



Regulatory Data Retention

Logging and Insights for national infrastructure

KEY SYSTEM BENEFITS

- Surgical collection of data targeted for retention to minimize storage costs.
- Solution is subscriber, service plan, location, device, and many other service attributes “aware” to create a structured data format for selection and storage.
- Accelerated time to locate specific data by filtering on specific database attributes.
- Subscriber identification obfuscation prevents unauthorized access to Personally Identifiable Information (PII).

Telecommunications regulators are defining data retention guidelines to ensure the safety and security of their national infrastructure. Around the world, requirements are introduced on network operators to retain specific subscriber data.

For safety, security, and law enforcement purposes, metadata and application-specific traffic may be required to be logged and stored in the operator’s Big Data system and be made available if law enforcement departments acquire warrants for user information. The challenge for the network operator is to store only required data to minimize the storage needs, to keep it secure, and to extract only data that they are mandated to capture in the network.

Sandvine’s Regulatory Data Retention solutions solve these big challenges for network operators. Our platforms, armed with policy-enriched subscriber attributes, deliver fine-grained control of the metadata that will be selected for retention. This ensures that the minimum amount of data is stored by the operator, reducing the storage cost and overhead for compliance with data retention regulations while ensuring that the correct data is captured.

Figure 1

EXAMPLE SUBSCRIBER ATTRIBUTES AVAILABLE FOR RETENTION

APN	HTTP Content Type	User Location Information
Application	HTTP File Length	HTTP URL
Content Category	HTTP Language	HTTP User Agent
Device ID	HTTP Location	IMSI
RAT	HTTP Referer	MSISDN
Flow Behavior	HTTP Request Method	Property
GGSN	HTTP Request Version	RNC
Server Hostname	Service Plan	Subscriber ID



REGULATORY DATA RETENTION SOLUTION OVERVIEW

Sandvine combines subscriber-awareness with application-awareness to enable fine-grained data selection for storage. In a lawful intercept scenario, only VOIP traffic might be stored as part of a legal order. In a web browsing retention scenario, only HTTP browsing activity would be stored, and not all traffic that uses HTTP as a transport protocol (which might include Skype, Netflix, and many other non-browsing activities). Multiple Law Enforcement Agencies (LEAs) can query the data for quick insights in real time from a role-based access control portal.

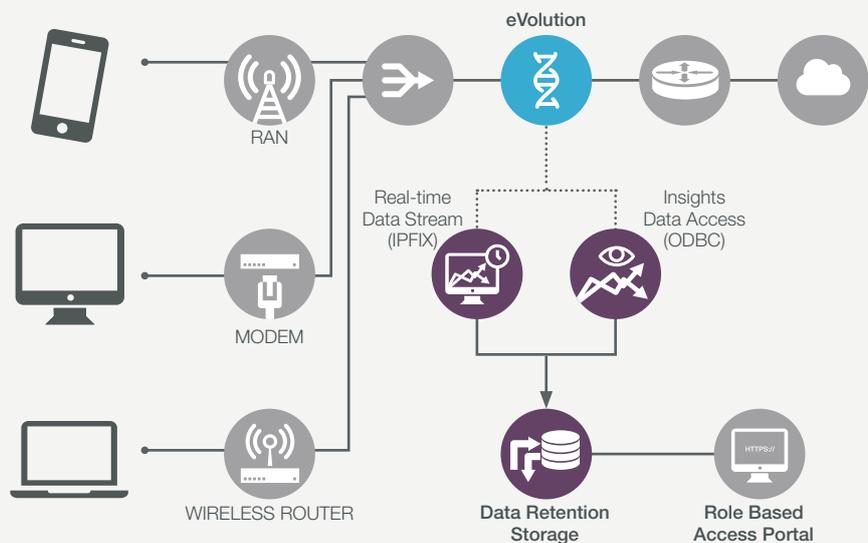
Sandvine supports multiple interfaces to export data to other systems. A real-time API is supported when a real-time data export feed is required for forensics. IPFIX or Flume can be used to stream real-time session metadata to a database for immediate access to the connection data. ODBC access into the Sandvine datastore is supported when only historical data is needed and data is stored in the Sandvine platform. This flexibility ensures that the specific data retention methodology for the use case can be supported based on the needs of the regulator and the operator.

DEPLOYMENT OVERVIEW

The Sandvine data collection solution can be deployed on a Sandvine platform or on COTS hardware in a fully virtualized environment supporting common virtualization technologies. The deployment options may vary depending on the goal of the data retention, and can support up to many Tbps of data collected from a single location. Once collected, the data from the collection system is then sent to the desired database for retention and access through a secured portal.

Figure 2

REGULATORY DATA RETENTION DEPLOYMENT



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ABOUT SANDVINE

Sandvine helps organizations run world-class networks with Active Network Intelligence, leveraging machine learning analytics and closed-loop automation to identify and adapt to network behavior in real-time. With Sandvine, organizations have the power of a highly automated platform from a single vendor that delivers a deep understanding of their network data to drive faster, better decisions. For more information, visit sandvine.com or follow Sandvine on Twitter at [@Sandvine](https://twitter.com/Sandvine).



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