracy and coverage. Malicious URLs are also reviewed by zveloLABS – R&D Software Engineers focused on enhancing the malicious website detection capabilities of zvelo's automated categorization engines.

zveloNET's ability to harness the collective web activity of the millions of users across all of zvelo's OEM Partners provides the basis for the extremely high coverage of the ActiveWeb*. Each additional user increases the breadth of ActiveWeb sites visited and categorized, thereby further increasing the coverage, accuracy and malicious or inappropriate website detection for the collective end-user community.

Results of the Cyber NetControl and zveloDB URL Database Solution

zvelo' s URL databases and categorization technologies provided the required website coverage, accuracy and performance to complement ISC8's Cyber NetControl web filtering offering. ISC8 was able to meet the government regulatory mandates, the technical requirements and pricing models of its mobile carrier prospects, and experienced rapid business growth in the European, Asian and American marketplaces. zvelo's flexible deployment options and continuous Quality Assurance

verification process for top blockable categories and most popular sites were also key factors in solidifying a technology partnership. ISC8 and its customers further benefit from zvelo's malicious and compromised website detection capabilities providing protection from dangerous websites and other web-based threats.

> *"zvelo surpassed our expectations from the initial communication to the evaluation, and has since exceeded what we expect from a technology partner. The quality, accuracy and flexible pricing models of their URL database and content categorization services were unmatched by other offerings we tested in the market. We anticipate a long and prosperous partnership," –* ***Kelly Anderson, VP of Sales, ISC8***

**ActiveWeb – websites and web content visited by actual users.*