Datadog's Dash announcements go wide and deep in monitoring market

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Introduction

At its annual customer conference, Dash, Datadog said it plans to get into network performance monitoring and real-user monitoring – two adjacent subsectors in the monitoring market. New NPM and RUM offerings round out an already strong list of monitoring tools from Datadog, including infrastructure monitoring, tracing, log analytics and synthetics.

451 TAKE

Given Datadog's rapid horizontal expansion into adjacent monitoring segments, we've been worried that the vendor might be taking on more than it can handle. However, the announcements at Dash indicate that, while it has continued to develop new offerings, it has also continued investing in new capabilities for existing services. In addition to the new NPM and RUM services, Datadog announced a few data management features that should help customers struggling with cost control, and added some useful machine-learning-driven capabilities to existing services. We spoke with a couple of customers who said that, even though some of the newer offerings might not be as full-featured as those from the competition, the benefits of buying several monitoring tools from the same vendor and being able to correlate data across otherwise siloed tools outweighed any potential downsides of missing features. While many organizations will opt to choose some stand-alone monitoring tools for their deep feature sets, we think the market of businesses interested in buying multiple tools from a single vendor is sizable, representing good opportunity for growth for Datadog.

Products

Datadog's new NPM service, now in beta, is targeted at the dev and DevOps audience, offering relatively lightweight, albeit useful, visibility into network performance. To deliver insight, such as which services are using bandwidth, the number of TCP retransmits, and what incoming and outgoing traffic is hitting specific nodes, Datadog collects flow data. Because Datadog correlates the data with the metrics and logs it collects, customers that use the multiple services should be able to quickly pinpoint the source of performance problems. Datadog has also made available the beta of a real-user monitoring service that delivers the expected basics, including user experience by browser, region and device.

As important as those two new services are, some of the updates that existing offerings are getting are equally notable. Datadog made a couple of announcements about new machine-learning-driven capabilities, including that Watchdog, the capability that detects anomalies for Datadog's APM customers, will become available for users of Datadog's infrastructure monitoring service.

There are benefits and downsides to Datadog's approach to applying algorithms to customer data. Rather than run anomaly detection across all metrics that customers ingest, Datadog targets specific typical problem areas. The new Watchdog capability in the infrastructure service looks for memory leaks, problematic TCP retransmits, and issues with integrations with Redis, Nginx, Postgres and Amazon Web Services' ELB and S3 offerings.

The downside to this approach is that, since customer environments are unique and complex, Watchdog may miss some problems. Datadog is continually developing additional Watchdog capabilities, but releases them carefully, only once it deems the resulting signal-to-noise ratio is high enough. It believes that if users get a bad automatic alert just a couple of times, they turn it off. While

that's surely true for a set of users, Datadog's approach requires ongoing identification of top potential problem areas and continual Watchdog development.

Datadog has also developed techniques for sharing intelligence based on data collected across its customers. For instance, if all Datadog customers operating in a particular region of a cloud provider are experiencing network slowness of a discernable level, but the cloud provider hasn't yet notified users, Datadog can alert affected users of the source of the problem. We've found that such applications of collective intelligence vary across monitoring vendors, but we think the approach has the potential to deliver valuable insight to users.

Datadog has also developed a new feature called Correlations, where users can hit a button to view metrics with related behaviors. Datadog develops those relationships via a number of signals, including the app or infrastructure the metrics are emitted from and which metrics individual users tend to look at. These ML-driven capabilities are in-line with what we're seeing across the monitoring market, as vendors invest in refining their offerings based on the benefits they can deliver to users.

Cost-control additions

We've heard about some Datadog customers getting surprised by unexpectedly large bills. At Dash, Datadog introduced a number of new capabilities that should help customers better control cost while still collecting important IT ops data. For logs, metrics and tracing, Datadog is enabling new controls branded 'Without Limits.' In logging, that means Datadog has decoupled ingest and indexing with the idea that customers can cheaply ingest large volumes of logs – viewing them in a live tail interface – and pay separately to index a predefined subset. Users can easily change filters in order to index additional logs when a performance problem occurrs, dropping back to the original indexing policy once the problem is solved.

Datadog is also adding the ability for users to archive logs pre-index to cold storage – initially AWS S3, with other providers to come – and 'rehydrate' the logs for search when needed. The idea here is to help users reduce costs by shifting some logs, namely those they're unlikely to want to query regularly, to cold storage. Depending on the volume of logs to be searched, doing so from cold storage won't be as quick as retrieving them from Datadog.

We've seen vendors across the logging sector experiment with different approaches to pricing in response to the spiraling costs that some users face when collecting logs across large and complex environments. Datadog's new cost-control capabilities should appeal to businesses that want or need to collect enormous volumes of logs, but appreciate some control over the cost of doing so.

Datadog has a similar capability for metrics, where users can eliminate levels of granularity (like customer ID and host tags) associated with metrics to cut costs on storing them. If it becomes useful to collect that additional granularity, users can easily add the tags and collect more detail for a short period of time.

Datadog's Tracing Without Limits lets users do live search of all transaction traces being collected and then offers users controls to determine which traces to retain, again with the idea of allowing customers to collect more traces at a reduced cost. For instance, a user could save traces based on whether they contain errors or indicate a user transaction above a certain dollar amount. Conceptually, the approach is similar to that developed at Facebook, where retaining all traces isn't feasible, so the team developed ways to alter sampling parameters based on immediate needs. We're seeing tracing vendors increasingly toy with sampling controls as a way to ensure customers can view relevant traces without breaking the bank.

Competition

With each new offering Datadog delivers, it brings on new competition. In NPM, we see Datadog competing primarily with infrastructure monitoring vendors that also have lightweight NPM. These include LogicMonitor, Zenoss and ScienceLogic. SolarWinds, with its similarly broad range of products (including APM, infrastructure monitoring, log analytics and NPM), is competitive, although its NPM is largely focused on monitoring on-premises environments.

Datadog's RUM offering makes its APM service more competitive with vendors like New Relic, Dynatrace and AppDynamics, which started out in APM and also offer RUM.

We talked to a few customers at Dash who had either switched from Splunk or chosen Datadog's log service instead of Splunk, and as such, think that Datadog may be increasingly competitive in log analytics. While Datadog's log service doesn't have nearly the breadth of Splunk's in terms of functionality, the businesses we spoke with said that they didn't need those additional features, they appreciated the ease of getting started with Datadog's SaaS offering, and they valued the integrations between Datadog's log service and other Datadog offerings.

In infrastructure monitoring, where Datadog started out, the vendor faces many competitors – infrastructure monitoring is the largest of nine monitoring subsectors that we follow. The most notable competitors are those that, like Datadog, offer multiple products including infrastructure monitoring and APM. SignalFX, New Relic, Dynatrace and SolarWinds are significant here, as are legacy vendors like BMC that have modernized their approach to monitoring to meet the demands of businesses adopting cloud-native technologies. Elastic, and the open source Elastic Stack, also represents competition to Datadog, since it now delivers logging as well as metrics-based APM and infrastructure monitoring.

SWOT Analysis

STRENGTHS
Datadog continues to stay on the leading edge in terms of serving customers embracing the latest cloud-native technologies, with a strong reputation for aptly meeting the needs of this segment of users.

WEAKNESSES
While Datadog is strong in supporting cloud-native environments, it's weaker in more traditional and on-premises deployments. As it continues to target enterprises, this will be seen as a shortcoming because most enterprises will operate in a hybrid environment for years to come.

OPPORTUNITIES
Even while it has been expanding horizontally, Datadog has long been open to enabling customers to ingest data from adjacent tools. With competitors embracing lesser degrees of openness, we think Datadog has an opportunity to continue appealing to the many customers that appreciate this flexibility.

THREATS
Single-purpose tools, like those in log analytics and tracing, will be able to attract and retain a subset of organizations that appreciate the additional capabilities that such tools are likely to offer compared with Datadog's.