EDB's Product Roadmap

May 2022
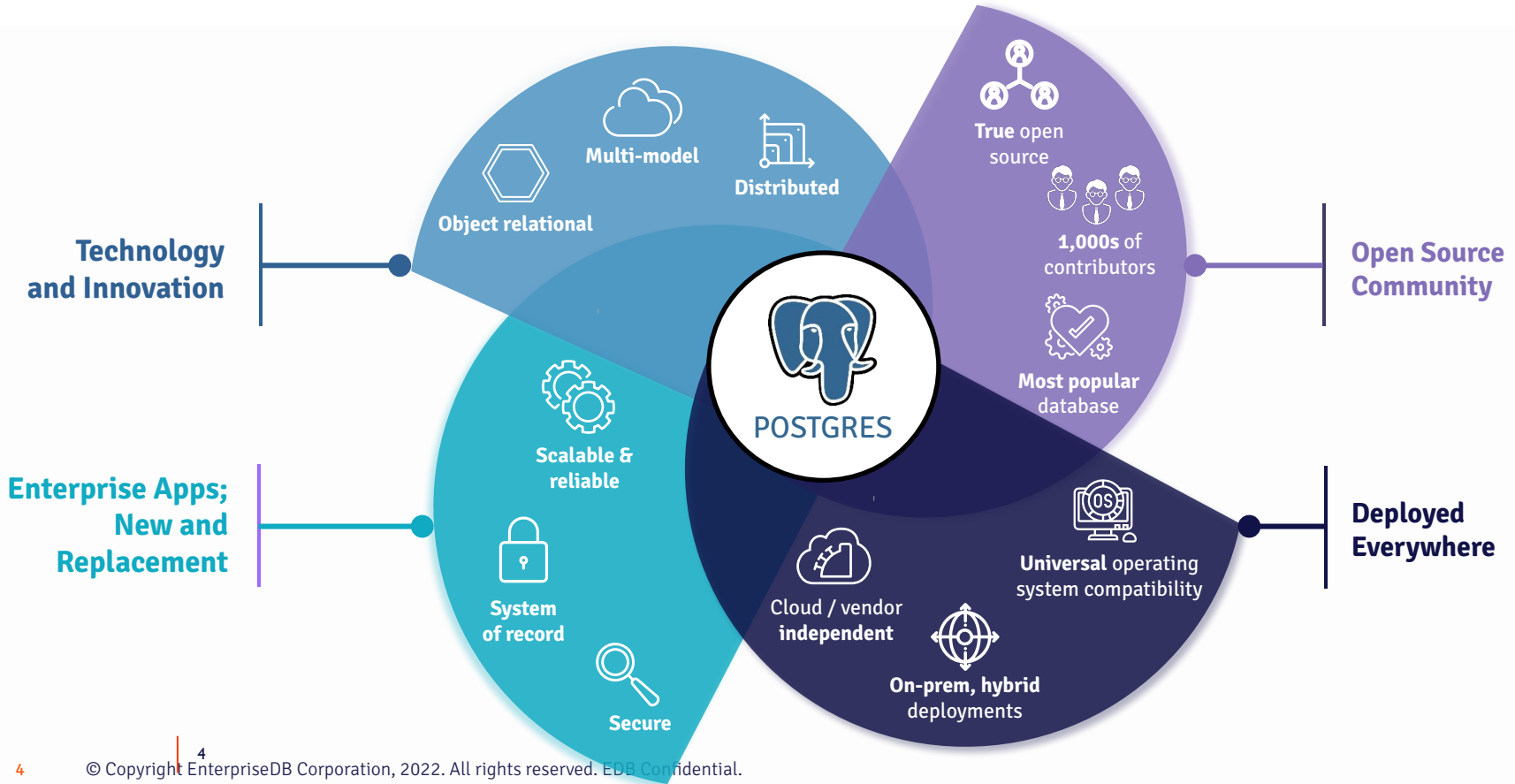
Marc Linster, CTO

EDB™

Disclaimer

Statements included in this presentation, other than statements or characterizations of historical fact, are forward-looking statements. These forward-looking statements are based on our current expectations, estimates, and projections about our industry, management's beliefs, and certain assumptions made by us, all of which are subject to change. These forward-looking statements are not guarantees of future results and are subject to risks, uncertainties, and assumptions that could cause our actual results to differ materially and adversely from those expressed in any forward-looking statement.

By sharing our product roadmap with you, we are not undertaking an obligation to develop the software with the features and functionality discussed herein.

The forward-looking statements in this presentation are made as of May, 2022. We undertake no obligation to revise or update publicly any forward-looking statement for any reason.

WHY ENTERPRISE DEVELOPERS LOVE POSTGRES

Technology and Innovation
- Object relational
- Multi-model
- Distributed

Open Source Community
- True open source
- 1,000s of contributors
- Most popular database

Enterprise Apps; New and Replacement
- Scalable & reliable
- System of record
- Secure

Deployed Everywhere
- Universal operating system compatibility
- Cloud / vendor independent
- On-prem, hybrid deployments

POSTGRES

EDB'S PRODUCT PORTFOLIO

EDB Enterprise
Open Source + EDB Tools
+
Oracle Compat and Enterprise Features

EDB Standard
Fully Open Source
+
EDB Tools

EDB Community 360
Fully Open Source

EDB BigAnimal
Fully Managed Postgres or EDB Postgres Advanced Server

EDB Postgres Distributed
Adds Extreme High Availability to Standard or Enterprise

EDB™

EDB's TECHNOLOGY PORTFOLIO

Unique Postgres Enhancements

Database Distributions

Postgres
Most advanced open source operational database

EDB Postgres Advanced Server
PostgreSQL + Oracle compatibility + security features

Tools

High Availability
99.999% availability for most demanding enterprise workloads

Management
Exception based database management at enterprise scale

Integration
Data exchange and data integration with the corporate data strategy

Migration
Rapid transition from legacy databases to Postgres

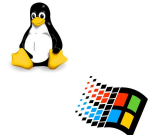## Broad Platform Support

Self-Managed

Virtualized
aws
Microsoft Azure
Google Cloud
vmware

Containerized
RED HAT OPENSHIFT
docker
Amazon EKS
Azure Kubernetes Service (AKS)
Google Kubernetes Engine

Bare Metal

Fully-Managed

BIGANIMAL

IBM Cloud

POLARDB
Alibaba DBaaS

EDB Roadmap News

- EDB Postgres Distributed 4.1 (formerly BDR)
- EDB BigAnimal release on AWS
- Postgres on K8s
  - Open source release of the CNP Operator
  - EDB Postgres on Kubernetes
- PostgreSQL and EDB Postgres Advanced Server 15

EDB Postgres Distributed

(formerly known as BDR - Bidirectional Replication)

- You've chosen Postgres

- Your application needs to be always on

- Any downtime = Loss of business continuity = Revenue loss

You need:

- A **replication solution**

- **Geographically distributed** database clusters

- **Extreme high availability**

- **Optimal performance** at all times

Enter EDB Postgres Distributed

The most advanced replication solution for Postgres

Maintain extreme high availability

Postgres clusters deployed with EDB Postgres Distributed keep top tier enterprise applications running

Upgrade with near zero downtime

Rolling upgrades of application and database software eliminate the largest source of downtime

Choose the level of consistency

Robust capabilities provide flexibility to meet application data loss requirements

New in EDB Postgres Distributed 4.1

Reliability and Operability

Faster, fully online major version upgrades*****

Performance and Scalability

Replication lag control with asynchronous replication*****

High Availability and Recovery

More flexibility for durable replication with Group Commit

User Experience

Greater control with command line interface

User Experience

Simplified synchronous replication configuration with SQL level interface

User Experience

Automatic management of distributed sequences

*Key differentiators and enhanced competitive advantages with v4.1

Best fit

Where does EDB Postgres Distributed fit in EDB's portfolio?

Requirement / Characteristic	Good fit for EDB Postgres Distributed	Fit for another EDB solution
Availability Requirements	99.99 - 99.999% Four to Five 9s	99.9 - 99.99% Three to Four 9s
Data Centers & Geographic Regions	Globally distributed	Not globally distributed
Upgrade downtime	Rolling upgrades with near-zero downtime	Appetite for maintenance windows
Application tier	"Tier 1"	"Tier 2" & "Tier 3"
Application types	Payment gateways, telecommunications call routing, global collaboration	HR, Expense Reporting, CRM

Two primary use cases

The most advanced replication solution for Postgres

1. Extreme

High Availability

Postgres clusters deployed
with EDB Postgres Distributed
keep top tier enterprise
applications running

2. Geographically
Distributed Workloads

Global enterprise applications
can address data sovereignty
and stay in sync with
EDB Postgres Distributed

EDB Postgres Distributed
Customer Success Story

|	
Use case	SaaS project management and collaboration company experiencing massive growth with customers spanning individuals to large enterprises supporting over 100,000 teams globally.
The need	Provide consistent performance to their international customer base while scaling up their business in multiple regions.
Why EDB Postgres Distributed	ClickUp selected EDB Postgres Distributed to address geo-distributed needs of their customer base, and later upgraded to gain improved performance, rolling upgrades, and high availability.
Value	EDB Postgres Distributed has contributed to the 99.99% uptime for 12 consecutive months of ClickUp's 7 node global deployment.
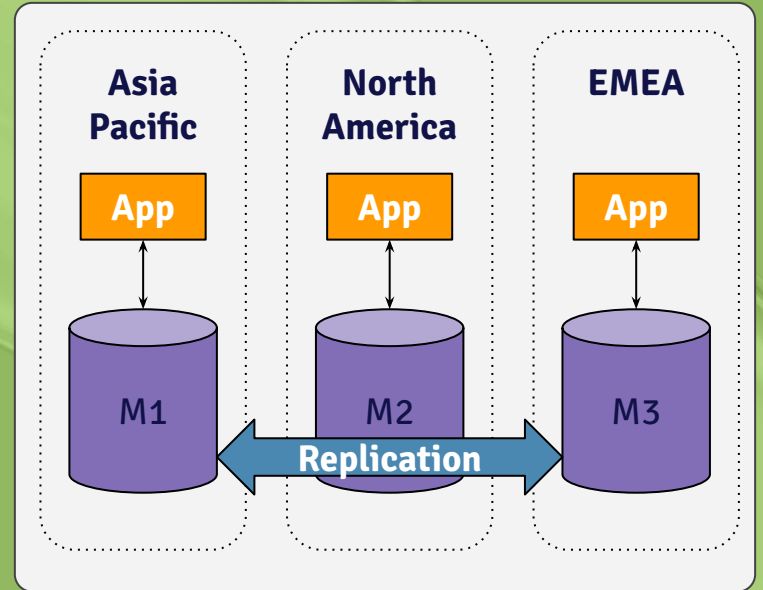
EDB BigAnimal:
Unleash the power of
Postgres in the cloud

Available on Azure and AWS

EDB
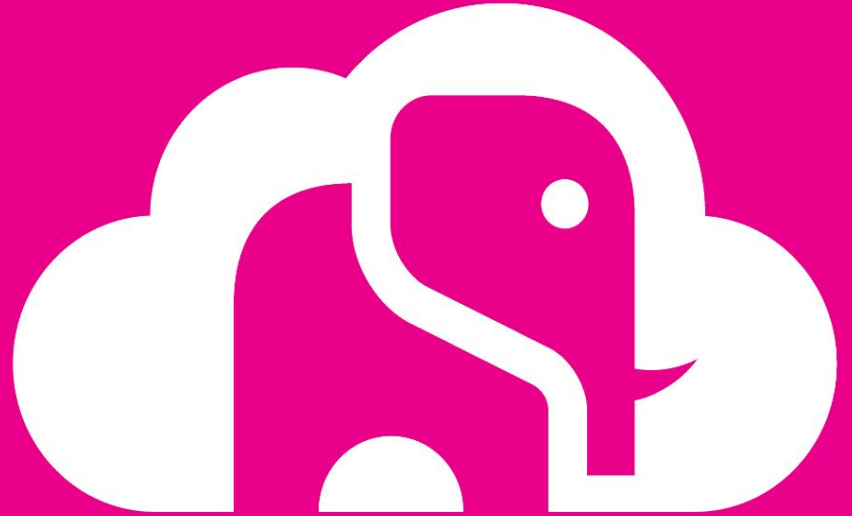
Unleash the power of Postgres in the cloud

Your Postgres database is too important to leave to generalists

Postgres Expertise

EDB's expertise goes above the infrastructure; we help steer the database roadmap and patch its bugs

Oracle Compatibility

Leave Oracle and further your cloud journey with a fully managed Postgres service

Extreme High Availability

High availability of your PostgreSQL clusters so you're always on, always available

Unmatched Postgres expertise

Safer: Build your cloud business on a superior Postgres

- World-class PostgreSQL experts providing 24x7 support

- Latest versions, updates, security patches, and bug fixes

- Rich enterprise functionality with PostgreSQL and EDB Postgres Advanced

Smarter: Keep your database under your control

- Deploy in your account, using your own cloud discounts

- Precise control with super user access to tune database internal functionality

Faster: Migrate from Oracle quickly

- Same PostgreSQL on-premise and in the cloud

- Migrate from Oracle quickly with EDB's rich tooling

- Focus on new code, not rewriting PLSQL, with EDB's Oracle compatibility capabilities

Better: Tune to your performance needs with our help

- Access our CloudDBA team to tune and manage your DBs

- Request superuser access for greater control over your DB

No code left behind: Elevate your data into the cloud

Migrate existing DBs

Use EDB's sophisticated migration tools to bring your data to BigAnimal

Build new applications

Embed BigAnimal in your pipeline for seamless dev/test

EDB can support you

Leverage EDB Professional Services for the most complex workload migrations

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Explore fully managed PostgreSQL in the cloud with EDB BigAnimal

Log in and spin up a Postgres cluster in seconds with our self-service free trial

- Fully managed by EDB - no setup necessary
- Spin up a cluster in seconds
- 100% free - no cloud account needed
- Expert-supported by EDB's enterprise PostgreSQL team

The free trial experience includes:
  - Compatibility with Oracle via PostgreSQL Advanced Server
  - 14 days access to cluster creation and management
  - Activity log
  - Connect to your cluster and go!

* This self-service free trial allows a single user to experience BigAnimal. For deeper dive evaluations against project and business requirements, please contact your sales executive.

Signup today for 14 day self-service FREE trial!
https://biganimal.com

BIGANIMAL

EDB BigAnimal Availability in Asia Pacific and Japan

Supported Azure regions

- Australia East (New South Wales)

- Japan East (Tokyo, Saitama)

- South East Asia (Singapore)

Supported AWS Regions

- Asia Pacific Northeast 1 (Tokyo)

- Asia Pacific Northeast 2 (Seoul)

- Asia Pacific Southeast 1 (Singapore)

Last updated: May 26 2022. For complete list:
https://www.enterprisedb.com/docs/biganimal/latest/overview/03a_region_support/

BigAnimal

Q2 2022

May

Launch on AWS

Direct purchase options from EDB

Single region continuous availability with BDR (beta launch)

Formulas for database configuration

June

Support for Microsoft Azure ultra disks

Customizable retention periods for backups

Support for 2 node high availability clusters

Q3 2022

LDAP integration for federated DB access

Enable supported EDB extensions

Regions: fine-grained BYOA infrastructure control

Reduced service level privileges

Read only connection strings

Q4 2022 and beyond

Launch on GCP

AWS Marketplace

Multi-region continuous availability for geo-distributed workloads with BDR

PCI compliance certification

Data Migration Service

Projects: enabling isolation between workloads and teams

Integrated migration assessments

Terraform modules enabling integration into DevOps automation and pipelines

FedRAMP Preparation

Postgres on Kubernetes:

- Cloud Native Postgres
- EDB Postgres for Kubernetes

The CloudNativePG Project

- CloudNativePG organization in GitHub: github.com/cloudnative-pg
  - CloudNativePG operator (main project):
    github.com/cloudnative-pg/cloudnative-pg
  - PostgreSQL operand images
  - Helm charts
- License: Apache 2.0
- IP: "The CloudNativePG Contributors"
  - We've applied to the CNCF Sandbox with the goal to donate the project to the CNCF
  - First PostgreSQL/Kubernetes project to attempt this
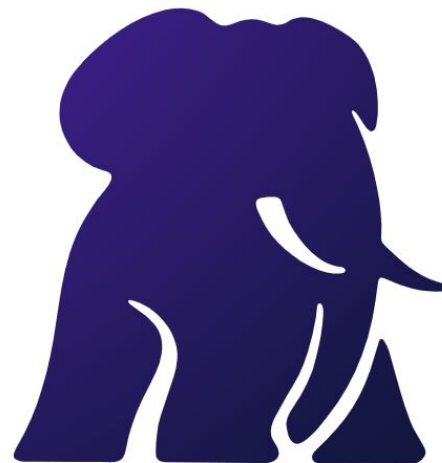
KubeCon

May 2022

EDB™

Example

```yaml
apiVersion: postgresql.cnpg.io/v1
kind: Cluster
metadata:
  name: myapp-db
spec:
  instances: 3
  imageName: ghcr.io/cloudnative-pg/postgresql:14.3

  storage:
    size: 10Gi
```

Services

myapp-db-rw   myapp-db-ro

Pods

myapp-db-1   myapp-db-2   myapp-db-3

PVCs

myapp-db-1   myapp-db-2   myapp-db-3
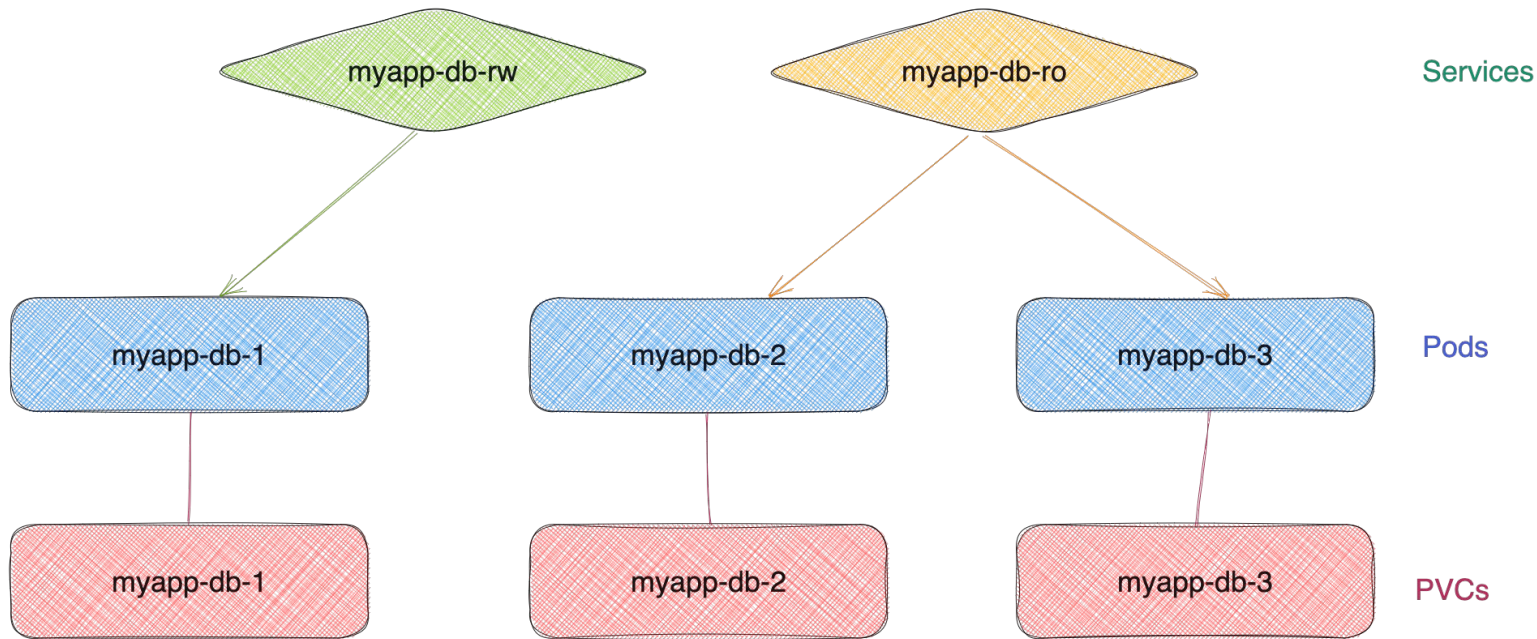
Secrets, ConfigMaps,
PodDisruptionBudgets, Roles,
RoleBindings, ServiceAccounts, ..

CloudNativePG and EDB Postgres for Kubernetes

Modernize your infrastructure and power your performance with Cloud Native and EDB

MATURITY →

Open Source

The kubernetes operator designed for Postgres

Open Source

EDB adds
- break/fix support

EDB adds
- Long Term Support (LTS)
- Support for Red Hat Openshift
- Support for EDB Postgres Distributed

EDB adds
- Oracle compatibility

COMPLEXITY ↑

CloudNativePG

EDB Postgres for Kubernetes

+

+

| Self Supported | EDB Community 360 | EDB Standard Plan | EDB Enterprise Plan |

LANDSCAPE OF POSTGRES FOR KUBERNETES JOURNEY — CloudNativePG — EDB

EDB Postgres for Kubernetes

Q2 2022

Open source release of CNPG @ Kubecon

Support for Postgres Distributed deployments in a single K8s cluster (beta)

Offline major version upgrades of Postgres via the operator

Support to scale-out disk I/O:
- Separate volumes WAL, PGDATA
- Support for tablespaces

Expand default image management for operands by supporting a default image for each Postgres major version

Support LDAP authentication (declarative)

2H 2022

Support for Postgres Distributed deployments across K8s clusters

Barman Operator

Support to sync LDAP users/groups with Postgres

Online major version upgrades of Postgres via the operator

Dynamic tuning of Postgres parameters

2023 and Beyond

Postgres Roles management - PG/EPAS

Declarative User Profile Management - EPAS

Postgres DBA health checks and remediation

Major offline upgrade with parallel data loading

Deep Insights - performance diagnostics, query performance, and audit dashboards

Option to include PgAdmin with Postgres cluster deployments

PostgreSQL and EDB Postgres Advanced Server 15

PostgreSQL and EDB Postgres Advanced Server 15

Q3 2022:
PostgreSQL v15 (EDB contributions)

Logical Replication Improvements
- Column Filtering
- Row Filtering
- Restartable Transactions
- Synchronous Logical Replication Slots

More granular permissions
- Enable non super users to do additional things (i.e. set GUCs)
- Better permission granularity on logical replication

SQL
- MERGE

Partitioning
- 10x performance for large partition counts with write activity
- Multi Key Partitioned tables

JSON
- JSON SQL Functions
- JSONB statistics

Other
- Refactoring Backups to enable different targets
- Enhanced Startup messages

Q4 2022:
EDB Postgres Advanced Server v15

Enterprise Integration
- LDAP

Oracle Compatibility

SQL
- MERGE

Packages
- HTP, HTF, DBMS_UTILITY (enhancements)

Functions
- extractvalue, rexp_like, from:tz, to_timestamp_tz, to_clob, nvl, reverse, numtodsinterval

EDB TECHNOLOGY INVESTMENTS

Application-Specific Storage Models
- Use-case specific storage models
- Proprietary extensions

Horizontal Scalability
- Horizontal autoscale
- Distributed Postgres

Field-Level Security
- Security, usability, performance
- Standards compliance

Intelligent Tuning
- Intelligent DBA assistant
- Environment and workload based

Managed Service (DBaaS)
- BIGANIMAL (Azure, AWS, GCP)
- Migration as a Service (MaaS)

High Availability
- RAC competitor
- 99.999%

Microservices
- K8s operators
- EDB Cloud Native Postgres

Legacy Database Replacement
- Native compatibility
- Migration tools

Open Source Investments