



# ActiveLogic and PTS

## Shared Insights Data Storage Cluster for ActiveLogic and Policy Traffic Switch (PTS)

With the transition to ActiveLogic, some existing PTS customers will have a transition period where both the existing PTS platforms and the ActiveLogic platforms will be deployed and actively publishing/exporting traffic metrics to a single Insights Data Storage cluster.

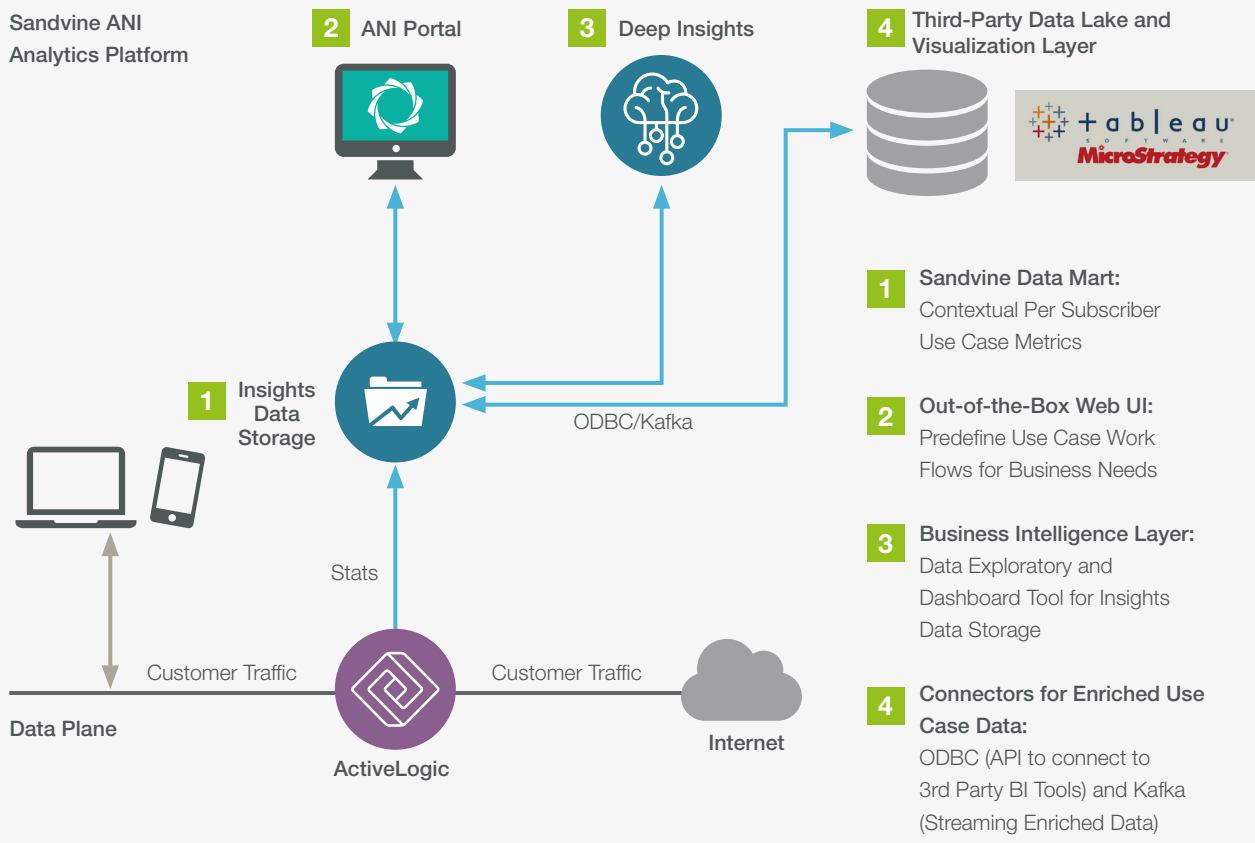
It is important for customers undergoing this transition to understand the differences in traffic classification granularity as well as how some of the metrics are derived.

### OVERVIEW

Insights Data Storage, part of the Insights Product Family, is a requisite component of Sandvine's Application and Network Intelligence (ANI) solutions. Insights Data Storage provides the redundant, highly scalable foundation responsible for data ingestion, management, and long-term storage of network measurements, subscriber usage data as well as operational metrics. Sandvine's ANI Portal leverages this data to provide operators a view into how to build, manage, and optimize their networks based on data collected from the various use cases offered by Sandvine.

Figure 1

Sandvine ANI Analytics Platform



- 1 Sandvine Data Mart:**  
Contextual Per Subscriber Use Case Metrics
- 2 Out-of-the-Box Web UI:**  
Predefine Use Case Work Flows for Business Needs
- 3 Business Intelligence Layer:**  
Data Exploratory and Dashboard Tool for Insights Data Storage
- 4 Connectors for Enriched Use Case Data:**  
ODBC (API to connect to 3rd Party BI Tools) and Kafka (Streaming Enriched Data)

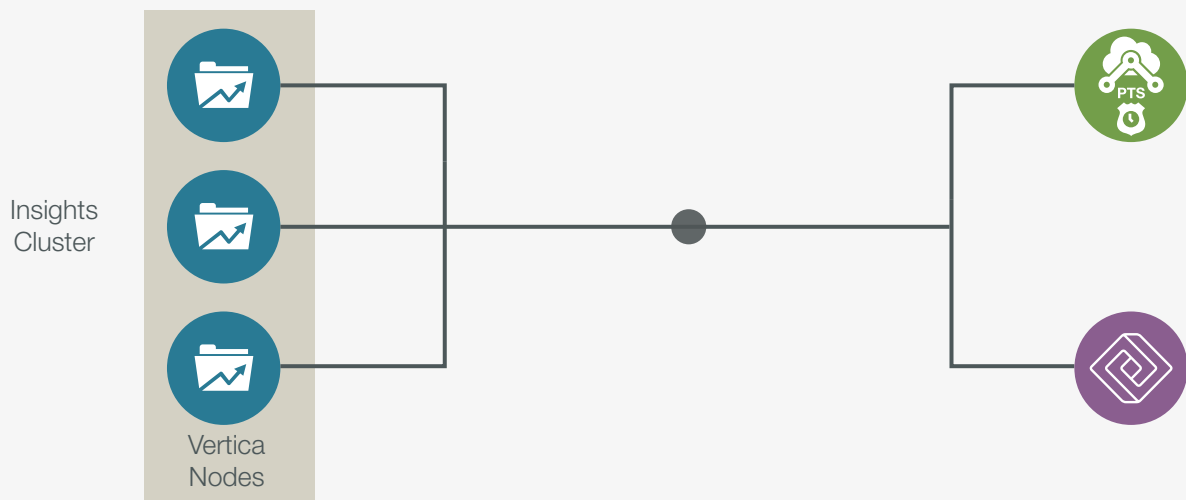


### ActiveLogic and PTS – Transition Data Architecture

Sandvine’s analytic architecture supports the concurrent use of both ActiveLogic and PTS data plane platforms with the ability to publish data to the same Insights Data Storage cluster. While both platforms can publish metrics into common schemas, some differences do exist between how ActiveLogic and PTS handle services categories, byte counting, and QoE metrics. Below is a typical transition architecture:

Figure 2

Typical deployment of Insights Data Storage using a dedicated network switch for the Insights Data Storage cluster, with 10 Gbps physical links for data ingestion and cluster communication



### ActiveLogic Data – Key Differences

#### Publishing Granularity

Per Subscriber - Quality of Experience (QoE) Data Granularity

ActiveLogic	PTS
Network QoE throughput metric available at five minute interval with a sampling rate of 250 msecs	Network QoE throughput metric available at five minute interval with a sampling rate of one second
<b>Conclusion:</b> This enables ActiveLogic to report more granular and accurate throughput metric.	

#### FiveMinute Timestamp

ActiveLogic	PTS
Timestamp in the database represents the <b>beginning</b> of five minute interval	Timestamp in the database represents the <b>end</b> of five minute interval
<b>Conclusion:</b> Results in 5-minute granular charts may be shifted by five minutes. This is not an issue, but the customer should be aware for which time period the timestamp is referring to in the data.	



## Metrics

### Signature Classification

ActiveLogic	PTS
<ol style="list-style-type: none"> <li>1. Services are classified by DRDL</li> <li>2. DRDL classifies ~4300 services</li> <li>3. DRDL library is frequently updated using more advanced machine learning-based detection techniques with regards to encrypted traffic</li> <li>4. Service categories are generally comprehensive, e.g., Gaming</li> </ol>	<ol style="list-style-type: none"> <li>1. Services are classified by LTIP (when publishing to Insights, the naming convention is normalized to match DRDL naming)</li> <li>2. LTIP classifies ~2800 services</li> <li>3. Some machine learning logic not available as it requires higher granularity data</li> <li>4. Focus on keeping major applications consistent with DRDL but can't be guaranteed for every application</li> </ol>

**Conclusion:** ActiveLogic has a more comprehensive signature library. The PTS still provides good visibility, but it does not match the visibility provided by ActiveLogic.

### Byte Counts

ActiveLogic	PTS
Does <b>not</b> include FCS bytes from L2 headers	<b>Does</b> include FCS bytes from L2 headers
<p><b>Conclusion:</b> PTS default configuration would report slightly higher byte counts than ActiveLogic. Optionally, the PTS can be configured to skip FCS bytes.</p>	

### Scoring - QoE Network Metrics

ActiveLogic	PTS
<ul style="list-style-type: none"> <li>• RTT is derived from the TCP handshake as well as over the duration of a flow at five second intervals when TCP timestamp is available.</li> <li>• Throughput is sampled every 250ms</li> </ul>	<ul style="list-style-type: none"> <li>• RTT is derived only from TCP handshake</li> <li>• Throughput is sampled every one second</li> </ul>
<p><b>Conclusion:</b> ActiveLogic's ability to use TCP timestamp along with the 4x increase in subscriber throughput sampling will provide a more accurate representation of QoE. Optionally, ActiveLogic throughput sampling rate can be decreased to match the PTS.</p>	



This provides a summary of the key performance indicators (KPIs) published by both the platforms:

KPI	ActiveLogic ANI	PTS ANI-ready
Throughput	250 msec	One sec
Latency (RTT)	At the time of TCP handshake as well as over the duration of a flow at five second intervals when TCP timestamp is available	At the time of TCP handshake
Packet Loss	Five sec	Five sec
Connections	Available	Available
Unestablished connections	Available	Available
Per service, subscriber QoE	Available	Available
Measurements	Per subscriber, per service	Per subscriber, per service

### Improved Big Data Integration Capabilities

Supporting Big Data Integration is a growing need for network operators. The following options are available to export data from the common Insights Data Storage.

- Kafka Export
- ODBC Export

### Best Practices

- Do not put both platforms in regions where you want to compare location performance to each other
- Disable FCS byte counting on the PTS
- The rulesets, policies, and configuration applied on the PTS and ActiveLogic must be similar if not the same – differences here will impact the reporting
- Increase the ActiveLogic throughput sampling rate to one second

### Summary

**Score, including RTT and throughput, and signature classification are critical for all our use cases and also for any custom reporting. As described, there will be a slight variance in these KPIs, which needs to be clearly understood and discussed with Sandvine before proceeding with this proposed solution. With ActiveLogic, the data is more granular and shows network/application performance more accurately than PTS.**

## ABOUT SANDVINE

Sandvine's cloud-based Application and Network Intelligence portfolio helps customers deliver high quality, optimized experiences to consumers and enterprises. Customers use our solutions to analyze, optimize, and monetize application experiences using contextual machine learning-based insights and real-time actions. Market-leading classification of more than 95% of traffic across mobile and fixed networks by user, application, device, and location creates uniquely rich, real-time data that significantly enhances interactions between users and applications and drives revenues. For more information visit <http://www.sandvine.com> or follow Sandvine on Twitter @Sandvine.



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