

Big Data Connector

Leverage DNS data for critical subscriber insights



Today's networks are data driven. Operations teams depend on detailed metrics to evaluate status, health, security, and usage trends. Data is essential for proper planning so that investments deliver the maximum ROI. Communication Service Providers (CSPs) are building out Big Data systems as they implement data-driven analytics to make faster decisions and more accurate appraisals of their networks and subscriber requirements. Although massive amounts of data are gathered in most networks, a source that has remained largely untapped is the Domain Name System (DNS) resolvers used by subscribers to discover and access Internet resources.

Easily Access and Analyze Big Data

DNS resolution data provides a subscriber and content-centric view of network activity. It complements IP packet data, collected with NetFlow or other tools, allowing better visualization and rationalization of network traffic and performance. It can also contribute to a better understanding of security posture, and aggregated data can be used to characterize content and website preferences and trends, or identify the kinds of devices being connected to a network. The value of DNS data increases, and use cases expand, as other network data sources become more opaque due to pervasive use of encryption.

Akamai DNSi Big Data Connector (BDC) is optional software to integrate DNS and other data, gathered from the Akamai solutions below, with open Big Data systems or purpose-built applications:

- Akamai DNS infrastructure (DNSi): CacheServe resolvers deployed throughout provider networks to improve responsiveness, availability, and security
- Akamai Security and Personalization Services (SPS): ThreatAvert installations to protect networks and provide visibility into subscriber infections
- Proxies used in Akamai Secure Consumer, Secure Business, Secure Public Wi-Fi, and Reach installations to protect and message subscribers

Akamai CacheServe resolvers, ThreatAvert instances, and SPS proxies use a proprietary format to export data. BDC transforms Akamai proprietary data into a JSON format so Big Data systems like Hadoop, Splunk, or others can readily consume it.

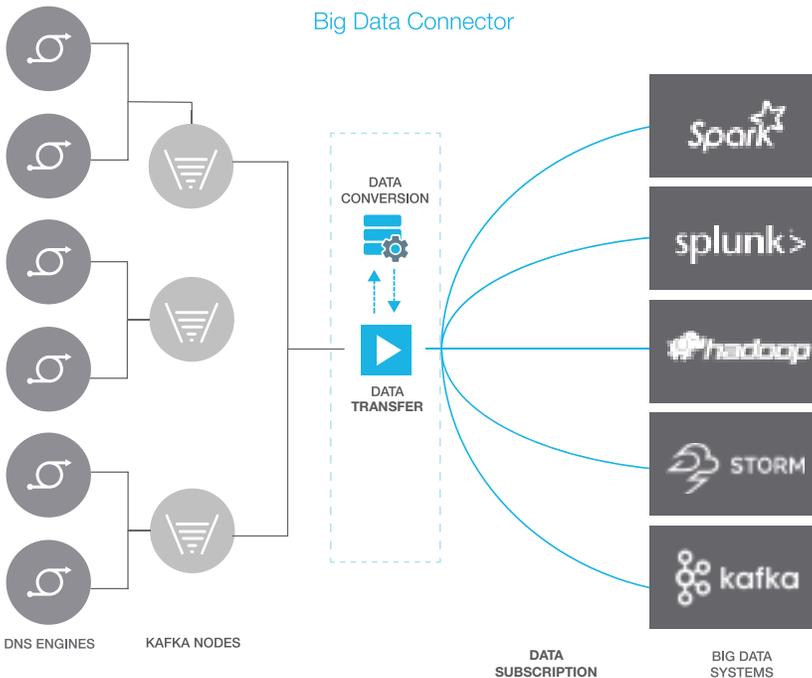
Recognize DNS and its Wealth of Information

Akamai DNSi and SPS products use a robust data architecture for transporting and managing massive amounts of query, proxy, and telemetry data generated in a typical provider network. The data architecture is based on open solutions that have been proven in the world's largest networks, delivering operational excellence at web scale and speed. Data that's gathered is accessible to analytics or other applications in real time, and the solution is highly resilient through failures, offering nonstop availability. Data is compressed at the edge of the network by converting it into an efficient binary format to reduce transmission costs. Data can also be filtered to reduce the volume of transported data to only data of interest.

KEY HIGHLIGHTS

- Fast time to deployment
- Pre-built integration into Hadoop and Splunk
- Visibility into services and applications used
- Complete, aggregated view of subscriber data without additional hardware
- Syncs subscriber data in near real time
- No dependency on third-party cookies for activity information
- Data compressed up to 80% for rapid integration with business intelligence tools

Big Data Connector



Big Data Connector works with Big Data systems including Splunk, Hadoop, and Kafka.

Alternative solutions for gathering DNS data require dedicated hardware and/or lack an integrated data pipeline — increasing costs and incurring operational overhead to manage separate systems.

DNS Data Drives Better Outcomes

- Providers depend on data to make better operational and business decisions. DNS resolution data remains largely untapped, but it provides a subscriber and content-centric view of network activity that complements other kinds of network data. Akamai Big Data Connector (BDC) makes it simple to integrate DNS data into provider Big Data and analytics systems. An integrated data architecture is designed to accommodate the massive amounts of data provider resolvers generate, and has features to compress and filter the data to reduce costs.
- Strengthen network security: Correlate subscriber infections and unwanted activity identified with DNS with other indicators of compromise (IOC), even when subscribers connect to and transit different access technologies (fixed, mobile, Wi-Fi, etc.).
- Refine capacity planning: Associate traffic with applications like video streaming, gaming, or even IoT as it becomes more widespread; combining DNS data with other data — like bandwidth usage — will yield more comprehensive capacity planning.
- Drive service adoption: Derive real-time insights into aggregate subscriber behaviors such as app usage, media consumption, and content preferences, to tailor campaigns for driving adoption of new services or bundles.
- Improve cross-sell and upsell: Accelerate marketing efforts with evidence-based messaging that reflects actual trends and preferences observed in the real-time DNS data.
- Enhance customer satisfaction: Correlate Internet usage habits and trends with service-level data to drive proactive outreach programs for upgrade offers, promotions, discounts, or other programs.
- Fulfill legal requirements: Provide data to law enforcement or regulatory agencies on demand.



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