

BizReflex

Product Overview

Service provider networks generate and contain a tremendous amount of data on customers, peers, and prospects—data that can help improve profitability by identifying stranded or overlooked sources of revenue. The challenge to date has been how to extract and analyze this data to distill meaningful insights that can guide business decisions.

Juniper Networks Junos BizReflex is a powerful network analytics engine that allows you to extract critical intelligence from your network. With BizReflex, you will gain valuable insights that help sales, marketing, and management decision makers increase revenue, enhance service differentiation, ensure fair network usage, and reduce churn.

Product Description

Knowing your customers is simply good business. As a service provider, knowing your customers means having detailed insights into how much data they are using, where they enter and egress the network, and the geographic distribution of their traffic. The good news is your network already contains this data; the bad news is that today it is very likely hidden from the business decision makers in sales, product management, and marketing who can most benefit from it.

Mining complex network and routing data for insights into customers, peers, and prospects—and then correlating that data into business insights and decisions—has traditionally been a challenge. Reporting solutions often lack the analysis that is required to gain true insights, and they rely on historical data which leaves you to make today's decisions based on last year's information.

Juniper Networks® BizReflex is a unique business decision making solution that brings “big data” technologies to service provider networks for the first time. BizReflex combines a powerful analytics engine with a state-of-the art visual dashboard that presents insights from the network via clear and customizable graphics, statistics, and drilldowns. When combined with Juniper Networks routing platforms supporting J-Flow—the industry's highest performing network sampling technology—network operators have a complete business insight solution, combining data extraction technologies at the network layer, a powerful analytics engine, and a user-friendly dashboard.

BizReflex gives you previously unavailable information into how customers, peers, and prospects interact with your network. The insights provided by BizReflex let you identify high-value prospects for targeted sales initiatives, see at-risk customers, and highlight opportunities for upsell or service differentiation. In short, BizReflex empowers you with a critical deep understanding and knowledge of your customers.

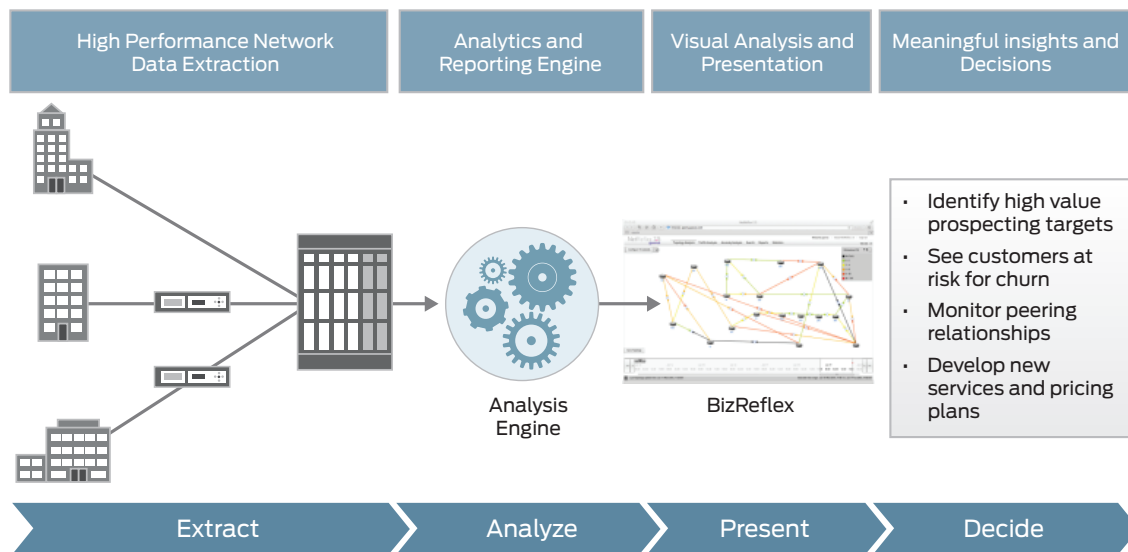


Figure 1. How BizReflex works

With the BizReflex solution, you can turn data from your network into effective business decisions and insights that enable you to:

- Grow revenue through customer acquisition by capitalizing on new revenue opportunities from more effective targeting and customer segmentation
- Effectively manage churn with early detection of customers who are most likely to defect, enabling you to make changes proactively
- Add services to grow revenue by using knowledge of customer behavior and traffic patterns to create new service options that more closely match customer needs
- Achieve fair network usage with better cost control by evaluating peer relationships and identifying imbalances or other issues

Architecture and Key Components

At the heart of the Juniper Networks analytics portfolio is a unique “analyze first” architecture that simultaneously improves scale, reduces costs, and leads to better insights.

Most reporting solutions on the market today follow a process that extracts raw data from the network and transports it to a storage array for later analysis. Given the tremendous amount of data a service provider network generates (millions of records per second), this approach requires significant storage and transport resources. At some later point, all of this data is queried and a report is generated—but this is often done several days or weeks after the events were first recorded, making it difficult to make real-time decisions.

The Juniper Networks solution greatly improves the standard process described above. As data is sampled from the network, it is analyzed and processed in near real time. The insights

gained from this analysis are continuously streamed to the visual dashboard, where there is only a gap of one hour (due to the analysis process) between an event occurring and its analysis. After processing, the results of the analysis—not the raw data—are stored to allow detailed historical analysis and trending. For the user, this unique architecture means accelerated insights—now you can move to near-real-time decision making. At the same, the Juniper approach allows you to reduce the amount spent on storing and transporting huge amounts of raw, unprocessed data.

From a technology perspective, BizReflex consists of the following key components:

- **Network instrumentation:** At the network layer, BizReflex can collect data from several types of sources. For routing elements, BizReflex is optimally deployed in conjunction with Juniper Networks routers enabled with J-Flow because of its industry-leading scale, which does not impact network forwarding performance. However, BizReflex also works with third-party network elements and services to facilitate deployment in multivendor, heterogeneous networks.
- **Collection and analysis engine:** At the heart of the solution is a powerful analytics engine that processes the data extracted from the network in near real time. Scalable up to 2 PB of data and 250 billion transactions per day, the Juniper Analytics engine is purpose-built to handle the scale of service provider networks.
- **Presentation layer:** An analysis is only good if the user can make sense of it. BizReflex provides a state-of-the-art, customizable, visual dashboard that presents information and insights in a clear and understandable format, providing high-level summaries while still allowing a user to go as deep into the data as required.

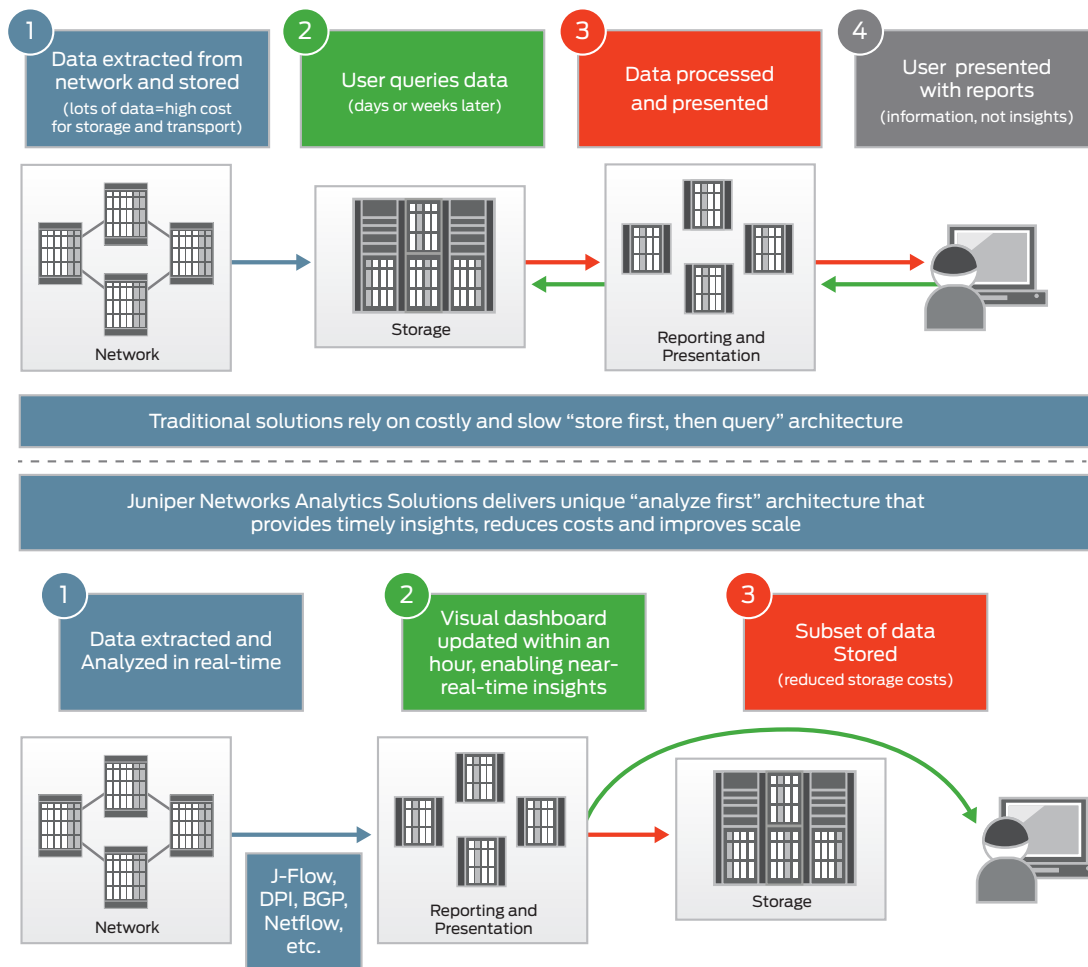


Figure 2. Juniper Networks speeds time to insight by analyzing data in near real time.

Features and Benefits

Feature	Description	Benefit
Unique “analyze first” architecture	BizReflex processes and analyzes network data in near real time, rather than storing massive amounts of data like traditional solutions.	<ul style="list-style-type: none"> Reduced storage costs Accelerated insights in hours versus days
Tight integration with network elements	Integration with Juniper Networks J-Flow provides the analytics engine with up to 120 million flows a second, without impacting network forwarding performance.	<ul style="list-style-type: none"> Industry-leading scalability Reduced costs
Prospect identification	BizReflex allows you to see if potential high-value customers are already traversing your network—enabling you to target the most profitable prospects.	<ul style="list-style-type: none"> Expanded customer base with targeted prospecting Revenue growth through new customers
Churn mitigation	With detailed insights into customer traffic and behavior, you can identify customers who are not being optimally served and are at risk of defection.	<ul style="list-style-type: none"> Reduced churn through proactive action in pricing or service changes Increased customer retention
Customer profitability analysis	BizReflex lets you analyze profitability and margins on a per customer basis, allowing you to tailor pricing and services by individual customer.	<ul style="list-style-type: none"> Identified stranded revenue Adjusted pricing plans to increase customer satisfaction New services and pricing plans
Managed peer imbalances	BizReflex enables you to analyze peering relationships to identify disproportionate traffic balances or other anomalies.	<ul style="list-style-type: none"> Reduced costs associated with unfair peering

Specifications

Deployment Requirements

Software

- BizReflex is a software system that is deployed on industry standard x86 servers
- Licensing is based on the size of your network and traffic/flow volume

Hardware

- X86 blade servers (sizing varies based on deployment)

Data sources

- Flow Data
 - Streamed over UDP to port 2055
 - Netflow v5, v9, IPFIX, JFlow
- Routing Data
 - BGP (route reflector/direct peering/dumps)
 - IS-IS (direct peering/dumps)
- Interface descriptions (for finding the connected entity)
- Default databases provided by Guavus
 - Anonymous System Number (ASN) to Autonomous System (AS) name map
 - Point of presence (POP to POP) distance matrix (air miles)

Juniper Networks Services and Support

Juniper Networks is the leader in performance-enabling services that are designed to accelerate, extend, and optimize your high-performance network. Our services allow you to maximize operational efficiency while reducing costs and minimizing risk, achieving a faster time to value for your network. Juniper Networks ensures operational excellence by optimizing the network to maintain required levels of performance, reliability, and availability. For more details, please visit www.juniper.net/us/en/products-services.

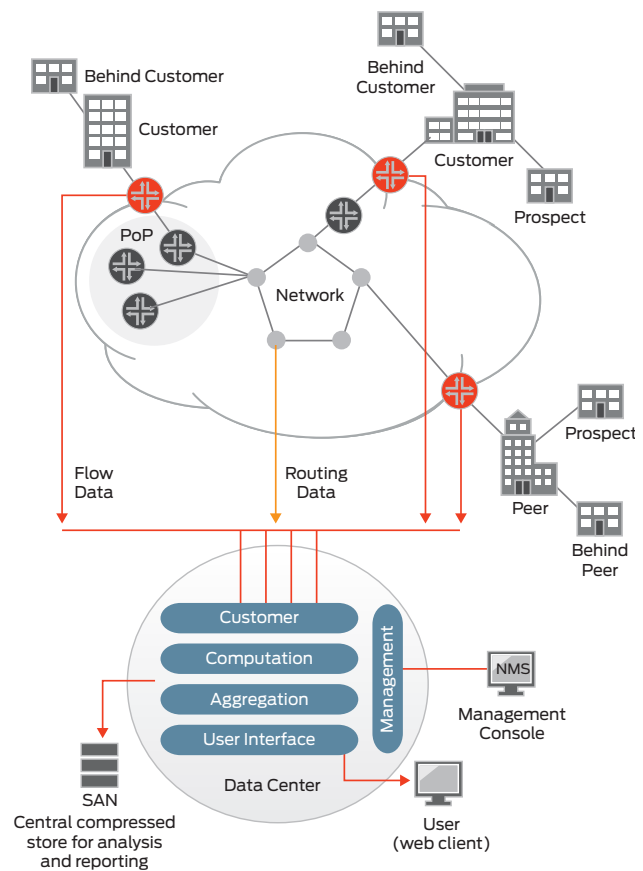


Figure 3. Junos Network Analytics system architecture

About Juniper Networks

Juniper Networks is in the business of network innovation. From devices to data centers, from consumers to cloud providers, Juniper Networks delivers the software, silicon and systems that transform the experience and economics of networking. The company serves customers and partners worldwide. Additional information can be found at www.juniper.net.

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