



Next-gen Management for Next-gen Applications

Today's applications reside in an entirely new paradigm, one with unique architectures, technologies, and demands. Today, applications have to deliver unprecedented levels of:

- **Responsiveness.** End users demand real-time response, whether they're running analytics or shopping online. Optimal service levels need to be preserved; even slight performance degradations can have disastrous consequences.
- **Scalability.** Whatever the nature of your application, scalability is a big issue. You can't continue to expand by buying bigger machines, so you have to scale horizontally. Consequently, you combine next-generation database technologies and application services with public cloud infrastructures.
- **Availability.** Modern applications also need to be highly available. Weekly downtime associated with "scheduled maintenance" isn't acceptable. Applications need to be updated on the fly and remain running through the upgrade process.
- **Agility.** Businesses are demanding agility and speed within IT. To keep pace, developers are making changes to application code daily or more, and pushing those changes directly into production. The lines between development, QA, and operations continue to blur, and DevOps is the discipline that's emerging.

KEY BENEFITS OF BOUNDARY

- Quickly identify root cause and reduce time to resolution.
- Spot and address issues—before they affect performance.
- Gain immediate visibility across the entire distributed environment.
- Quickly understand the impact of changes, and prevent them from creating outages.



THE NEW MANAGEMENT REQUIREMENTS

These unprecedented demands on applications have given rise to new requirements for IT management. Today's business demands—and the technologies and processes required to support them—create the need for a new breed of IT management solutions. Today, you need a solution that:

- Collects data continuously, rather than on an ad hoc, intermittent basis, enabling effective, data-driven analysis.
- Delivers complete application views, regardless of which application languages, platforms, or infrastructures are being used.
- Provides up-to-the-second updates, so operations can immediately assess the impact of application or infrastructure changes—before they result in issues that affect users.
- Enables application monitoring without requiring any modifications to application code or introducing any latency.

CHANGING REQUIREMENTS FOR NEXT-GEN APPLICATION PERFORMANCE MANAGEMENT

Traditional APM	Next-gen APM
All application components are available for instrumentation.	Traditional instrumentation approaches are no longer available, for example when running in the public cloud. New ways of accessing metrics are required.
Need a good understanding of what hardware and software an application is based on.	Application topology is fluid. Need to gain visibility that reflects current realities.
Most applications based on a single language.	Applications based on modern, polyglot applications are becoming the norm.
User experience tied to individual transactions.	User experience driven by complex transactions based on mix of internal and externally sourced services.

INTRODUCING BOUNDARY

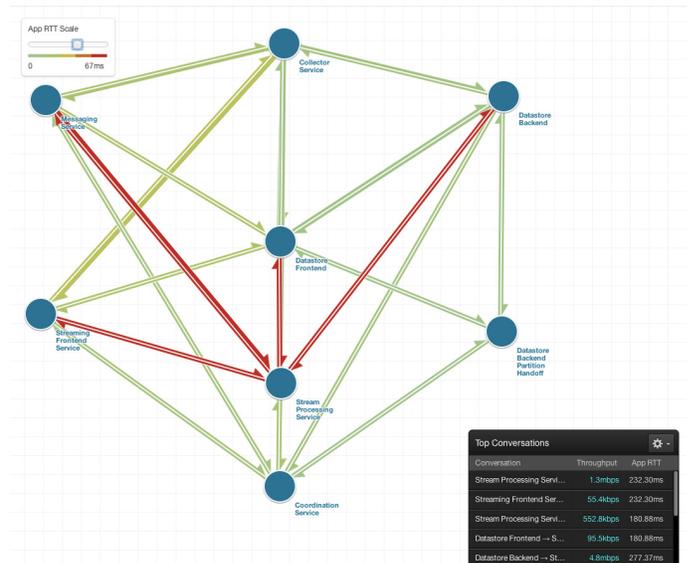
Boundary is the only solution that captures the application flow data required—regardless of the infrastructure. To accomplish this, the solution leverages software agents that reside on application server instances and observe the packets flowing in to and out of every instance. Every second, the flow data collected is sent to the SaaS-based Boundary service, where it is processed by a lightning-fast streaming engine. The service runs thousands of queries against the data in real-time to give customers unique, deep, and instant insights into the overall performance of their applications.

Unobtrusive Implementation

Boundary doesn't require the intrusive instrumentation, language-specific coding, and restarts associated with deploying traditional APM tools. Through its SaaS model and efficient agent-based deployment, Boundary is fast and easy to implement, so you can efficiently start monitoring all your applications, no matter how many services and instances your organization relies on.

Dynamic Application Topology

Boundary examines the data being sent by each agent in real-time to track your application traffic. Boundary maps the connections between all of the tiers of your applications into an accurate and up-to-date application topology and monitors the flow both between and within tiers [i.e. within clusters].



Instant Visibility and Insights

Boundary is able to show key metrics second by second, including the amount and types of traffic currently passing between tiers, application latency/round trip time, and error counts.

Early Warning of Performance and Security Issues

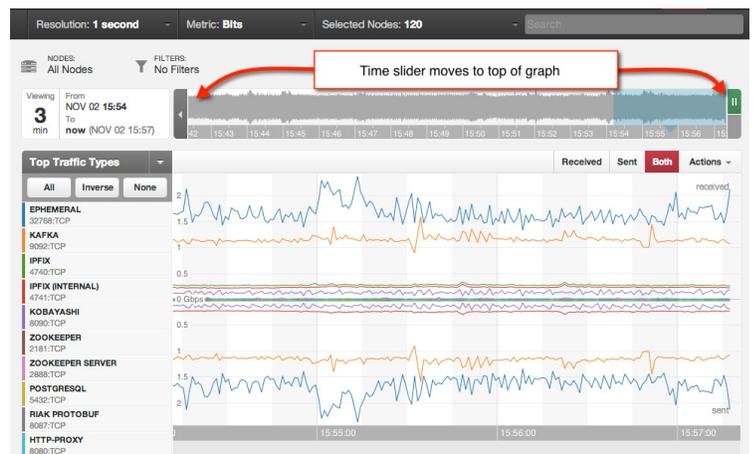
Boundary establishes normal behavior for your application and uses that to warn you whenever any metrics deviate too much from the norm. Alerts are set up automatically and let you know about potential problems. This can also be used for security alerting, for example when internal systems receive traffic from unexpected hosts or start sending large amounts of data outside your network.

Advanced Performance Analytics

With access to historical data, you can:

- Explore the early indicators of a particular incident.
- View trends to measure traffic growth and do capacity planning.
- Compare day-to-day and month-to-month values to identify anomalies.

You can also jump to a specific time slice you need to look at. Real-time and historical views function the same, so it's quick and intuitive to navigate to desired time intervals. Like all functionality in Boundary, all these reporting capabilities are always accessible through our documented APIs.



Using Boundary's time-slider tool, you can easily change views across different time spans.

OPERATIONS TOOLS: INTEGRATION

APM Tools

With Boundary, you can extend the value of your existing APM tool investments. Boundary offers off-the-shelf integration with APM tools, such as AppDynamics and New Relic, as well as tools like Splunk. Further, through its support for RESTful APIs, Boundary is easy to integrate with pretty much anything.

Change Automation Tools

Boundary enables you to connect to your IT automation and change automation tools, so you can streamline deployment and administration. Whether you want to start monitoring 10 or 10,000 instances, the process is fast, simple, and efficient.

Boundary features pre-packaged integration with Chef, Puppet, and Jenkins. Our customers have also integrated with Capistrano.

APPLICATION INFRASTRUCTURES MONITORED BY BOUNDARY

Virtually any environment is supported by Boundary. Following are some of the most common examples within our customer environments.

Datastore/Database	Framework/Language	Message Queue
Cassandra	Clojure	Gearman
CouchBase	Erlang	Kafka
CouchDB	Flume	Memcache
Datomic	Hadoop	RabbitMQ
DynamoDB	Hue	Redis
HBase	Map Reduce	Resque
HDFS	Oozie	Storm
Hive	Pig	ZeroMQ
MemSQL	Scala	Search
MongoDB	Sqoop	ElasticSearch
MySQL	Storm	Lucene
Neo4j	Thrift	Solr
PostgreSQL	Yarn	Sphinx
RethinkDB	Proxy/Web Server	Coordination
Riak	HAProxy	Zookeeper
SimpleDB	Nginx	
VoltDB	Varnish	

Common Tools our Customers Use		
AppDynamics	Graphite	Papertrail
Bamboo	Jenkins	Puppet
Cacti	Logstash	Sensu
Capistrano	MRTG	Splunk
Chef	Munin	StatsD
CFEngine	Nagios	Zabbix
Circonus	New Relic	Zenoss
CollectD	OpenTSDB	
Fabric	PagerDuty	

WHAT OUR CUSTOMERS ARE SAYING



Cloudant

"We've built distributed clusters of database servers to support our customers, so the more we can understand about the network and the flow of data between those servers, the better off we are."

—Adam Kocoloski, Co-founder and CTO, Cloudant



Managahigh.com

"With the insight Boundary gives us, we can make accurate decisions around how and when to scale out the networks supporting our hosting platform. The less time our engineers spend diagnosing and resolving faults, the more time they will spend moving our platform forward."

—Jon Webb, CTO, Mangahigh.com



Friendster

"As a high availability website, we roll out code into production every day. As code changes get deployed, we want to make sure everything is working properly at the instant the new release goes live. Boundary's real-time analytics are key to that."

—Iannis Hanen, VP Engineering, Friendster



Okta

"With Boundary, we can now identify specific application service traffic volumes, such as MySQL traffic, to proactively size our cloud instances and handle peak demand. Before Boundary, we didn't have visibility into the global aggregate volume of traffic."

—Adam D'Amico, Director of Technical Operations, Okta



FullContact

"With Boundary, our operations team gets the vital real-time insights it needs to stay on top of traffic patterns, quickly spot and address issues, and tune our deployments so we can continue to deliver fantastic service to our customers."

—Dan Lynn, CTO, FullContact



OneMoreCloud

"Using tools such as Boundary helps us thrive and grow. Any time we make big changes to our network topology, I expect we will pay close attention to Boundary to verify the improvements that we expect to see, or spot any regressions."

—Nick Zadrozny, Co-founder, OneMoreCloud



GitHub

"Before Boundary, the network traffic flowing around our infrastructure was opaque, making it very difficult to understand without a great deal of work. Boundary provides us with actionable intelligence quickly rather than forcing us to do a lot of research."

—Jesse Newland, Systems Engineer, GitHub



StumbleUpon

"Before I installed Boundary, the pitch sounded weird. I couldn't figure out why I would use network info to understand my applications. After installing Boundary, I discovered this is the *only* way I can understand them."

—Michael Hobbs, StumbleUpon

Inaka

"Boundary has minimized our bandwidth costs and improved our ability to diagnose problems, helping us resolve a critical database issue. With Boundary, we can operate much more effectively."

—Chad DePue, Founder, Inaka



Urban Airship

"Boundary makes it easy to tell where packets are moving, which nodes are getting the most traffic, where the bottlenecks are, and more, which is tremendously helpful in managing our performance-intensive infrastructure."

—Erik Onnen, Director of Architecture and Delivery, Urban Airship

ABOUT BOUNDARY

Boundary provides a new kind of application monitoring for new IT architectures: one-second application visualization, cloud and hybrid IT compatible, and only a few minutes from setup to results. Boundary is a privately held company based in San Francisco, California, with venture funding from Lightspeed Venture Partners and Scale Venture Partners. For more information about Boundary, visit us on the Web at www.boundary.com or follow us on Twitter @boundary.