



Modern Architectures for Modern Enterprises

27 September 2023

Speakers for today...

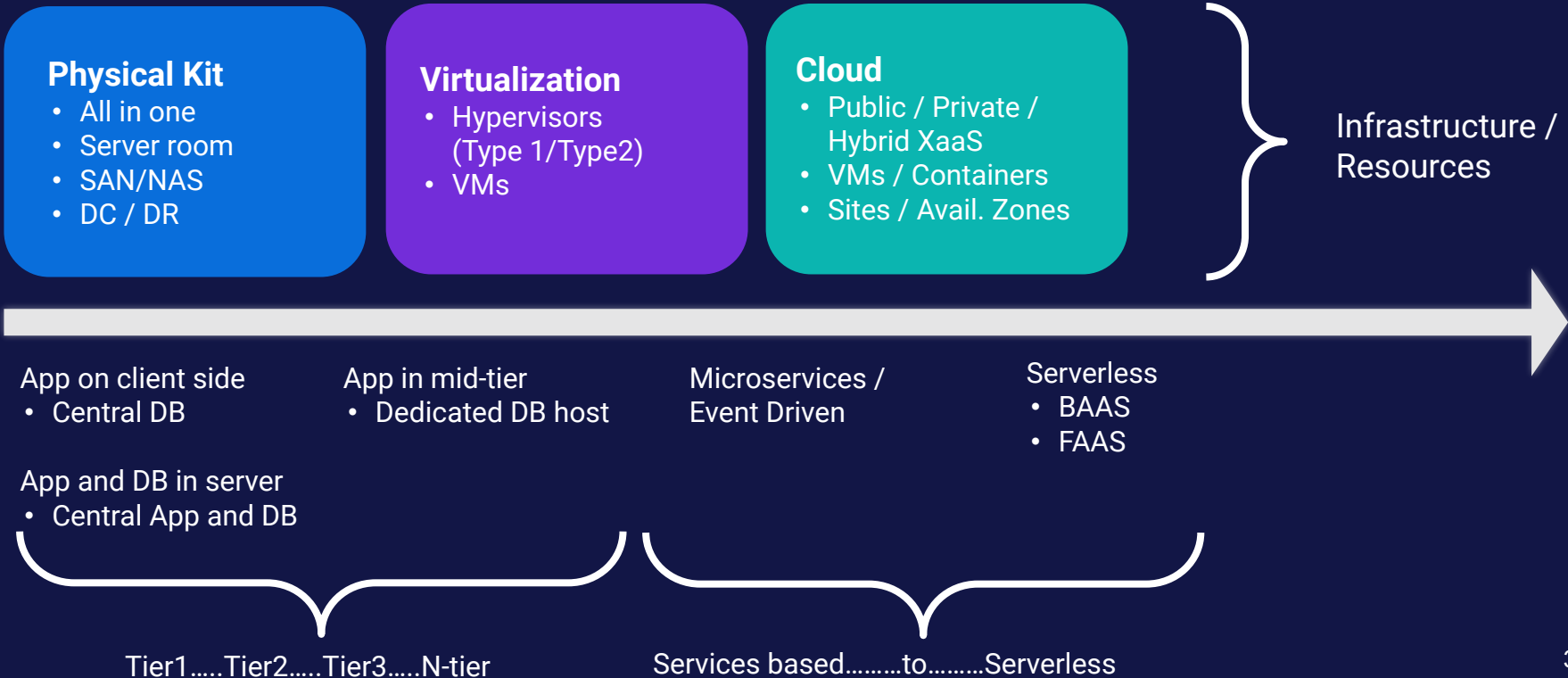


Nawaz Ahmed
Senior Database Consultant
EDB

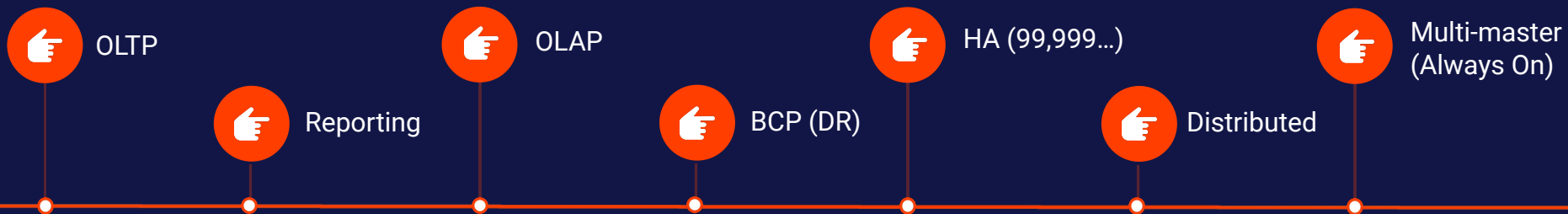


Amaralingeswara Rao Kaka
Director of Professional Services APJ,
EDB

Traditional IT Architecture



Evolution of RDBMS



Standalone DB

Standby DB

- Cold
- Warm
- Hot

Replication

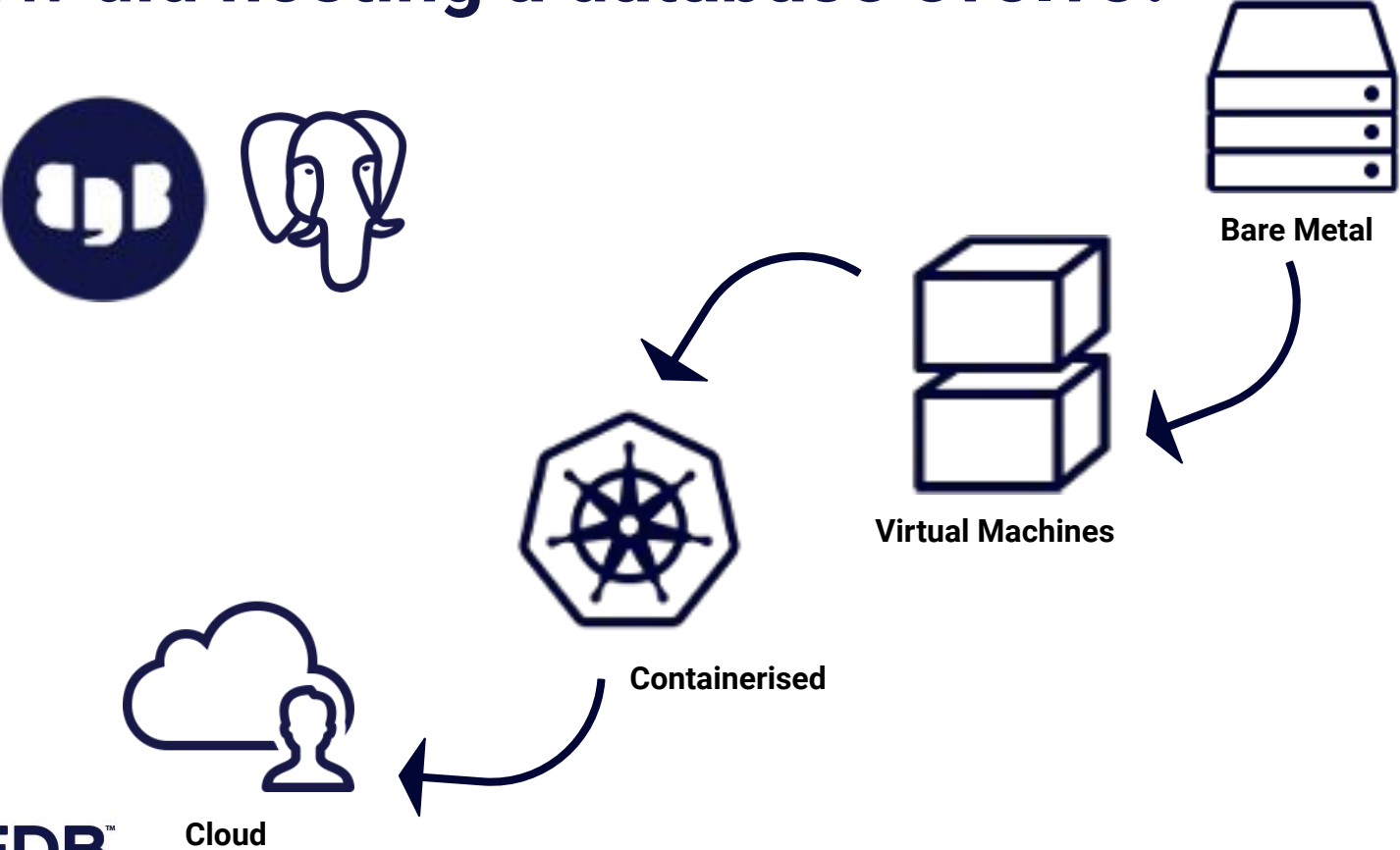
- Nightly copies
- File level
- Block level

Replication

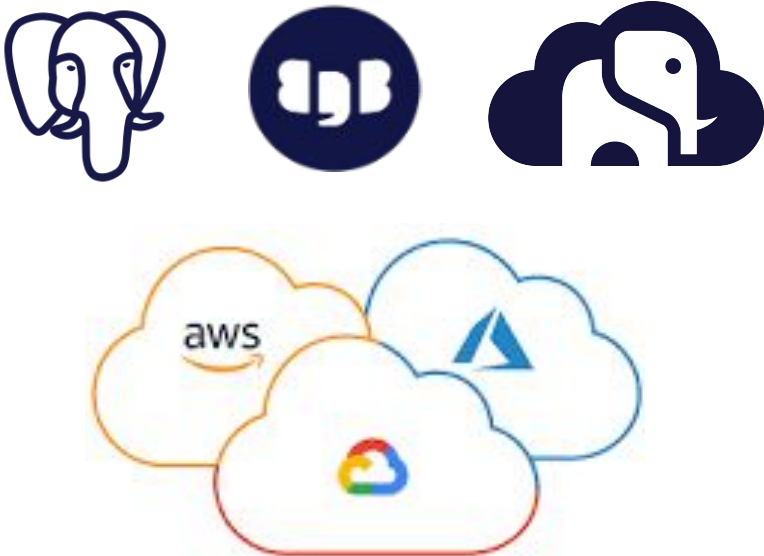
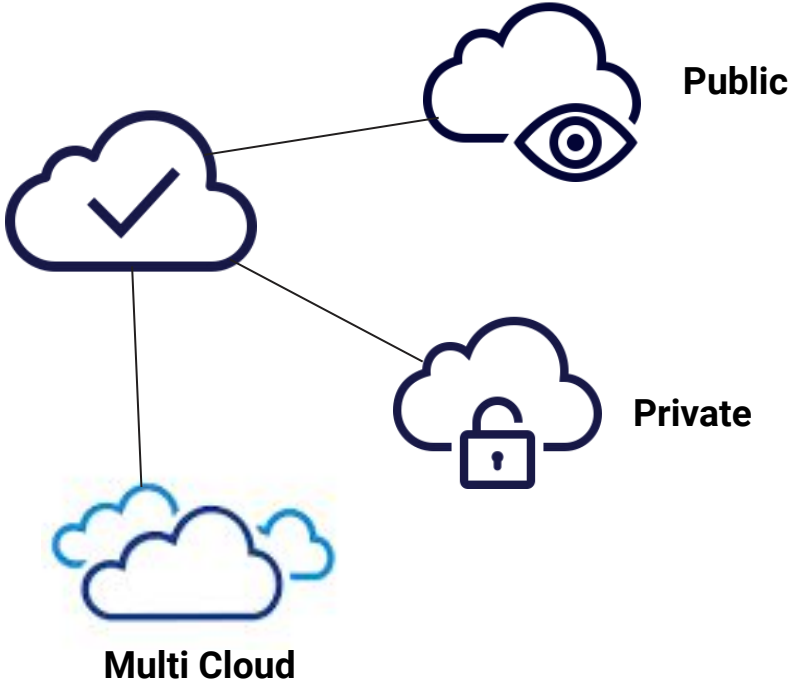
- Real Time (ASYNC/SYNC)

Physical.....to.....Logical.....to.....CDC

How did hosting a database evolve?



Cloud offerings



Trusted Postgres Architect (TPA)

Modern architectures require modern ways of provisioning

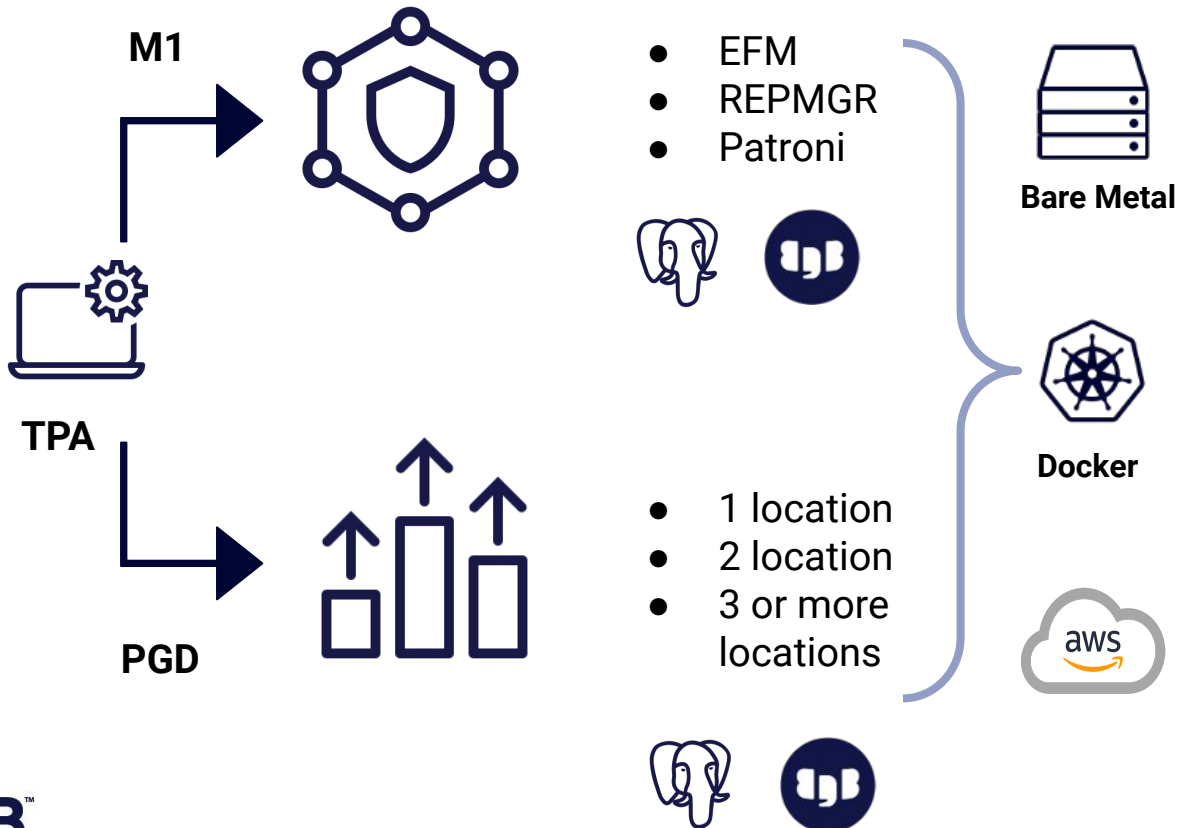
Self discovery, scaled configuration

Automation and customization

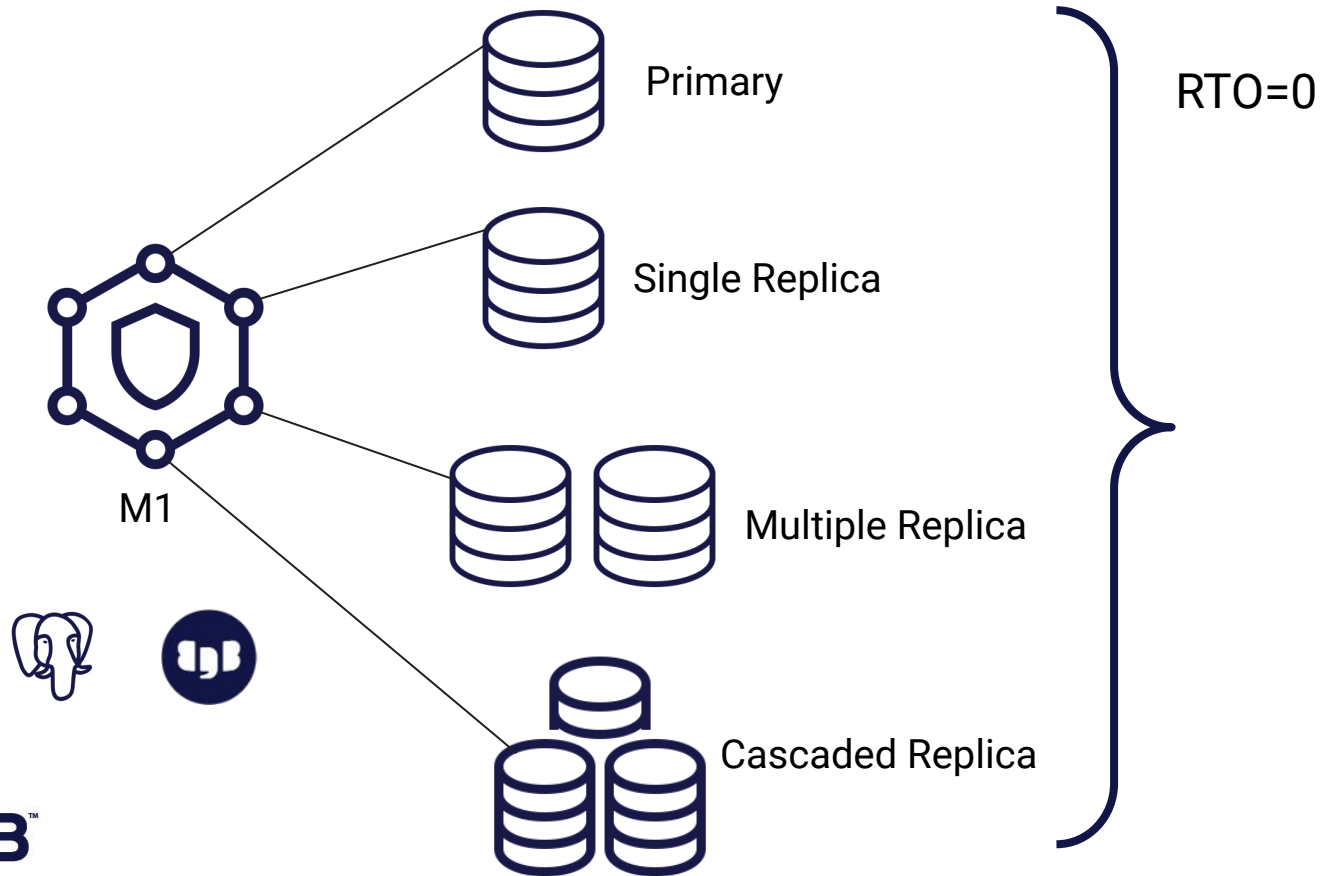
Cross platform compatibility

Repetitive
execution,
same
outcome

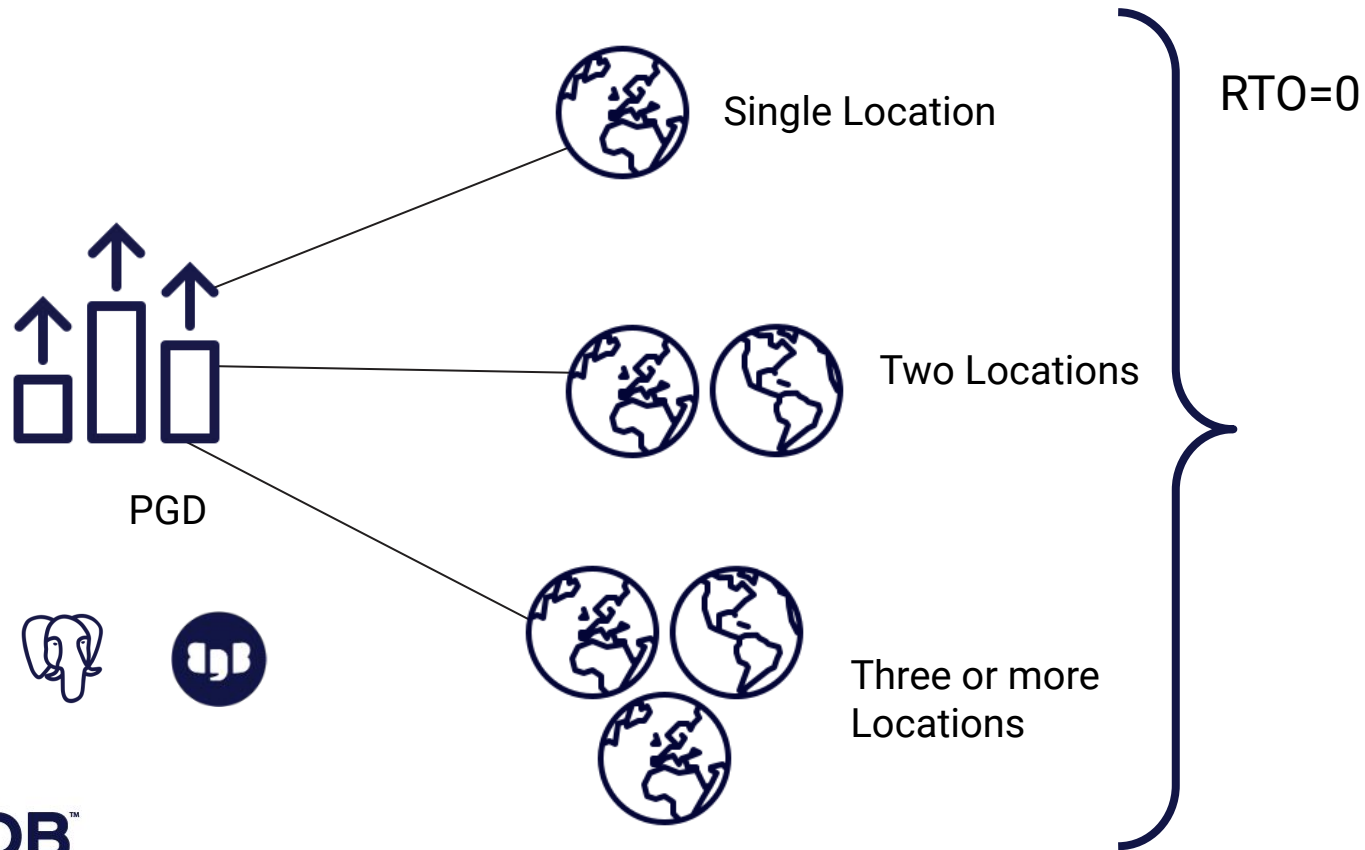
Trusted Postgres Architect (TPA) contd.



Trusted Postgres Architect (TPA) - M1



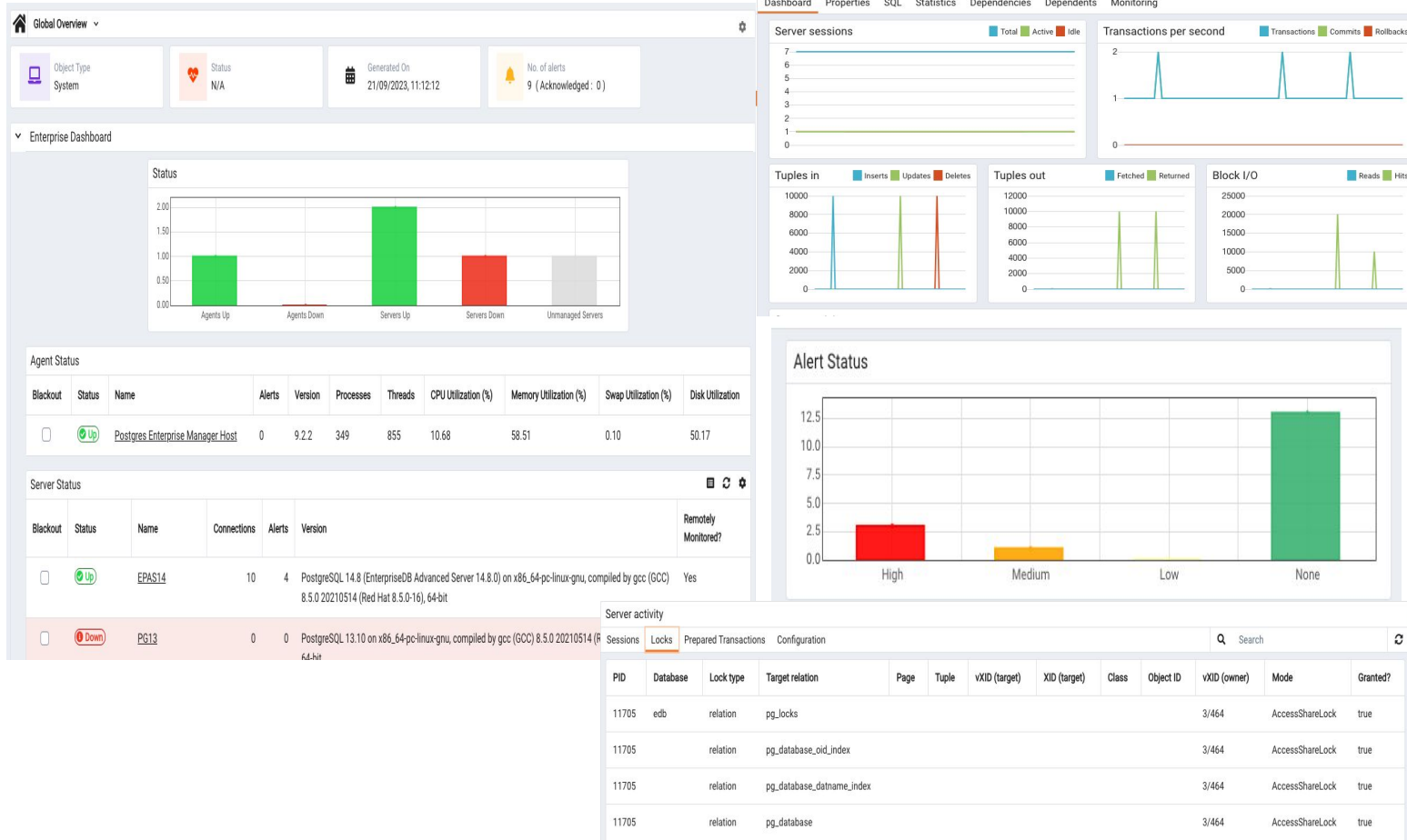
Trusted Postgres Architect (TPA) - PGD



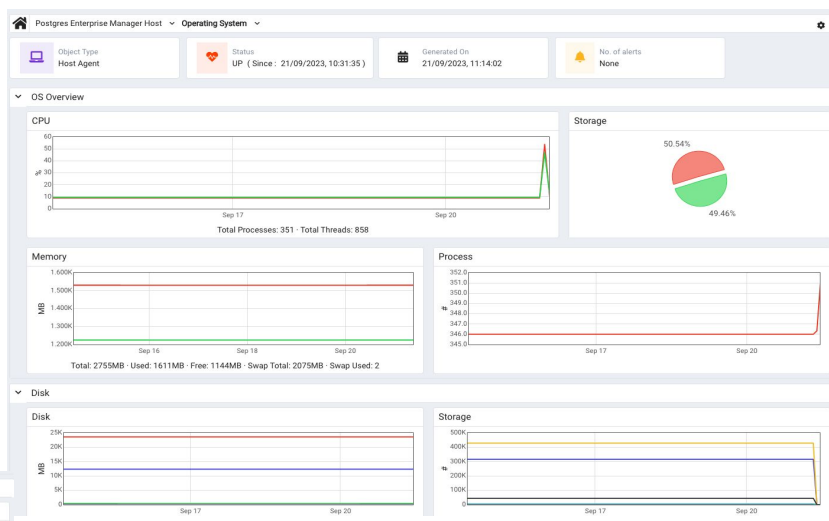
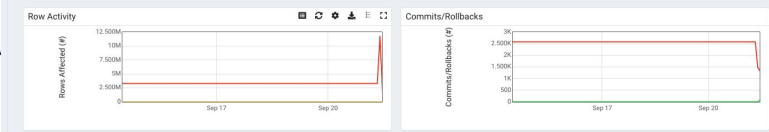
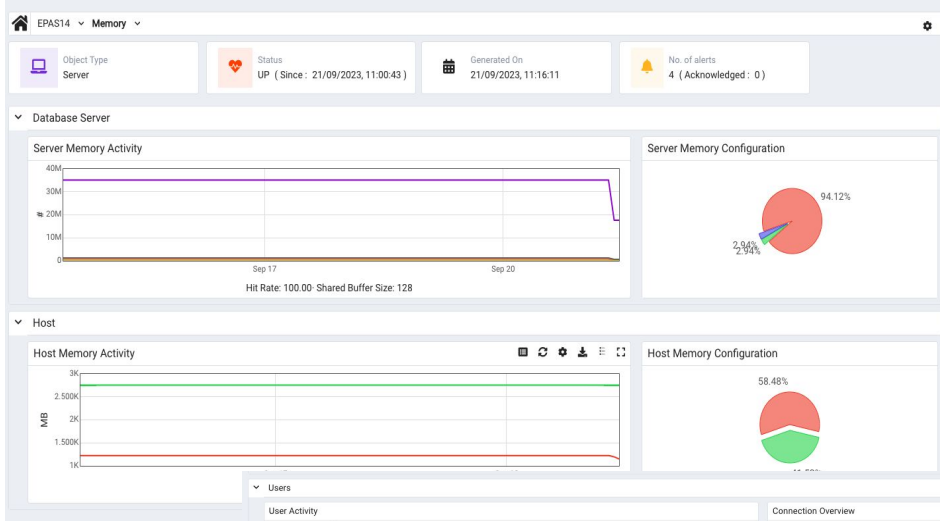
Futuristic Monitoring - PEM



Postgres Enterprise
Manager



Futuristic Monitoring - PEM



Host Details

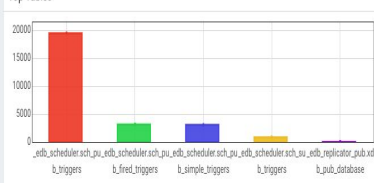
File System	Size (GB)	Used (GB)	Available (GB)	% Used	Mounted On
/dev/mapper/rh-root	46.96	23.01	23.95	49.00	/
/dev/nvme0n2p1	24.44	12.07	11.10	52.10	/data1
/dev/nvme0n3	99.98	50.98	49.00	50.99	/u01
/dev/nvme0n1p1	0.99	0.42	0.57	42.60	/boot



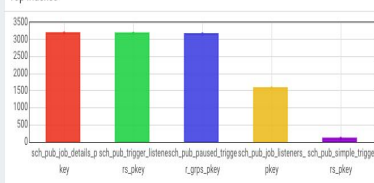
Futuristic Monitoring - PEM

Top Tables/Indexes

Top Tables



Top Indexes



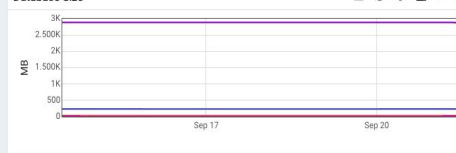
Object I/O Details

Objects Activity

Schema	Table Name	Scans	Rows Read	Index Scans	Index Rows Read	Rows Inserted	Rows Updated	Rows Deleted	Hot Rows Updated	Total Rows	Dead Rows
_edb_scheduler	sch_publication_listeners	1	0	1576	0	0	0	0	0	0	0
_edb_scheduler	sch_publication_trigger_listeners	1	0	3180	0	0	0	0	0	0	0
_edb_scheduler	sch_publication_trigger_listeners	1	0	3180	0	0	0	0	0	0	0
_edb_scheduler	sch_publication_trigger_listeners	1	0	3180	0	0	0	0	0	0	0

Storage

Database Size



Tablespace Size

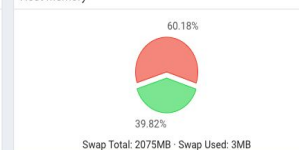


Memory

Shared Buffers

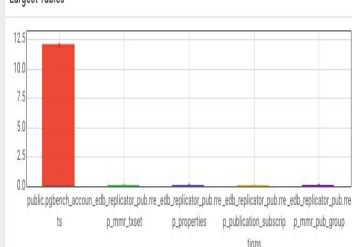


Host Memory

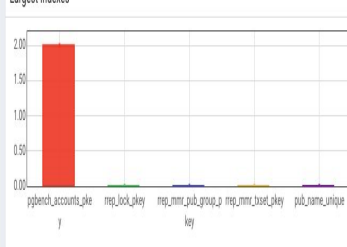


Size Overview

Largest Tables



Largest Indexes



Databases

Databases Statistics

Database	Connections	TX Committed	TX Rolled Back	Blocks Hit	Blocks Read	Tuples Fetched	Tuples Returned	Tuples Inserted	Tuples Updated	Tuples Deleted
edbstore	1	1403710	12	699537455	71084	1300317508	1300317508	4000179	9	162967
orasub	0	1400480	5	651882466	39072	1270217234	1270217234	1541	321	731
pem	6	9010077	18	21690238136	1000036	42172458903	42172458903	4400960	7998142	181770
postgres	2	1825256	9	693513191	38039	1340031888	1340031888	76	1	52
edb	0	406400	43	270628534	27919	573947702	573947702	1006777	38	118
db1	1	46780	79	24191421	6604	55629691	55629691	107461	11464	3256



Backups And Recovery Manager (Barman)

Open Source

Remote Backup & Recovery

Zero Data Loss, RPO=0

Parallelism

PITR

Incremental

Retention Policy

Multiple Servers

WAL Compression

Backup Catalog

Cloud Ready

Single Tool of Operation

Geographic Redundancy

SSH / Streaming / rsync

Pre & Post Hook Scripts

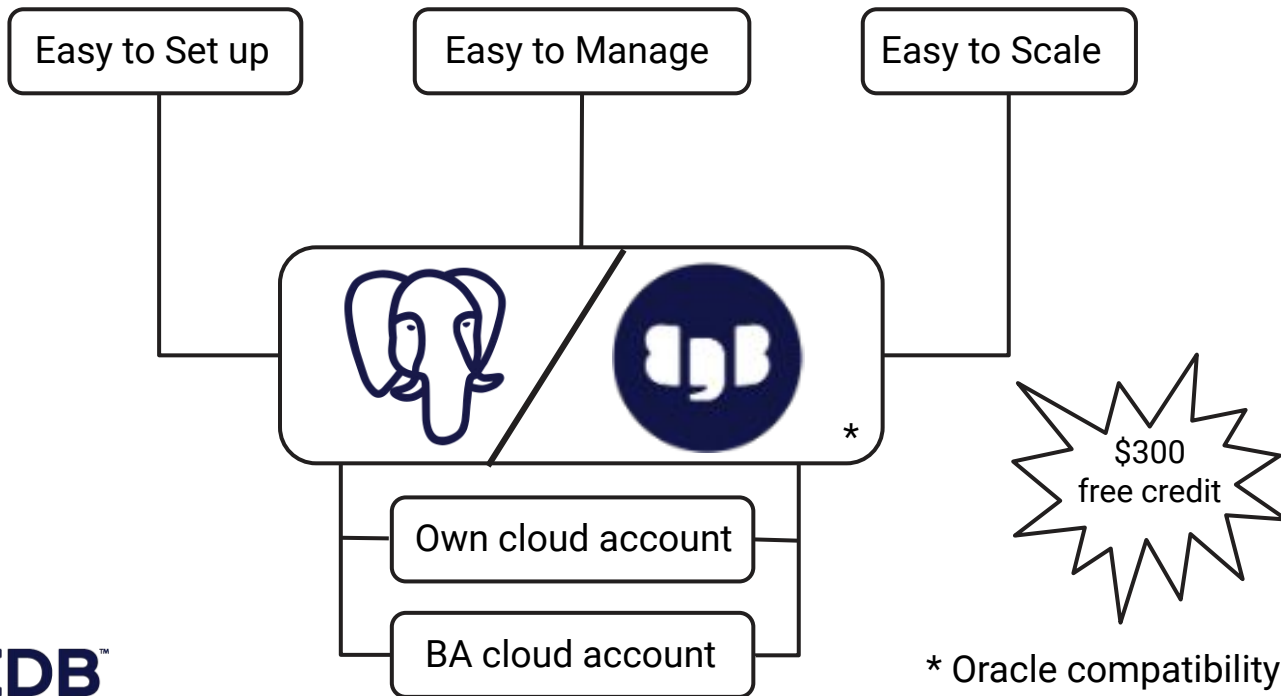
Configuration File Driven



Barman

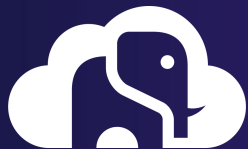


Fully Managed DBaaS



* Oracle compatibility





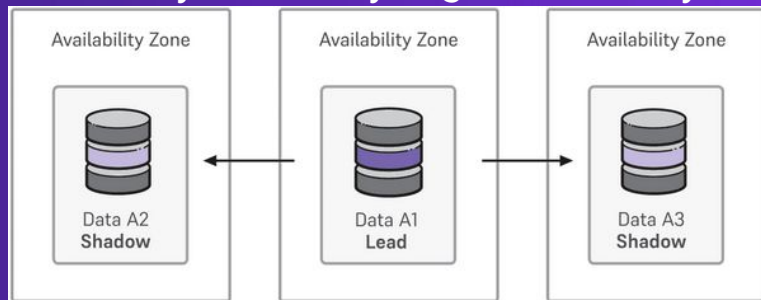
BIG ANIMAL

Cluster Types

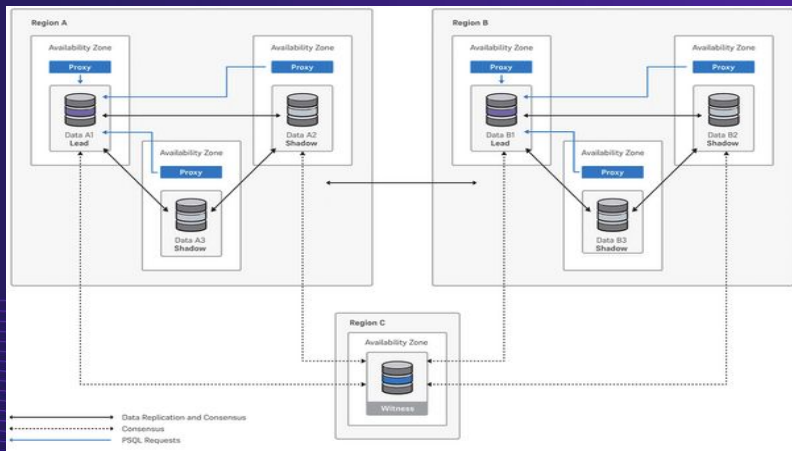
Single Node



Primary / Standby High Availability



PGD / Multimaster architecture





Cluster Types

<https://status.biganimal.com>

BIGANIMAL

All good

Console	OPERATIONAL	Sign up marketplace	OPERATIONAL
DB provisioning	OPERATIONAL	DB access	OPERATIONAL
Software Deployment	OPERATIONAL		

Past Events [Subscribe to Updates](#)

September 22, 2023
No Events

September 21, 2023
No Events

September 15, 2023

Provisioning issues in AWS us-east-1 region

RESOLVED Sep 15, 2023 at 01:26PM AEST

This incident was resolved.

[View Full Report](#)

Maintenance to Supporting Services

DONE Sep 15, 2023 at 12:29PM AEST

Maintenance to Supporting Services

[View Full Report](#)

September 14, 2023

September 2023 Release - 13 September 2023 : Production release

DONE Sep 14, 2023 at 08:57PM AEST

Improvements and updates for the cloud service.

[View Full Report](#)



EDB Postgres for Kubernetes

CloudNativePG	EDB Postgres of Kubernetes
Kubernetes API integration for high availability, uses the postgresql.cnpg.io/v1 API version	Kubernetes API integration for high availability, uses the postgresql.k8s.enterprisedb.io/v1 API version
Capacity management with scale up/down capabilities	EDB Postgres for Kubernetes works with both PostgreSQL and EDB Postgres Advanced server and supports all the features of CloudNativePG
Continuous backup and point-in-time recovery	EDB Postgres for Kubernetes Plugin
Planned switchovers for scheduled maintenance	Generic adapter for third-party Kubernetes backup tools
Read-only and read-write Kubernetes services definitions	Long Term Support
Rolling updates for Postgres minor versions and operator upgrades	Oracle compatibility through EDB Postgres Advanced Server
Self-healing through failover and automated recreation of replicas	Red Hat certified operator for OpenShift
Connection Pooling with PgBouncer	Support on IBM Power and z/Linux through partnership with IBM
Integrated metrics exporter out of the box	Transparent Data Encryption (TDE) through EDB Postgres Advanced Server
PostgreSQL replication across multiple Kubernetes clusters	Velero/OADP cold backup support
Separate volume for WAL files	You can evaluate EDB Postgres for Kubernetes for free
	EDB Postgres for Kubernetes works with both PostgreSQL and EDB Postgres Advanced server
	The EDB Postgres for Kubernetes Operator container images support the multi-arch format for the following platforms: linux/amd64, linux/arm64, linux/ppc64le, linux/s390x.

Customers Using EDB Distributed Postgres



SaaS Company ClickUp Uses EDB Postgres Distributed to Achieve Consistent Performance Globally



Financial Services Company ACI Worldwide Increases Flexibility and Lowers Costs with Postgres



Telegra Implements EDB Postgres Distributed to Provide High Availability for its Mission Critical Postgres Databases



Linxup Eliminates Downtime, Increases Write Scalability and Charts a Course to the Cloud Backed By EDB Postgres Distributed

Question & Answer

THANK YOU