

Oracle database to Azure POSTGRESQL Migration



Welcome to possible

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1. Offer Summary:-

With more and more IT infrastructures switching to the cloud and looking on to massive scalable cloud adoption, feature and cost effective licenses fees with open source software like POSTGRESQL make the data migration look lucrative to enterprises

To enhance various needs of business like Data Storage and Data Management work of an organization Microsoft Azure Cloud is a collection such services

An Oracle to POSTGRESQL Migration on Azure can be achieve in multifold ways with tools and technologies like Azure database for MSSQL Flex Server, which provides a subset of configurable parameters for each server

2. Why Mindtree:-

Mindtree Limited helps you in migrating your on premise RDBMS like Oracle Database to Azure database for POSTGRESQL by following the best practices and helps you create a database migration roadmap that can accelerate your journey to modernize database and infrastructure using Azure Cloud. Here are a few key technical benefits for the customer of using Azure POSTGRESQL:

- Azure Database for POSTGRESQL server is pre-configured
- Database migration assessment from Oracle to POSTGRESQL
- Automation (full and delta) Using Mindtree Compass Accelerator and Scripts
- Ease in automatic conversion of code like PL/SQL (Functions and Procedures)
- Fully Managed – Monitoring, security, alerting, backup, and disaster recovery.
- Horizontal scaling and “Read Replicas” for performance.
- Scalable to meet the ever-growing demand
- Reduction in Cost

3. Migration Process and High Level Architecture:-

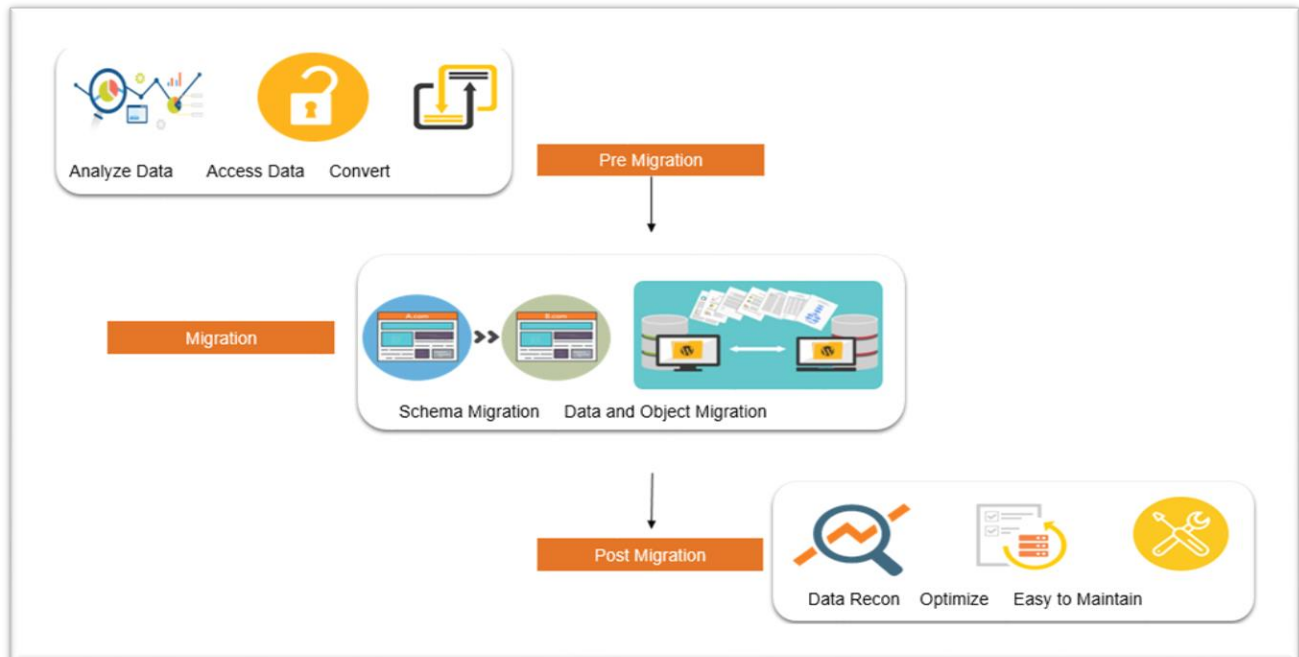
Azure POSTGRESQL Flexibility, POSTGRESQL High Availability, Customizability and Scalability are the main coverage from Architectural point of view for long-term business needs

MSSQL Comes with 2 options (Single server and Flexible Server)

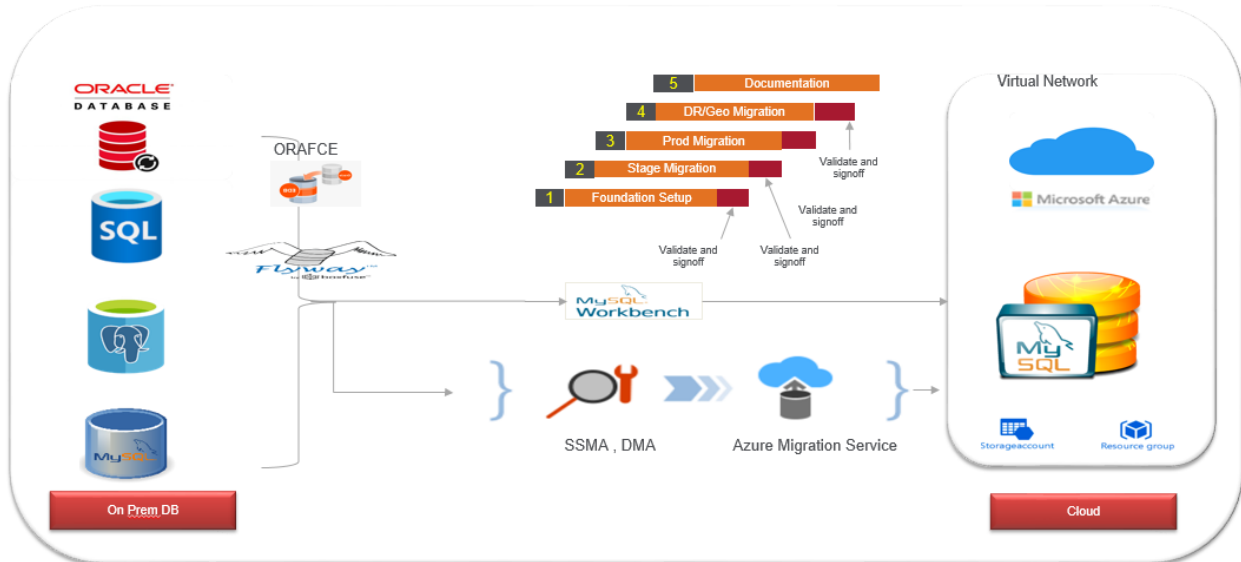
Here we are discussing more on Azure Flexible server Migration Process along with the features

Database migration can be complex. Mindtree has been an anchor partner for companies in the Database modernization journey. Our approach of Oracle database migration to Azure PostgreSQL, in general, can be summarize as:

- 1 Pre Migration:
- 2 Migration
- 3 Post Migration



Below architecture diagram provides a general overview of the DB database migration process where data can be easily moved from RDBMS System to Cloud Azure PostgreSQL.



Below are set of activities while performing the migration

- Pre-migration check-list preparation
- Offline versus online migrations to determine whether the downtime is acceptable; if not, to be prepared for online/minimal down time migration options (DMS, Transactional Replication)
- Preparation of target Azure POSTGRESQL Database
- Validate the migration steps
 - ✓ Create a migration project & Analyze and access source and target
 - ✓ Add databases and plan
 - ✓ Select login
 - ✓ Migration to Azure POSTGRESQL Database
 - ✓ Verify data in Azure POSTGRESQL Database
- Post-migration: Optimum utilization and to ensure smooth functioning wherever possible
- Remediate procedures/ steps.

When it comes to PaaS Azure Database for PostgreSQL Flexible Database, which provide more controls with ease. Below are the key features for the same

- Azure POSTGRESQL Flex DB can be configure in single region as well as multi region
- Simple configuration steps for automating Start/ Stop of Azure POSTGRESQL Database Stop your server when not in use to save cost! And also Control your Planned Maintenance schedule
- Azure Database for POSTGRESQL provides around 300+ Parameters, which can be configurable as per the need. Maximize Database Controls – Provide maximum control on your server configurations
- Enables high availability across multiple availability zones More Cost Optimization Controls
- Simplify developer experiences (no manual intervention required to start and stop servers user friendly UI web application)

- Enable Zone Resilient & Aware Applications – Allow you to build highly available, zone resilient and performant applications, with your PostgreSQL database co-located in the same zone, so you can tolerate zone level failures.
- automating Start/ Stop of Azure PostgreSQL Database with Simple configuration steps
- Build Zone resilient applications with Flexible Server
- Easy deployment of Virtual Machine with examples.
- Network Isolation Control: Select and run in public access mode or secure it in private access mode.

As you can see in below diagram #2 it's easy to configure the server in various AZ and Regions

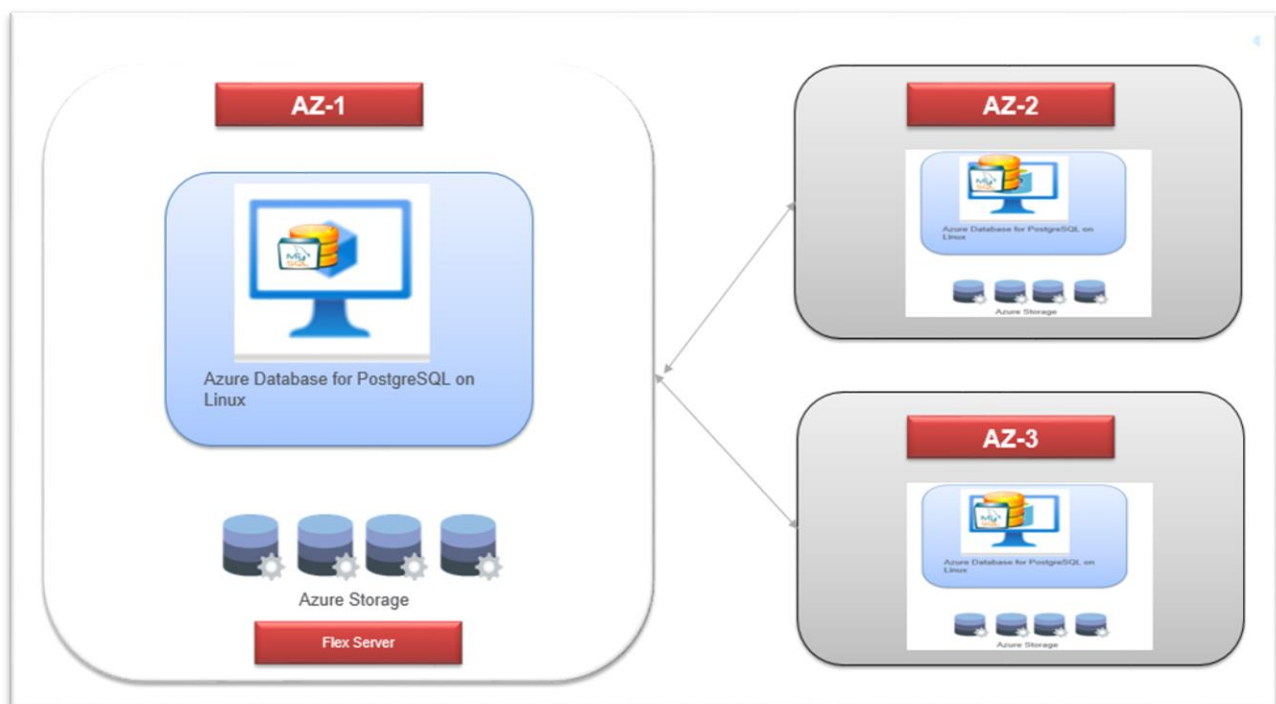


Diagram #2

Compass (Mindtree's accelerator):

With our previous engagement and experience, Mindtree Compass helps in automated way majorly at 3 levels:

- Assessment and Planning the Azure Migration level
- Azure Cloud Adoption Framework level
- Azure Migration Strategies (Refactor / Rebuild /Lift n Shift) level

Below are few highlights of using **Compass (Mindtree's accelerator):**

- Compass is Mindtree's accelerator to discover, analyse, assess, plan and mitigate risks

- It enables accelerated cloud adoption by performing and orchestrating all the activities
- Extended Performance Monitoring (EPM) creates performance reports for the server
- The infrastructure profile provides you with an overview of the datacentre
- Creates application profiles to modernize your application
- Performs scanning in agentless and agent-based approach
- Provides suggestions for storage advisory and to modernize your application
- Delivers PaaS recommendation for the workload which can be migrated AS-IS]

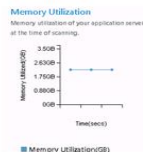
Compass sample report:-

Compass Tool :

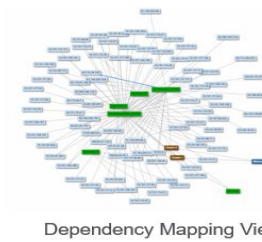
Your Infrastructure

Information gathered by ComPass® after scanning your infrastructure.

Scan Summary	
No. Of Servers	60
Windows Servers	60
Linux Servers	0
Unix Servers	0
Workload Components	2389
Physical Servers	5
Virtual Servers	55
Total Storage	11.4375 TB
No. Of Disks	170
No. Of Drives Size	178 [10.9336 TB]
Unpartition Disk Size	[516 GB]

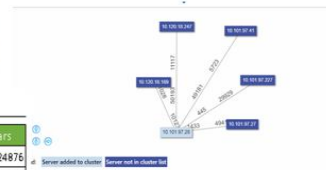


Your Preferred Clouds	Cloudability Status
AWS	● Cloudable
Azure	● Cloudable
GCP	● Cloudable



PaaS TCO Match Over 3 Years

Cloud Name	Total Recurring /Month	Total Cost Over 3 Years
Microsoft Azure	\$691	\$24876
AWS	\$388	\$13968



Benefits:

There are many migration benefits from business and Technical prospective for Oracle to AZURE Flex POSTGRESQL solution

- Overall Cost reduction due to accelerator and automation scripts
- Min 32 GB to 16 TB Max. Storage size huge size
- Ease in troubleshoot and optimize workload by many monitoring option
- POSTGRESQL is Open source database and has no Licensing cost (Community Edition)
- There is no Vendor lock-in risk in POSTGRESQL DB.
- Fully Managed – Monitoring, , Secure, Alerting, Backup and Disaster Recovery
- easy availability from public cloud providers
- Faster Cross-region replication

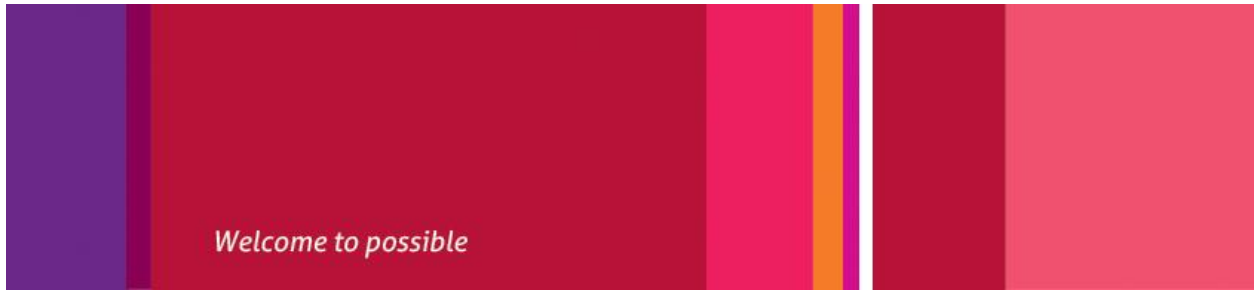


- Horizontal scaling and Read Replicas for performance.
- High availability within and across availability zones
- Network Isolation (Public and Private)
- Reduction in License cost

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