

MONITORING FOR YOUR MODERN INFRASTRUCTURE AND APPLICATIONS

Drive Real-Time Operational Insights that Matter

Modern cloud-based infrastructure is enabling a major shift in software development. Traditional monolithic systems are giving way to highly distributed, flexible microservices in the enterprise, motivated by faster innovation cycles and the favorable economics of elastic environments. As product teams focus on growth and drive development closer to production, success is increasingly measured against operations metrics: reliability, performance, and cost.

To deliver against these requirements, developers and operations teams alike now need ongoing visibility into every layer of their architecture. Modern applications require the means to not just observe, but also set safety nets for and respond to an increasingly complex web of interdependencies. As a result, operations monitoring has become an analytics problem and an opportunity for deeper, more relevant systems intelligence well beyond traditional IT's static thresholds and noisy health checks.

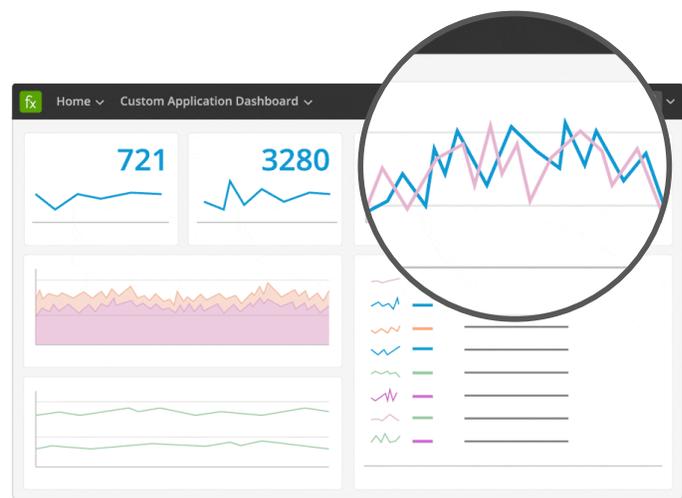
For today's dynamic operations, SignalFx is a real-time infrastructure and application monitoring solution delivered as a service. Product teams use SignalFx to aggregate and interact with a breadth of streaming time series data across their entire stack. With custom data pipelines, real-time analytics that require no query language, and built-in dashboards, they can gain insight into how their applications operate, receive alerts only when they are actionable, and make better.

An Analytics Engine for Monitoring

Modern applications operate at cloud scale and in an environment of constant change. But the rich operational data that inform crucial systems, product, and business decisions have historically been impossible to gather in real time—when they matter most. Product teams running dynamic, distributed systems must have the flexibility to choose which metrics determine success for their specific environments and the power to directly explore and interact with their operational data as it streams.

SignalFlow™ is the analytics engine at the heart of SignalFx, processing time series data from any source in your architecture, applying advanced analytics, and streaming those metrics into real-time dynamic charts. Users select which metrics, dimensions, and time range are meaningful for their use case, and SignalFlow performs the aggregations on the data as it is generated from the environment, displaying the resulting time series as an interactive graph within a second of the raw data.

SignalFlow's comprehensive library of mathematical and statistical functions—including sum, percentile, min and max, moving average, growth rate, and



standard deviation—lets every user apply a custom analytics pipeline to data in order to create intuitive, self-service dashboards. The service requires no dedicated query language so that users across the organization—SREs, infrastructure engineers, DevOps, developers, product managers, sysadmins, QA engineers—can drill down into and get a custom view of any layer of the environment, all with full administrative oversight and security controls.

Every second counts when it comes to interpreting and acting on operations data for time-sensitive tasks like troubleshooting and triage. Unlike other metrics monitoring systems that require some inherent latency to process and visualize data, SignalFx is unique in its ability to transform and aggregate metrics at both read- and write-time. This ensures the view you select, whether as the data is sent from your system or compiled downstream for additional analysis, is always ready without delay. Time to insight is a compound of both speed and scale, and SignalFx is the only system that both ingests and analyzes time series metrics at truly any volume and velocity without falling over. Your team can observe and interact with the custom data pipelines you choose with zero slowdown.

Under a microservices or DevOps regime, definition, discoverability, and dimensionality also become table stakes for effective monitoring as systems complexity and scale increase. However, gaining insight into your operations shouldn't require a data scientist. Because your environment is always changing, SignalFx makes flexibility and control in managing your metadata a top priority so that metrics remain easy to find as your objectives evolve.

Dimensions allow you to better model your time series data for a more significant and timely view of the system down to the host, device, or other unit of relevance. Where other metrics tools simply fail in the face of multidimensional complexity, SignalFx was designed for unlimited specificity and scale. It is the only monitoring solution with truly flexible filtering and grouping for ad hoc exploration, taking on more value as users slice and dice the data according to their diverse needs. Each property a team member adds to the metadata delivers greater definition and significance, enabling not just efficient search, aggregation, and comparison across sources, but also

more high-value use cases like pattern recognition, anomaly detection, and troubleshooting.

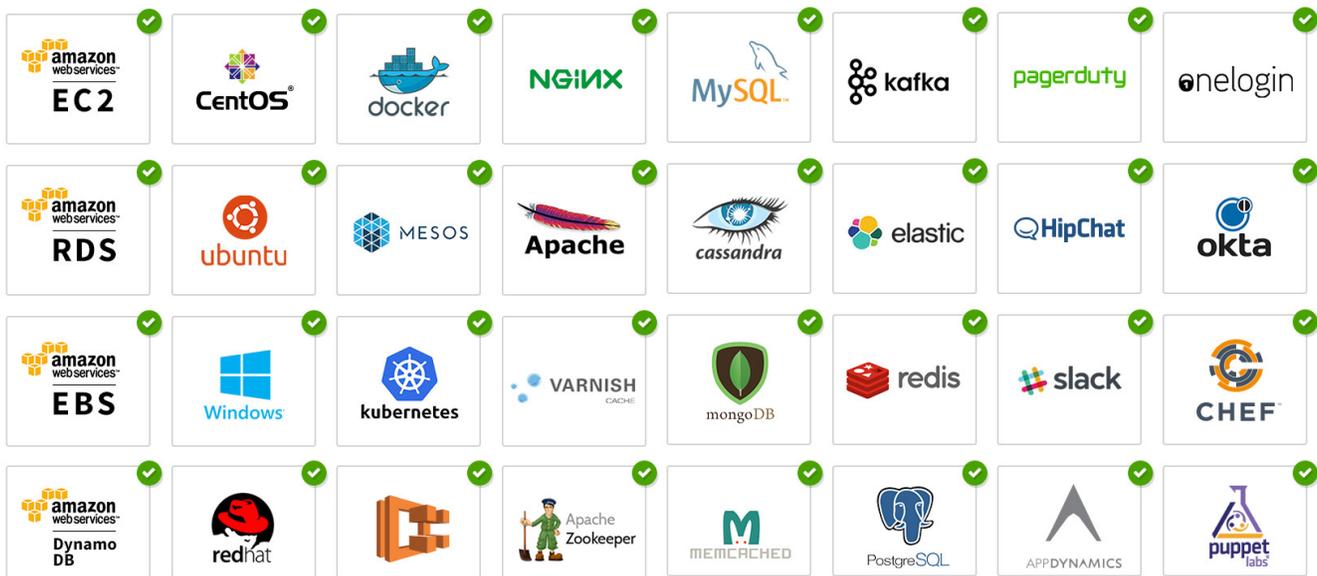
For the first time, you can monitor the heartbeat of your entire system like an EKG as it streams from every layer of your infrastructure and applications. A straightforward visual UI, a simple search interface for discovering the most useful feeds, beautifully high-contrast charts, the option to magnify a subset of any time series, slick built-in and customizable dashboards for instant insight, and integrations with the apps and business tools on which you already rely all make SignalFx the modern solution for operations monitoring at any scale. You have the flexibility to stream every metric your users need and the power to enable more advanced analytic workloads for a deeper dive into your operational intelligence.

Only with SignalFx, you can:

- Monitor metrics with up to one-second resolution
- Analyze live data streams in dynamic charts and graphs
- Perform mathematical and statistical functions without complex code
- Explore and interact with data in an intuitive and powerful UI
- Eliminate query language dependency
- Filter and group data with flexibility as your needs change
- Build a culture of collaboration around analytics

An Open Ecosystem of Data Sources

Historically, traditional monitoring tools competed on the basis of proprietary instrumentation. However, modern enterprises developing and operating applications on cloud infrastructure can't afford to be limited to packaged applications or systems built for small scale. A more open approach to metrics ultimately simplifies the data collection step with integrations across the full stack of components in your architecture. Using familiar open-source software—collectd, StatsD, Diamond, Fullerite, and other options—as the standard point of intake, SignalFx offers pre-built dashboards for a broad and growing catalog of configured, production-ready plugins.



SignalFx integrates directly with Amazon’s CloudWatch service to provide more value from the hosted environment with minimal burden or need for additional configuration. Pre-curated dashboards help users not only monitor their infrastructure with better speed to insight, but also make use of the native AWS metadata from popular services like EC2, SQS, and ElasticCache to get a custom view of their operations, according to the dimensions they care about.

Additional integrations ensure all your existing data pipelines—from Graphite, AppDynamics, New Relic, and more—connect metrics to monitoring without extra instrumentation. Similarly, SignalFx provides client libraries for custom Java, Ruby, Python, Go, and Node.js code, tools to collect metrics from Windows infrastructure and Docker containers, and support for an extensive REST API to execute additional real-time, streaming analytics jobs.

By removing the limitations of a proprietary agent, integrations and data sources are not only more open, but also more aligned to your growth and evolving needs over time. SignalFx invests in the user community to determine the breadth of data sources so that access to metrics is never a barrier. A platform approach to metrics collection and monitoring sets a completely new precedent for insight, control, scale, and customization of your systems.

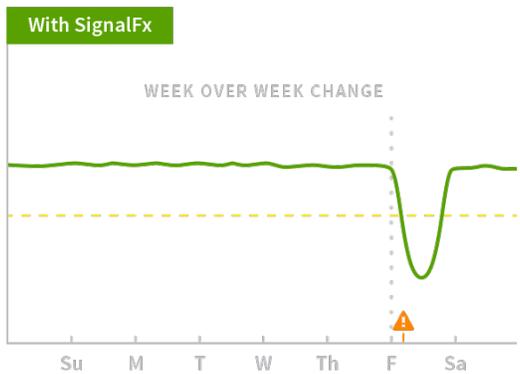
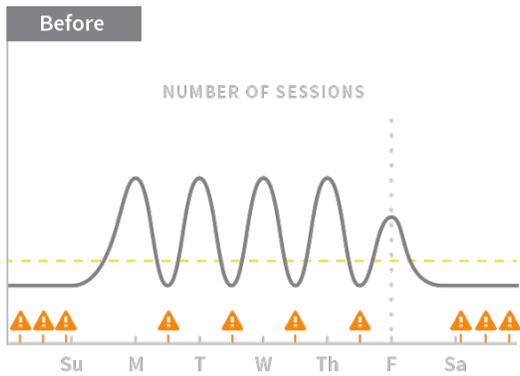
Only with SignalFx, you can:

- Correlate insights from the the infra to the app layer
- See your data sources in pre-built dashboards
- Use CloudWatch metrics and AWS metadata with other sources
- Visualize all your Docker containers and microservices
- Send custom metrics with client libraries or an API
- Collect data via a standard, non-proprietary daemon

Zero-Latency, Zero-Noise Alerting

In modern architectures characterized by microservices and operating with increasing levels of complexity, it is inefficient to monitor the health of individual nodes, each of which can generate its own noisy alert. Similarly, the simple, static, and sometimes arbitrary thresholds used in legacy tools are insufficient for determining when real action is required and where. Moreover, it is ineffective to rely on passive monitoring alone, given how subtle an important change can be within an elastic environment.

The real power of SignalFx is in the ability to perceive and alert on only the changes that are relevant to the overall health of your systems as they happen. SignalFx enables operations engineers and developers to define sophisticated, dynamic thresholds based on duration or percentile and benchmarked against historic patterns like growth rate or variance. Teams are notified of problems and severity on a just-in-time basis so they can prioritize corrective action that might actually affect SLAs.



When your users depend on 100% uptime and 0% latency, when you're pushing code and have to respond to changes with accuracy and immediacy, or when the trust in your product and cost of revenue require the exact right response in a systems emergency, having rational alert thresholds set against meaningful metric calculations will always determine success. With SignalFx, it's easy to identify and track additional outliers as you graph and observe new, meaningful signals like fleetwide behavior in percentiles or real-time CPU utilization compared against a one-month time shift.

In SignalFx, rules are defined to survive changes to the infrastructure. Where traditional monitoring tools required you to adjust thresholds as you scaled the environment up and down, SignalFx's dimension-driven model ensures alerts only need to be defined once and persist as systems scale.

SignalFx also delivers notifications with zero latency so you can send alerts via Slack, HipChat, PagerDuty, VictorOps, and webhooks without fear of bogging down your existing communications channels or waiting for hours to take action.

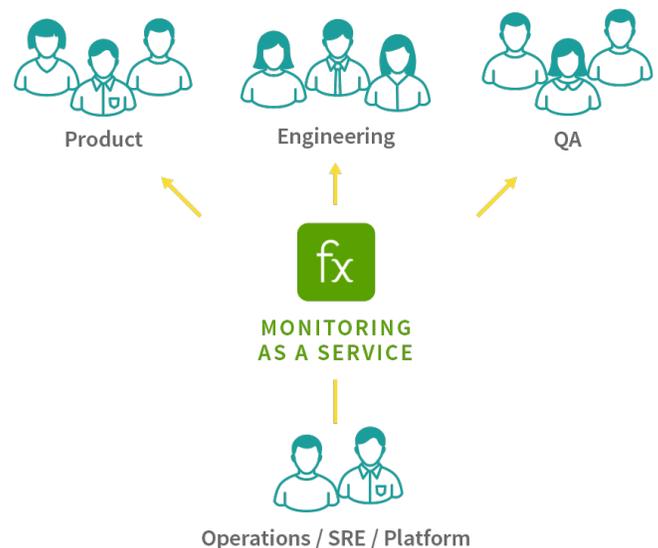
Only with SignalFx, you can:

- Define alerts with custom analytics functions
- Tailor alerts to specific service objectives
- Determine the granularity to minimize noise
- Set rules that scale with your environment
- Track performance against historical benchmarks
- Integrate with the ChatOps channels you already use
- Get notified of anomalies as they happen

The Most Modern and Scalable Approach to Metrics

Over the past decade, approaches to metrics monitoring have typically required building new systems at considerable up-front cost and with significant long-term maintenance demands. Few engineering organizations can spare the time and resources to design, vet, implement, and tune a custom metric tracking system. Even fewer can keep up with the pace of change typical in today's dynamic and distributed environments. And practically none can afford to invest in the features that are inevitably requested by the consumers of these systems.

SignalFx offers monitoring-as-a-service with no hardware to spin up, reducing overhead and improving time to insight. It eliminates the difficulty and inflexibility of an on-premises deployment by providing all the infrastructure and plumbing to process, store, and run analytics on operations data of any scale in the cloud.



With an eye on security, SignalFx provides the administrative tools to manage users and organizations, configure integrations, enable single sign-on through your favorite tool (e.g., Okta, Bitium, Google Auth, OneLogin), have full transparency on data ingest rates and billing, and individually whitelist the service. Ultimately, SignalFx makes your operations metrics a magnet for new users, more questions, and deeper insight in order to free developers to do what they were hired for: write code that makes your application special.

Only with SignalFx, you can:

- Avoid painful on-prem deployment and maintenance
- Eliminate hardware overhead cost and depreciation
- Focus engineering resources on building better apps
- Ensure full administrative governance and security
- Scale elastically, without storage limitation or slowdown

As more applications are developed in or transitioned to the cloud, monitoring is shifting from the responsibility of a self-contained operations team with a narrow, production-only view to a capability delivered as a service throughout the development organization. In turn, everyone will take part in operations.

SignalFx is the only service that provides modern organizations dynamic, real-time monitoring for infrastructure and applications data that is both flexible to constant change and scalable for rapid growth. With SignalFx, product teams not only get a more granular picture of their entire system in production, but also gain intelligence into how it drives massive economic benefit, including customer profiling and segmentation, SLA modeling and management, and capacity planning and triage.

SignalFx is the only operations monitoring solution built for the modern enterprise's analytics needs today and into the future. With greater breadth and openness of data sources, integrations that make sending metrics easy, monitoring powered by a real-time analytics engine, dynamic and rational alerting, and the ability to observe and interact with any view of your data as it streams, SignalFx helps you not only analyze your operations performance, but also take action when it matters most.

About SignalFx

SignalFx is the most advanced monitoring solution for modern applications. Our mission is to help cloud-ready organizations drive high levels of availability in today's elastic, agile, distributed environments. With SignalFx, development and operations teams gain a real-time view of, interact with, and take action on the infrastructure and application metrics that matter. We have enterprise customers including Yelp, Zenefits, Zuora, and Hubspot and thousands of users analyzing billions of metrics every day. SignalFx was founded in 2013 by former Facebook and VMware executives, launched in 2015, and is backed by Andreessen Horowitz and Charles River Ventures.