ObjectRocket
a rackspace company

Braze uses ObjectRocket to manage their databases for them so they can scale rapidly and smoothly

Braze develops customer relationship management and mobile marketing automation software that businesses use to manage their mobile applications. They currently provide mobile marketing automation for dozens of well-known brands.

In a world where brands need to quickly act on data and personalize omnichannel customer experiences in real time, Braze's technology enables brands like Citi, Delivery Hero, Disney, Domino's Pizza, HBO, Microsoft and Venmo to keep up with customer expectations by unifying and orchestrating their email, mobile messaging, and web strategies.

Every month, tens of billions of messages associated with a network of more than 1.8 billion monthly active users are managed through Braze's technology. To accomplish this, they run what might be the world's largest installation of MongoDB.

And Braze expects further exponential growth, as they anticipate their network of monthly active users to scale as fast as the company. In order to do so, they must remain highly available, providing a service at all times, so that their customers can rely on them. That's where ObjectRocket's managed database services come in. ObjectRocket's database experts create, manage, adapt, and maintain terabytes-worth of databases on demand to help keep up with Braze's explosive growth.

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ObjectRocket has done so many things over the years to help us scale from an environment that was only around 10 instances and about 150 shards to where we are today.

Jon Hyman
CTO and Cofounder, Braze

braze

AT A GLANCE

Customer's Business:
Braze delivers customer experiences across email, mobile, SMS, and web. Customers, including Citi, Disney, Urban Outfitters, and Venmo, use the Braze platform to facilitate real-time experiences between brands and customers in a more authentic and human way. The company was named Leader in the Gartner Magic Quadrant for Mobile Marketing Platforms in 2019. Braze is headquartered in New York with offices in London, San Francisco and Singapore.

Challenge:
Braze has experienced rapid and tremendous growth in recent years. They needed a partner to build out and support their databases on an operational level so Braze could focus on adding products, features, and services that fulfilled their long-term strategic business plan.

Solution:
• ObjectRocket for MongoDB®
• ObjectRocket for MongoDB® on Azure®

Outcome:
Braze has been able to scale rapidly and smoothly because they outsourced their database operations to ObjectRocket, which currently manages 64 MongoDB instances (1,887 1.5-TB shards), a total of 95 terabytes of data, on Braze's behalf.

ObjectRocket

> ❝ **We are likely one of the largest installations of MongoDB in the world in terms of throughput.**
>
> **Jon Hyman**
> *CTO and Cofounder, Braze*

How Braze is using databases

Back in 2012, Braze (then Appboy), was one of the only companies that chose to shard their databases from the start. They made the assumption that they were going to grow, so they architected a sharded MongoDB environment for scalability. And sure enough, their growth has been remarkable as brand after brand uses Braze's customer lifecycle engagement platform for their app, website, or email strategies.
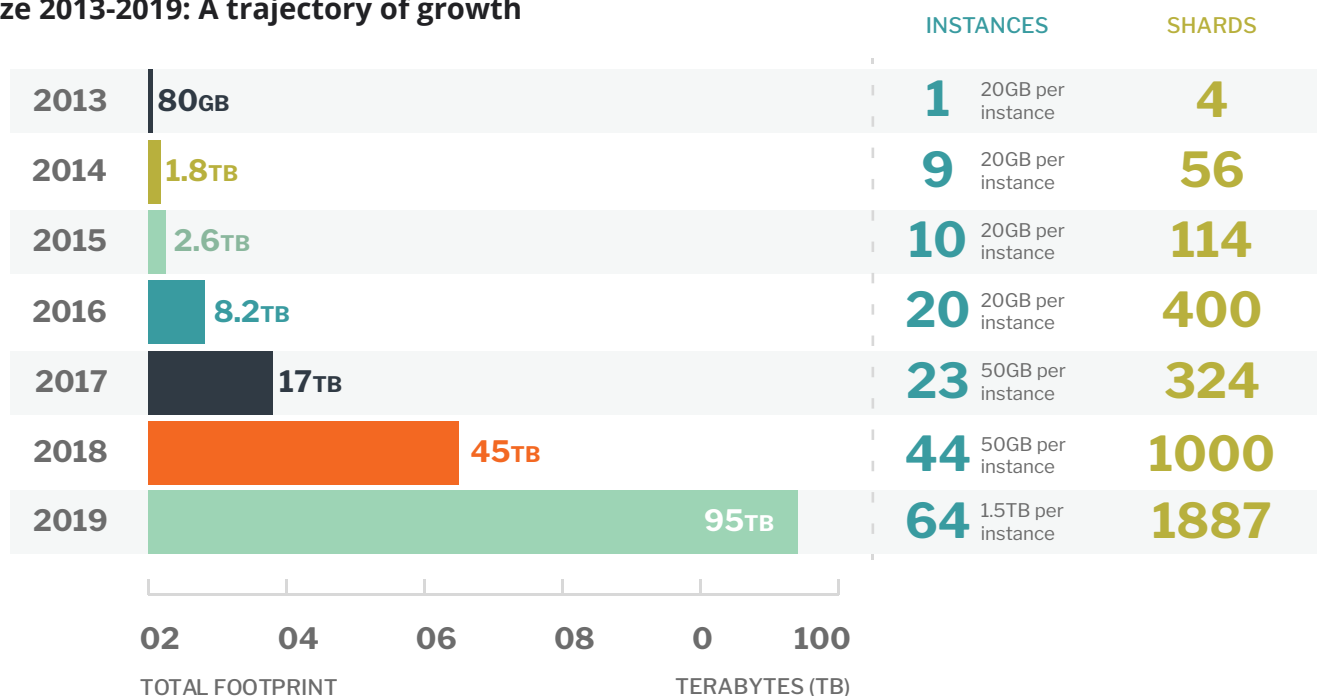
Today, it's managing the sheer volume of data and number of shards and instances that presents the biggest operational challenge for Braze. They needed help architecting and maintaining such a massive and sprawling DB environment while continuing to position themselves for near-constant explosive growth into the foreseeable future.

Why ObjectRocket is core to Braze's success

"ObjectRocket has partnered with Braze to push MongoDB up to and possibly past its limits," says Jon Hyman, CTO and Cofounder of Braze. Some examples of that partnership include: physical hardware changes, kernel tweaks, architectural changes for Mongo (adding MongoS's), design assistance, application- and database-level design architecting, running a custom-patched MongoDB software version, making network improvements, indexing help, and troubleshooting as well as upgrades to Braze's massive environments.

Hyman explains, "ObjectRocket has done so many things over the years to help us scale from an environment that was only around 10 instances and about 150 shards to where we are today with over 60 instances and more than 1,880 shards." In fact, he credits ObjectRocket as being essential to Braze's technical success.

Braze 2013-2019: A trajectory of growth

Year	Total Footprint		INSTANCES		SHARDS
2013	80GB		1	20GB per instance	4
2014	1.8TB		9	20GB per instance	56
2015	2.6TB		10	20GB per instance	114
2016	8.2TB		20	20GB per instance	400
2017	17TB		23	50GB per instance	324
2018	45TB		44	50GB per instance	1000
2019	95TB		64	1.5TB per instance	1887

02   04   06   08   0   100

TOTAL FOOTPRINT   TERABYTES (TB)
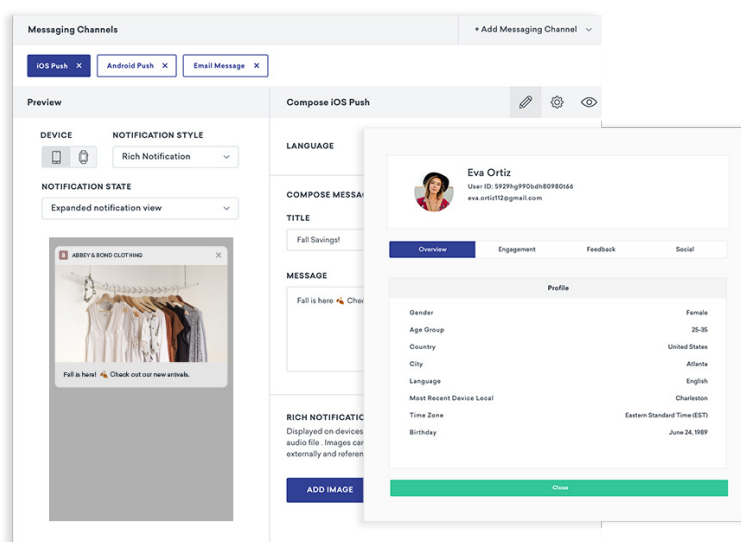
ObjectRocket

Why ObjectRocket?

Braze needed a credible, established database management service to help them create and maintain all the instances they foresaw. Since Rackspace had acquired ObjectRocket, and the Braze team saw Rackspace as the kind of credible, well established, service-focused resource they needed to host their data, ObjectRocket was a natural choice to manage it. Another benefit to using ObjectRocket is that apps can be hosted anywhere, not just on Rackspace servers. Braze can continue to grow with ObjectRocket no matter where their customers' apps are hosted.

And Braze has stayed with ObjectRocket ever since then. Aside from providing expert and effective on-demand database management solutions and keeping Braze's instances highly available at all times, Hyman praises ObjectRocket's superior customer support model, which is reflective of Rackspace's famous "Fanatical Support" philosophy. He particularly appreciates being able to get immediate support via Slack, to which he says the average response time is just three minutes.

He also cites what he calls ObjectRocket's "battle-tested readiness" as a key characteristic of its successful partnership with Braze. Anything he can envision to change and scale their instances to accommodate new customers, ObjectRocket willingly jumps in to help make it work, testing out and optimizing instances as they go. Braze has been able to keep its DBA headcount down while building and running a truly mind-bogglingly massive MongoDB installation because of its complete trust in ObjectRocket's support.

> ## "
> ## *ObjectRocket is core to Braze's technical success. Their infrastructure and team can support the way our application is built and also allow us to continue to scale MongoDB to such a massive level.*
>
> **Jon Hyman**
> *CTO and Cofounder, Braze*

ObjectRocket

350K ops/second
sustained traffic

1.5B messages/day
sent

ObjectRocket for MongoDB footprint

65 instances (1.5TB per instance)
1887 shards
95.4TB total footprint

ObjectRocket Optimizations

→ Code improvements in app

⚙ Dedicated hardware

Performance tuning

Active Monthly Users*

1.8B current

2B future

*Monthly active users are counted for each unique app within the previous 30 days.

Looking for scalable MongoDB management for your company?

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www.objectrocket.com