Oracle Utilities Cloud Services

Frequently Asked Questions Guide

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Introduction

Welcome to the Oracle Utilities Cloud Service Frequently Asked Questions Guide. This guide includes frequently asked questions (FAQs) regarding the implementation and operation of the following Oracle Utilities Cloud Services:

- Oracle Utilities Billing Cloud Service
- Oracle Utilities Customer Care and Billing Cloud Service
- Oracle Utilities Customer Cloud Service
- Oracle Utilities Customer Program Management Cloud Service
- Oracle Utilities Market Settlements Management Cloud Service
- Oracle Utilities Meter Solution Cloud Service
- Oracle Utilities Rate Cloud Service
- Oracle Utilities Work and Asset Cloud Service

This document includes the following:

- Cloud Services Frequently Asked Questions

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Cloud Services Frequently Asked Questions

This document contains frequently asked questions about Oracle Utilities cloud services, including:

- Common Frequently Asked Questions
  - General Questions
  - Technical Questions
- Product-Specific Frequently Asked Questions
  - Customer Cloud Service Questions
  - Meter Solution Cloud Service Questions

Common Frequently Asked Questions

This section lists frequently asked questions that apply to the following Oracle Utilities cloud services:

- Oracle Utilities Billing Cloud Service
- Oracle Utilities Customer Care and Billing Cloud Service
- Oracle Utilities Customer Cloud Service
- Oracle Utilities Customer Program Management Cloud Service
- Oracle Utilities Market Settlements Management Cloud Service
- Oracle Utilities Meter Solution Cloud Service
- Oracle Utilities Rate Cloud Service
- Oracle Utilities Work and Asset Cloud Service

General Questions

What are Oracle Utilities Cloud Services?

Oracle Utilities Cloud Services are Oracle Utilities Application Framework (OUAF) based applications now being offered as cloud (Software-as-a-service) services. These include:

- Customer Cloud Service (CCS, CCS-Retail, CCS-MTM), Billing Cloud Service (BCS), and Rate Cloud Service (RCS), using the Oracle Utilities Customer to Meter (C2M) architecture
- Customer Care and Billing Cloud Service (CCBCS), using the Oracle Utilities Customer Care and Billing (CC&B) architecture (not C2M)
- Work and Asset Cloud Service (WACS), using the Oracle Utilities Work and Asset Management (WAM) architecture
- Meter Solution Cloud Service (MSCS) using the Meter Data Management portion of C2M. This is also available as an add-on to CCS called "Advanced Meter Solution" (AMS).
- Digital Asset Cloud Services (DACS)

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These services are built with a high availability architecture and include Disaster Recovery. The services are deployed on Oracle Cloud Infrastructure (OCI), generation 2.

How are Oracle Utilities Cloud Services different from the on-premises applications?
The Oracle Utilities Cloud Services are different from on-premises applications in a few ways.

1. As cloud-based "Software-as-a-Service" (SaaS) applications, Oracle runs the infrastructure, and the customer operates the application. That means the customer cannot get direct access to the hardware to add resources, change server settings, and so on. Oracle handles updates & patching, backups, and disaster recovery, however unless granted by the customer, Oracle does not have access to any unencrypted customer data (including via the user interface, directly in the database, or via direct access to the underlying data files/backups). You can find an exhaustive list of roles and responsibilities in the cloud service Overview Guides.
2. A cloud service subscription includes the use of Oracle Cloud Infrastructure Identity and Access Management (IAM) with Identity Domains for user/password management and authentication. (more information below)
3. In general, if you could do something with an on-premises application through the browser, then you can still do it in the cloud service. A few things that aren't allowed in cloud: no new Java programs (Groovy scripting with plug-in batch as alternative), no xsl uploads (use Managed Content for xsl), no direct database connectivity (Analytics Publisher is included with cloud services for reporting and queries, as well as Oracle Database Actions).

> **Note**
>
> Customers migrating from Oracle Utilities Customer Care and Billing to Oracle Utilities Customer Care and Billing Cloud Service, or Oracle Utilities Customer to Meter to Oracle Utilities Customer Cloud Service can migrate existing custom Java programs using the Oracle Utilities Java Development Environment License Subscription (available under a separate license). See **Migrating Legacy Custom Tables and Java to Oracle Utilities Cloud Services** in the *Oracle Utilities Cloud Services Implementation Guide* for more information.

4. Note that both Customer Cloud Service and Meter Solution Cloud Service use the Customer to Meter platform, so Customer Cloud Service implementations are expected to use Meter Data Management (MDM) for meter data and Service Order Management (SOM) for field activities.
5. Patching (core system maintenance and application patching) happens frequently (monthly) and customers must be prepared to stay current. See How are the cloud services kept current? below for more info.
6. Updates (such as moving from 25.4 to 25.10A or from 25.10 to 26.4, etc) happen two

(2) times per year, with releases every 6 months (release YY.4 in April and release YY.10 in October). Each release is supported for one year. Customers in production must upgrade before the end of life of their current version. During initial implementation customers will be kept on the latest version. See How are the cloud services kept current? below for more info.

Can we extract data from Oracle Utilities Cloud Services to feed a customer owned data lake?

Oracle Utilities Cloud Services include features called 'Generalized Data Export' and 'Specialized Data Export' that provides file-based exports of either 'initial' or 'incremental' data in JSON format, written out to Oracle Object Storage. Enabling this functionality involves use of

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Maintenance Object extract configurations and audit algorithms to enable change data capture when exporting incremental data.

Note that exported files will then need to be moved from Object Storage to other destinations - one option for this file movement is using Oracle Integration Cloud, which can connect to Object Storage via a REST API and then direct the files to other locations. In addition, other clients can also access Object Storage via the REST API.

> **Note**
>
> A full database export can be used instead of the production database. The export file can be imported in the target environment to establish the initial baseline. Cloud customers may contact cloud operations to request such export for on-premise use. This schema export is limited for reporting purposes and is intended for initial extract only. Refer to **Requesting a Database Copy** in the *Oracle Utilities Cloud Services Cloud Operations Guide* for more information.

Generalized Data Export is only recommended for a small number of tables, as managing incremental change data capture for a large number of tables becomes challenging very quickly due to increasing complexity. For this reason, we recommend using GoldenGate Replication for Enterprise SaaS implementations if you need ongoing change data capture replication for more than 20 tables. Please note that this is a fee-based service. See **GoldenGate Replication** in the *Oracle Utilities Cloud Services Administration Guide* for more information on this feature.

What are the reporting options available with Oracle Utilities Cloud Services?

Oracle Utilities Cloud Services includes the following reporting options:

- Oracle Utilities Analytics Visualization is a suite of analytics applications that provides real-time access to data in the Oracle Utilities Cloud Services.
- Analytics Publisher is available and included in the service as a reporting / query tool.
- Oracle Database Actions (formerly known as SQL Developer Web) is also available via Oracle Rest Data Services (ORDS) for querying the database.

In addition, Oracle GoldenGate Replication allows extract of data for reporting purposes, but requires a separate subscription. See **GoldenGate Replication** in the *Oracle Utilities Cloud Services Administration Guide* for more information.

Can we use Analytics Publisher for formatting bills and/or letters?

Yes, you can use Analytics Publisher to format bills and or letters, but only if using xml output files from Oracle Cloud Object Storage.

Report processing time varies based on the complexity of the bill print layout report. Customers / partners may need to adjust the bill generation and extraction process in the application to address performance-related issues and to speed up the bill / letter processing time in Analytics Publisher.

Can we use Analytics Publisher as a bill and/or letter print extract tool?

No. Extraction of bill print or letter print requires accessing of multiple large tables and due to the timeout limits set on Analytics Publisher, it is not recommended to use Analytics Publisher for bill print and or letter print data extraction. Instead, customers should use batch-based extracts (such as the Customer Cloud Service bill extract functionality POSTROUT) in conjunction with 3rd party tools/services such as Documaker to ensure smooth, scalable, and successful implementation/operation of their services.

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Use of Analytics Publisher should be limited to operational reporting ONLY, and, in particular, it should not be used for high volume reporting activities such as bill print generation in CCS, CCBCS, CCS for Retail or BCS.

> **Note**
>
> The RTTYPOST batch control is not supported for bill generation using Oracle Utilities cloud services.
>
> Analytics Publisher can only access the primary database that is provisioned with the associated cloud service (such as CCS, MSCS, WACS, BCS, and so on). External data sources (such as xml data models, and so on) are currently NOT supported.

How do I know my data is safe in Oracle Utilities Cloud Services solutions?

Oracle is a leader in enterprise cloud solutions, so the reliability and security of the Oracle cloud is of utmost importance to us in order to remain a trusted technology partner for our thousands of utility customers around the world. We have over 1500 cloud operations specialists working tirelessly to maintain optimal cloud performance and we capture global cloud intelligence 24 x 7 x 365 and constantly update our security measures to stay ahead of the latest hacker techniques.

Can Oracle view/access my data?

Customers are 100% responsible for controlling access to their Oracle Utilities Cloud Services user interfaces and integration endpoints, and Oracle access is not configured by default. Obviously, Oracle does have the access required to perform back-end administrative tasks (such as database administration activities, infrastructure administration, patching and upgrades, container management, and so on), however such access is strictly controlled as per SOC principles. You can further manage such access via optional Oracle Utilities Cloud Service Break Glass subscriptions (which may incur additional subscription fees).

All data is encrypted in transit and at rest, which means that nobody can see your data as it is being transmitted to/from the cloud service, access or query customer data in the underlying database, or otherwise extract or view data in database backups.

Will the data in my Oracle Utilities Cloud Services ever leave the region they are deployed in?

It depends on where your cloud services are deployed. If your services are deployed in a Multi-AD region, your data will never leave the region, however if your services are deployed in a Single-AD region, your data will leave the primary region. Please refer to the Regional Availability table below for details about the number of availability domains in each supported region.

What is the 'configuration template' or accelerator that is included?

To 'jump start' Oracle Utilities Cloud Services implementation projects, services includes the use of configuration templates that provide a full configuration solution that is based on North American modern best practices for the systems. Customer Cloud Service, Meter Solution Cloud Service, and Work and Asset Cloud Service templates are separate for electric, gas, and water.

For more information please refer to the Oracle Utilities Cloud Services - Implementation Accelerators page on My Oracle Support.

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How does Oracle Field Cloud Service (OFSC) fit into Oracle Utilities Cloud Services?
Oracle Utilities has built an integration accelerator between our cloud services and Oracle Field Service Cloud using the Oracle Integration Cloud (OIC) Platform-as-a-Service (PaaS) offering, which covers the standard activity use cases we see at all utility customers. It is not fully productized in the sense that we do not have full upgrade-ability across Oracle Field Service Cloud and Oracle Integration Cloud.

Where can I find training or overviews on what's available?

Training on Oracle Utilities cloud services is available through the Oracle University Oracle Energy and Water Learning Subscription.

Note that training courses for on-premises applications are also applicable to corresponding cloud services, as outlined in the table below:

On-Premises Application	Cloud Service
Oracle Utilities Customer to Meter	Oracle Utilities Customer Cloud Service
Oracle Utilities Customer Care and Billing	Oracle Utilities Customer Care and Billing Cloud Service
Oracle Utilities Meter Data Management /Oracle Utilities Smart Grid Gateway	Oracle Utilities Meter Solution Cloud Service
Oracle Utilities Work and Asset Management	Oracle Utilities Work and Asset Cloud Service

The following Oracle Utilities SaaS specific learning paths are also available via the Oracle Energy and Water Learning Subscription:

- Oracle Utilities Enterprise SaaS Implementation Topics
- Oracle Utilities & OCI SaaS Platform Relationship

It is also recommended that cloud administration and project teams include individuals with current OCI Architect Associate qualifications.

In addition, documentation for our cloud services is available from our Documentation library, on the Oracle Release Readiness site.

Product Documentation

https://docs.oracle.com/en/industries/energy-water/index.html

From this page you can select the specific cloud service you're interested in.

Example: Customer Cloud Service

https://docs.oracle.com/en/industries/energy-water/customer-cloud-service/

Various documents are available for each cloud service.

Oracle Release Readiness

https://docs.oracle.com/en/cloud/saas/readiness/utilities-all.html Includes:

- What's New content for currently supported releases
- Other Helpful Links

Other Information

Other contractual information related to our cloud services is available on the Oracle Contracts page at https://www.oracle.com/corporate/contracts/cloud-services/.

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Click **Cloud Services**, then select "Industry - Energy and Water" from the **Product** drop-down list, select your country and language, and click **View Documents**. to view all contractual documents, including:

- Oracle Cloud Hosting and Delivery Policies
- Oracle Industries Cloud Services Pillar Document
- Oracle Energy and Water Cloud Services Service Descriptions

What is a Customer Success Manager (CSM) and what do they do?

The Customer Success Manager (CSM) team is a group within Oracle Utilities that directly supports customers leveraging our cloud services. The CSM objective is to "promote customer satisfaction by advocating on the customer's behalf within Oracle, resulting in a positive continuously improving Oracle Utility cloud experience.". A named Customer Success Manager is allocated to each cloud service customer and is responsible for Service Agreement alignment, Environment Coordination, Service Request (SR) tracking an escalation and cloud & product functionality awareness.

How are the cloud services kept current?

There are several types of updates that are managed by the Oracle Utilities Development Operations (DevOps) team with Oracle Utilities Cloud Services.

1. Two times per year there are service Generally Available releases, identified by the calendar year (last two digits) and a number designating the month (4 or 10) - for example 'CCS 25.4'. These releases are generally released in April and October, and the intent is to provide new functionality, so there will likely be database structure changes (mostly additions, occasional deprecations). Typically customers will take the new update in one 'early adopter' environment first for validation and testing, then over time be promoted to other environments including Production.
   Note that support for each codeline is provided for 12 months. This means that each customer must plan to stop using the "current minus 3" release by the time a new update is available (for example, stop using 25.4 by the time 26.4 is released).

   Customers are not allowed to remain on an unsupported (non-GA) release that is past the end of life date published in the Oracle Utilities Release Calendar. If you do not upgrade prior to the published end of life date, Oracle may force-upgrade any unsupported environments (including Production). You will be notified of upcoming release end of life dates and will also receive advance notification of any potential force-upgrades that need to occur.

   Information on each update can be found under 'Release Readiness' for each service on Oracle Utilities documentation site: https://docs.oracle.com/en/industries/energy-water/index.html
2. On a monthly basis each service will receive a Maintenance Pack (MP) with patches to the application and potentially to the ancillary services (such as Utilities Testing Accelerator). These Maintenance Packs are identified by the maintenance pack number (which range from MP 1 to MP 12 for each release).
   Maintenance Packs are installed first on one or more 'early adopter' non-production environments on the first weekend of the month, and typically then installed on other environments, including Production, on the 3rd weekend of the month.

   Documentation of each Maintenance Pack is published in My Oracle Support (MOS) along with the Product Fix Documents. Parent documents for Customer Cloud Service, Meter Solution Cloud Service, and Work and Asset Cloud Service can be found here:

   - Billing Cloud Service Maintenance Packs (KB159479)
   - Customer Care and Billing Cloud Service Maintenance Packs (KB856990)

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- Customer Cloud Service Maintenance Packs (KB156985)
- Meter Solution Cloud Service Maintenance Packs (KB159522)
- Work and Asset Cloud Service Maintenance Packs (KB159544)

3. Hot fixes are patches that are applied off-cycle to fix specific application or security issues. These could be specific to customer environments or applicable to all customer environments depending on the nature of the fix. Application patches are installed on non-production environments first for verification, then be applied to other environments as necessary.

What is provided to help customers test the service?

Each Oracle Utilities Cloud Service subscription includes the Utilities Testing Accelerator (UTA) which is a component-based tool that can call web services. The delivered components can be linked together into test flows that can either create new data or update existing data, check results of each web service call, and report on results of the flow execution.

> **Note**
>
> Utilities Testing Accelerator is only provided with Development and Test environments. It is not available with Production environments.

Are the Oracle Utilities cloud services SOC compliant?

Yes, all Oracle Utilities cloud services are SOC compliant.

SOC 1 and 2 Type 2 reports are available for the following cloud services:

- Oracle Utilities Billing Cloud Service
- Oracle Utilities Customer Care & Billing Cloud Service
- Oracle Utilities Customer Cloud Service (including CCS for Retail)
- Oracle Utilities Meter Solution Cloud Service
- Oracle Utilities Rate Cloud Service
- Oracle Utilities Work and Asset Cloud Service

A SOC 1 Audit is focused on internal controls related to financial reporting (ICFR).

A SOC 2 Audit is focused on information and IT security identified by any of 5 Trust Services Categories: security, confidentiality, information privacy, processing integrity and availability.

A Type 1 report is an attestation of controls at a service organization *at a specific point in time*.

A Type 2 report is an attestation of controls at a service organization *over a minimum six-month period*.

What is the Critical Batch Window?

The Critical Batch Window is the term used for allocating time during the day when customers can run critical batch processes serially with the assumption that NO other background batch processes running, and with the fewest number of online users (most often during off-peak hours).

The duration of the Critical Batch window for your implementation is listed in the Sizing Assumptions section of the Welcome email you received from the Cloud Operations team.

The Critical Batch Window may contain the following serialized sub-processes:

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1. Uploading raw meter readings
2. VEE (Validation, Editing, Estimation) processing
3. Estimating missing meter readings
4. Calculating usage and bills

Customers can run batch processes throughout the day even during peak hours (depending upon the type of batch process) but should normally plan to run resource intensive batch processes in either part of the critical batch window or during any other available time frame.

Customers may need to purchase additional batch threads for their Production environment if they wish to exceed these processing assumptions.

Technical Questions

What is an Oracle Cloud Infrastructure (OCI) Cloud Account?

An Oracle Cloud Infrastructure (OCI) account allows you to view and manage all of your company's Oracle cloud subscriptions from one place. Most companies will have one cloud account with a number of administrators (at least one primary and one backup, or a number of people with delegated responsibility for different cloud services).

Detailed documentation on Oracle Cloud Infrastructure is available on Oracle Help Center at https://docs.oracle.com.

Are "OCI Cloud Account" and "Tenancy" related terms? Do they have the same name?
Yes, your cloud account and your Oracle Cloud Infrastructure tenancy have the same name.

What are Oracle Platform-as-a-Service (PaaS) and Infrastructure-as-a-Service (IaaS) Universal Credits?

Universal credits are purchased to access OCI services such as Cloud Object Storage, FastConnect, and so on. The Universal Credits model requires customers to commit to a specific amount of dollars each year; however, their hourly, daily, weekly., and monthly spend can vary based on metrics associated with their cloud service.

What is the underlying platform for Oracle Utilities Cloud Services?

Oracle Utilities Cloud Services in the new Oracle Generation 2 Cloud infrastructure (OCI) data centers are running on the Cloud Native platform with Kubernetes managing containers and pods, running on Exadata. There are presently about 40 microservice "pods" in our architecture running on the Kubernetes platform grouped into three basic pillars: data plane (including application, networking/security proxies), monitoring (including metrics, alerts, troubleshooting) and a control plane (including upgrades, order processing). Oracle/Oracle Utilities manages this infrastructure.

Are Oracle Utilities Cloud Services multi-tenant or single-tenant?

All Oracle Utilities cloud service environments are single-tenant.

While some components of each service are shared (such as Container Databases), each instance/environment of Oracle Utilities Cloud Services run their own devoted database (a Pluggable Database, or PDB), so there is no mixing of multiple customers' data in a single database.

How is sizing done for Oracle Utilities Cloud Services?

The Oracle Utilities Cloud Services Sizing Workbook is used to size Production and Test environments to support their intended purpose. Customers should provide information via this workbook which Oracle uses to determine the appropriate size. The sizing process starts with

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the sales cycle and is re-evaluated during implementation, before go live and after go live as needed. Sizing is based on the volume of data and complexity of data processing.

There are three parts to this document:

- The **Summary** section outlines the Prod/Test/Dev environment sizing details derived from details provided in the Metrics and Assumptions sections.
- The **Metrics** section is used for baseline sizing of application environments. This section is initially completed during the sales cycle, before the customer has signed an order for the applicable Oracle Utilities Cloud Service subscription.
- The **Assumptions** section documents the details used to confirm the sizing of the application environments. Customer should review and modify the assumed default values as needed.

Can the customer see any logs? How much can they troubleshoot their own issues?

The logs that have been available historically via the browser in on-premises applications are still available in Oracle Utilities Cloud Services- this includes business, batch (stdout and stderr) , and access logs, as well as user trace and debug capabilities, and access to Performance Hub reports via ORDS/Database Actions. See **Troubleshooting** in the *Oracle Utilities Cloud Services Implementation Guide* for more information.

How many environments do customers get? How do they get more if needed?

The standard Oracle Utilities Cloud Services subscription provides three environments (DEV, TEST, and PROD). Many projects may require additional environments, so additional DEV or TEST environments are available for subscription to assist with implementation efforts.

For Customer Cloud Service (CCS) deployments, we generally recommend at least one additional DEV environment, but the quantity ultimately required will depend on the implementation project team.

Note that TEST environments are the same size as PROD environments, whereas DEV environments are sized for few users and less data than TEST and PROD. Please review the service descriptions for detailed information.

How are files moved in and out of the services?

Oracle Utilities Cloud Services require the use of Oracle Object Storage, which has low fees and facilitates storage of import/export files. Secure API keys are used to connect the cloud service to Object Storage, so Oracle DevOps cannot get hands-on access to the files. Object Storage supports a REST API as well as online drag/drop facilities.

For more on Object Storage, please consult the separate FAQ: https://cloud.oracle.com/en_US/storage/object-storage/faq

Are there any restrictions to using cloud versions of Oracle Utilities enterprise software?

There are no functional limitations in terms of software features/functions.

There are some restrictions in terms of implementing Oracle Utilities Cloud Services, and these are described in the *Oracle Utilities Enterprise SaaS - Capabilities & Restrictions* module available on the Oracle University Learning Subscription (Note: although this is currently listed under Customer Cloud Service, it is applicable to all Oracle Utilities Cloud Services).

In summary, the following configuration and implementation tools are included:

- Configuration Tools (Business Objects, Service Scripts, UI Maps, etc)
- Groovy Scripting (eliminating the need for Java)

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- Content Migration Assistant (CMA) for promotion of configuration
- Analytics Publisher for reporting
- Oracle Database Actions using ORDS (Oracle Rest Data Services) in production and non-production environments for ad-hoc querying (read/select only, no update)
- Support for any middleware for integration With the following restrictions:
- No deploying artifacts to the cloud service servers (Java algorithms are no supported, use Groovy for custom algorithms)
- No direct SQL access or Database Links, so no Database link based integration and no access to any Database (Dev, Test or otherwise) via tools like SQL Developer using direct connection techniques (ORDS is available in production and non-production environments for read only queries).
- No DDL (so no new tables or Maintenance Objects)
- No shell / VNC or Enterprise Manager access

Note: Oracle Utilities Java Migration Cloud Service provides the ability to upload, execute security analysis, and deploy custom Java code into Oracle Utilities Customer Cloud Service or Oracle Utilities Customer Care and Billing Cloud Service. Use of Oracle Utilities Java Migration Cloud Service requires a separate subscription. See **Migrating Legacy Custom Tables and Java to Oracle Utilities Cloud Services** in the *Oracle Utilities Cloud Services Implementation Guide* for more information.

In which OCI regions are Oracle Utilities Enterprise SaaS Cloud Services solutions available?

Oracle Utilities Enterprise SaaS solutions are available in the following regions:

Geographical Region	OCI Region Name	OCI Region Identifier	OCI Region Location	OCI Region Key	Realm Key	Availability Domains	Disaster Recovery Role* (where applicable)
APAC SG001 (OC1)	Australia East (Sydney)	ap-sydney-1	Sydney, Australia	SYD	OC1	1	Primary
APAC SG001 (OC1)	Australia Southeast (Melbourne)	ap-melbourne-1	Melbourne, Australia	MEL	OC1	1	Secondary
APAC SG001 (OC1)	Singapore (Singapore)	ap-singapore-1	Singapore, Singapore	SIN	OC1	1	Primary
APAC SG001 (OC1)	Japan East (Tokyo)	ap-tokyo-1	Tokyo, Japan	NRT	OC1	1	Secondary
North America US001 (OC1)	Canada Southeast (Toronto)	ca-toronto-1	Toronto, Canada	YYZ	OC1	1	Primary
North America US001 (OC1)	Canada Southeast (Montreal)	ca-montreal-1	Montreal, Canada	YUL	OC1	1	Secondary

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Geographical Region	OCI Region Name	OCI Region Identifier	OCI Region Location	OCI Region Key	Realm Key	Availability Domains	Disaster Recovery Role* (where applicable)
North America US001 (OC1)	US East (Ashburn)	us-ashburn-1	Ashburn, VA	IAD	OC1	3	Primary/ Secondary
North America US001 (OC1)	US West (Phoenix)	us-phoenix-1	Phoenix, AZ	PHX	OC1	3	Primary/ Secondary
EURA EU001 (OC1)	Germany Central (Frankfurt)	eu-frankfurt-1	Frankfurt, Germany	FRA	OC1	3	Primary/ Secondary
Europe UK001 (OC1)	UK South (London)	uk-london-1	London, United Kingdom	LHR	OC1	3	Primary/ Secondary

* Disaster Recovery roles are not currently configurable.

Which Oracle Utilities Enterprise SaaS Cloud Services are available on DRCC (Dedicated Region Cloud @ Customer)?

We have validated and support the following Oracle Utilities cloud services on DRCC:

Cloud Service	Status
Oracle Utilities Billing Cloud Service (BCS)	Validated
Oracle Utilities Customer Care and Billing Cloud Service (CCBCS)	Validated
Oracle Utilities Customer Cloud Service (CCS)	Validated
Oracle Utilities Customer Cloud Service for Retail (CCS-R)	Validated
Oracle Utilities Customer Program Management Cloud Service (CPMCS)	Validated
Oracle Utilities Market Settlements Management Cloud Service (MSMCS)	Validated
Oracle Utilities Meter Solution Cloud Service (MSCS)	Validated
Oracle Utilities Rate Cloud Service (RCS)	Validated
Oracle Utilities Work and Asset Cloud Service (WACS)	Validated
Customer Experience for Utilities – Fusion Agent Service Cloud Service	Validated
Customer Experience for Utilities – Fusion Sales Cloud Service	Validated

What is the difference between Disaster Recovery and High Availability?

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Disaster Recovery (DR) is the planning and implementation of processes to support the fail-over of specific services to an alternative location in the event of a disaster impacting the primary deployment location, typically (and in the case of Oracle) at the data center / regional level (see below for further definition).

High Availability (HA) is a feature of a deployment architecture which provides resiliency against common component failures and faults, typically through the use of hardware and resource redundancy (i.e. where "spare" resources are deployed in case active resources fail).

The main difference is that Disaster Recovery is designed to mitigate large scale data center outages, where as High Availability is designed to mitigate component failures/ faults (e.g. to servers, compute, memory, routers, switches, storage/disks, etc) within a data center.

What is a "disaster"?

The term "disaster" is formally defined in section 3 "ORACLE CLOUD SERVICE CONTINUITY POLICY" of the Oracle Industries Cloud Services Pillar Document.

Without prejudice to that document (or to your legal agreement with Oracle), a "disaster" means an unplanned event or condition that causes a complete loss of access to the primary site used to provide the Industries Cloud Services such that Your production environments at the primary site are not available.

What are the scenarios causing the loss of the primary site / a data center?

It's not possible to list all potential scenarios that could result in the loss of the primary site / a data center, however examples include:

- Natural disasters (earthquakes, storms, floods, hurricanes, and so on)
- Data center failures (fire, flooding, electricity, telecommunications, cooling, and so on)

How does the Disaster Recovery work?

Where specified in the Service Description, Oracle Utilities Enterprise SaaS solutions include full disaster recovery for the Production environment (and potentially other protected environments).

This means that a separate secondary (or fail-over) data center is provided in addition to the primary data center, such that a) fail-over hardware for protected environments is available on standby and that b) transactions and data in the primary database are securely replicated to the secondary database.

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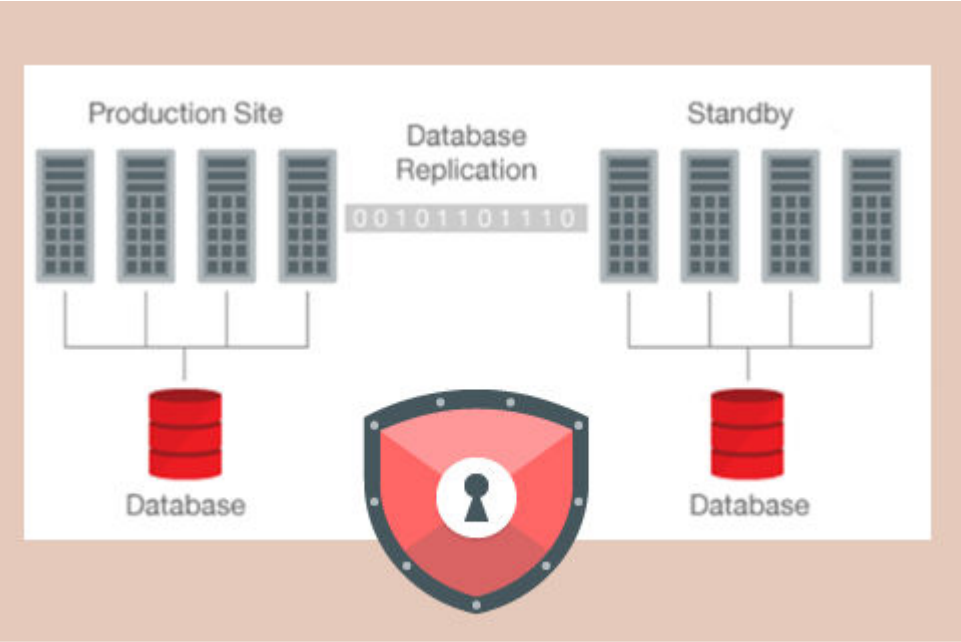

Under normal operating conditions, Active Data Guard replicates changes made in the primary database instance to the secondary database instance on a transactional basis (i.e. as changes are committed to the database).

These capabilities are of particular benefit to utilities, as reliable disaster recovery is often very challenging to set up and maintain, particularly when large databases are involved (e.g. > 5TB with high rates of data change).

Oracle Cloud Infrastructure (OCI) is deployed in Regions and Availability Domains (which include Fault Domains).

- A Region is defined as a localized geographic area
- An Availability Domain (AD) consists of one or more data centers within a region
- A Fault Domain (FD) consists of independent hardware, infrastructure and power within an availability domain

Oracle operates two general types of OCI Regions:

- Single Region (Multi-AD) regions with three (3) ADs each. One AD is the primary, with the other two being available as secondaries.

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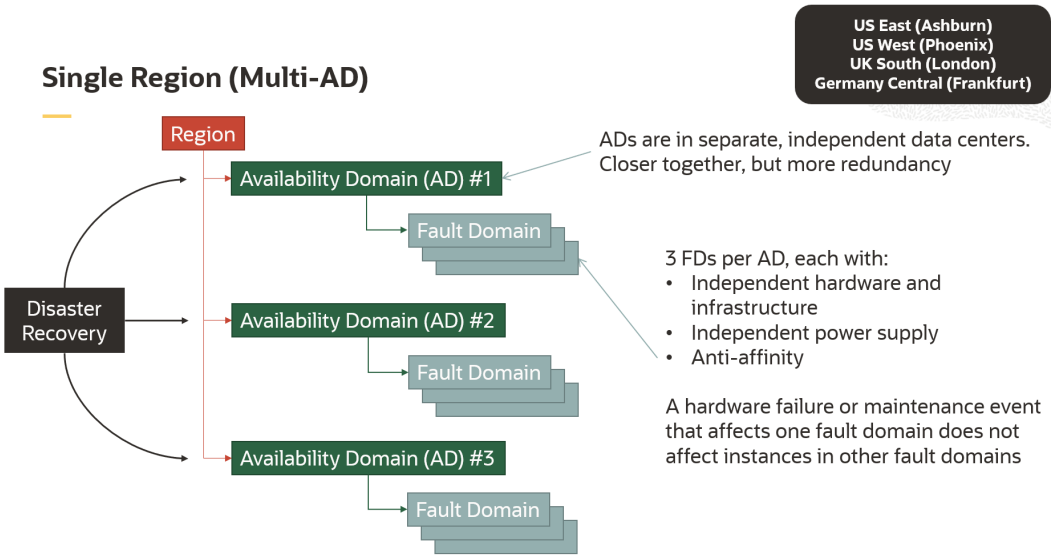
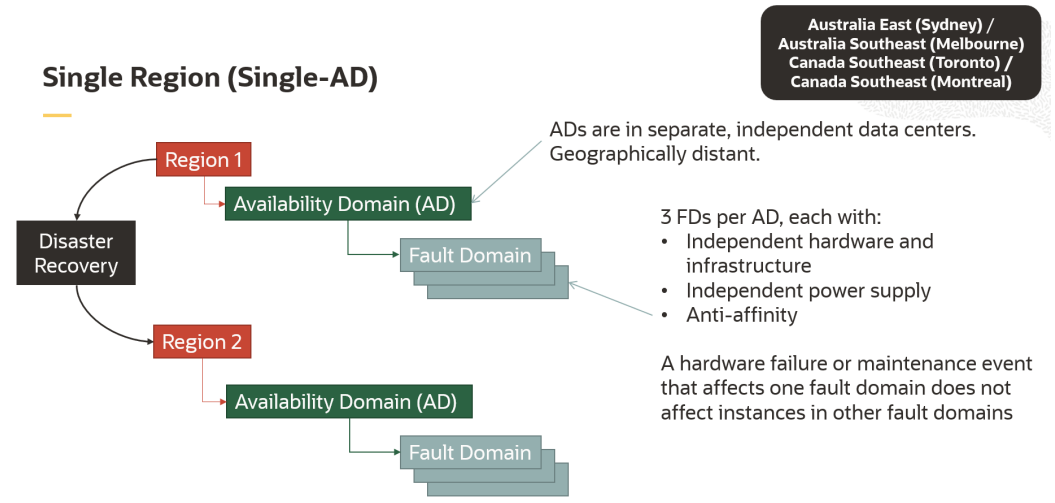


- Single Region (Single-AD) regions with one (1) AD each. In this case, two regions are paired (called a region pair) where Region 1 is the primary and Region 2 is the secondary.



Oracle Energy and Water SaaS solutions are available in the following regions:

Geographical Region	OCI Region Name	OCI Region Identifier	OCI Region Location	OCI Region Key	Realm Key	Availability Domains	Disaster Recovery Role* (where applicable)
APAC SG001 (OC1)	Australia East (Sydney)	ap-sydney-1	Sydney, Australia	SYD	OC1	1	Primary
APAC SG001 (OC1)	Australia Southeast (Melbourne)	ap-melbourne-1	Melbourne, Australia	MEL	OC1	1	Secondary

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Geographical Region	OCI Region Name	OCI Region Identifier	OCI Region Location	OCI Region Key	Realm Key	Availability Domains	Disaster Recovery Role* (where applicable)
APAC SG001 (OC1)	Singapore (Singapore)	ap-singapore-1	Singapore, Singapore	SIN	OC1	1	Primary
APAC SG001 (OC1)	Japan East (Tokyo)	ap-tokyo-1	Tokyo, Japan	NRT	OC1	1	Secondary
North America US001 (OC1)	Canada Southeast (Toronto)	ca-toronto-1	Toronto, Canada	YYZ	OC1	1	Primary
North America US001 (OC1)	Canada Southeast (Montreal)	ca-montreal-1	Montreal, Canada	YUL	OC1	1	Secondary
North America US001 (OC1)	US East (Ashburn)	us-ashburn-1	Ashburn, VA	IAD	OC1	3	Primary/ Secondary
North America US001 (OC1)	US West (Phoenix)	us-phoenix-1	Phoenix, AZ	PHX	OC1	3	Primary/ Secondary
EURA EU001 (OC1)	Germany Central (Frankfurt)	eu-frankfurt-1	Frankfurt, Germany	FRA	OC1	3	Primary/ Secondary
Europe UK001 (OC1)	UK South (London)	uk-london-1	London, United Kingdom	LHR	OC1	3	Primary/ Secondary

* Disaster Recovery roles are not currently configurable.

> **Note**
>
> For Single Region (Single-AD) region pairs, the primary/ secondary arrangement is fixed and alternative configurations are not currently supported.

Please note the following, additional Disaster Recovery considerations:

- Disaster Recovery failover is not available (e.g. for business continuity testing) on a customer specific basis (as failover is executed at the region/data center level)
- Oracle Identity Domain capabilities are also included in Disaster Recovery fail- over
- All hardware required for operation of the protected environments is reserved in the secondary.
- To ensure seamless and transparent failover, FQDNs (Fully Qualified Domain Names) should always be used

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- In some regions, customers will be required to configure replication for their subscribed Object Storage containers (if required)
- Disaster Recovery is specific to the subscribed cloud services (where applicable) and does not extend to cover 3rd party systems or integrations. These need to be covered by customer-managed business continuity planning.
- For operational integrity and security reasons, the secondary database is not accessible by customers unless a real-world disaster recovery fail-over has occurred and service is restored in the secondary location.

Which environments are "protected" and will therefore be available in the event of a disaster?

Generally speaking Disaster Recovery is only provided for the Production environment.

Some non-production environments may also be protected (included in DR), however the related DR SLOs (RTO/RPO) only apply for cloud services and environments where this is explicitly stated in the Service Descriptions.

How is Disaster Recovery tested? How often?

Per Oracle Corporate Security Practices (specifically, the Risk Management Resiliency Program (RMRP)) Oracle information technology organizations conduct an annual Disaster Recovery exercise (or more frequently as required, for example when the applications, services or tools are updated) for internal infrastructure designed to assess Disaster Recovery plans. Lessons learned from the exercise are implemented into standard operations and Disaster Recovery procedures as appropriate.

Disaster Recovery plans and tests are reviewed and updated based on experience and feedback, and the teams responsible for Disaster Recovery responsibilities are provided with regular training. Testing is performed on non-production tenancies and not on production customer databases.

Disaster Recovery Evidence Summary Reports may be made available to existing cloud service customers upon request.

Can I participate in Disaster Recovery testing as part of my general Business Continuity Testing?

As Oracle cloud service Disaster Recovery testing is conducted at a regional level, it is not currently possible to support customer participation in these testing events.

Furthermore, Disaster Recovery of Oracle Utilities cloud services is limited to those cloud services only, and is largely transparent to the end customer and so participation in such testing (as performed by Oracle) would be of limited value.

Is the decision to initiate a Disaster Recovery failover made manually and via a human workflow?

The decision is made via a human workflow according to a predefined processes/SOPs/ standard Oracle policy, and involves executive Oracle management.

For security and privacy reasons, Oracle does not disclose details of this human workflow.

How does Oracle notify customers that a disaster has been declared and that failover is required?

Customers are notified of a disaster declaration and pending failover by the Cloud Operations team and Customer Success Managers, as outlined in the following diagram.

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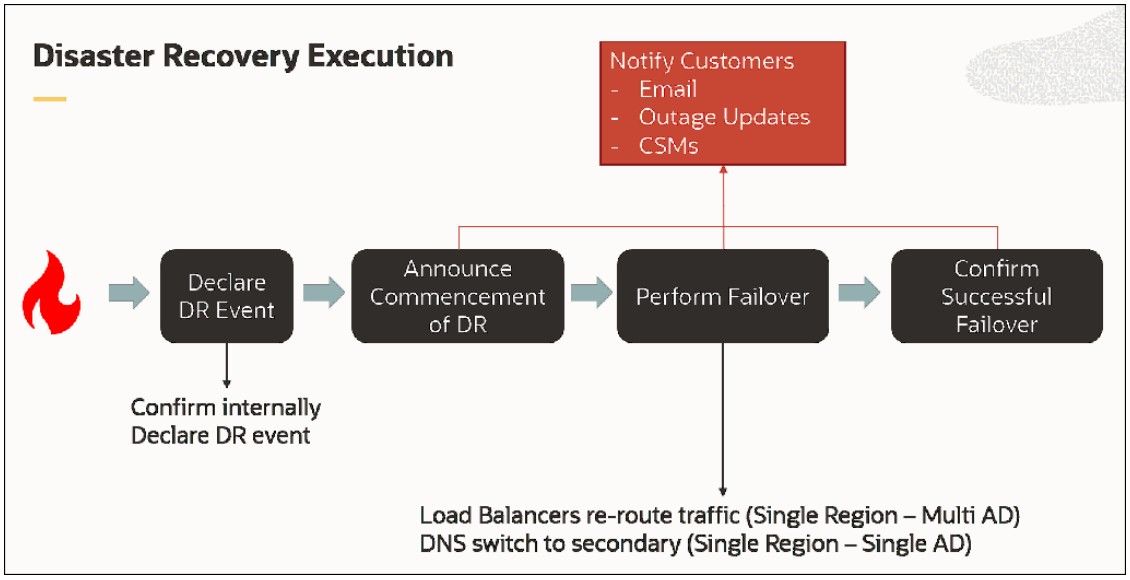

Bearing in mind that a declared disaster is likely impacting all customers with deployments in the affected OCI Region(s), Oracle will use reasonable efforts to:

- Update impacted customers as per a Severity 1 (Critical Outage) as defined in the Cloud Hosting and Delivery Policies,
- Provide regular restoration timeframe estimates.

What steps are required for customers to prepare for a Disaster Recovery failover?

Disaster Recovery failover is largely seamless and transparent to customers. No action is required on the part of the customer to enable failover. However, if your cloud service is deployed in a Single-AD region, cross-region disaster recovery preparations are required.

To ensure business continuity, customers should make note of the following:

- Fully Qualified Domain Names (FQDNs) should always be used.
- Firewall Update: Customers accessing cloud applications via their home region are required to get standby region cluster IPs (via a My Oracle Support Service Request) and allow the standby cluster IPs in their on-premises firewall configurations.
- Object Storage: Refer to **Cross-Region Disaster Recovery Considerations** in the *Oracle Utilities Cloud Services Administration Guide*.
- Identity Domain Syncing: Refer to the guidelines in the Disaster Recovery and Identity Domains section in the Oracle Cloud Infrastructure documentation.
- OCI Network Configuration: Customer must review their OCI network configuration, including Service gateway (any services created within their tenancy for incoming and/or outgoing integrations).

How are Disaster Recovery and Business Continuity Planning related?

Disaster Recovery is the plan and process that Oracle defines and implements in order to recover Oracle cloud service instances in the case of a disaster occurring at the Oracle OCI Region or Availability Domain in which the primary cloud service instances are deployed.

Business Continuity can be defined as "the capability of an organization to continue the delivery of products or services at pre-defined acceptable levels following a disruptive incident", and Business Continuity Planning (BCP) or business continuity and resiliency

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planning is the process of creating systems of prevention and recovery to deal with potential threats to a company.

Disaster Recovery is a specific (albeit important) component of Business Continuity Planning, however it is important to understand that while Disaster Recovery is implemented and provided by Oracle Energy and Water as part of Oracle Utilities Enterprise SaaS Cloud Services (where defined in the Service Descriptions), customer Business Continuity Planning must by necessity have a much wider scope so as to include all other systems and services used by the customer to operate their business.

In addition, a disaster impacting an Oracle OCI Region or Availability Domain is unlikely to also impact the end customers using the services deployed in that OCI Region/AD, unless those customers are geographically co-located, and vice-versa.

Oracle itself does itself maintain Business Continuity Planning as defined in the Risk Management Resiliency Disaster Recovery (DR), however this is more focused on ensuring the business continuity of Oracle as a service provider. While this is certainly important for Oracle's customer peace of mind, neither the RMRP nor service specific Disaster Recovery capabilities should be considered as complete business continuity and resiliency planning for your business.

What happens after a Disaster Recovery event?

Oracle will work with you to return service to your primary data center as soon as possible.

How do I set up and use Identity Management?

Oracle Utilities Cloud Services on Oracle Generation 2 Cloud infrastructure (OCI) include the use of Oracle Cloud Infrastructure Identity and Access Management (IAM)

with Identity Domains where new users can be created, password maintained, and access granted to the cloud service environments and Analytics Publisher. Note that the login is 'single sign-on' - a single userId/password will give access to all environments that the user has rights to access.

Detailed documentation on Oracle Cloud Infrastructure Identity and Access Management is available on Oracle Help Center at https://docs.oracle.com.

What Identity Management features/functions are available to me as part of Oracle Utilities Cloud Services?

Every Oracle Utilities cloud service instance is provisioned into a "cloud account". A customer's cloud account includes a free Oracle Cloud Infrastructure Identity and Access Management (IAM) with Identity Domains instance to provide Identity Management functionality. The available features/functions are described in the Identity and Access Management documentation.

IAM is used to manage authentication of users (including the ability to set up federated authentication / SSO). Authorization / Access to Oracle Utilities Cloud Service level features/ functions is controlled from within the applications.

Please note: the free IAM instances provided via customer cloud accounts are the same as for all Oracle cloud services and are not controlled, influenced or used differently by Oracle Utilities.

What is available for queries and Reporting?

SQL Queries and Reports are supported through an embedded instance of Analytics Publisher with each cloud service environment. There is also an instance of Oracle Database Actions for each environment which can also be used for ad hoc querying on the cloud service database.

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For more details about Analytics Publisher in Oracle Utilities Cloud Services, please take a look at the *Oracle Utilities Enterprise SaaS Reporting* session available on the Oracle University Learning Subscription.

Oracle Utilities Analytics Visualization (OUAV) also offers graphical views of the data for query and exploration.

Note: Running ad hoc queries and reports during the critical batch window may have an impact on overall application and batch processing performance.

Given that the customer/implementer is responsible for resolving data issues and non-infrastructure batch issues, how would batch issues that might be data driven be resolved?

We provide:

1. The ability to refresh one or more Test environments with data from Production (limited to one refresh per 3 month period, due to potentially large data volumes)
2. Oracle Rest Data Services (ORDS) access to non-production and production environments, which allows for read-only SQL queries to be executed against the databases.
3. Transaction tracing and access to required application log information (self-service) For more information about running and troubleshooting batch processing, see

Running and Troubleshooting Batch Processing in the *Oracle Utilities Cloud Services Live Operations Guide*.

How is data loaded into the cloud service?

Each Oracle Utilities Cloud Service includes the Cloud Service Foundation, which provides online self-service mechanisms (which may have been done in other ways in on- premise projects).

For data loading, support is provided for the use of SQL Loader, an Oracle database utility which is very fast at loading file-based data into tables. Note that this is just one aspect of data conversion, which also frequently requires data validation, key generation, etc. The existing staging tables and conversion approach that has long been used in Oracle Utilities Customer Care and Billing is used by Customer Cloud Service.

Please refer to the *Oracle Utilities Cloud Services Implementation Guide* for more details.

> **Note**
>
> Using tools other than SQL Loader for data loading to your cloud service may have an impact on overall processing capacity and is not recommended.

How is data purged in Oracle Utilities Cloud Services?

Oracle Utilities Cloud Services utilize the Information Lifecycle Management (ILM) features of the Oracle Utilities Application Framework, which allow customers to determine the length of time they need to keep data (at the maintenance object level) and decide when to drop the data after that retention period. Note that initial database sizing does use some default retention times (most notably around Measurements), and those should be discussed during the sales and licensing process to confirm whether those periods work - and if longer retention is needed, then the customer may need to purchase additional database storage.

More information will be included in the specific product FAQ lists.

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What is the system uptime/availability?

Oracle Utilities adheres to more general Oracle Cloud standards that specify a system availability target of 99.9%.

Can a customer request an Automatic Workload Repository (AWR) or a Performance Hub report?

Yes. Customers can generate Performance Hub report via Oracle Database Actions. Refer to the *Oracle Utilities Cloud Services Live Operations Guide* for details.

What do we need to know about allowing access to external IP addresses?

Allowing access to external IP addresses via an "allowlist" is a security measure to allow for outbound calls to only approved destinations. There is also 'blocklisting' where you specify addresses which are not allowed access. Customers will be required to request each external IP address for the "allowlist" or the "blocklist" via a Service Request ticket.

Inbound - there are two kinds of access involved - 1) browser access to the online application and 2) calls to inbound web services. For #1, Oracle Cloud Infrastructure Identity and Access Management (IAM) include certain allowlist/blocklist capabilities that are briefly described in the **Identity and Access Management with Identity Domains** section in the *Oracle Utilities Cloud Services Administration Guide*.

Outbound - here we are concerned with outbound message calls from the application (i.e. Message Senders), and each approved destination currently needs to be set up via an SR ticket for DevOps to configure. Note that the services can only make calls to public IP addresses.

How do I know which patches have been applied to my cloud service instance(s) via Maintenance Packs?

A list of patches is published for each monthly Maintenance Pack (MP) that is applied on top of a given release.

We post details of Maintenance Packs (MP1 through MP12) on specific document pages in My Oracle Support (MOS).

Customers can then easily look up the linked patches in MOS (using the listed Patch ID) and access the Product Fix Design (PFD) if they need it, but the MP notes are not publicly available.

What information is available about the status of the Oracle Data Centers?

Oracle Cloud Infrastructure has a public facing page with current status and information on previous incidents.

It can be found here: https://ocistatus.oraclecloud.com/

Note that not all data centers shown currently support Oracle Utilities cloud services.

What information is available regarding the status of my Oracle Utilities cloud services?
Oracle Utilities cloud services include a Status Page, to which your cloud service administrations should be subscribed. The Status Page shows you the current operational status of the environments in your tenancy and keeps you informed of any planned and unplanned maintenance events. In order to receive regular updates, click **Subscribe** to updates then access the **Subscribe** page.

Operational status is based on the most recently run health check. Health checks are run every few minutes to provide near-real time status updates.

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Further details about the Status Page (including instructions on how to subscribe) can be found in the Oracle Energy and Water Cloud Services - Status Page (KB831247) document on My Oracle Support.

What's the story with web services in cloud?

New Inbound Web Services can be created in the cloud, and these do not require a separate 'deployment' step (since no new Java is involved). These services need to be marked as 'Active'.

Please reference this Knowledge Base article posted in My Oracle Support (MOS) for more information on Web Services in cloud:

When the subscription is provisioned, the customer will be provided with a set of URLs for each environment including two that are used when making IWS calls. IWS calls require a user/pw for authentication, and the user provided must have IAM with Identity Domains access to the environment for the 'AppWebServices' and 'AppUser' Application Roles. In addition the corresponding user must exist with the cloud service application.

Testing IWS calls can be done using the **Inbound Web Services** portal, as well as using tools such as SoapUI, where you use the soap or rest URL with the IWS name appended, and set up the user/pw for authorization.

Note that you can call a service to get the WSDL for a Soap IWS, or it can be obtained online in the application on the IWS screen.

The cloud services also provide an adapter that allows Oracle Integration Cloud to access the full catalog of web services in an environment.

Learn more about Oracle Integration Cloud.

Do Oracle Cloud Infrastructure (OCI) Infrastructure-as-a-Service (IaaS) and Platform-as-a-Service (PaaS) services need to be provisioned in the same region as the Oracle Utilities Cloud Service(s)?

Generally speaking, and from a technical standpoint, they do not. It is, however highly recommended that they are co-located in the same region for a couple of key reasons:

1. Latency. The regions that Oracle Utilities supports are geographically distant, and while hosting a cloud service in Australia with Object Storage or Oracle Integration Cloud in the US may work ok, hosting a cloud service in Australia with IaaS or PaaS in Europe will drive latency up unacceptably.
2. Connectivity. While we expect most general IaaS/PaaS services to work, there may be unexpected connectivity issues due to endpoints in different regions, particularly when VPN, Fastconnect or Reverse Proxies are involved.

How are maintenance windows coordinated? Do or can other customers' maintenance schedules impact each other?

Maintenance window frequency and duration are formally described in the service descriptions, however generally speaking we schedule production environment application upgrades and updates to occur on one Saturday a month between 09:00 PM (Saturday) - 06:00 AM (Sunday) data center local time. Oracle typically schedules core system maintenance, if required, to occur on any other Saturday of the month between 09:00 PM (Saturday) - 06:00 AM (Sunday) data center local time.

The Customer Success Manager will work with the customer to coordinate when (i.e. in which specific maintenance window) application patches and updates are deployed to their various environments.

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Notifications regarding maintenance windows are provided via the Status Page. You must subscribe the Status Page to receive these notifications.

What is the shortest timeframe that Oracle would require a critical or emergency patches be applied if it caused a cloud outage?

What is the shortest timeframe that a notification might be given?

It's not possible to give an answer to this question because critical/emergency patching could require immediate deployment. Oracle will make all reasonable efforts to provide advance notification prior to any patching, and keep downtime to a minimum.

If the planned cloud outage (due to a critical patch) were to coincide during a major storm event or some other emergency utility event what control does the customer have in deferring the cloud outage?

If it can be deferred, how long can the maintenance be deferred? (some significant utilities events could easily last a week or two.)

In the very unlikely event that we do need to take a customer environment down we would work with your CSMs and yourselves to find a suitable time to perform this work.

In one of the trainings/documentation you say that customers/implementers can "decide the cloud service upgrade schedule (within prescribed limits)". What are the prescribed limits?

The prescribed limits referred to are the Operational Obligations as defined in the service descriptions. Please refer to the current service description document(s) for the actual specific obligations, but generally speaking they are as follows:

- You must operate a Generally Available version of this Oracle Cloud Service. General Availability (GA) and End of Life (EOL) dates are published in the Oracle Utilities Program Documentation
- You are responsible for all regression testing of maintenance packs and version updates, including the regression testing of integration with other Oracle or third party systems or solutions.
- Custom Groovy code can be recompiled and verified to work with current Groovy libraries using the F1-CAGVY batch process.

Primarily, in this case, customers must ensure that they are operating a GA version of the cloud service.

This is also where you may choose to operate in the implementation / fast, cut-over / medium or productions lanes (in terms of upgrade versions and maintenance pack frequency).

If a major issue was found during the testing of an upgrade that had a critical impact on another customer system (interface or otherwise), how much could the upgrade be delayed to solve the issue (assuming it was not an easy fix).

If the Oracle product being upgraded was near or at end of life, does that impact Oracle's flexibility on the schedule/delay?

It is difficult to put arbitrary limitations in place in terms of such situations (given the number of variables in play), but if there is strong business justification for delaying an upgrade (provided via a Service Request in My Oracle Support), then Oracle will consider delaying an upgrade to allow issue resolution within a reasonable, agreed timeframe.

Does the customer have the option of declining a major release?

Customers cannot decline, but they can opt to delay adoption (as long as they remain within the operational obligations as defined in the service description(s)).

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Can a customer request to rollback to a previous release after upgrading to the new maintenance pack or taking any new hot fixes?

No. Once you upgrade, you will not be able to rollback to a previous release.

This is why we push the new release, maintenance packs and hot fixes first to the customer early adopter environments (such as Dev or Test) so that all regression testing can be performed without impacting Production.

In case, you face issues with a new release, maintenance pack and or hot fixes, you have an option to create a Service Request and work with support and Product Development to fix the issue before you rollout the same release in Production.

Do we provide a documented roadmap that enables on-premise customers to architect/ design their systems with Oracle Cloud in mind? For instance, edge interface architecture changes that would enable cloud adoption.

Yes, there are guides available for preparing to migrate to cloud services. These guides are designed for customers who are planning to go live on-premises, with a view of easing a future migration to cloud service.

These guides include the following:

- https://learn.oracle.com/ols/course/oracle-utilities-application-framework- groovy-scripting/59064/59067
- https://learn.oracle.com/ols/course/implementing-oracle-utilities-enterprise- saas-solutions/59064/65194
- https://blogs.oracle.com/utilities/tranisitioning-to-the-cloud-mindset-v2
- My Oracle Support (MOS) articles:
  - Technical Best Practices For Oracle Utilities Application Framework Based Products (KB685761)
  - Software Configuration Management For Oracle Utilities Application Framework (KB647246)
  - Migrating From On Premise To Oracle Platform As A Service (KB420547)
  - Oracle Utilities Application Framework Integration Guidelines (KB677635)

Can Oracle Utilities Testing Accelerator be used to test integrations?

Yes, as long as they are related to an Oracle Utilities cloud service that the customer is subscribed to.

Does Content Migration Assistant (CMA) allow for configuration deletes if incorrect configuration was introduced?

No, deletes or parent records are not supported via Content Migration Assistant. However, you may review and delete previously imported configuration entities using the **Configuration Deletion** portal.

Which version of Oracle Integration Cloud should I recommend for Oracle Utilities Cloud Service integrations (i.e. the once provided as recipes by the Oracle Utilities)? Standard or Enterprise?

Standard edition is all that is required for our integration recipes.

Any further / detailed discussions around the differences between Standard and Enterprise (including the pros and cons of each) should involve Cloud Technology Sales.

What is my Server and Database time zone?

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As part of your cloud account creation, you select the Home Region which is nearest to either your company, or the majority of your customers (if they are not the same). Once your cloud services are provisioned in that region, your region's time zone is the time zone used for infrastructure services including your application server and database server. Application debug logs capture your computer's local time zone and shows the data in your time zone as follows:

```
2022-08-20 15:55:07.514-0700 [6350] DEBUG
com.splwg.base.support.context.ThreadlocalStorage
```

In the above example, the timezone is PT which is UT-0700 (italicized).

Are there User Logs available and how can I access them?

User logs are maintained on different levels:

Log Type	Retention Period	How to access
OCI Log	365 days (default)	Users can view and download via OCI Console
OCI IAM Audit Reports	90 days	Users can view and download via OCI Console
Application Business Logs	14 days or 4Gb data /partition	Users can view and download either via online Debug Mode or Batch Run portal .
Application Access Logs	30 days	Access logs are available for download using the **Show Access Logs** option. See **Debug Mode** in the *Administrative User Guide* for more information.

- Refer to the *Oracle Utilities Cloud Services Cloud Operations Guide* for information about submitting service requests.

Can a customer access their cloud applications with custom DNS like `https://abcxyz.com/`?

No. Customers are not allowed to use custom DNS to access our cloud applications. The application hostnames are tied to our security configurations thus we only support pre-defined list of application hostnames. All application hostnames used by our cloud services are also defined in Akamai, so any network traffic accessing our cloud applications via Akamai can't use custom DNS.

In case of customers using Private Endpoints or accessing our cloud applications via Service gateway, custom DNS is not supported.

What are the basic requirements to maintain the customer-specific endpoints which were added in the outbound allowlist following a customer request?

Once the requested DNS entry is added to the outbound allow list, it is the customer's responsibility to pro-actively maintain the following requirements:

- TLS / SSL Certificate should be issued by valid SSL Authority
- Certificate's name(s) must match the server / endpoint name
- Installation of TLS / SSL Certificate should include complete authentication chain
- Expiry / Validation of TLS / SSL Certificate of the endpoint
- Support minimum of TLS 1.2

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Does Oracle allow Penetration Testing against Oracle Utilities Cloud services? Can customers perform penetration / vulnerability testing against Oracle Utilities Cloud services? If not, does Oracle provide any reports on this?

Per the Oracle Security Testing Policy (https://docs.oracle.com/en-us/iaas/Content/Security/Concepts/security_testing-policy.htm#Oracle_Cloud_Testing_Policies), Oracle **does not** allow penetration testing against SaaS services.

Oracle provides Pentest Reports per customer requests after confirming a Non- Disclosure Agreement (NDA) is in place.

How much bandwidth is typically required for Oracle Utilities Application Framework based products?

Bandwidth has a lot of dimensions when talking about the Oracle Utilities Application Framework including:

- **Amount of Change**: The amount of data changed on a screen greatly affects the amount of data that is transferred. The Oracle Utilities Application Framework only transfers key information and the data what is physically changed by the user. The more that is changed the more that is transmitted. This varies greatly for each unique instance of a transaction for each individual user.
- **Compression**: The Oracle Utilities Application Framework uses the inbuilt compression inherent in the HTTP 1.1 protocol. Therefore, even if a large amount is transferred it is compressed across the network to minimize the footprint. The amount of compression will vary according to the data that is transferred.
- **Caching**: The Oracle Utilities Application Framework takes advantage of native caching on the server and the browser to save bandwidth. The amount that is cached will vary with the functions and frequency of each individual user.

As each of these dimensions can greatly vary from moment to moment, getting a precise generic bandwidth amount is impossible to determine. It is possible to determine the amount of bandwidth used by post processing the server access.log through a tool that generates that metric or monitoring your network appropriately.

Refer to Technical Best Practices For Oracle Utilities Application Framework Based Products (KB679040) and Performance Troubleshooting Guides For Oracle Utilities Framework Based Products (KB673968) for more information about bandwidth.

Can a customer remove pre-configured users in Identity Domains and in the cloud service application?

There are different categories of pre-configured users in Oracle Utilities cloud services.

All SYS_* users are internal users and should NOT be disabled or removed. These users are essential for the ongoing monitoring of the cloud service environment health.

The K1IPROC user is typically used for the Process Automation Tool and so should not be disabled or removed. More information on the Process Automation Tool and the security setup necessary for that tool can be found in the *Oracle Utilities Cloud Service Foundation Administrative User Guide*.

All other K1* users are template users in nature. These users will typically not have a login ID and would not be assigned to any end-user. These users should NOT be disabled or removed since doing so will cause the users created from these template users to be created a disabled as well.

As a LIVE (in production) customer, do I have to perform a "flushAll" operation or run F1- FLUSH batch process regularly?

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No. Cloud applications cache administrative data to improve online / batch performance and user experience. If you are not adding / updating or deleting any administrative configuration, there is no need to run the flushAll or F1-FLUSH batch process.

Cloud services utilize a background process that runs every five minutes to check for any changes to administrative data, and propagate the changes to all of the cloud application and batch components. Therefore, use of flushAll or running the F1-FLUSH batch process is not required unless you would like to see the changes in less than five minutes.

Can I run GoldenGate Replication while performing data migration or other bulk data activities?

No. The GoldenGate Replication services are designed to support change data capture and replication of regular, Production/Live Operation transactions. To avoid overloading the replication services and/or causing potentially unrecoverable data desynchronization situations, you may not perform any high-volume data modification activities which are not part of normal, regular Production (live operate) activities in (or into) the source environment while replication services are active. The following actions may only be performed on a GoldenGate Replication source environment once GoldenGate replication services have been disabled, and with the understanding (and acceptance) that these actions will invalidate the ongoing replication and will require full re-establishment of replication services via the source export/ initial load process (which has a usage limit; please refer to the service description):

- Data migration/conversion
- Bulk test data inserts or updates via any provided import tools (e.g. Content Migration Assistant, SQL Loader)

> **Note**
>
> Configuration (admin and master data) loads via CMA are not considered bulk data

- Table truncation
- Factory Reset
- Data copy or clone
- Any other bulk data or destructive environment management operation which would not normally be performed on a production environment during live operation.

Can I perform a data copy, clone or factory reset into the source environment of a GoldenGate replication Named Distribution Path?

Performing a data copy or clone into a GoldenGate Replication source environment a) is a bulk data activity (see the related FAQ above) and b) invalidates the GoldenGate Replication configuration from an infrastructure/network connectivity standpoint. As this means that Oracle will need to perform re-configuration of the Named Distribution Path, such an activity is deemed a request to “change the Source Environment for a Named Distribution Path” (which has an additional usage limit; please refer to the service description).

My GoldenGate replication has de-synchronized and stopped. What can I do?

You will need to re-establish replication services by re-performing a source environment extract and initial load into your target database (according to the published service limits – see the service descriptions). Normally, this results in the target database being discarded and recreated as a current copy of the source environment database. If you wish to preserve some or all of the historical data within your original target database, then you will need to analyze and perform any required data reconciliation activities. As such activities are well outside the

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scope of the Oracle Utilities Enterprise SaaS cloud service(s), Oracle Utilities Cloud Operations, Product, and CSM teams are unable to assist with this. Oracle therefore recommends you contact a qualified partner such as Oracle Consulting for help.

While UI masking is in place, the PII data remains accessible at the database level. Is it possible and supported to restrict or limit SQL-level read access to specific PII tables for base schemas such as CISADM and CISREAD?

Oracle does not recommend open access to your database in a raw format for production environments to ensure consistent performance and maximize security. Security including data masking and encryption are configured at the service level not the database level for cost reduction purposes. Customers should always review raw access to ensure the appropriate people have appropriate access. It is recommended to use the features of the products through the provided interface to ensure compliance with the product and your custom configuration.

Product-Specific Frequently Asked Questions

This section provides frequently asked questions that pertain to specific cloud services, including:

- Customer Cloud Service Questions
- Meter Solution Cloud Service Questions

Customer Cloud Service Questions

General Questions

What is CCS?

CCS stands for Customer Cloud Service, the cloud service offering from Oracle Utilities that offers the Oracle Utilities Customer To Meter (C2M) application in the cloud, with Oracle running/maintaining the infrastructure, and the customer operating the system (includes all online operation as well as batch and reporting). Note that the base offering only covers 'scalar' meters & readings, not interval data processing - if interval processing is needed, then there is an add-on SKU 'Advanced Meter' option. Base subscription provides three environments (DEV, TEST, PROD) along with Analytics Publisher for reporting.

How is CCS different from the CCB on-premises?

Customer Cloud Service is different from Customer Care and Billing in a few ways.

1. Customer Cloud Service is based on Customer To Meter (C2M), includes functionality from Customer Care and Billing, Meter Data Management, Service Order Management, Smart Grid Gateway, Operational Device Management.
2. As cloud services, Oracle runs the infrastructure, and the customer operates the application. That means the customer cannot get direct access to the hardware to add resources, change server settings, etc.
3. In general, if you could do something in an on-premises application through the browser, then you can still do it in Customer Cloud Service. A few things that aren't allowed in cloud services include no new Java programs (Groovy scripting with plug- in batch as alternative), no custom xsl, no direct database query tools (Analytics Publisher is included with the cloud service for reporting and queries).

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4. Note that Customer Cloud Service uses the Customer to Meter platform. So Customer Cloud Service implementations are expected to use Meter Data Management for meter data and Service Order Management for field activities.

How do I know my data is safe in Customer Cloud Service?

Oracle is a leader in enterprise cloud solutions, so the reliability and security of the Oracle cloud is of utmost importance to us in order to remain a trusted technology partner for our thousands of utility customers around the world. We have over 1500 cloud operations specialists working tirelessly to maintain optimal cloud performance and we capture global cloud intelligence 24 x 7 x 365 and constantly update our security measures to stay ahead of the latest hacker techniques. Oracle continues to be a trailblazer, delivering the most sophisticated cloud technologies, including the world's first autonomous database to deliver unprecedented availability, performance, and security.

Are cloud services Payment Card Industry (PCI) Data Security Standard (DSS) Compliant?

No. You may only send, store, process and transmit token key data related to payment cardholder data in this Cloud Service, and may not store, process, or transmit payment cardholder data in this Cloud Service. If You have an arrangement / relationship with a third-party payment card vault and tokenization service provider, you must ensure that such service provider also does not store, process, or transmit payment cardholder data in this Cloud Service. If allocated, you are responsible for managing any third-party file storage account.

What is the 'configuration template' or accelerator that is included?

To 'jump start' Oracle Utilities Cloud service implementation projects the service includes the use of configuration templates that provide a full configuration solution that is based on North American modern best practices for the systems. CCS templates are separate for electric, gas, and water (note that just one service type is included in the base subscription, and extras do have an extra subscription cost.

How does Oracle Field Cloud Service (OFSC) fit into the Oracle Utilities Cloud Service offering?

Oracle Utilities has built an integration accelerator between Customer Cloud Service and Oracle Field Service using the Oracle Integration Cloud (OIC) Platform-as-a-Service (PaaS) offering, which covers standard activity use cases seen at most utility customers.

Technical Questions

How can customers run Customer Cloud Service Batch? Can they troubleshoot issues?

Note that the logs from the Batch Run Tree (stdout and stderr) are available to download and review, as well as batch job debug/trace. In some cases customers may need to log tickets for further assistance from Oracle Cloud Operations.

For more information about running and troubleshooting batch processing, see **Running and Troubleshooting Batch Processing** in the *Oracle Utilities Cloud Services Live Operations Guide*.

What are the Information Lifecycle Management (ILM) default retention periods for the high-volume maintenance objects

In general most of the higher volume tables including the financials (bills, payments, adjustments) have a default retention of 48 months (but no data will be dropped without a customer action). Measurement data is handled differently, depending in particular on whether the implementation uses interval data or not.

Can I drop the oldest partition data from the cloud service?

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Yes, the cloud services provide an ILM Dashboard that can be used to review the overall ILM configuration, including lists of ILM applicable objects and partitions and subpartitions. You can also initiate requests to drop the oldest partition.

Do we have to run the ILM compression batch jobs on monthly basis?

Yes, compression processes (measurement and non-measurement) are required to run on a monthly basis during implementation and after go-live. Oracle is planning to take over the compression processes responsibility from customers from the 26.10 release onward, however customers are required to run the compression processes to prepare for the 26.10 release.

Meter Solution Cloud Service Questions

For Itron OpenWay are any special communications features required?

Yes, Itron OpenWay / OWOC requires a VPN X509 Certificate and WS-Security requirements This may entail additional costs for the customer.

What Smart Grid Gateway Adapter components are available now (October 2025). Please note, the Oracle Utilities Cloud service version of Smart Grid Gateway does NOT requires SOA components.

The following adapters are available:

- Itron MV-90 (reads)
- Itron Openway (reads and commands)
- Itron Field Collection System (reads)
- Landis+Gyr (US Version) (reads and commands)
- Sensus RNI (reads and commands)
- Silver Spring Networks (reads and commands)
- Adapter Development Kit (reads and commands), including support for :
  - Multi-Speak Commands
  - Common Information Model (IEC 61968-9, Edition 2.0) (usage and events)

Refer to the **Smart Grid Gateway Native Implementations** section in the *Oracle Utilities Meter Solution Administrative User Guide* for more information.

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Glossary

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