

Big Data Traffic Analytics with GenieAnalytics Product Suite

Intelligent Platform for Big Data Traffic Analytics

GenieAnalytics Product Suite provides deep and powerful big-data analytics to deliver immediate operational insights for massive-scale networks. Through agile ad-hoc analytics and intuitive data visualizations, network operators can gain total control over their network infrastructure and easily plan what's right for their business operations. Based on state-of-the-art big data technology, GenieAnalytics achieves unprecedented reliability, scalability and flexibility for carrier-grade network traffic analytic and forensic applications.

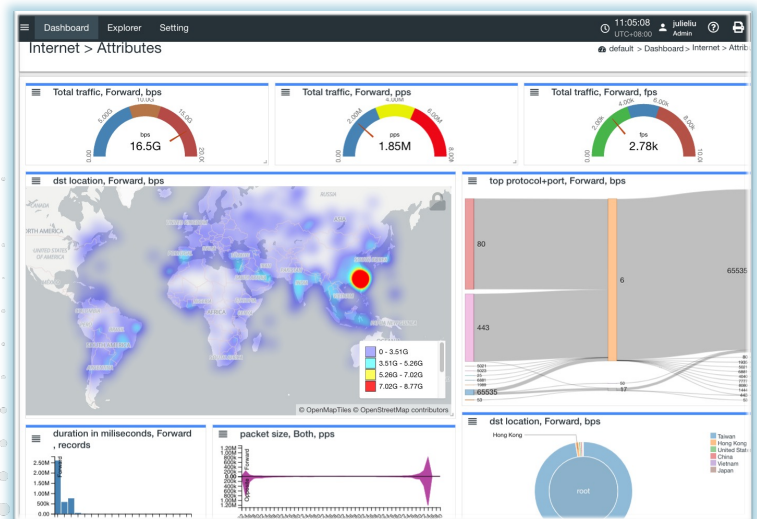
GenieAnalytics utilizes GenieATM to collect multiple data sources including flow records and BGP routing. The Deep Trace module probes DNS, AAA, and NAT message streams and relies on Genie's cutting-edge in-house database to identify OTT service site name, service provider, CDN name, public/private IP addressed, and subscriber identity for each traffic flow. These heterogeneous data are correlated, annotated and enriched before transferring to the big data store for real-time or historical analysis, then presented in a broad range of graphical visualizations through the analytic portal.

Features Highlights

- Multi-dimensional Analytics – Supreme big data ingestion and exploration performance and flexibility
- Rich Visualization – Intuitively visualized Dashboards and Explorers that help to explore network effectively even in complex environments
- Reliability and Scalability – Virtual clusters of virtual appliances which provide reliability and scaling across the entire network
- End-to-End Traffic Visibility – Get full picture of OTT service, CDN traffic, and subscriber identity with at-a-glance details while avoiding high DPI cost

Why GenieAnalytics?

- Scalable Compressed Storage – Leverage record resampling and data compression techniques to optimize big data storage
- Highly Customized Dashboard – Unified view across multiple analytic perspectives, visualization widgets and different time spans
- Extreme Granular Analytics – Support years-long data trending analysis and analytic granularity as short as 1 second



Detailed Features

Abundant Data Fields

- Data fields from GenieATM – Flow record fields, BGP data fields, GenieATM object fields
- Fields by correlated GEO data – country, region, city, latitude and longitude
- Fields by correlated DNS, AAA, and NAT data – service site name, site provider, delivery host name, CDN name, OTT service name, and OTT provider name

Powerful Analytics

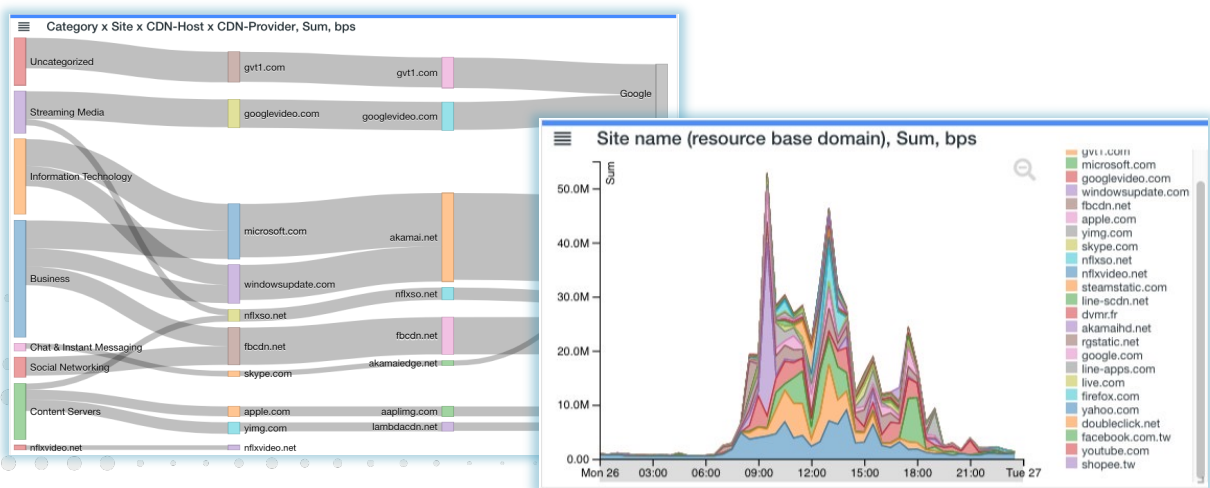
- Every enriched data field can be used as an analytics dimension of ad-hoc query for filtering and aggregation
- Customizable, sequential, multiple Filters to match traffic data for exploration
- Flexible analytic time settings by relative and absolute time period settings
- Selectable metrics, including data rate (bps, pps, fps, etc.), sum (bytes, packets, flows, etc.), unique counts (IP, port, etc.), and user-defined metric types.
- User-friendly, interactive drill-down data exploration for all analytic results

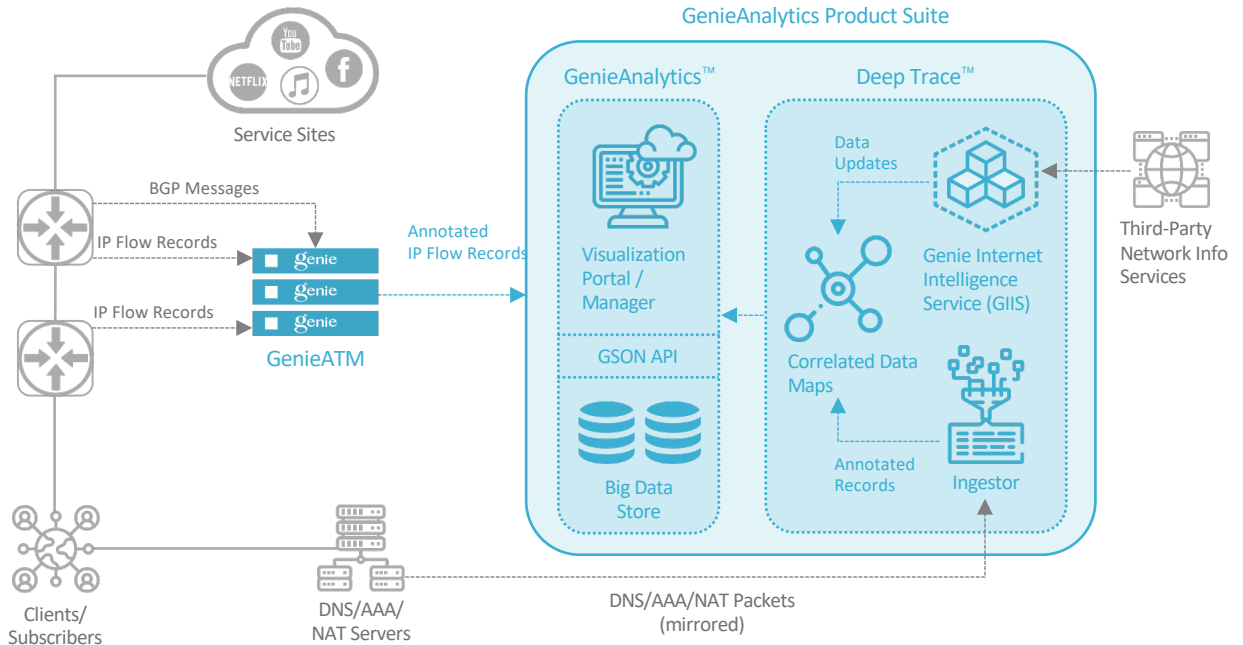
Rich Visualization

- Intuitive visualized reports represented in multi-dimension dataset - line chart, bar chart, area chart, Sunburst, Location map, Heat map, table, donut, number, gauge, editor, etc.
- Users can freely build and modify visualized reports in the Dashboard, while each report can be explored interactively in the Explorer
- Multiple ad-hoc queries with different time settings available on one single dashboard
- Ease-of-use data query, with each supports multiple chart types and metrics

Long-term Data Storage

- Stores huge amount of annotated information including flow records, BGP routing, DNS, RADIUS, and network instances
- Provides parallel data series with different sample rates that achieves much longer storage under limited capacity
- Data can be distributed and stored in replicas and clusters to ensure access at all times (no SPOF)
- Capacity and performance are linearly scalable by adding more replicas and clusters





How GenieAnalytics Product Suite Works

GenieAnalytics Product Suite Uses

- Network planning, peering analysis and traffic engineering - By knowing how much traffic is leaving the network at where (e.g. links) to where (e.g., a prefix, an ASN, an AS Path, a BGP community, a next-hop) at what performance.
- Deep traffic content intelligence to uncover critical OTT traffic insights even behind the mask of a CDN to optimize CDN delivery, on-net caching performance, and competitiveness of service offerings.
- Gain end-to-end traffic visibility among service, CDN, and subscriber identity to improve service packaging and performance.
- Anomaly forensics – Investigate attack traffic with unsummarized traffic data and enriched data context to analyze and present cyber crime evidence.

About Genie Networks

Genie Networks is a leading provider of network traffic intelligence and security solutions that ensure complete visibility into data traffic trends and instant protection against cyber threats. Genie's head office resides in Taipei, Taiwan, with regional branches in Beijing, Shanghai, Tokyo, Delhi, Singapore, and Kuala Lumpur. Genie's products are deployed in more than 40 countries serving more than 650 customers worldwide.

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