About Silat

Introduction

Silat is a regional technology solutions and business consulting Services Company that supports its clients' pursuit of operational excellence and profitability. Our signature - delivering reliable solutions - is based on a creative and intelligent approach to the integrate technologies and business processes that meet unique client requirements.

Twelve years of experience, hundreds of projects delivered and an intellectual capital that spans multiple industry sectors, enabled Silat's team to integrate and deliver innovative consulting and technology solutions with a commitment to excellence and client's satisfaction.

Silat is committed to bring the latest technologies that serve Enterprise companies as well as Telecom operators.

With the solutions that Silat brought to the area, Silat assure that the customer will be well served, enjoying top of the art services, and well connected.

Our board of Directors has resolved as part of our diversification objective; to seek out international business partners, eager in launching its brands, services and products for maximum brand name products, and services exposure in these new emerging local and regional markets.

Silat's Mission

Silat has an ultimate goal of becoming a leader solution provider worldwide, to continue our dedication towards customer satisfaction by providing user-friendly, flexible and cost-effective technologies for clients' telecom solution needs.

Why Silat?

Silat provides customers with turn-key next generation solutions with a strong commitment to deliver the most innovative products & services, understanding operators' needs, customizing solutions accordingly and building a continuous relationship with its partners and customers. Silat collaborates with telecom operators to help them increase their revenue, customer satisfaction and loyalty, and decrease churn through distinguished, innovative solutions.

We have highly qualified professionals who have innovative thoughts and excel in their area of specialization.

SILAT

DPI Brochoure

DPI Key Features

Detection of over 6000 protocols:

- VoIP and Media: SIP, RTP, RTSP, MPEG;
- Torrents and P2P;
- Messengers: WhatsApp, Telegram, Viber, Skype;
- VPN's: openVPN, L2TP, PPPTP;
- Encrypted protocols like SOCKSS, HTTPS, MTproto;
- BRAS with CG-NAT and DPI functions;
- VAS for ISP: IoT Security and Parental controls;
- Protection against DoS and DDoS attacks;
- Installation on the available server platforms; Throughput over 100Gbps per RU;
- Connection In-line» and «Mirror»

About Deep Packet inspection technology (DPI)

DPI is a hardware-software complex that controls the flow of network data, identifies protocols and applications, filters by URL, prevent intrusion attempts and spread malicious software by deep packet inspection data. DPI performs important safety functions by checking incoming packets, analyzing the code and transmitted data after their disassembly and decompression, for compliance with applications and services. If a malicious URL or code snippet is detected, the system is able to completely block it. DPI can also be used by service providers to provide subscribers different levels of access (type of use, data restriction, bandwidth), compliance with access rules, traffic prioritization, network load balancing and statistical information gathering. As more and more software products go beyond the workstation and corporate resources using cloud technologies, network performance becomes critical for high productivity. DPI can recognize applications; which data pass them.

Silat DPI Features

In addition to DPI functions, the product has a number of additional integrated features. The system includes traffic filtering through the registry of blacklisted websites in accordance with current legislation and meets the requirements of the state regulator with automatic downloading blocking lists of URLs SNI, CN, IP+PORT.

BASIC WORK SCHEMES

The solution supports filtering by Server Name Indication (SNI), blocking of HTTPS traffic on Common Name certificates and blocking by «*.domain.com» mask. For greater flexibility, it is possible to use own black and white lists.

Silat DPI has a full set of functions for working as L3 and L2 BRAS functionality and can also act as eGNAT with support Hairpinning, Paired IP address pooling and Full Cone. Simple integrate by Radius protocol with most populate billing systems.

BRAS with DPI allows using prioritization in subscriber tariff plan. Silat DPI have some level of prioritization: by protocols/applications and by directions (AS number). It is available for subscriber, Vlan or pair physicals ports and common channel. The system allows to pass messages to the subscriber while working on the Internet or redirect to the start page. DPI gives ISP channel to communicate with customers. Marketing programs allow to delivery news, promo or info0rmation about network failures.

The system has built-in protection against DoS and DDoS attacks, realizes fight against TeP SYN Flood, fragmented UDP Flood and supports the Turing test. Dynamic bandwidth management with protocol priorities is supported. Silat DPI provides up to 15% savings on the uplink channels and fast delivery of audio and video content through the caching system. Thus, caching of Windows and iTunes updates is fully available. And it also possible to control the torrents by hash value, which significantly reduces the torrent traffic on the uplink channels.

Different Silat DPI connectivity schemes are supported:

- «In-line» DPI connects between the Edge Router and the Termination Device (BRAS). Fault tolerance is provided by using the bypass function in Silicom cards.
- Asymmetric connection PBR function is used to implement web traffic filtering relying on policy-based routing.
- «Out-of-line» A scheme of traffic mirroring is performed through SPAN ports or optical splitters.
- The system supports integration with billing and RADIUS server.
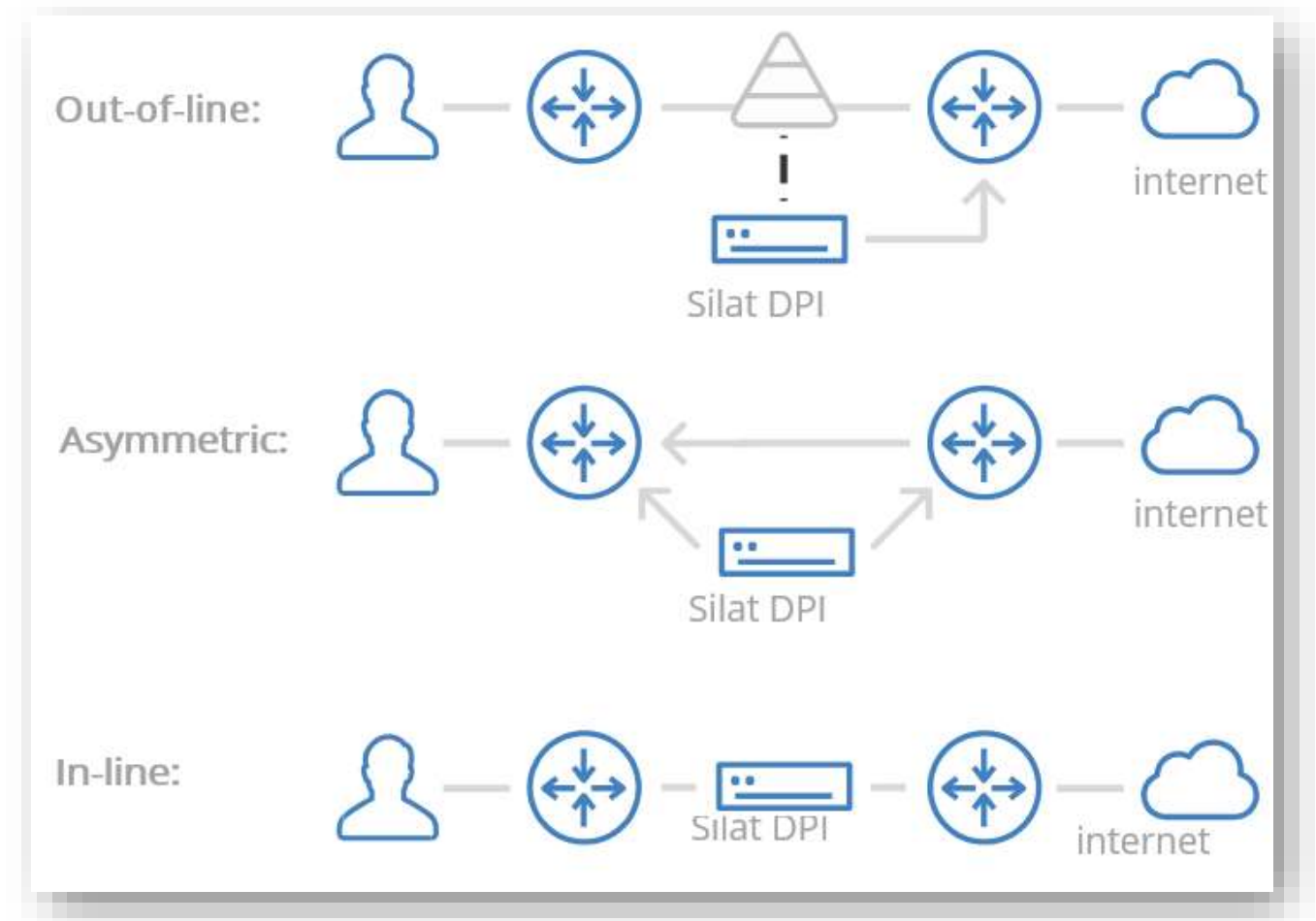
BRAS

This solution allows broadband operator to control subscribers access to the Internet and apply the policies of tariff plans and additional

tariff options. Silat DPI directly interacts with RADIUS server to obtain information about the authorized user, compares IP addresses with the tariff plan and additional services that are defined on the billing server.

- Authorization of IPoE and PPPoE sessions on RADIUS;
- Identification of users by IP, Q-in-Q label, MAC address;
- Assignment and modifying policies (tariff plan and additional services) through VSA (Vendor Specific Attribute) in the process of authorization on RADIUS and through CoA (Change of Authorization;
- Redirecting users to Captive Portal (blocking); • Working at L3 and L2 levels;
- Performance of Silat DPI system can reach 160 Gbit and process simultaneously up to 128 M user sessions.

CG·NAT

Network Address Translation function allows the telecom operator to share one public IPv4 address with multiple subscribers, extend usage of the restricted IPv4 address space, and simplify passing to IPv6 addressing. Since DPI platform is designed for huge loads with deep traffic analysis, it can easily realize network address translation function (Carrier-Grade NAT), in addition to which the customer receives a full set of standard DPI tools

- Effectively uses the limited IPv4 address space;
- Complies with industry standards specified in RFC 6888, RFC 4787;
- Provides transparent operation of peer-to-peer protocols (torrents, games);
- Allows to limit the number of TCP and UDP ports for the subscriber (DDoS protection);
- Supports functions of Hairpinning, Paired IP address pooling and Full Cone.

To implement CG-NAT function, it is required to enable Silat DPI in «out-of-line» scheme. To implement fault tolerance, it is recommended to install a backup platform.

QoE

Silat DPI QoE - this is a software product created for collecting statistics and assessing the quality of service perception (Quality of Experience - QoE).

The resulting statistics is superimposed on specific metrics to determine user experience and take actions aimed at improving the quality of communication services.

Metrics:

- Round Delay (RTT) Performance
- Number of retries
- Number of sessions, devices, agents,
- IP addresses per subscriber
- Traffic distribution by application
- and transport protocols
- Traffic distribution by directions and AS
- Clickstream for each subscriber+

TECHNICAL CHARACTERISTICS OF SPECTRE DPI PLATFORM

Name measurement	Silat DPI 6	Silat DPI 10	Silat DPI 20	Silat DPI 40	Silat DPI 80	Silat DPI 160
Performance Gbit	6	10	20	40	80	160
Ports Pcs.xGbit	6x1/2x10	2x10	2x10	4x10	8x10	4x40/2x100
Intefaces -	RJ-45/SFP+	SFP+	SFP+	SFP+	SFP+	FP+/100
Dimension RU	1	1	1	1	2	3
Subscribers -	400K	1M	2M	4M	8M	16M
Maximum number of sessions	4M	8M	16M	32M	64M	128M
New sessions sessions/sec	100K	250K	250K	350K	400K	400K