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Open Source Database Trends

Rockplace Inc. 2018
DB Tech Division
KD KIM.
2018.11

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Company Overview

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Company name : Rockplace Inc.

CEO : Dong Shik, Sou

Foundation : 2005.11.4

# of Employees : 101 (Mar., 2018)

Main business : Open Source Consulting, Migration, Implementation & Maintenance, Cloud Service

Address : (06020) 7,8F, Yoondang Bldg, 844, Eonju-ro, Gangnam-gu, Seoul

Phone: +84-2-6251-7788

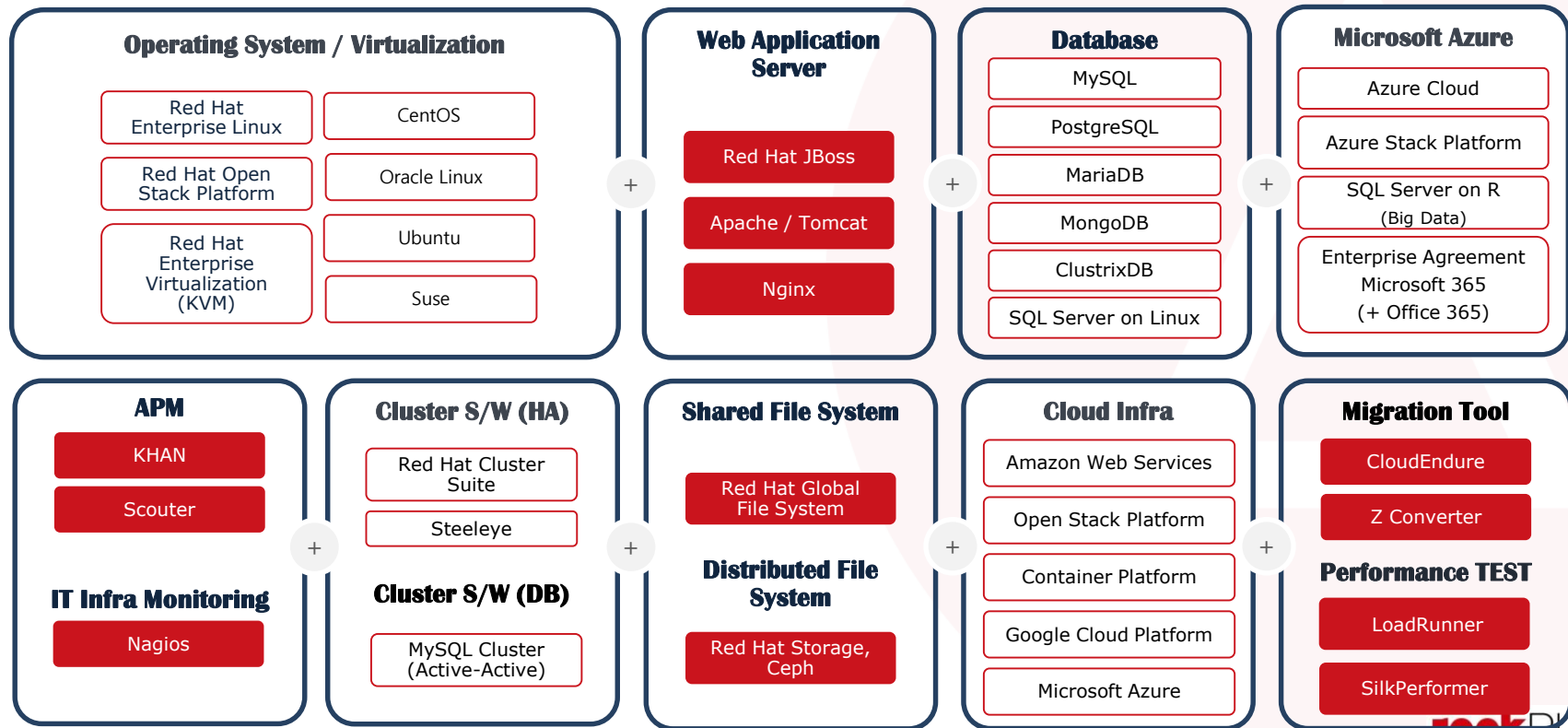| 2005	2007	2011	2013	2015	2016	2017	2018
- Foundation - **Red Hat Korea** Business Partner Agreement	- **Red Hat Korea** Advanced Business Partner Agreement	- KT Cloud Biz. Red Hat Enterprise Linux Technical Support & Consulting - Red Hat Channel Award Korea Top Partner (Red Hat APAC) - PPAS DBMS Technical Support Business Launch - Opensource mail solution Zimbra Technical Support Business Launch	- Infobright Partner Agreement - IBM Korea Partner Agreement	- SolidFire Business Partner Agreement - ThinkAT Partner Agreement - Mongo DB Master Reseller Agreement - Intel Lustre Business Partner Agreement - SugarCRM Business Partner Agreement - Dabomsoft Pharos Strategic Partner Agreement - AWS Consulting Partner Agreement	- Hortonworks Partner Agreement - IBM Cloud, Big Data Reselling Partner Agreement - Fusitsu korea Software Selected Expert Partner Agreement - Scalr Partner Agreement	- Hidden Championship Company, Seoul Metropolitan City - Google Cloud Premier Partner Agreement - Google Education Partner Agreement - Microsoft LSP Partner Agreement - Hortonworks Distribution Partner Agreement - Splunk Reseller Partner Agreement	

Rock n' Roll Spirit!
Rockplace is No.1 Opensource & Cloud Service Provider in Korea.
Rockplace has stayed opensource leader for 14 years with 80+ engineers and 500+ customers.

Service Portfolio

All about opensource from infrastructure to application flexible opensource integrated consulting service

Operating System / Virtualization

Red Hat Enterprise Linux	CentOS
Red Hat Open Stack Platform	Oracle Linux
Red Hat Enterprise Virtualization (KVM)	Ubuntu
	Suse

+

Web Application Server

Red Hat JBoss

Apache / Tomcat

Nginx

+

Database

MySQL

PostgreSQL

MariaDB

MongoDB

ClustrixDB

SQL Server on Linux

+

Microsoft Azure

Azure Cloud

Azure Stack Platform

SQL Server on R (Big Data)

Enterprise Agreement Microsoft 365 (+ Office 365)

APM

KHAN

Scouter

IT Infra Monitoring

Nagios

+

Cluster S/W (HA)

Red Hat Cluster Suite

Steeleye

Cluster S/W (DB)

MySQL Cluster (Active-Active)

+

Shared File System

Red Hat Global File System

Distributed File System

Red Hat Storage, Ceph

+

Cloud Infra

Amazon Web Services

Open Stack Platform

Container Platform

Google Cloud Platform

Microsoft Azure

+

Migration Tool

CloudEndure

Z Converter

Performance TEST

LoadRunner

SilkPerformer

500+ Customers

Rockplace trusted by 500+ Customers

Telecom / Manufacture	Finance	Public	Broadcasting / Mobile	Distribution/ E-Commerce
kt	KEB Hana Card	KOREA POST	KBS	LOTTE Homeshopping
SAMSUNG SAMSUNG DISPLAY	Hana Financial Group	Incheon Airport 인천국제공항공사	SBS	
SAMSUNG ELECTRONICS	Hana Investors Services	Ministry of the Interior and Safety National Information Resources Service	genie	NBP NAVER BUSINESS PLATFORM
HYUNDAI HEAVY INDUSTRIES GROUP	NH FUTURES		nox	
Hanwha	Hanwha Life		FINTALK	yogiyo
posco		KITA.ORG Korea International Trade Association	GRAVITY	
I am your Energy GS Caltex	KB Kookmin Bank			
HYUNDAI·KIA MOTORS	K bank	GRI Gyeonggi Research Institute	vonvon	RIDIBOOKS

OPEN SOURCE DATABASE TRENDS

DB-Engines Ranking

Google Trends

Open Source Database Trends

- DB-Engines Ranking(http://db-engines.com/en/ranking, 2018)

Rank			DBMS	Database Model	Score		
Oct 2018	Sep 2018	Oct 2017			Oct 2018	Sep 2018	Oct 2017
1.	1.	1.	Oracle ➕	Relational DBMS	1319.27	+10.15	-29.54
2.	2.	2.	MySQL ➕	Relational DBMS	1178.12	-2.36	-120.71
3.	3.	3.	Microsoft SQL Server ➕	Relational DBMS	1058.33	+7.05	-151.99
4.	4.	4.	PostgreSQL ➕	Relational DBMS	419.39	+12.97	+46.12
5.	5.	5.	MongoDB ➕	Document store	363.19	+4.39	+33.79
6.	6.	6.	DB2 ➕	Relational DBMS	179.69	-1.38	-14.90
7.	↑8.	↑9.	Redis ➕	Key-value store	145.29	+4.35	+23.24
8.	↓7.	↑10.	Elasticsearch ➕	Search engine	142.33	-0.28	+22.09
9.	9.	↓7.	Microsoft Access	Relational DBMS	136.80	+3.41	+7.35
10.	10.	↓8.	Cassandra ➕	Wide column store	123.39	+3.83	-1.40

Open Source Database Trends

- DB-Engines chart(https://db-engines.com/en/ranking_trend, 2018)
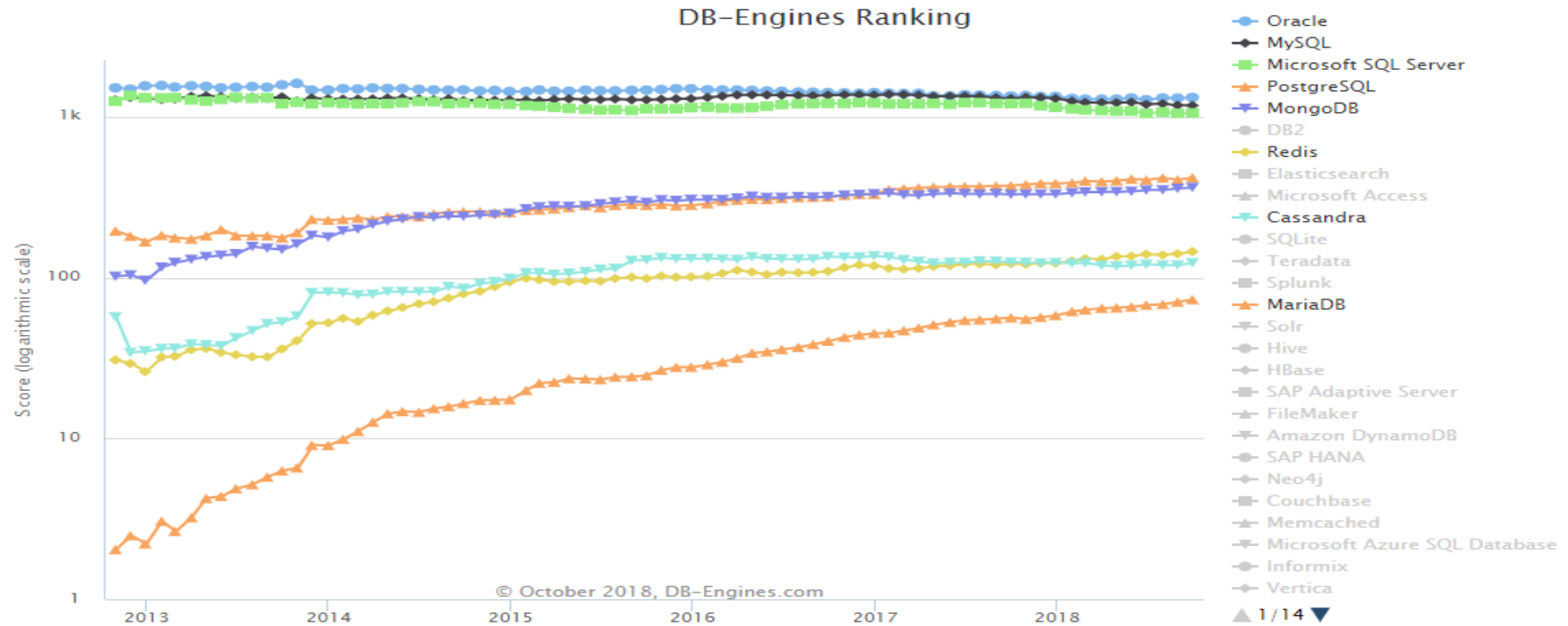
OPEN SOURCE DATABASE USE CASE

MySQL use case

PostgreSQL use case

MongoDB use case

Cassandra use case

Redis use case

MySQL Use Case

Viasuisse use case(https://www.mysql.com/why-mysql/case-studies/viasuisse-high-availability-real-time-traffic-mysql-cluster/)

- Viasuisse AG is the leading traffic information service provider in Switzerland and is focused on providing accurate and reliable traffic information to the general public.

- Viasuisse's primary challenge was to develop a simple and efficient solution that enabled customers to retrieve real-time traffic details via telephone.

- Viasuisse is a paid service, so reliability and availability of the information is critical to their success.

MySQL Use Case

Viasuisse use case(https://www.mysql.com/why-mysql/case-studies/viasuisse-high-availability-real-time-traffic-mysql-cluster/)
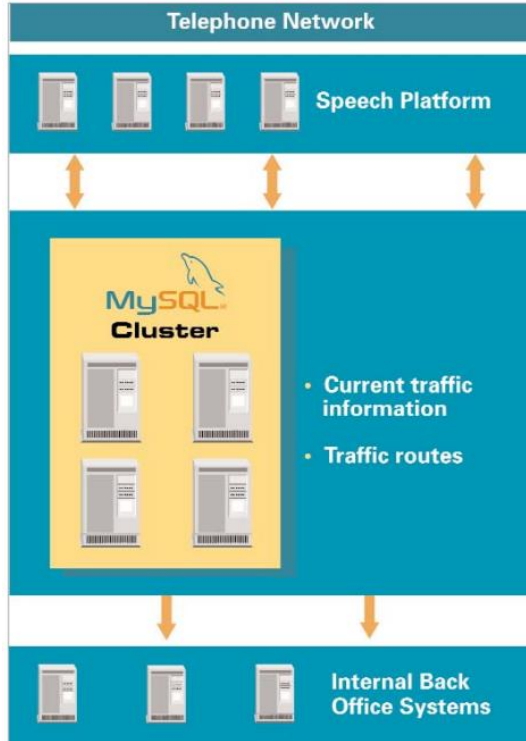
Highly Available Traffic Information

- 120,000 call/week and 30,000 calls/day from travelers.

- Thousands of travelers rely on the Viasuisse real-time, high availability traffic information service daily, proving that MySQL Cluster is an ideal solution for cost-effectively deployed business critical applications.

MariaDB Use Case

DBS Bank use case(https://mariadb.com/files/2017-12/case%20study_DBS%20Bank.pdf)

- Solution: MariaDB TX

- When DBS Bank first started the journey to open source with MariaDB, it took a
  conservative approach, testing a single non-critical application.

- That was a success, so DBS tested three additional applications, including a payment
  service module – a key component of the bank's offerings.

- Those, too, were a success.

- The MariaDB migration continued apace, and now, nearly two years into the journey, DBS
  Bank has more than 30 applications in production running on MariaDB, including some of
  the most complex applications for corporate

MariaDB Use Case

DBS Bank use case(https://mariadb.com/files/2017-12/case%20study_DBS%20Bank.pdf)

 - Standardizing on MariaDB TX has been extremely successful for DBS Bank. Key benefits

   include the following:

   • Flexibility: MariaDB affords DBS Bank the flexibility to use the topology that works

     best for it. DBS can create applications with microservices and deploy them through a

     container (such as Docker) to aid in resiliency, ease of deployment and independent

     scaling.

   • Cost savings: With MariaDB, DBS Bank sees cost savings of 30 to 70 percent,

     depending on the app and workload. There are no CPU fees to pay, so scaling out

     applications doesn't automatically inflate costs like it can with proprietary databases.

PostgreSQL Use Case

BASF use case

(https://www.postgresql.org/files/about/casestudies/wcgcasestudyonpostgresqlv1.2.pdf)

Customer: BASF (www.basf.com) Agricultural Product Division in North America. BASF is the world's leading chemical company with sales of 32.5 billion euros (approximately $29 billion US) in 2001 and has 92,000+ employees worldwide. It operates production facilities in 38 countries and has customers in more than 170 countries.

Challenge: Increase market share and revenue of BASF products in the agriculture industry, as well as increasing customer loyalty by leveraging the Internet; be a technology leader in the agricultural industry

PostgreSQL Use Case

BASF use case

(https://www.postgresql.org/files/about/casestudies/wcgcasestudyonpostgresqlv1.2.pdf)

Why PostgreSQL: Web Commerce Group (WCG)'s product, Arkdom[SM] Commerce Enterprise Edition, was developed with PostgreSQL and is powering the shopping platform on the BASF's portal. WCG selected PostgreSQL primarily for three reasons:

- Lower total cost of ownership
- Superior technology
- Better maintenance and support

Key Business Benefits: By using the Arkdom[SM] Commerce Enterprise Edition, BASF is able to benefit from:

- 67% cost reduction
- Higher customer satisfaction
- Increased revenue potential

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MongoDB Use Case

Use Case

- Over 2,000 organizations rely on our ommercial products, including startups and more than a third of the Fortune 100.

MetLife
Building a single view of 100M+ customers across 70 systems in just 90 days

OTTO
Offering one-to-one shopping for more than 2 million daily visitors across 2M products

Bosch
Creating new businesses by connecting sensors with real-time analytics

City of Chicago
Delivering a unified view of city operations on a real-time geospatial platform

Expedia
Making travel planning easy, fast and highly personalized for millions of customers

Crittercism
Improving mobile app quality, 4 billion times a day

Forbes
Delivering a custom CMS in 2 months, and a new mobile site in 1 month

ADP
Keeping 41,000 clients happy with its mobile app, personalized for over 1 million users

MongoDB Use Case

Use Case

- Our partner ecosystem includes over 1,000 companies who develop, sell, and support solutions based on MongoDB.
- Existing partners include global brands such as Amazon, IBM, Adobe, and Red Hat.

MongoDB Case Study

ebay use case(https://www.mongodb.com/presentations/storing-ebays-media-metadata-mongodb-0)

- About eBay Platform Services?

  - Platform Services is an org within a larger eBay Platform org which is responsible for

    developing and operating common services that are used by Web Application running on

    eBay Platform

  - Media Storage platform services ; image blob and metadata

  - Unified Monitoring platform : logs and metrics

  - User Behavior Tracking

  - Ad Content management and analytics

  - Messaging and other middleware services

MongoDB Case Study

ebay use case(https://www.mongodb.com/presentations/storing-ebays-media-metadata-mongodb-0)

- Key requirements of Media Metadata Service

  - 99.999% availability

  - Strictly defined invocation latency @95%

  - Simultaneous operation in multiple data centers with short replication latency

  - Reliable writes : synchronous writes to at least 2 nodes.

  - Read-write workload with reads / write ~= 10/1

  - Agility, fluid metadata content, constantly changing business requirements.

  - Terabyte scale, billions of small entities to store and query

  - Scalability at extreme : number of pictures on eBay is constantly growing.

MongoDB Case Study

ebay use case(https://www.mongodb.com/presentations/storing-ebays-media-metadata-mongodb-0)

- Store eBay's Media Metadata on MongoDB

- Sharded cluster in 2 data centers

- Service nodes are built in Java and

  use Morphia and Mongo driver

- MongoS run on the service nodes

- For reads, client first set SlaveOK=true

  and if required document is not found

  flips to SlaveOK=false to read from Primary

Metadata Service Node

Service Layer

Morphia

Mongo Driver

MongoS

S – service instance;
P – primary mongod;
H – hidden member
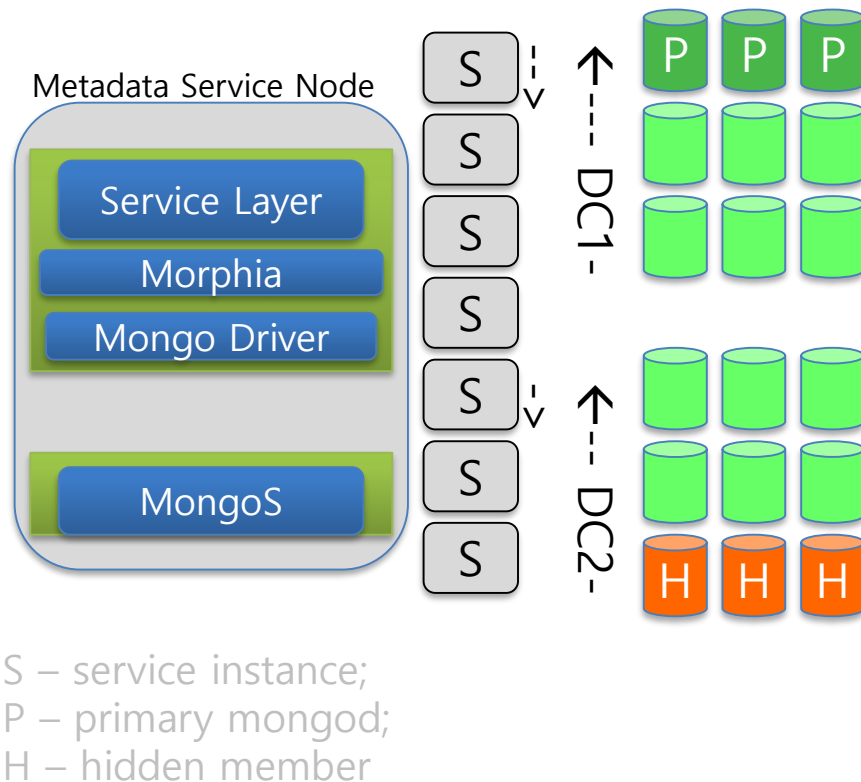
Redis Use Case

use case

Simility Relies on Redis Labs to Speed Up Fraud Detection

"Using Redis^e Pack in our fraud detection service was an excellent decision for our organization. It is enabling us to easily manage billions of transactions per day, keep pace with our exponential growth rate, and speed fraud detection for all of our clients."

Utilitywise Accelerates IoT Application Using Redis^e Pack

"By moving to Redis^e Pack, we were able to cut the latency on our IoT application from seconds from milliseconds."

Microsoft Relies on Redis Labs

"Redis Labs reduced our application latencies to under 10 ms, with the least operational overhead on our team."

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Redis Use Case

use case

Redis Labs and Databricks Integration

Access the power of Spark integrated with the real-time high performance of Redis[e].

Redis Labs and Pivotal Integration

Deploy world-class enterprise applications with stable high performing highly available Redis [e]

Redis Labs and IBM Power Systems Integration

Enjoy the tremendous horsepower of IBM Power servers with Redis[e] for the highest performing NoSQL solution

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Redis Use Case

Microsoft use case(http://lp.redislabs.com/rs/915-NFD-128/images/MICROSOFT-CASESTUDY.pdf)

Challenges

The business challenges that led the profiled company to evaluate and ultimately select Redis Labs:

- Values Redis Labs ability to solve the following challenges:

  - High availability- persistence, auto-failover, cross-rack in-memory replication

  - Seamless scaling & clustering

  - 24×7 support for mission critical Redis layer

  - Stable, high performance

  - Deep operational and technical expertise

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Redis Use Case

Microsoft use case(http://lp.redislabs.com/rs/915-NFD-128/images/MICROSOFT-CASESTUDY.pdf)

Use Case

The key features and functionalities of Redis Labs that the surveyed company uses:

- Has a 100-500 GB dataset in Redis Labs.

- Uses Redis Labs for the following:

    - Scalability tier/content caching

- Is using Redis Labs in the following solutions:

    - Targeting/Personalization

    - Social/Customer engagement

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Redis Use Case

Microsoft use case(http://lp.redislabs.com/rs/915-NFD-128/images/MICROSOFT-CASESTUDY.pdf)

Results

The surveyed company achieved the following results with Redis Labs:

- Has seen the following from choosing Redis Labs as your their Redis deployment provider, compared to their previous state:

  - Reduced downtime: >90%

  - Fewer specialized resources: >90%

  - Higher and more stable performance: >90%

- Their use of Redis does not include data that is not stored in any other database.

- Is increasing usage of Redis Labs for the following reason:

  - Want more pieces of the application to be served faster

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THANK YOU

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