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Oracle Maximum Availability Architecture (MAA)

Data Sheet

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Introduction

Enterprises use Information Technology (IT) to gain competitive advantages, reduce operating costs, enhance communication with customers, and increase management insights into their business.

Thus, enterprises become increasingly dependent on their IT infrastructure and its continuous availability. Oracle Maximum Availability Architecture (MAA) consists of a set of best practices blueprints for the integrated use of Oracle's High Availability (HA) and Disaster Recovery (DR) technologies that ensure this level of availability.

Oracle Maximum Availability Architecture (MAA)

MAA best practices are created and maintained by a team of Oracle developers that continually validate the integrated use of Oracle Database High Availability features using chaos engineering techniques and other testing methodology. Real-world customer experience is also fed back into the validation performed by the MAA team, spreading lessons learned to other customers.

MAA includes best practices for critical infrastructure components, including servers, storage, and network, combined with configuration and operational best practices for the Oracle Database high availability capabilities deployed on it. MAA resources (on oracle.com/goto/maa) are continually updated and extended.

Given that all applications do not have the same high availability and data protection requirements, MAA best practices describe standard architectures designed to achieve different service level objectives. Details are provided in Oracle MAA Reference Architectures.

"The goal for us at Epsilon is to have 99.999% availability. We found out that a lot of our processing time was being done by reporting process. We used Active Data Guard to offload reporting to another set of servers that had a huge impact on our production database as there was enough capacity to run OLTP transactions."

Keith Wilcox
VP, Database
Epsilon

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Oracle Maximum Availability Architecture (MAA)
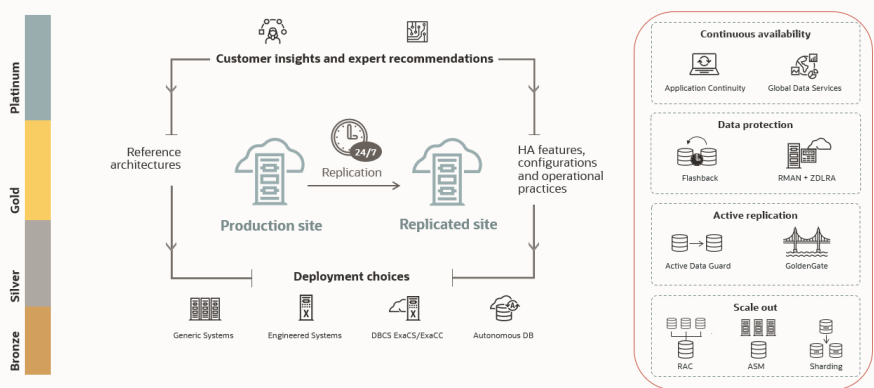
Maximum Availability Architecture Fundamentals

Over the years, Oracle MAA has evolved in multiple directions. For example, Oracle MAA on Engineered Systems now provides the MAA best practices and blueprint recommendations as part of the engineered and hence integrated deployment that one will find on Engineered Systems such as the Oracle Exadata Database Machine. For Oracle Database Services in the Oracle Cloud, Oracle MAA is integrated into the deployment; the Oracle Cloud, especially the Platform as a Service offerings, are operated following those standards that have ensured maximum availability for many of Oracle's customers for decades.

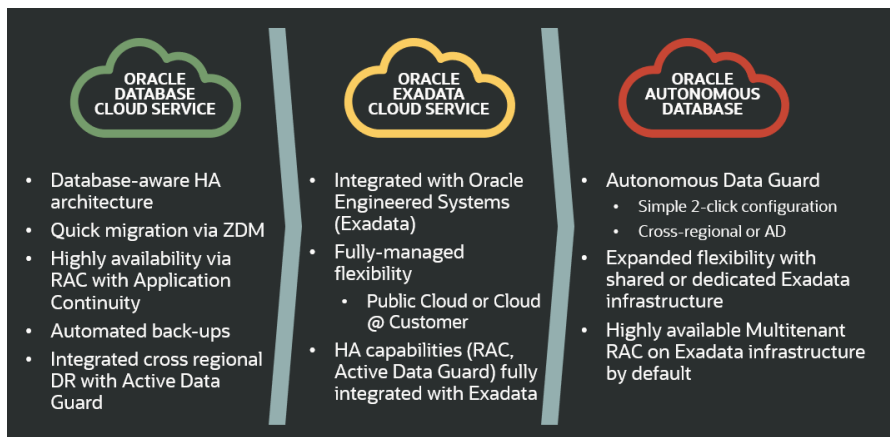| Bronze	Silver	Gold	Platinum
Dev, test, prod	**Prod/departmental**	**Business critical**	**Mission critical**
Single instance DB	Bronze +	Silver +	Gold +
Restartable	Database HA with RAC	DB replication with Active Data Guard	GoldenGate
Backup/restore	Application continuity		Edition based redefinition

Maximum Availability Architecture Tiers and Technology

Last but not least, Oracle MAA has evolved to be the new de facto High Availability standard. In the absence of any other comprehensive literature on this subject. Oracle MAA acts as general guidance for any database operator who wants to meet the highest level of availability, as MAA blueprints consider and discuss the various failure scenarios that can affect any database. For Oracle Databases, Oracle MAA goes a step further in that it also provides a solution based on Oracle's integrated high availability features.

Thereby, Oracle MAA addresses Oracle customers that want to improve their database availability and non- and especially future Oracle customers that would like to review failure scenarios and get an idea about what type of failures and planned maintenance operations need to be covered. In this context, Oracle MAA is also an interesting topic for application developers, as it provides guidance on which failures the application may have to tailor to and which failures an application can ignore, or even better for which failures the application can rely on Application Continuity to keep them completely transparent.

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Maximum Availability Architecture (MAA) in the Oracle Cloud

For Oracle Cloud, MAA is integrated into the infrastructure automation of various Oracle Database Service PaaS offerings, including Oracle Database Cloud Service, Oracle Exadata Cloud Service, Oracle Exadata Cloud at Customer, and Oracle Autonomous Database. These services have various flexible options with both high availability and disaster recovery built directly into the infrastructure following best practices with different options (see the above diagram) aligned with each of the MAA tiers depending on which service offering is selected.

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