

SATELLITE TRUNK INTERCEPTION SOLUTIONS



+971 4 299 5886



+971 4 299 5887



business@stratign.com



www.stratign.com

Introduction

Satellites are now an essential part of today's communication technology; thus, interception and monitoring of satellite communications has become the most crucial task in intelligence agencies. Reliable, portable and robust satellite monitoring solutions are critical to the success of any intelligence gathering operation.

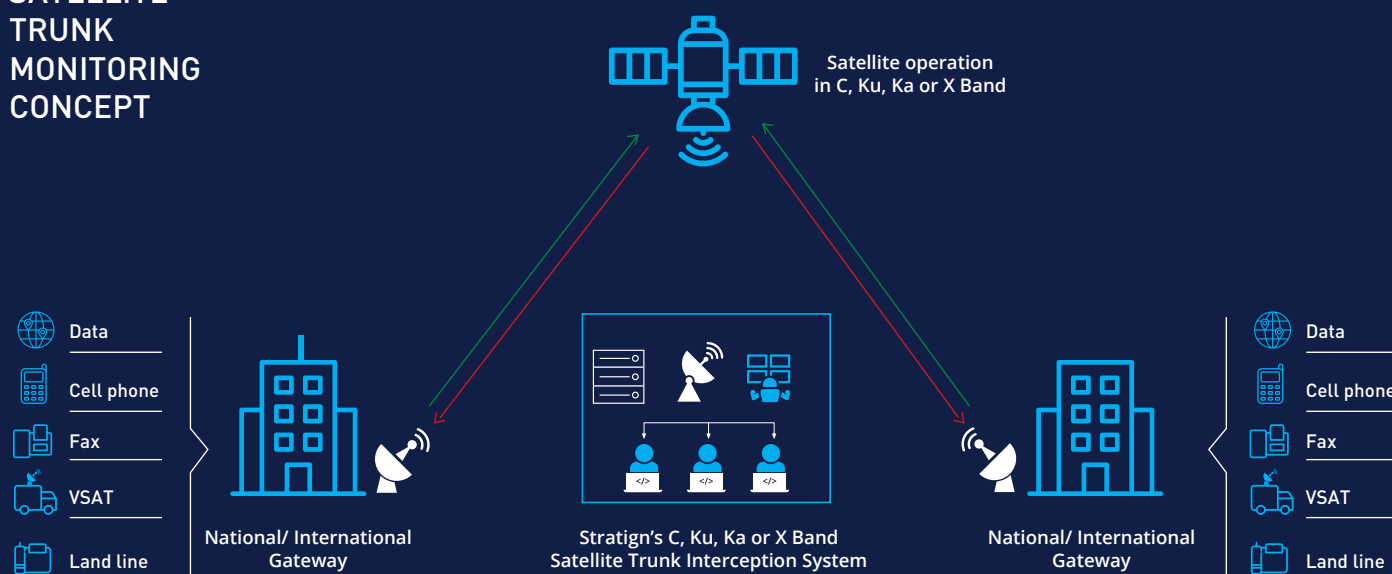
Stratign's Satellite Interception Solutions are fully integrated interception and analysis platform that helps intelligence organizations and government agencies to fight against national and international threats. Our flexible, modular and upgradeable solutions provide effective interception of voice, fax, SMS, high-speed data links and data calls.

Stratign's Satellite Interception Solutions Cover:

- C, X, Ka and Ku Band Trunk Interception Solution
- VSAT Interception Solution
- Satellite Geo-Location Solution

C, X, Ka AND Ku BAND SATELLITE TRUNK

SATELLITE TRUNK MONITORING CONCEPT



Introduction

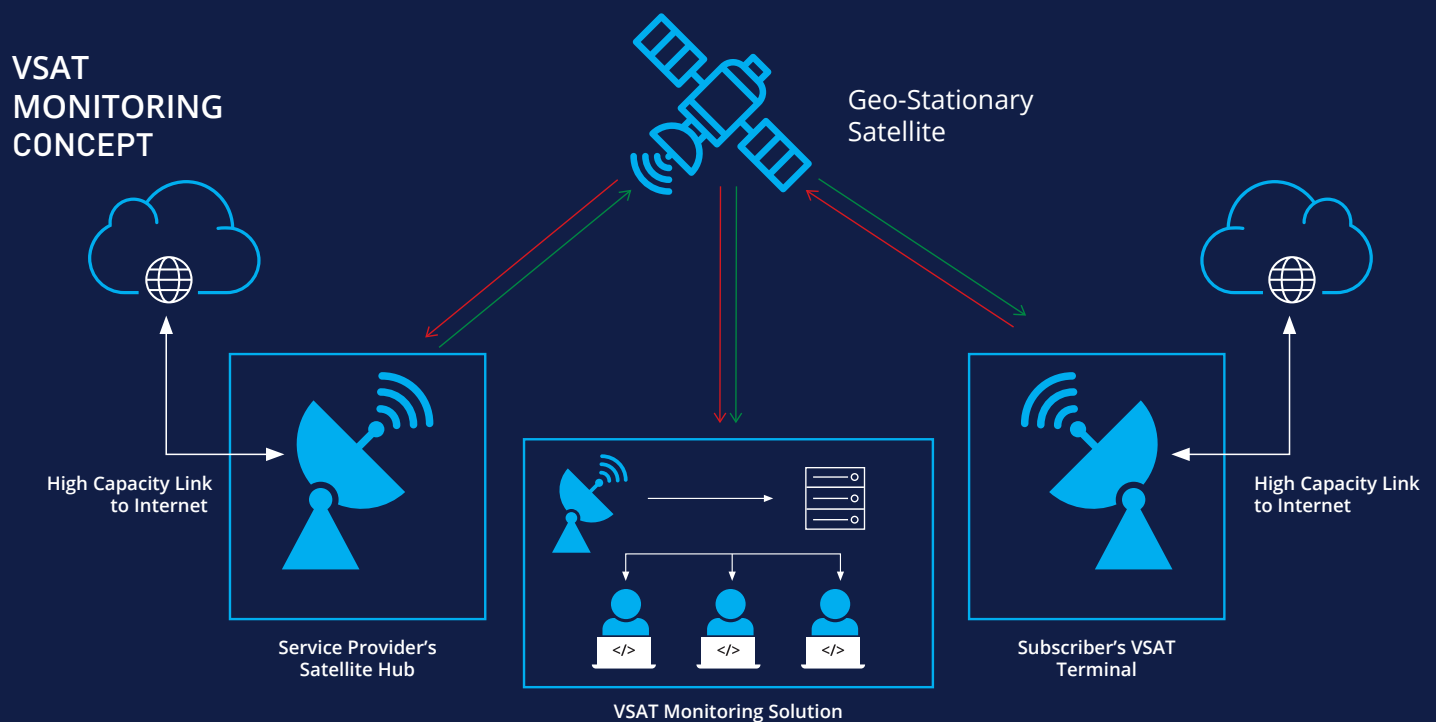
Satellites are used by various telecommunication agencies for carrying trunks between countries, cities or simply between different exchanges. Stratign's Integrated Satellite Interception Solution has been designed for the purpose of providing national intelligence agencies with the capacity to passively intercept all satellite signals (C/X/Ka/Ku band) of neighboring countries or between cities from within their own country. The offered system is a powerful tool to monitor satellite communications in a

passive mode. This integrated system has been designed to monitor compressed (DCME) and non-compressed (non-DCME) telecom carriers from Intelsat, Eutelsat, Arabsat, Turksat, etc. The system provides voice, fax and internet data sessions after decompression. The built-in SS7 analysis module performs automatic analysis on the carrier and displays its various identity parameters including originating point country, destination point country and call-related information - date, time of call, called number, etc.

Features

- Interception of domestic & international DCME & non-DCME satellite carriers from C/X/Ka/Ku band.
- Satellite data acquisition, real-time demodulation, decoding and decompression.
- Integrated carrier monitoring for finding new signals as well as hidden/discreet satellite signals.
- Automatic classification of DCME type used on targeted carrier by mentioning either PCM, ADPCM, DTX-2 40 (D, E, F), DTX-2 40 (T), CELTIC, PCME, NCM-501, DX-3000, TC-2000, DTX-360, DTX-600, DX-7000 and DTX-600 IP.
- Provides plain voice and decoded data.
- Automatic decompression after successful classification of DCME type.
- Provides originating country and destination country (in case of international link).
- Logging of all decompressed data on the storage server (32 E1's in case of DX-7000 Type B).
- Provides online analysis of SS7 signalling.
- Interception of domestic and international high-speed IP traffic link will provide the following:
 - o E-mails.
 - o E-mail attachments like MS word, pdf, zip, jpeg, etc.
 - o Html pages.
 - o Video files.
 - o Audio files.
 - o Downloaded *.doc, *.ppt, *.pdf, *.jpeg, *.zip, etc.
 - o FTP.
- Provides incoming and outgoing numbers.
- Standard system configuration can handle minimum 2 x E1 carriers from C/X/Ka/Ku band which can be customized as per the customer requirement.
- System is equipped with 18TB storage and archiving capability which can be customized as per the user's requirement.

VSAT MONITORING SOLUTION



Introduction

Today, VSAT plays an important role in providing advanced telecommunications services to far-flung areas where laying cables or establishing microwave towers is either difficult or economically unviable. VSAT delivers the web and other IP-centric applications at broadband speeds.

The availability of multitude of VSAT service providers offering inexpensive services has a flip side too. They can be misused by unscrupulous elements for communications. By doing so they can bypass national

data grids, thus avoiding lawful interception. VSATs are also used by hostile military agencies. Thus, the capability to passively intercept VSAT communications is of utmost importance for intelligence & military agencies.

Stratign is proud to announce the latest generation of state-of-the-art integrated VSAT Interception Solution. While designing this system, we have kept in mind the challenges that are associated with interception of VSAT communications.



The system incorporates a highly sophisticated application to perform automated search and classification of VSAT types and provides preview of the transmitted content. This approach significantly reduces the time and effort required by the operators to identify the signals of interest. The system also provides

automated correlation and pairing of HUBs with associated terminals, reducing considerable efforts. The system consists of a combination of multi-channel receivers, demodulators, decoders, high performance decryption hardware, IP processing modules and an interactive post-processing application.

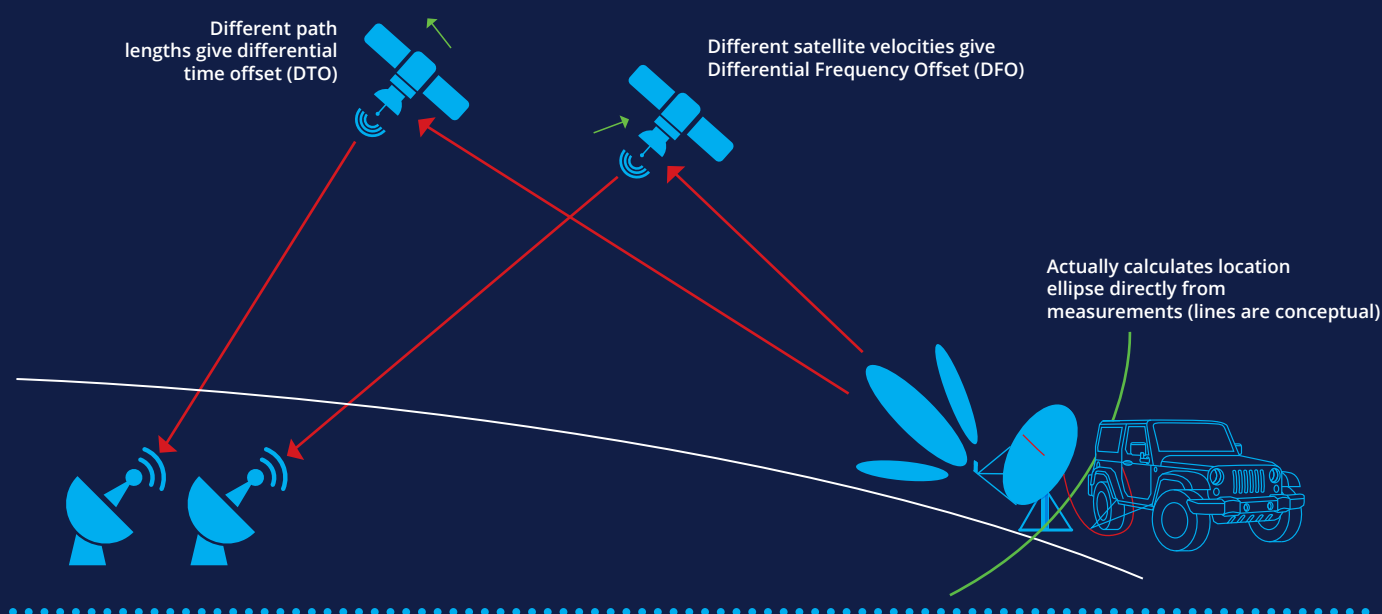
Features

- Intercepts inbound and outbound traffic through VSAT HUB and terminals operating on C, Ku, Ka and X bands.
- System houses high performance multi-channel receivers, each one of which can process up to 48 VSAT frequency channels including up to 4 HUBs as a basic configuration.
- System performs fully automated scanning for entire frequency band of satellite of interest.
- Automated identification and classification of VSAT carriers, their parameters and information payload.
- System provides a preview of traffic payload from the scanned VSAT signal.
- The system also provides the location of the terminal based on the public IP transmitted.
- Automated association and pairing of HUB transmission with their corresponding VSAT terminals.
- Real-time processing of downlink control channels for reception of TDMA and MF-TDMA uplink transmissions from VSAT terminals.
- DES Decryption Unit integrated with the system to provide key recovery and online decryption of content of Hughes DirecWay VSAT transmission.
- System provides plain voice, fax, http pages, e-mails with attachment, downloaded files, etc.
- System has built-in VoIP decoders to decode and produce all voice sessions transmitted on voice over IP.
- User-friendly operator GUI to view all RF and traffic information in single console.
- System is equipped with high capacity storage and archiving capability.
- System can be integrated with text and speech analysis tools based on strong military grade algorithms to filter interception based on word and topic spotting, language and speaker identification.
- Modular solution in both hardware and software which can be enhanced based on specific customer requirements.

For further details on Protocols/Modems supported, please contact us at business@stratign.com

SATELLITE GEO-LOCATION SOLUTION

SATELLITE GEO-LOCATION CONCEPT



Introduction

Satellite Geo-Location Solution is an accurate, fast, and all-in-one solution for locating ground-to-satellite transmission sources. Powerful, flexible and modular, the system uniquely blends complex science and algorithms with sophisticated hardware and DSP processing, resulting in an easy-to-use package for locating and identifying sources of unfriendly satellite transmissions,

accidental interference, equipment failure, operator error or intentional abuse.

The system receives signals from pairs of satellites and using advanced signal processing, determines the time offset and frequency offset from the two signal paths, translating to a location on the surface of the earth.

Features

- 100% passive Geo-Location Solution as it does not require own transmitter for reference, unlike other Geo-Location Solutions.
- Perfect intelligence capability, if conducting Geo-Location on a neighboring country's satellite terminal, it is difficult to install a transmitting terminal for reference in their region/or on their satellite.
- Unlike other products that provide Geo-Location of a single target. Stratign's Geo-Location Solution is capable of handling and Geo-Locating multiple targets at the same time.
- No reference... means no transmission... means no detection.
- Multi target Geo-Location, designed by Stratign, provides a location accuracy within a few kilometers. Other providers are generally providing an accuracy of 15kms and above.
- Can identify the location of the transmitting VSAT terminal satellites working in the L, C, X, Ku and Ka frequency bands.
- Can display the location of the transmitting VSAT terminal on a digital map.

OPTIONAL CONFIGURATIONS

Along with our Satellite Interception Solutions, one can additionally configure the below optional supplies for added advantage.



OSINT
(Open Source Intelligence)



VPA
(Voice Print Analysis)

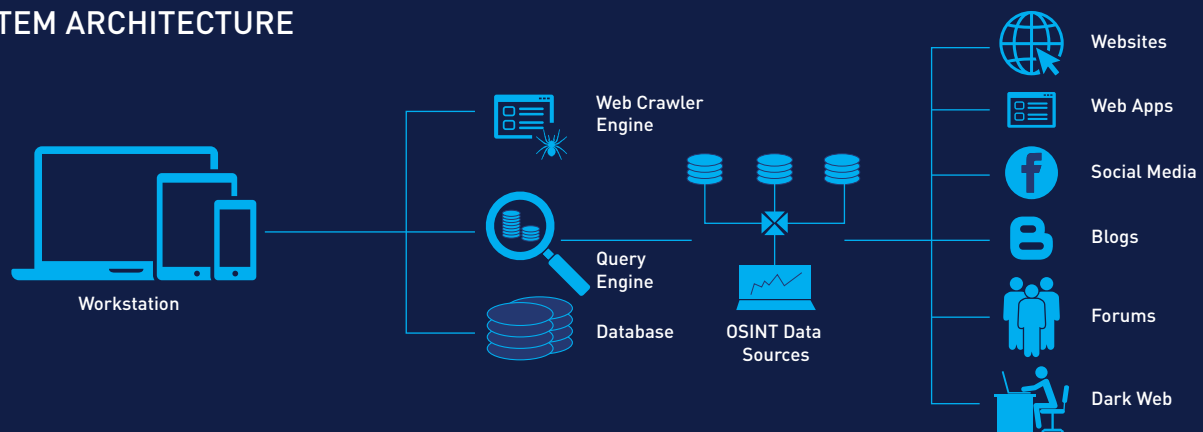


Link
Analysis



OPEN SOURCE INTELLIGENCE (OSINT)

SYSTEM ARCHITECTURE



Introduction

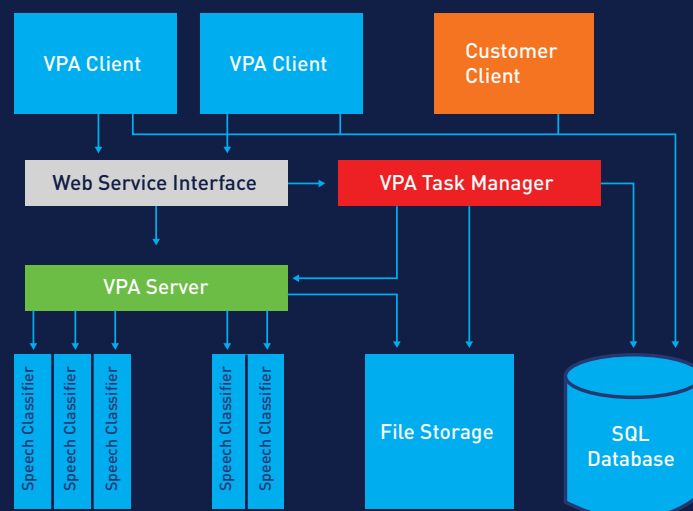
Open-source intelligence (OSINT) is data collected from publicly available sources to be used in an intelligence context. Stratign's Social Media Monitoring Solution comes with the power of wide range scanning of profiles and keywords on social media platforms, content storage platforms (e.g. blogs, boards & posts) in minutes & provides instant results which facilitates user to save tremendous time.

The system can collect Open Source Intelligence (OSINT) from publicly available sources such as Facebook, WhatsApp, Twitter, Instagram, YouTube, Viber, LinkedIn, etc. Data Collection process is automated using Deep Web-Int Crawlers or with chrome extension. Stratign's OSINT platform is an

innovative security and cyber intelligence solution used to identify threats and meet mission-critical operational needs. The platform is a complete suite of modular, enterprise-grade intelligence & investigation support applications integrated on a single system.

Our intelligence-driven, big data platform collects information from the widest range of sources and is purpose-built to provide visibility and control for system operators, analysts and investigators in the fight against terror threats and criminal activities. The system has a powerful & user-friendly UI and can perform scanning, query/search, location-based search (Geo-Fencing) & visualize the result in an easily understandable graphical/textual format.

VOICE PRINT ANALYSIS (VPA)



Introduction

Stratign's VPA is a speech analysis system intended for law enforcement, public safety, investigation and forensic experts. The platform can handle almost any speech-processing challenge, whether it is the analysis of massive amounts of audio recordings for investigation purposes, or just a few audio tracks for forensic experts. The system uses Voice Biometric technology to quickly search and accurately identify language, speakers and keyword within large amounts of audio recordings making it ideal for law enforcement and intelligence agencies. VPA can also analyze audio files for speech/non-speech detection.

Classification Modules

- Language Identifier
- Speech Detection Module
- Gender Detection
- Emotion Detection
- Keyword Spotter

Features

- Speaker Identification in signal under analysis from known database of speaker voice samples.
- Multiple language identification from a known database of languages.
- Keyword spotting.
- Gender detection.
- Emotion detection capability.
- Age detection.
- Based on a client server mode/architecture use of standard hardware.
- Multi-parallel processing supported.
- Application of standard software in order to participate in further development.
- Scalability and flexible interfaces for the integration of classifiers.
- Communication via TCP/IP.

LINK ANALYSIS

Introduction

Stratign's Intelligent Information Analysis System has been developed to be able to mine the existing databases of various monitoring systems of government and law enforcement agencies and analyze large amounts of text, unstructured data & transaction data.

The solution accesses, extracts and semantically analyses unstructured data and text from a multitude of sources, including internet news, websites, social networking sites, blogs, forums which have been monitored in various monitoring platforms and existing databases, in a fast, accurate and seamless manner. Targets whose personal information like physical address, telephone number, mobile numbers, satellite

phone numbers, e-mail ids, social network IDs, social contacts, personal webpages, bank transactions, etc. can be all collated from various mirroring platform databases, can be analyzed both in time and space in order to link their association with events to generate a location-based information with a chronological sequence.

The user can also look for a specific individual, organization, event or incident with a locational context also. There is an ability to create a user-defined Operations Picture with greater flexibility to add search parameters for a customized analysis.



Features

- An intelligent decision support and operations management platform built around a network centric geospatial platform.
- Capable of mining and analyzing large amount of text, unstructured and transaction data.
- Provides visualization platform and advanced analytics.
- Custom built reporting formats based on the customer requirement.
- Geo-Spatial analysis of information with location as important parameter for emerging trends/patterns.
- Multi-lingual capability in English and Arabic.
- Can be linked to existing databases of various monitoring platforms.





Suite #1603-1604, 16th Floor, Oberoi Tower,
Business Bay, Dubai - UAE.



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www.stratign.com

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