Streamlining Telecom Operations with ESAP
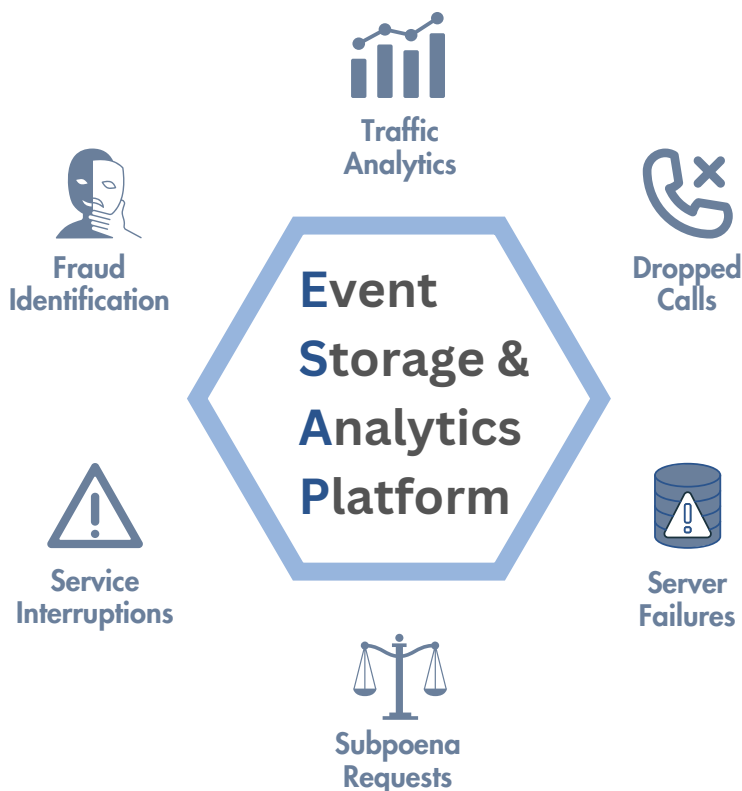
How Service Providers can enhance their reporting capabilities and unleash the full potential of their Call Detail Records.

Today there are countless opportunities to leverage your communication data to gain increased efficiency, competitive advantages, lowered operating costs, and more.

With that, the sheer magnitude of data available often surpasses the capabilities of traditional solutions for processing and analysis. The vast collection of structured, unstructured, and semi-structured data, commonly known as "Big Data," represents the constantly expanding repository of information that has become entwined in our everyday existence.

To keep up in an increasingly competitive market, companies have leveraged their customer call data to improve operations by prioritizing multiple areas, including improving their service quality, strengthening security measures, and optimizing network performance. Within this transforming and expanding environment, it is certainly challenging – if not impossible – for small-to-medium sized providers to understand and successfully prioritize which pieces of the puzzle fit within its own structure.

For that reason, more organizations are choosing to outsource their data needs, using third parties to fill the role of internal chief information officer. Through years of delivering data solutions to communication providers in North and South America, our team of data engineers has developed a solution that effectively harnesses the immense potential of big data to enable providers to unlock valuable insights, drive informed decision-making, and achieve exceptional operational efficiencies.

What Pieces of the Puzzle Does *ESAP* Handle?

Subpoena Support

Subpoena requests seek historical information from Call Detail Records (CDRs) and IP Data Records (IPDRs). They are more prevalent compared to wiretaps and trace orders and as a result, carriers are required to have the technical capability to efficiently extract accurate and relevant data to comply with these requirements.

ESAP allows carriers to efficiently configure a data retention policy and govern what records to store, and how long they want to store them. All while maintaining the privacy and security of their customers' data while providing law enforcement agencies with the precise information needed for investigative and legal purposes.

Operations Analytics

CDRs hold a wealth of information that can provide valuable insights into customer usage and behavior patterns that can be of value to service providers. A few of the analyses we offer with ESAP include;

- Traffic Analysis
- Location Analysis
- Trunk Analysis
- Carrier Analysis
- Traffic Forecasting

These analyses are vital for service providers as they predict future demands, optimize resources, evaluate network providers, identify bottlenecks, uncover expansion opportunities, and more.

Stay well-informed about your service metrics and swiftly diagnose any issues by leveraging our comprehensive network alerting system. Some areas we monitor include;

Fraud Detection

Call and billing records can effectively identify fraud by identifying irregularities in usage patterns. Detecting such anomalies combats fraud and resolves network issues before impacting your bottom line.

Outage Detection

Monitor disruptions by detecting when the network is experiencing significant degradation in performance. These alerts allow you to quickly respond to issues and minimize the impact on customers.

Dropped Calls

Dropped call detection triggers alerts for investigation and resolution. It helps service providers identify areas for improvement, and take corrective measures to enhance the quality of their voice services.

Server Failure Detection

Get alerted when infrastructure is not functioning properly or has completely failed. This mechanism identifies and isolates server-level issues, allowing you to take appropriate actions to restore service functionality.

Case Management

This system enables companies to initiate and manage different types of cases. For instance, when a suspicious call is detected, the system creates a corresponding case and promptly alerts the provider. The provider can then take necessary actions and add relevant notes to ensure comprehensive case management.

Store Data Securely and Efficiently

As regulatory requirements continue to expand, carriers have extended the length of time they store data to as long as 5 years. However, the challenges of managing such vast volumes of data internally can impose burdens in terms of manpower and IT costs. ESAP serves as a **data warehouse** to provide a secure and centralized repository for CDRs, enabling easy access and efficient analysis.

When combined, the above features create a powerful platform that maximizes the value of your call records. How do these features come together to provide a seamless integration and deliver value to the end user?
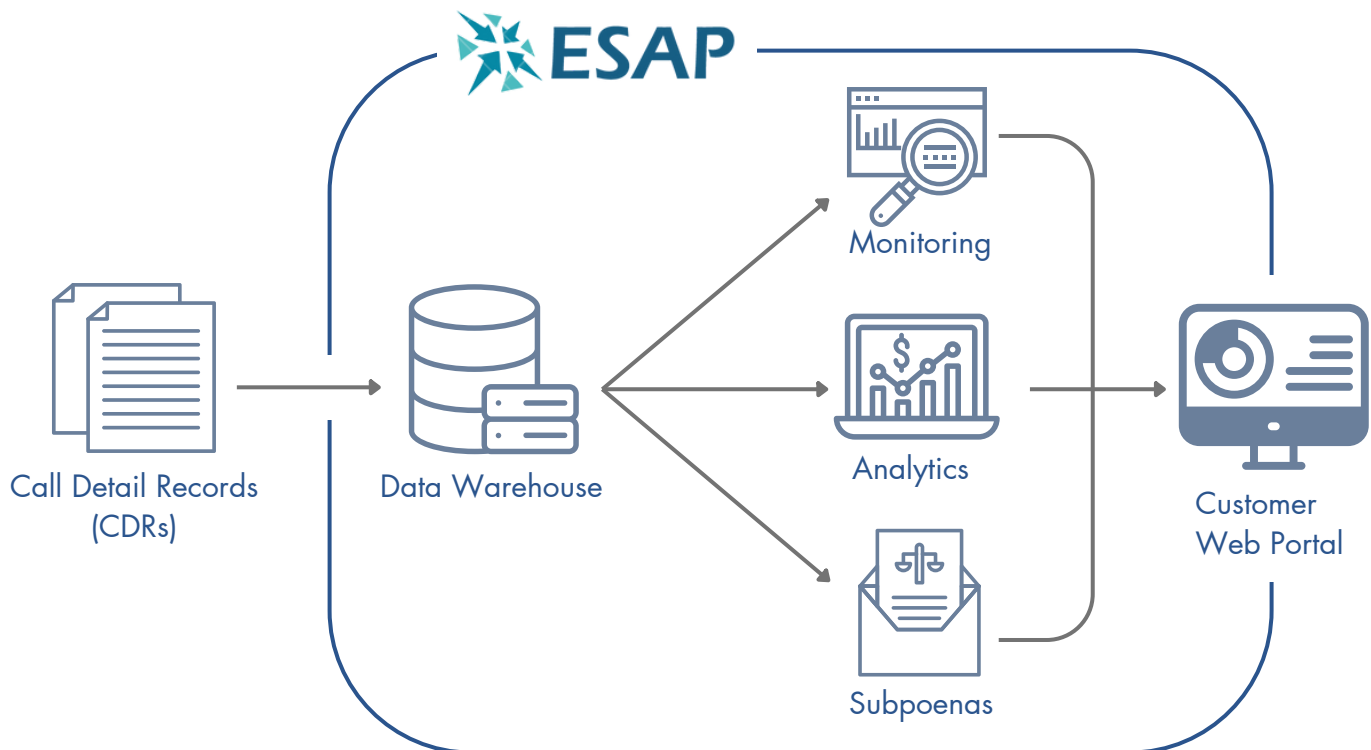

Call records are promptly collected in real-time upon receipt and securely stored in our robust data warehouse. By leveraging leading data storage solutions such as Amazon Web Services (AWS) and Google Cloud, we ensure efficient organization and easy accessibility to the valuable information contained within the CDRs.

Once the data is collected and organized, we repurpose it for monitoring, advanced analytics, and fulfilling subpoena requests. You can conveniently access all this valuable information through our user-friendly web portal, granting you comprehensive insights and control.

Transforming Your CDRs: The Benefits of *ESAP*
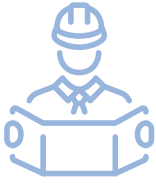
Take Advantage of Our Extensive Industry Background:

Not all data problems are equal, but each demands tailored, effective solutions. Our engineers have developed and implemented *ESAP* for leading carriers in North and South America. By outsourcing your data needs to ATS specialists, you benefit from our consulting insight, attention to detail, and comprehensive overview of your issues.

New Technology Implementation:

ESAP allows communication providers to smoothly transition from their outdated data storage and collection methods to more up-to-date systems, eliminating the need to retrain or hire new specialists to update internal systems or stay well-informed on new technologies and trends.

Renewed Focus on Quality of Service:

Analyzing call traffic, dropped calls, outages, and server failures empowers providers to enhance their network performance, improve service reliability, address security concerns, and ultimately deliver a better user experience to their customers. This ensures efficient utilization of resources, reduces network downtime, and eliminates unnecessary expenses related to network maintenance and upgrades.
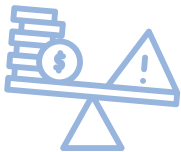
Risk Reduction, Compliance, and Security:

By adapting to evolving regulations, we address a variety of requirements, encompassing data security, compliant information access, and appropriate data storage. ESAP's data warehousing gives you the peace of mind that your data is stored securely with trusted platforms like Amazon Web Services (AWS) and Google Cloud. This approach effectively reduces the risks of security breaches and violations.

Cost Control and Reduction:

Leveraging insights into usage trends allows providers to optimize their networks, pinpoint heavy users or potential abusers, and establish fair usage policies. Additionally, analyzing operational data allows companies to identify inefficiencies, streamline internal workflows, automate new analyses, and reduce operational costs.

Safeguard Your Company From Fraud:

Proactively detect irregularities, uncover fraudulent schemes, and take immediate action to prevent potential losses. This proactive approach fortifies your company's defenses against fraudulent practices, ensuring the protection of your valuable assets and maintaining the trust of your customers and stakeholders.

Level The Playing Field:

Incorporating analytics into your operations allows you to gain a competitive edge and position yourself alongside industry leaders. Today, numerous prominent service providers have already adopted analytics services to stay ahead in the market. By harnessing the potential of your call records and extracting their value, you not only level the playing field but also ensure your ability to compete effectively.

Final Word

In the world of big data, it is essential to move from merely collecting information to understanding it. Data holds immense potential, but its true value lies in the insights and knowledge it can provide.

ESAP is a great way for providers to seamlessly integrate advanced analytics methods into their operations, leveraging the wealth of insights derived from their data.

We utilize advanced analytics techniques to delve deep into the patterns, trends, and correlations hidden within the amass of CDRs. Through this process, telecommunication companies gain a comprehensive understanding of their customers, operations, and market dynamics, enabling them to identify opportunities, mitigate risks, and stay ahead in a rapidly evolving landscape.

As a solution provider, Advanced Technologies & Services' expertise lies in developing robust data analytics frameworks, implementing scalable infrastructure, and deploying advanced algorithms to extract insights from CDRs. We wanted to develop a solution that can encompass the entire data lifecycle, from robust data collection and cleansing to efficient storage and sophisticated analysis. Through our strategic partnership, you can harness the immense potential of your data to unlock the value hidden within your CDRs and ultimately gain a competitive advantage within the dynamic telecom industry.

To learn more about our *Event Storage & Analytics Platform (ESAP)*, please get in touch with us today at the link below;

https://go.atso.com/meet-ats