

**Oracle Utilities Meter Data Management**  
Release Notes

Release 2.1.0 Service Pack 3  
**E38613-04**

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Oracle Utilities Meter Data Management Release Notes

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# Preface

These release notes provide an overview of the new functionality and known issues in Oracle Utilities Meter Data Management version 2.1.0 Service Pack 3.

## Audience

Oracle Utilities Meter Data Management Release Notes is intended for anyone installing or using Oracle Utilities Meter Data Management version 2.1.0 Service Pack 3.

## Related Documents

The following documentation is included with this release.

### Installation, Configuration, and Release Notes

- *Oracle Utilities Meter Data Management Release Notes*
- *Oracle Utilities Meter Data Management Quick Install Guide*
- *Oracle Utilities Meter Data Management Installation Guide*
- *Oracle Utilities Meter Data Management Database Administrator's Guide*
- *Oracle Utilities Meter Data Management Configuration Guide*

### User Guides

- *Oracle Utilities Meter Data Management User's Guide*
- *Oracle Utilities Service and Measurement Data Foundation User's Guide*

### Framework Documents

- *Oracle Utilities Application Framework Release Notes*
- *Oracle Utilities Application Framework Business Process Guide*
- *Oracle Utilities Application Framework Administration Guide*

### Supplemental Documents

- *Oracle Utilities Meter Data Management Batch Server Administration Guide*
- *Oracle Utilities Meter Data Management Server Administration Guide*
- *Oracle Utilities Meter Data Management Security Guide*

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## Conventions

The following text conventions are used in this document:

<b>Convention</b>	<b>Meaning</b>
<b>boldface</b>	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
<i>italic</i>	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
monospace	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

# Chapter 1

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## Release Notes

These release notes contain the following sections:

- [About This Release](#)
- [Relationship Between 2.1.0 Service Pack 3 and Prior Versions](#)
- [Supported Platforms Notice](#)
- [Database Changes](#)
- [New Functionality](#)
- [Oracle Utilities Application Framework Enhancements](#)
- [Known Issues in This Release](#)
- [Supported Integrations](#)
- [Demo Data Information](#)

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## About This Release

This section contains general information about Oracle Utilities Meter Data Management version 2.1.0 Service Pack 3, also referred to as version 2.1.0.3. This release of Oracle Utilities Meter Data Management includes the following components:

- Oracle Utilities Application Framework 4.2.0.3
- Oracle Utilities Service and Measurement Data Foundation 2.1.0.3

Please visit My Oracle Support (<http://support.oracle.com>) for the most recent service packs and patches for this release to ensure you have the most current version of this product.

## Relationship Between 2.1.0 Service Pack 3 and Prior Versions

Version 2.1.0.3 supports the following upgrade paths:

- If you are installing Oracle Utilities Meter Data Management for the first time, you must install version 2.1.0.3, available on the Oracle Software Delivery Cloud.
- If you have Oracle Utilities Meter Data Management version 2.1.0.1 or version 2.1.0.2 installed you can upgrade to version 2.1.0.3 directly. If you have version 2.1.0.0, you must upgrade to 2.1.0.1 and then to 2.1.0.3.
- If you have Oracle Utilities Meter Data Management version 2.0.1.9 installed you can upgrade to version 2.1.0.3 directly. If you have version 2.0.1.8 or earlier installed, you must upgrade to 2.0.1.9 and then to 2.1.0.3.

## Supported Platforms Notice

See the Supported Platforms section of the *Oracle Utilities Meter Data Management Quick Install Guide* included in this release for an updated list of supported platforms.

## Database Changes

Version 2.1.0.3 includes the following database enhancements:

- Index D1T304S2 has been restored in order to enable batch job D1-GNIMD to run successfully
- Index D1M100S13 has been introduced in order to support performance of batch job D1-CSPSR

## New Functionality

This section describes new features and functionality included in this release of Oracle Utilities Meter Data Management, including:

- [Item-Based Aggregation](#)
- [Support for Oracle Information Lifecycle Management](#)
- [Oracle Utilities DataConnect](#)
- [Labels changed from Seconds per Interval \(SPI\) to Interval Size](#)
- [Multiple Time Zone Support](#)
- [Oracle Utilities Analytics Extractors & Schema for Oracle Utilities Meter Data Management](#)
- [Direct Channels on Usage Subscriptions](#)
- [Interval Tier Calculation Usage Rule](#)
- [Service Charges To Date for Daily Scalar Meters](#)
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- [Online Transitioning of Ongoing Master Data Sync Records](#)
- [Easy and Flexible Ordering of Measuring Components for a Device](#)
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- [Template Device Support for Related Measuring Components](#)
- [Operational Device Configuration Effective Date/Time](#)
- [Logging IMDs Created Online](#)
- [Usage Exception When No Device Installed](#)

## Item-Based Aggregation

Oracle Utilities Meter Data Management has been enhanced to provide aggregation capabilities for items (such as street lights, traffic lights, construction poles, etc.). In combination with meter-based aggregation, this functionality provides enhanced accuracy to calculations of the total system load on an interval basis. Items are devices that consume but are not metered, and so rely on estimated consumption for bill determinants calculation. Since these devices often only consume power (or some other commodity) for a portion of the day, and the amount of time these devices consume may vary seasonally based the duration of daylight hours, the existing Item Type has been enhanced to allow an interval profile to be specified to represent the varied curve shape. If your organization uses the base package Average Daily Estimated Item Consumption to define item-based consumption, your implementation can take advantage of the enhanced Calculate Device Type Service Quantity algorithm, which now spreads the average daily consumption across the interval profile within the requested date range (using a flat line if no profile is supplied). The Calculate Device Type Service Quantity plug-in spot output has been expanded to enable an interval curve to be returned for the requested period. A new Item Aggregation Type business object has been introduced to control the items types to aggregate, along with a new Item Aggregator business object for service type and postal code (analogous to the delivered meter-based aggregator). The Item Aggregator features algorithm logic that leverages the aforementioned Calculate Device Type Service Quantity algorithm to determine the estimated interval consumption for a given service point's item(s) during the aggregation horizon. In addition, a new Item Aggregator Creator has been supplied for service type and postal code.



## Support for Oracle Information Lifecycle Management

Oracle Information Lifecycle Management leverages Oracle database technologies including partitioning to allow implementation of data lifecycle policies that optimize storage efficiency. Oracle Utilities Meter Data Management and Oracle Utilities Smart Grid Gateway have been enhanced to support the management of data for the major transactional objects in the system, including Initial Measurement, VEE Exception, Device Event, Activity, Communication In/Out, Completion Event, and Usage Transaction, along with Oracle Utilities Application Framework objects Inbound and Outbound Sync Request, Outbound Message, and To Do Entry. (Note that the Measurement table has recommended partitioning based on the measurement date/time, and this table's partitions can be managed via Oracle ILM.). The main table of each object listed above has been expanded to include a dedicated ILM Date and ILM Archive Switch that are managed by the system. The ILM date provides an approximate age of the data and can be used as a means of partitioning the data. The ILM Archive Switch indicates whether an object can safely be removed from the system if desired. System-generated prime keys for objects that have been removed from the system are preserved, and the Oracle Utilities Application Framework ensures that appropriate error messages are produced whenever a key is referenced online for an object that has been removed from the system.

Oracle Utilities Meter Data Management and Oracle Utilities Smart Grid Gateway now provide logic for population of the ILM date as well as setting the ILM archive switch for the above-mentioned objects. The ILM date is set for each object upon its creation, and select objects reference a new ILM Master Configuration to affect the retention period of records of different classes. For example, the retention periods for activities of different categories – Payload Statistics, Command Requests, Event Suppression Requests, Outages, etc. – can be assigned different values. Likewise, device events' retention periods can be segmented by category, and initial measurements' retention periods can be segmented by scalar vs. interval, and further by UOM. In the process of flagging objects as eligible to archive, ILM eligibility algorithms are supplied that ensure that a group of related objects is marked for archive at the same time. One example is that an activity will not be marked for archive until the maximum ILM date is reached for all of its child objects: child activities, outbound communications, inbound communications, and completion events. Certain objects can also be marked for archive independently of their related parents (for example, VEE exceptions can be flagged without marking the corresponding IMD). The process of scanning objects for archive is performed by a set of ILM crawler batch processes which are configured on each maintenance object and displayed on ILM Master Configuration.

## Oracle Utilities DataConnect

To expand the capabilities of Oracle Utilities Meter Data Management in the area of data export, the product has been enhanced to provide a lightweight means of producing both interval data and master data (service point and meter) extract files. These extracts are based on multi-threaded batch jobs, and can be used to feed various external repositories, such as energy management systems, interval data stores, market hubs, etc.

The master data extract includes information about the service point and the installed device, and can be triggered by changes in the service point, install event, or device. To drive this portion of the extract, outbound sync records are created as changes are detected, and the data contained in these sync records can be extracted to a flat file via a multi-threaded batch process.

For interval data extraction, the product has been enhanced to support both initial/ongoing extraction and the detection and extraction of corrections to already-extracted data. To drive interval data extraction, a new Consumption Extract Type admin object has been introduced to allow the definition of the types of service points relevant to the extract, which measurements to retrieve on the basis of UOM/TOU/SQI, and how to handle those measurements. Two plug-in spots on the Consumption Extract Type allow logic to be specified for the Initial/Ongoing Extract and the Historical Corrections Extract; base algorithms are delivered for each plug-in spot. Multi-threadable batch processes are supplied that call these algorithms. These batch processes additionally support a filter algorithm that permits criteria to be appended to the selection of records to process, as well as an eligibility algorithm that permits individual records to be weeded

out from the extract. As an example, a filter algorithm can be useful for supporting ad hoc consumption extraction for a limited set of service points. To detect historical corrections to already-extracted data, algorithms are supplied that can be plugged into the IMD lifecycle and the measurement lifecycle (for re-derivation of values) that write a very thin record to flag a particular IMD having played part in a correction of data relevant to one or more consumption extracts. The historical corrections batch process then picks up those records for processing. To manage ongoing continuity of interval data extracts, a new request business object has been supplied that submits the appropriate extract batch job and monitors it to completion, recording the extraction through date/time (which can then be interrogated by logic that looks to determine whether an IMD is a correction).

## Labels changed from Seconds per Interval (SPI) to Interval Size

Since not all fields for Interval Size have value in seconds (e.g. Measuring Component Type), we have converted the label to be more generic. This does not impact any value in the Override Label and Override value will take precedence.

## Multiple Time Zone Support

Oracle Utilities Meter Data Management has been updated with an enhanced ability to process meter data across multiple time zones and store it in a single common time zone. Data from each jurisdiction will be received in the time zone local to that jurisdiction, converted to the Oracle Utilities Meter Data Management time zone, and subsequently sent to downstream systems in a format that makes the time zone of each date/time easily understood. Furthermore, master data (Device Configuration, Service Point, etc.) and admin data (TOU Map, Dynamic Option Type, etc.) can now be set to time zones other than the installation time zone.

All date/time information in Oracle Utilities Master Data Management will be stored in the time zone defined on the Installation Options. A new feature configuration controls whether several key areas of the system function in single or multiple time zone mode.

### Date/Time Storage and Display

- All date/times in the system will be stored and displayed in the installation time zone.
- In a future release date/time display will be enhanced to be in the time zone of the object being displayed.

### Initial Measurement Data Upload

- Head End Service Providers now indicate whether date/time information is received with time zone information (this means that XSD:dateTime format is used and the UTC offset is provided, e.g. 2014-04-01T00:00:00-05:00).
- The ability to convert IMD date/times from the time zone of the meter/head end to the time zone of the MDM installation has been enhanced. It can now retrieve a non-install time zone from the device to use as the source time zone. All time zone conversions will still have a target of the installation time zone.
- A new validation has been added that will prevent IMDs that don't reference a time zone from being processed for devices that are not installed. Since the time zone on the device configuration may not be correct until it has been installed at a service point, this validation can be used to prevent processing the IMD using an incorrect time zone. This validation can be turned off through algorithm parameters on the IMD Seeder.

### Event Upload

- Head End Service Providers now indicate whether date/time information is received with time zone information (this means that XSD:dateTime format is used and the UTC offset is provided, e.g. 2014-04-01T00:00:00-05:00).

- The ability to convert event date/times from the time zone of the meter/head end to the time zone of the MDM installation has been enhanced. It can now retrieve a non-install time zone from the device to use as the source time zone. All time zone conversions will still have a target of the installation time zone.
- A new validation has been added that will prevent events that don't reference a time zone from being processed for devices that are not installed. Since the time zone on the device configuration may not be correct until it has been installed at a service point, this validation can be used to prevent processing the IMD using an incorrect time zone. This validation can be turned off through algorithm parameters on the Event Seeder.

## Usage Transaction Request Processing

- External System Service Providers can now indicate whether date/time information is received with time zone information (this means that XSD:dateTime format is used and the UTC offset is provided, e.g. 2014-04-01T00:00:00-05:00).
- The Usage Transaction seeder has new logic that will convert date/times from an external time zone (in wall time) to the MDM installation time zone (in wall time). The date/time conversion logic will only be executed if a new field for the external system has been populated. If executed, the logic will first look to the inbound payload for a time zone, and if none is found, it will assume the time zone of the dates are in the time zone of the Usage Subscription.

## IMD Online Creation from 360 Functions

360 View functions have been updated to ensure that IMDs are saved correctly for non-install time zone measuring components.

## Initial Measurement Data VEE Rules

- Evaluation of effective-dated factor values was adjusted to account for non-install time zones. Factor effective dates do not have a time zone associated to them and are assumed to be in the local time zone of the data being validated. For example, a factor effective 4/1/2015 12AM would be considered to be effective 4/1/2015 12AM US/Pacific for a San Francisco meter and 4/1/2015 12AM US/Eastern for a New York meter.
- Evaluation of holidays, days of the week, and business/non-business days (via the work calendar) were adjusted for non-install time zones. Holiday effective dates do not have a time zone associated to them and are assumed to be in the local time zone of the data being validated. For example, a holiday on July 4, 2015 would be considered to be effective beginning 7/4/2015 12AM US/Pacific for a San Francisco meter and 7/4/2015 12AM US/Eastern for a New York meter.
- The interval averaging rule was updated to take advantage of the new holiday and business calendar logic.

## Master Data Synchronization

- We now expect that when multiple time zone support is turned on via feature configuration, a device configuration, service point, and usage subscription arrive with time zone information. We felt it unsafe to make the assumption that the absence of a time zone implied the time zone was the install time zone.
- Time zone can be set to any configured value, but certain combinations of time zones on related master data objects are restricted. A new validation has been added to the install event that will ensure the device configuration being installed at an SP has the same time zone as the SP. If a sync request were to attempt to install a device configuration at an SP with a conflicting time zone, the sync would receive an error.

## Master Data Definition

- When multiple time zone support is turned on via feature configuration, the time zone field for master data objects where time zone is present can be set to any valid time zone defined in the system.
- New validation has been introduced to ensure the entire device hierarchy is set to the same time zone. The system restricts the mixing of time zones between a related device configuration, service point, usage subscription, and measuring component. For example a device configuration in US/Central installed at an SP in US/Central can no longer have its time zone changed because it cannot be in conflict with the SP. In this scenario the SP time zone can be changed and it will also change the device configuration time zone (so long as there are no conflicts created with other SPs where the device configuration has been installed, or Usage Subscriptions that the SP shares with other SPs).
- New validation has been introduced to ensure that a TOU Map that references a Dynamic Option does not have a time zone that conflicts with that of the Dynamic Option Type.

## TOU Map Generation

- When multiple time zone support is turned on via feature configuration, the time zone field on TOU Map Type can be set to any valid time zone defined in the system.
- TOU Map data generated for non-install time zones will be stored in the installation time zone but the transitions between TOU codes will be based on the time zone of the TOU Map Type. For example, a TOU Map in US/Pacific for a US/Eastern installation that transitions to “On Peak” at 4PM will store that transition as 7PM (which is 4PM adjusted ahead three hours to match the install time zone of US/Eastern).
- There will be no impact to previously generated TOU Map data that is for a time zone that matches the installation time zone.

## Scalar Periodic Estimation

- Changes were required here since this process deals in time intervals greater than 1 hour, which causes one short reading and one long reading (on the spring forward and fall back day for DST) when a meter reads in “wall time” (i.e. it reads every day at 12AM which will be 12AM standard in non-DST periods and 11PM standard when DST is in effect).
- Furthermore, the Measuring Component Type configuration for the First Daily Measurement Time is not anchored in a single time zone (since it is at a level higher than a specific measuring component which is associated to a device configuration with a defined time zone). Thus the First Daily Measurement Time is interpreted as being in the local time zone of the measuring component. So a value of 12:00:00AM would be interpreted as 4/1/2015 12AM US/Pacific for a San Francisco meter and 4/1/2015 12AM US/Eastern for a New York meter.
- Multi-time zone logic introduced sufficient complexity in this module that required a very extensive set of changes to the core component that predicts when a measurement should be received, identifies gaps to be filled, and gauges continuity. These changes are beneath the surface and should not be apparent to an end user but they do warrant a regression test of any periodic estimation functionality in use.

## Items – Device Type Service Quantity

- Device type service quantity values are defined without an anchor to any particular time zone. Therefore they are interpreted as being in the local time zone of the item being processed. This means that a service quantity value that becomes effective as of 4/1/2015 12:00:00AM would be interpreted as effective at 4/1/2015 12AM US/Pacific for a San Francisco meter and 4/1/2015 12AM US/Eastern for a New York meter.
- The item calculation usage rule was adjusted to ensure that calculation of service quantities for items not in the install time zone are done with the correct date/times. This involves

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converting date/times that are stored in the installation time zone to the appropriate time zone of the Item for the evaluation of the service quantities.

- Similar changes were made for Item aggregation.

### Device Event Export

- A new outbound message has been introduced that is designed to utilize date/times formatted as XSD:dateTimes.
- All date/times will be sent in the installation time zone in standard with the appropriate UTC offset.
- A time zone value will be sent that will indicate the local time zone of the device.

### Usage Transaction Export

- A new outbound message has been introduced that is designed to utilize date/times formatted as XSD:dateTimes.
- All date/times will be sent in the installation time zone in standard with the appropriate UTC offset. Logic is in place to handle converting from a wall time to a standard time to disambiguate the duplicate hours that appear on the day of the “fall back” DST transition.
- A time zone value will be sent that will indicate the local time zone of the service point.

### Aggregation

- Aggregation has been updated to handle multiple time zones.
- If the aggregator or its Measuring Component Type is associated to a time zone, then the aggregation will be done in “absolute” time. For example, the 4/1/2015 12AM interval in US/Pacific would be combined with the 4/1/2015 3AM interval in US/Eastern.
- If the aggregator or its Measuring Component Type is not associated to a time zone, then the aggregation will be done in “local” time. For example the 4/1/2015 12AM interval in US/Pacific would be combined with the 4/1/2015 12AM interval in US/Eastern.

### Use of Profile MCs

For this release we are assuming that profile measuring components are being created specific to the time zone of the service point with which they are being used.

## Oracle Utilities Analytics Extractors & Schema for Oracle Utilities Meter Data Management

As part of an overall technology change to the extraction logic across our Oracle Utilities Analytics products, Oracle Utilities Meter Data Management has been enhanced to support change data capture via Oracle GoldenGate. The extract algorithms that previously drove creation of flat files for each of the snapshot facts (Service Point Usage Snapshot, Service Point Snapshot, Service Point Unreported Usage Snapshot, and Service Point VEE Exception Snapshot) have been duplicated and altered to write to prepared data tables within OUMDM, which are in turn monitored by Oracle GoldenGate. A new batch process has been delivered that drives the execution of these algorithms. In addition, because usage group determination within OUMDM is dynamic based on the customer’s rate and the configuration type of the device installed at the SP, a new prepared data table has been introduced to record the usage group in effect for the usage subscription, and a batch process has been provided to populate that table for initial load as well as ongoing change. A new extract parameter master configuration has been introduced to specify Market Relationship Types, Subscription Types, Activity Types to include, and Device Event Business Objects to exclude in their respective star schema. The existing BI Configuration Portal has been enhanced to show each required configuration item.

## Direct Channels on Usage Subscriptions

Oracle Utilities Meter Data Management has been enhanced to allow the linkage of one or more measuring components directly to a usage subscription, and to allow those measuring components to be referenced in usage calculations. This change was driven by the need to compare individual customer consumption to an aggregated threshold curve, for example, where the aggregator can now be referenced directly on the customer's usage subscription based on a configurable direct channel relationship type. The Vector & Service Quantity Math usage rule has been expanded to allow the input vectors to reference a direct channel relationship, and the newly-introduced Interval Tier Calculation usage rule also references direct channels. In addition, 360 Search By Name has been modified to return additional rows for any direct channels linked to the usage subscription. The Usage Subscription Overview zone on 360 View – Usage Subscription now shows direct channels, a new zone on 360 View – Measuring Component lists usage subscriptions linked to the current channel, and the Current Context dashboard zone now shows direct channels if other physical measuring components aren't present.

## Interval Tier Calculation Usage Rule

To facilitate usage calculations that compare a channel of data against a reference vector, an Interval Tier Calculation usage rule has been introduced to Oracle Utilities Meter Data Management. The tiered calculation accepts source and reference vectors, aligns their interval sizes and UOMs, takes the difference between them on an interval-by-interval basis, and accumulates those differences into percentage-based tiers. These tiers are defined separately as positive & negative tiers – and because the relevant tier is determined for each interval in the vector, the result of the calculation could include both positive and negative tiers. In the end, service quantities can be generated for each tier (each with specific SQIs), along with total service quantities for tiers that have been configured to be included in those totals.

## Service Charges To Date for Daily Scalar Meters

To allow up-to-date usage to be displayed via Oracle Utilities Customer Self-Service for daily scalar meters, Oracle Utilities Meter Data Management has been enhanced to expand the acceptable window for scalar data by providing a lag time parameter via Self-Service Master Configuration. If data is present up through the request end date/time less the lag time, the data will be returned for display in OUCSS (assuming appropriate usage rule configuration).

## Daily Scalar Usage Rule

Usage calculation capabilities have been expanded within Oracle Utilities Meter Data Management to include specific handling for meters that are read once or more per day. A new usage rule has been introduced for those meters that works in a manner more closely analogous to interval data usage rules. Only the earliest and latest register readings during the usage period for these meters will be recorded in the usage transaction's scalar details (whereas the existing Get Scalar Usage logic records every reading during the usage period). The new rule also takes date breaks into account (by assuming it will find a measurement on each date break), producing multiple usage periods and dividing the service quantities based on measurements during each usage period. The rule features an offset parameter that widens the measurement search period to allow additional measurements to be included in the current usage transaction's calculation (for example, if the usage period ended at 12AM, the rule could be configured to allow a 12:04AM measurement to be included in the usage calculation).

## Daily Scalar Read Processing Optimization – Most Recent Measurement Date/Time

One of the more expensive operations in the large-volume processing of daily scalar subtractive reads is retrieval of the prior reading used to calculate consumption. In most cases, the immediate prior reading needs to be subtracted from the current reading, which requires retrieving the most

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recent measurement. A performance optimization has been introduced to Oracle Utilities Meter Data Management in which the date/time of the most recently finalized measurement is stamped on the measuring component. By doing so, the date/time of the required measurement is already determined, reducing the overhead that results from trying to determine the most recent measurement date/time from the measurement table alone.

## Online Transitioning of Ongoing Master Data Sync Records

Oracle Utilities Meter Data Management has been enhanced to permit manual online transition of individual ongoing sync records for master data. This feature can be helpful in resolving an issue for an individual customer's data synchronization without requiring a batch process be run that has the potential to pick up data for all customers. A new ancillary action button has been introduced that executes the monitor algorithm(s) associated with the sync record's current state – in order to preserve the conditional logic in those algorithms that may prevent the transition of that record.

## Easy and Flexible Ordering of Measuring Components for a Device

A new zone has been introduced to Oracle Utilities Meter Data Management that displays a list of the measuring components for the current configuration of the device in context, and contains numerous columns that could be used for purposes of sorting measuring components. The data explorer feature is activated for this zone, allowing a variety of columns to be added to those displayed. This zone is not plugged in on any portal, but can be used as a substitute for the Device Configuration Overview zone (for example) if your organization's users frequently reference meters with large numbers of measuring components and need to order them.

## Device Event Performance Enhancement

To allow more efficient performance of various user interface zones that display device events for a given meter, Oracle Utilities Meter Data Management has been modified to store the device ID directly on the main table of the device event maintenance object. Both the Timeline zone on 360 View – Usage Subscription and the Event Bar that displays underneath numerous charts on 360 View – Measuring Component have been enhanced to select device event data using the improved data structure. Note that the old device event data model will continue to be supported until the next major release.

## Template Device Support for Related Measuring Components

When synchronizing devices from Oracle Utilities Operational Device Management (or some other asset system) into Oracle Utilities Meter Data Management, a template device is employed to define the measuring components that should be present on the new device. Relationships between the measuring components on the template device's configuration are now copied to the new device's configuration.

## Operational Device Configuration Effective Date/Time

When synchronizing devices from Oracle Utilities Operational Device Management (or some other asset system) into Oracle Utilities Meter Data Management, the device configuration effective date can now be assigned based on the creation date/time field supplied by that system. Note that OUODM has been modified to store and pass the historical asset origin date in the asset's creation date/time field.

## Logging IMDs Created Online

Logging creation and state transition of IMD records within Oracle Utilities Meter Data is suppressed for performance reasons. To allow IMDs created online (nearly always manual IMDs)

to be logged, a new algorithm has been introduced that generates a log entry referencing the current user and the status of the record created or processed by that user. This algorithm is not delivered plugged in on any business object, but if your organization wishes to log IMDs created online, this algorithm can be plugged into the desired states of the Manual IMD business object(s) used by your organization. In addition, the Multiple IMD and Event Upload BPA script, which produces Initial Load IMDs, has been enhanced to produce a “created” log entry for each IMD generated.

## **Usage Exception When No Device Installed**

A new validation-style usage rule has been introduced to Oracle Utilities Meter Data Management that creates an entry in the usage transaction exception list whenever no device is installed on the usage subscription's service point(s) during the usage period.



# Oracle Utilities Application Framework Enhancements

This release includes Oracle Utilities Application Framework version 4.2.0 Service Pack 3, which includes enhancements. For information about these enhancements, refer to the following documents:

- The *Oracle Utilities Application Framework Service Pack 3 (V4.2.0.3.0) Release Notes*. This document provides information about specific framework modifications and is included in the documentation delivered with this release.
- The Oracle Utilities Application Framework Administration Guide and Business Process guide. These documents are included with the documentation that is delivered with this release.

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## Known Issues in This Release

This section describes known issues in Oracle Utilities Meter Data Management at the time of release. Single fixes for these issues will be released at a later date.

### Initial Measurement Data

When an IMD is created during the transition to Daylight Savings Time, only the IMD Start Date/Time is converted to the install time zone; the End Date/Time is not converted. This prevents an IMD with these dates from being finalized and thus measurements will not be created. (Bug Number 20714345).

### Usage Rules

When data is being retrieved for usage rules, the application converts the date/time from wall time to standard time. When the date/time falls on the duplicate hour due to a daylight savings time transition, the application currently assumes it is the second duplicate hour (i.e. the one outside shift period). In 2.1.0.3, the application introduced logic to disambiguate the hour by using the usage subscription time zone to figure out if either duplicate hour was midnight of that time zone. This logic should be introduced for the usage rule measurement retrieval as well. (Bug Number 20640493)

### 360 Degree View

360 Degree View Overlay zones for scalar charts show incorrect totals when a period is selected during Daylight Savings times and if the display parcel size is greater than 1 hour. Further, the period for which the data is shown changes by default, and is not the same as input period. (Bug Number 19004097)

### Estimation

In an Estimation Scalar IMD, the measurement during an outage period is not being tagged appropriately to reflect this. As a result, instead of being omitted from the Estimation VEE Rules calculations, the measurement during the outage period is being considered erroneously. (Bug number 16751250)

### Master Data Sync

The Ongoing Usage Subscription Sync Request from Oracle Utilities Customer Care and Billing to Oracle Utilities Meter Data Management is overwriting the "Override Start Date/Time" and "Override Stop Date/Time" fields on the Usage Subscription. These fields are being blanked out in Oracle Utilities Meter Data Management with the US Sync after the start service and stop service process is completed in Oracle Utilities Customer Care and Billing. (Bug Number 19823048)

Multiple Ongoing Measuring Component Sync Requests for the same measuring component are processed out of order if integrated with a CIS other than Oracle Utilities Customer Care and Billing and the integration with CIS does not manage the order. If a Sync with an earlier date is processed last, the measuring component will not reflect the most recent data. (Bug Number 19723885)

### DataConnect

Unable to add Consumption Extract request from Consumption Extract Request Add Screen. Request Type drop down is shown as empty even though active request types are present in system. (Bug Number 20972516).

## Oracle Utilities Application Framework Known Issues

This following table lists known issues in Oracle Utilities Application Framework at the time of this release.

Bug Number	Description
20924880	When processing real time JMS messages, error "... is an invalid user" is issued. The error is caused by the co-mingling of credentials between remote systems.
20758712	Missing MDB interface to utilize IWS for dispatching request
20797010	Issue with the dateTimeTagFormat ="xsd" property while submitting XAI

Please also refer to the *Oracle Utilities Application Framework Release Notes* for a list of known issues at the time of this release.

## Bug Fixes Not Included in This Release

This section lists bug fixes released for previous versions of the product that have not been included in this release. These fixes are planned for a future date for the current release using the bug numbers listed in the tables below.

Original Version	Original Fix	Description	2.1.0.3
2.1.0.1	20852274	Usage Rule Portal allows changes even when inquire only.	20854857
2.1.0.1	20858353	Value of Desc_Ovrd should be displayed on 360 Mc Interval - Audit View Graph	20876585
2.1.0.2	20785756	Scalar reads insertion does not calculate if there are reads before install date	20836599
2.1.0.2	20859573	D1-RegisterAutoRead displays D1_MC_External_ID only on input map	20872262
2.1.0.2	20878537	Measurement cycle and MC Route are parts of the UT schema but not included in UI	20992013
2.1.0.2	20895838	Date/Time on X-Axis of MC IMD graph	20958752
2.1.0.2	20906234	MDM Install event errors trigger manual resolution in ODM after the error is res	20920919

## Items Planned for Deprecation

This section describes items that will be deprecated in a future major release of Oracle Utilities Meter Data Management:

- Oracle Weblogic 10.3.6
- Oracle Database 11g
- Internet Explorer 10.0 and previous versions
- Windows Server 2008 R2
- Oracle Enterprise Linux/ RedHat Enterprise Linux 5.8, 6.2, 6.3, 6.4
- Java 6

- Extract methodology leveraging Oracle Warehouse Builder with Oracle Utilities Analytics to move to Oracle Data Integrator/Golden Gate
- XAI Inbound Services to move to Inbound Web Services

## Supported Integrations

The following integrations are supported in this version of Oracle Utilities Meter Data Management:

### Oracle Utilities Product Integrations

Oracle Utilities Meter Data Management 2.1.0 / Oracle Business Intelligence for Utilities 2.4.0.4 or higher

Oracle Utilities Meter Data Management 2.1.0 / Oracle Utilities Analytics 2.5.0

Oracle Utilities Meter Data Management 2.1.0 to Oracle Utilities Customer Care and Billing 2.3.1 and 2.4.0 and 2.5.0

Oracle Utilities Meter Data Management 2.1.0 to Oracle Utilities Operational Device Management 2.0.1

### Additional Integrations

BI Publisher 11.1.1.5.0

Oracle Utilities Customer Self Service 2.1.0

## Application Dependencies for Oracle Business Intelligence for Utilities

When using Oracle Utilities Meter Data Management with Oracle Business Intelligence for Utilities, you must upgrade to Oracle Utilities Advanced Spatial and Operational Analytics version 2.4.0 Service Pack 4 or higher. This release is not compatible with previous releases of Oracle Utilities Advanced Spatial and Operational Analytics. For more information, see the release notes and installation documentation for Oracle Utilities Advanced Spatial and Operational Analytics, version 2.4.0 Service Pack 4.

## Demo Data Information

The application delivers a demo database based on the application versions provided with the release, including Oracle Utilities Application Framework. Demo data provides sample configuration and data for key application features.

Demo data is included in the service pack. Please refer to the *Database Administrator's Guide* for more information about installing the demo database, or contact Oracle Support.