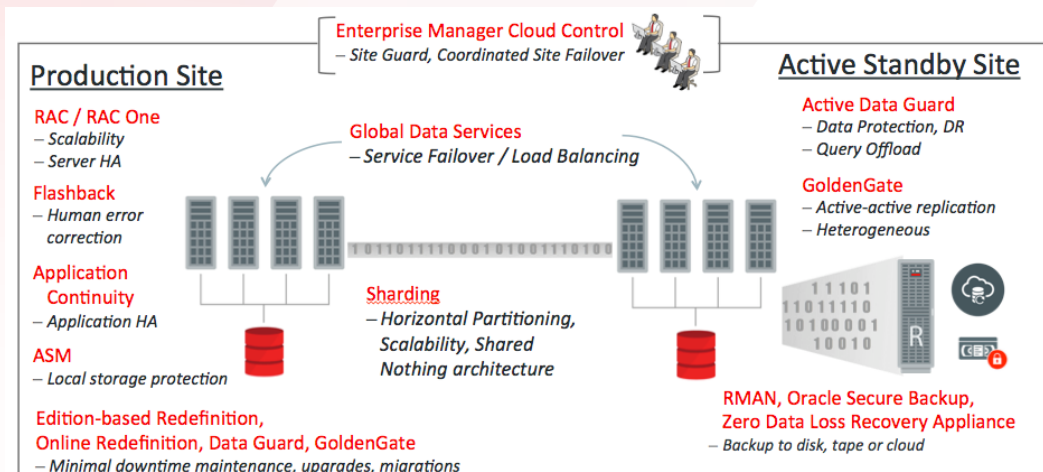# Oracle

Maximum Availability

Architecture (MAA)

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 consists of set of best practices blueprints for the integrated use of Oracle's High Availability (HA) technologies that ensure this level of availability.
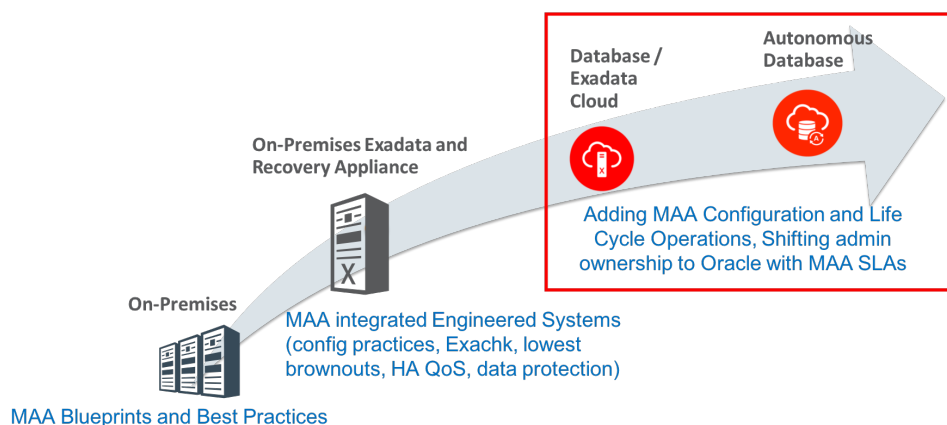
ORACLE MAXIMUM AVAILABILITY (MAA)

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. 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 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 Foundation for Database as a Service*

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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 not only integrated into the deployment; the Oracle Cloud, especially the Platform as a Service offerings, is operated following those standards that have ensured maximum availability for many of Oracle's customers for decades.

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 a general guidance for any database operator that would want 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 does not only address Oracle customers that want to improve their database availability, but also 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.

$350K Average cost of downtime per hour

Average cost of unplanned data center outage or disaster **$10M**

For Oracle Customers wanting to improve their system availability to reduce costs caused by downtime.

For non-Oracle Customers to get an idea what failure scenarios need to be covered and how Oracle can help.

```
try
{
    PoolDataSource pds = GetPooDataSource();
    Connection conn = pds.getConnection();
    PreparedStatement pstmt = …
        …
        SQL, PL/SQL, local calls, RPC
        …
    conn.commit();
    conn.close();
}
catch (Exception e)
{
        #Do something to fix
}
```

For Application Developers to understand which failure scenarios should be tackled by the application.

For Oracle Autonomous Database Customers who will benefit from years of MAA experience directly and immediately.

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