

# AgensSQL

*Open Source PostgreSQL based DBMS*  
with Oracle compatibility, 24 x 365 global tech support

# What are the trends on IT market ?

## IT industry key trends

5G Network  
Full stack development  
**Machine Learning (ML)**  
Virtual Reality (VR) and Augmented Reality (AR)  
**Cloud Computing** Platform Engineering  
**Cybersecurity** 5G Technology Metaverse  
Spatial Computing  
**Big Data and Analytics**  
Internet of Things (IoT) Remote Work Technologies  
**Sustainable IT** Wearable Device  
Edge Computing Blockchain DevOps  
Intelligent Applications **Artificial Intelligence (AI)**  
Quantum Computing  
Automation system

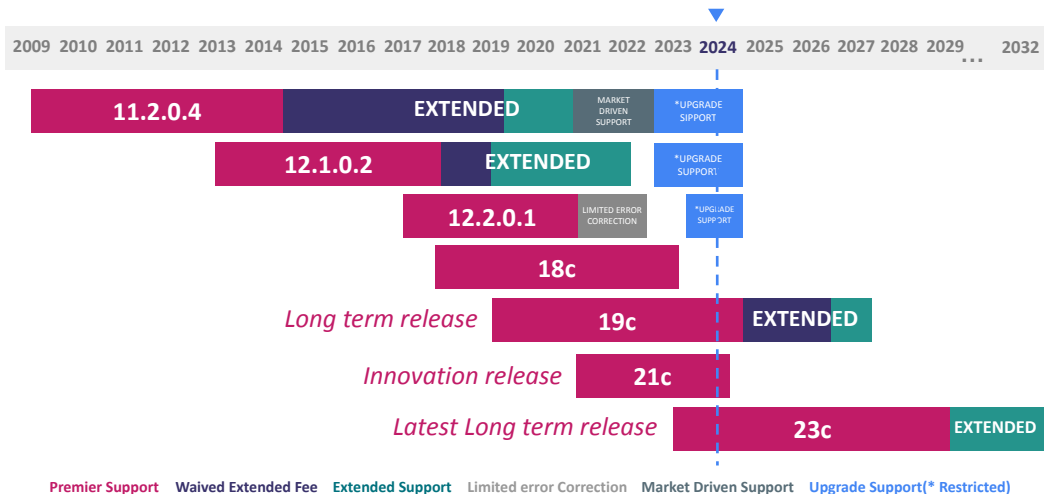
Data volume and  
complexity increasing

## Impacts on DBMS

- ▶ Evolution for **scalability**  
- increasing data volumes and workloads
- ▶ Requirement on **flexibility**  
- accommodate different data models and types
- ▶ Focus on **security** and **compliance**

## Oracle database releases

- Continuous update required to catch up the releases



## Pain points

- Substantial cost burden and license compliance matters
- Upgrade / migration complexity and compulsion
- Limited customization and vendor lock-in

## Alternative solution

Open-source  
+  
Improvement  
Business model

*"Enhanced the advantages and mitigated the weakness of open-source"*

# WHY PostgreSQL out of open-source DB?

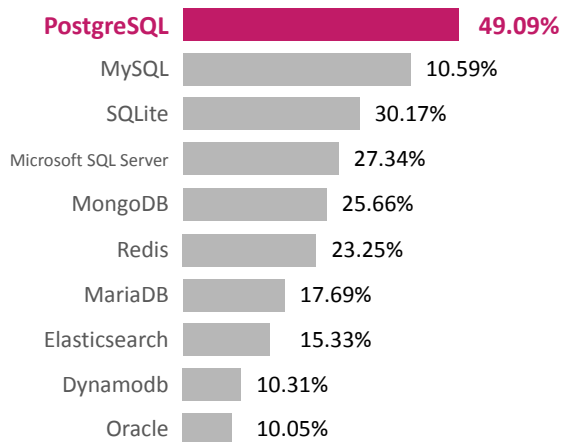
## the #1 developer favorite open-source DBMS

“Open source has become open for business”

### The Professionals' Pick

Over 50% Favor PostgreSQL

### DB-Engine Ranking



### DB-Engines Ranking

The DB-Engines Ranking ranks database management systems according to their popularity. The ranking is updated monthly

Read more about the [method](#) of calculating the scores

Rank			DBMS	Database Mod
Mar 2024	Feb 2024	Mar 2023		
1.	1.	1.	Oracle 🏆	Relational, Multi-mc
2.	2.	2.	MySQL 🏆	Relational, Multi-mc
3.	3.	3.	Microsoft SQL Server 🏆	Relational, Multi-mc
4.	4.	4.	PostgreSQL 🏆	Relational, Multi-mc
5.	5.	5.	MongoDB 🏆	Document, Multi-mi
6.	6.	6.	Redis 🏆	Key-value, Multi-mc
7.	7.	📈 8.	Elasticsearch	Search engine, Mult
8.	8.	📉 7.	IBM Db2	Relational, Multi-mc
9.	9.	📈 11.	Snowflake 🏆	Relational

Source : [2023 StackOverFlow Survey](#)

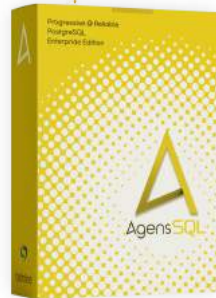
Source : [DB-Engine](#)

Your Data, Our Passion: **PostgreSQL at the Core**

*"Enhanced the advantages and mitigated the weakness of open-source"*

# AgensSQL

*Open Source PostgreSQL based DBMS*  
**with Oracle compatibility, 24 x 365 global tech support**



# WHY AgensSQL ?

Migrate from **Oracle** to **PostgreSQL**  
based **AgensSQL**



Performance compatible



Cost Efficiency



Oracle Compatibility



24 x 365  
Tech Support

## AgensSQL

Your Data, Our Passion: **PostgreSQL at the Core**



# WHY Bitnine ?

“Reliable” Company

- The only DBMS tech company listed in **KOSDAQ market**
- Various business cases **for 12 years history**

“Innovative”  
Technology leader

- **Opensource** philosophy in foundation
- **Core level** database developers in R&D

“Global” player

- Worldwide located **offices and subsidiaries**
- **24 x 365** enterprise level tech support

# Product Architecture

AgensSQL

Enterprise  
Package

3

High Availability

4

Management  
Tools

5

Graph DB Extension  
Apache AGE®

DB Core Engine

1

PostgreSQL based

2

Oracle Compatibility

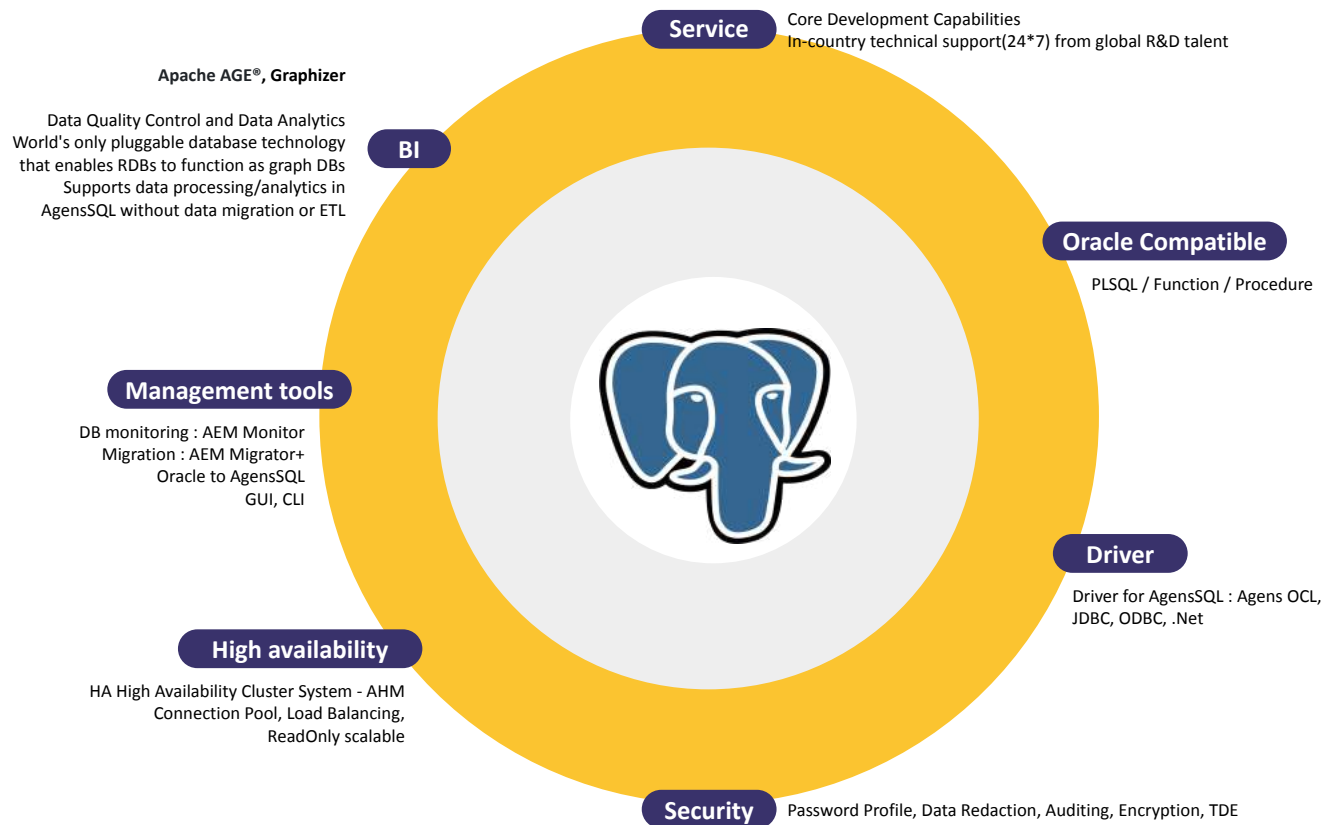
6

24 \* 365  
Technical Support



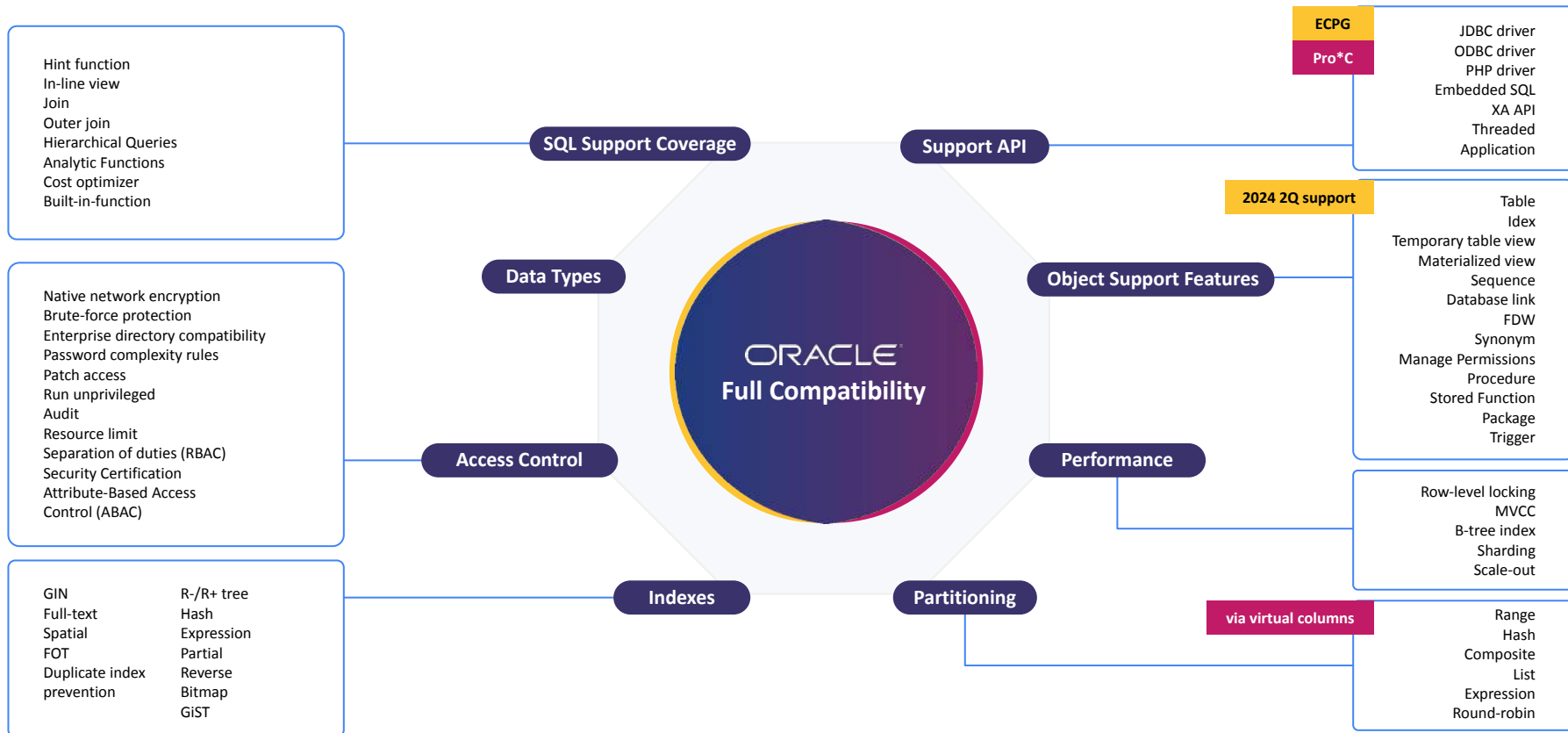
# PostgreSQL based DB

AgensSQL! Postgre-based stable database with the enhanced security features, tools and tech support



## 2 Oracle Compatibility

Agens**SQL**! Oracle compatibility can help your team minimize the transition burden



## 2 Oracle Migration

AgensSQL Oracle Transition: Making Migration Effortless for All

ORACLE

AgensSQL

Object type		Object type
Function	→	Function
Index	→	Index
Package	→	Procedure
Package Body	→	Sequence
Procedure	→	Table, Partition
Sequence	→	Trigger
Table, Partition	→	TYPE
Trigger	→	MView
TYPE	→	View
MView	→	
Synonym, View	→	



### Check Point

- **Case Sensitivity** : Oracle -> Case string processing, Postgresql -> Lower case processing
- **NULL Handling** : Processing of Non-space String is recognized as Null in Oracle and Value of String in AgensSQL

## Oracle Migration tools with AEM

Integrated compatibility technology

### AEM Migrator



#### AEM Migrator Oracle to PG Mode

- Data Type Compatibility
- User Feature Procedural Transformation Support



### AEM Migrator Plus



#### Migration Desktop(GUI) Oracle to Oracle Mode

- Provide available schemas and table views for data migration process



#### Migration Tool (CLI) Oracle to Oracle Mode

##### Features for DBAs

- Gain detailed control over the migration process
- Oracle schema extraction and conversion



Enterprise Edition / Enterprise Edition Plus

Standard Edition

### 3 High Availability

Guaranteeing High Availability in Continuous Business Environments with AHM

#### HA Features

Active-Active (read-only), Active-standby



After a failure on the primary server, it switches to a secondary server within a few seconds to a maximum of 2 minutes, ensuring the continuation of service

#### Automatic fail-over

Ensure stable system operation through automatic fail-over processing in case of failure by checking the heartbeat

#### Connection pooling

Maintains a connection to the DB server and reuses it when a new connection request with the same attributes (User, DB, Protocol) comes in

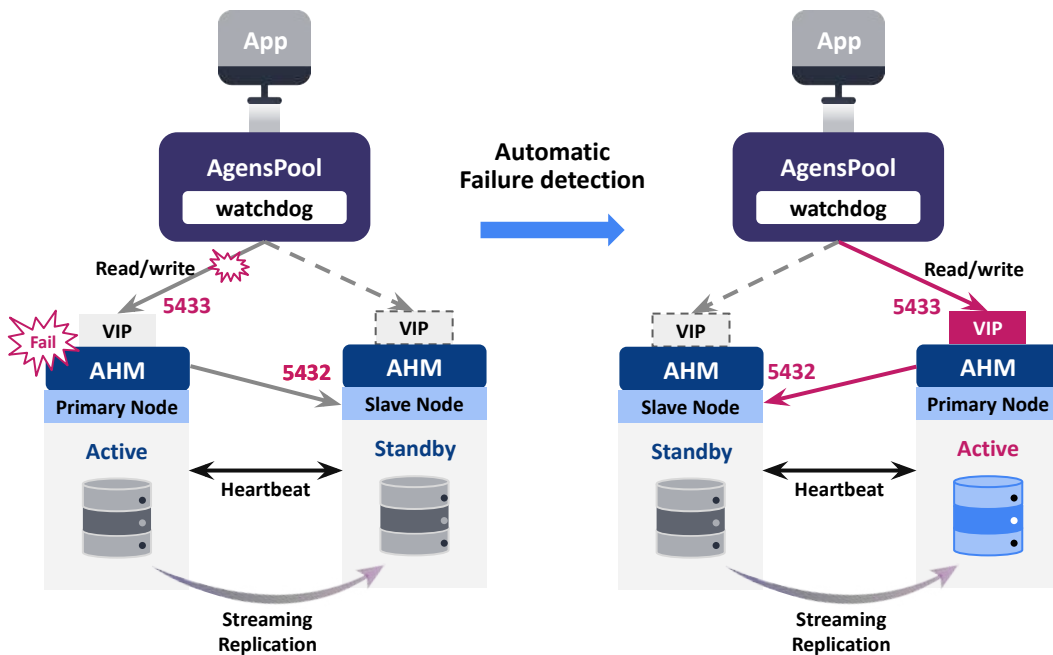
#### Load balancing

Reduces the load on the entire server by distributing it to reduce the load on the DB server in systems that use Replication

#### Replication

Protect data from failures by replicating DB between servers in real time with redundancy configuration

#### Automatic fail-over





## AEM Admin

**Admin Solution**  
*Features for DBAs*

**Agens Enterprise Manager**  
is a browser-based console that combines AgensSQL management and monitoring features based on PG admin

## AEM Monitor

**DBMS Monitoring Solution**  
*Features for Management*

**AEM Monitor**  
it servers as monitoring product to check the database status information and identify any performance issues occurring

## AEM Migrator

**Migration UI Tool**  
*Features for Engineers*

**Standard**  
**Oracle to PG Mode**  
Windows Migration Tool

**Enterprise**  
**Oracle to Oracle Mode**  
Migration Web Guide  
Migration Toolkit

## Enterprise Edition +

### AEM Migrator Portal(Web)

#### The Migration Portal

is a web-based service for migrating Oracle database schemas to AgensSQL

It evaluates and analyzes Oracle database schemas and facilitates the conversion process



### AEM Migration Tool(CLI)

#### Powerful CLI tool

available for fine-grained control over the migration process

It allows migration of Oracle database objects and data

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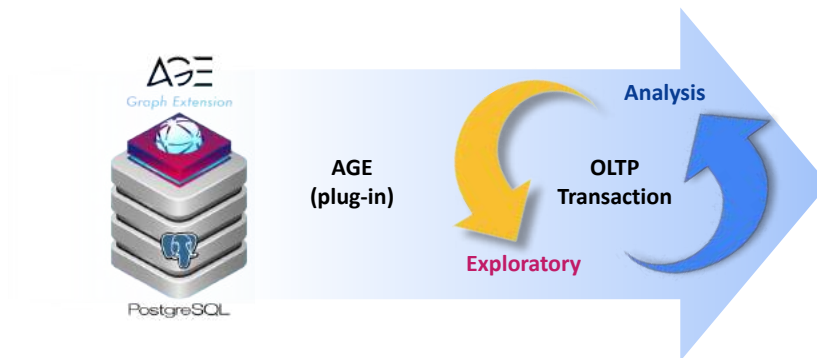
--migrate --source-schema-name schema --target-schema-name schema --help
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```

## Graph ext. Apache AGE®

Apache AGE® makes Graph Database available on top of AgensSQL without migration

AgensSQL

“Apache AGE® is an open-source software that offers the world-first pluggable extension of graph data modeling and analytics on top of a relational database”



### RDB + GDB

World's Only RDB + GDB  
graph analysis solution

### Seamless Data Processing

Data processing and analysis within  
AgensSQL without migration

Enhancing data integrity

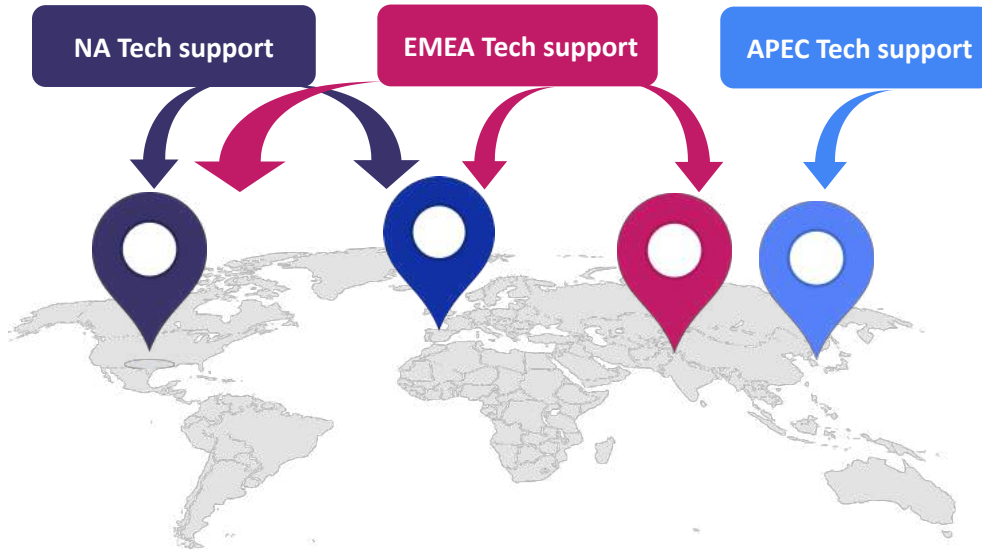
### Hybrid Queries

World's first hybrid query feature  
supporting simultaneous execution of  
SQL (RDB) and Cypher (GDB) queries

### Graph Technology Efficiency

Handling complex business data analysis  
more efficiently and cost-effectively  
using graph technology

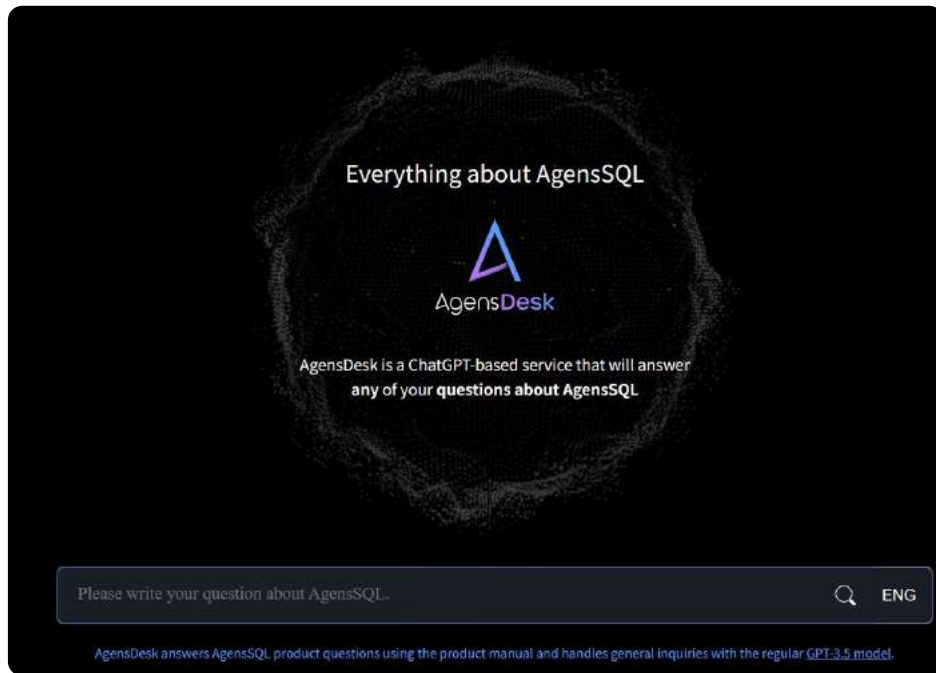
Commitment for 24 x 365 Technical Support



- **Rapid responsive** to all levels inquiries
- 24 x 365, **anytime available** service windows
- **Collaborative direct support** from vendor

## Tech support portal

“AgensDesk”, AI-ChatGPT based tech portal



- Troubleshoot access from **anywhere**
- **Round-the-clock** technical support available
- **Personalized approach** for engineering support



# Professional Services

Professional Services for Database Excellence: PostgreSQL, Oracle Compatibility, and More

## Professional Services

### PostgreSQL DBMS Services

- Initializing and setup services
- DBMS upgrade services
- High availability implementation services
- Performance tuning services
- Problem determination and solving services
- Backup and recovery services

### Oracle Compatibility Consultancy Services

- Support interoperability of Oracle functions, procedures and triggers
- Support PL/SQL features in PostgreSQL
- Customization of Oracle features based on additional customer requirements

### Oracle Data Migration Services

- Data migration consultancy services for prerequisites and environment review and application compatibility
- Performing Data migration using conversion tool from various databases to PostgreSQL (Oracle, MySQL, MSSQL)
- Cloud migration: Data migration from on-premise to cloud environment

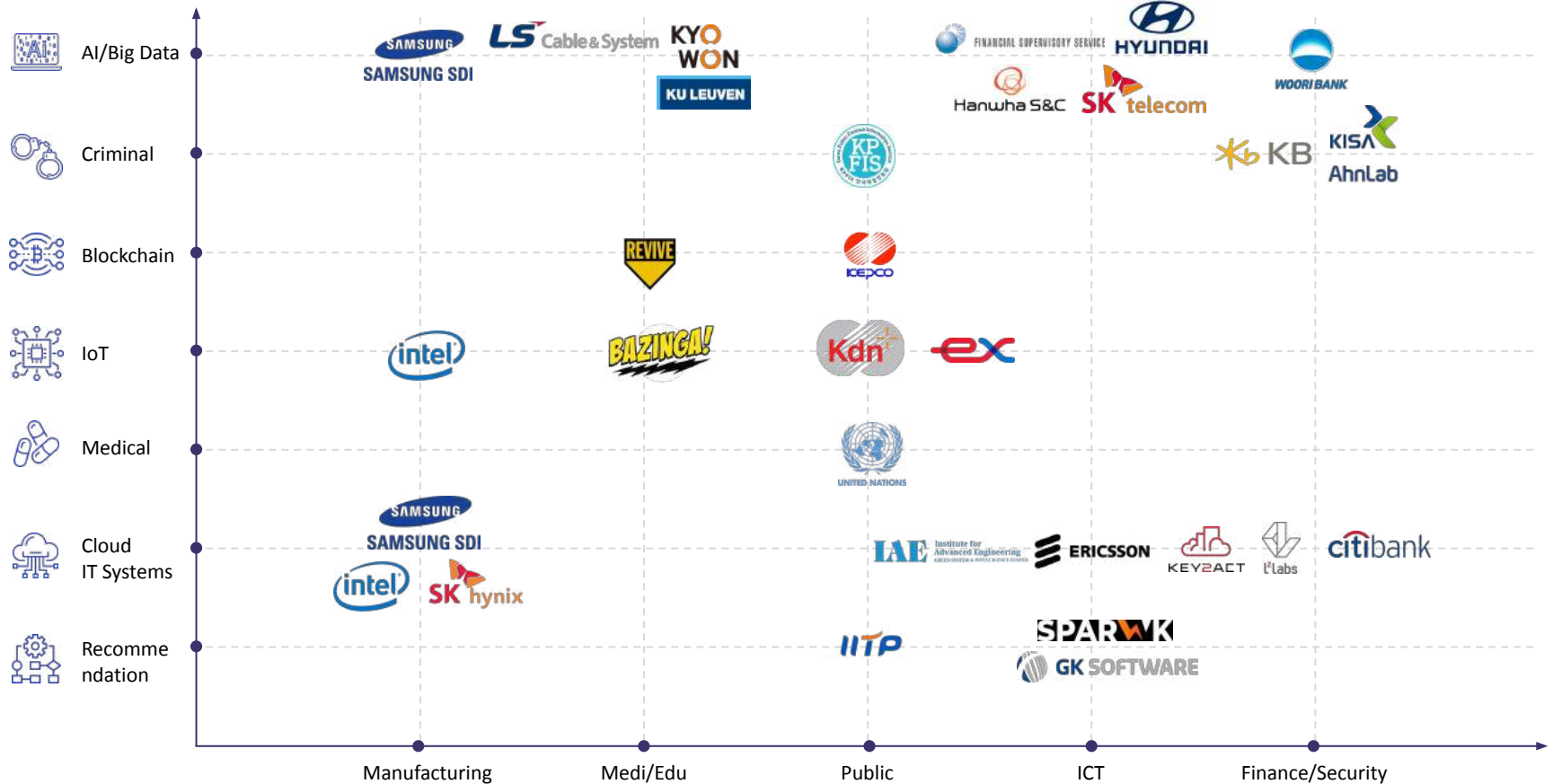
### Interface Development Services

- Support interoperability from interface development between PostgreSQL and 3rd party solutions
- Support interoperability in PostgreSQL extensions

# Product Package

	DBMS	High Availability	Management Tools	Graph DB support
Enterprise Edition +	<div>AgensSQL with Apache AGE®</div> <div>Oracle Compatibility</div>	Agens HA Manager  Agens Pool (LB)	AEM admin    AGE Viewer  AEM Monitor    AGE Loader  AEM Migration +    Graphzier	Apache AGE®  Graphizer
Enterprise Edition	<div>AgensSQL</div> <div>Oracle Compatibility</div>	Agens HA Manager  Agens Pool (LB)	AEM admin  AEM Monitor  AEM Migration +	
Standard Edition	<div>AgensSQL for PostgreSQL</div>		AEM admin  AEM Monitor  AEM Migration	

# References



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