

# FlexNet Operations 2021 R1 On Premises

Reporting Guide



# Legal Information

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# FlexNet Operations 2021 R1 On Premises Reporting Guide

FlexNet Operations reporting is a powerful tool that enables you to review and analyze your FlexNet Operations data. FlexNet Operations reporting gives you access to the licensing data stored in FlexNet Operations: licensing, entitlement, fulfillment, device, and support operations.

**Table 1-1 • FlexNet Operations 2021 R1 On Premises Reporting Guide**

Section	Description
<b>About FlexNet Operations Reporting</b>	Lists information and concepts you need to become familiar with before running reports on your FlexNet Operations data.
<b>FlexNet Operations Reporting Model</b>	Describes the tables that comprise the FlexNet Operations reporting database.

## Product Support Resources

The following resources are available to assist you with using this product:

- [Revenera Product Documentation](#)
- [Revenera Community](#)
- [Revenera Learning Center](#)
- [Revenera Support](#)

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# About FlexNet Operations Reporting

FlexNet Operations reporting is a powerful tool that enables you to review and analyze your FlexNet Operations data. FlexNet Operations reporting gives you access to the licensing data stored in FlexNet Operations: licensing, entitlement, fulfillment, device, and support operations.

FlexNet Operations provides the FlexNet Operations reporting model, and users use their preferred database environment tools to directly query the FlexNet Operations reporting database.

This section introduces you to FlexNet Operations reporting.

**Table 2-1 •** About FlexNet Operations Reporting

Chapter	Description
<a href="#">FlexNet Operations Reporting Concepts</a>	Lists information and concepts you need to become familiar with before running reports on your FlexNet Operations data.
<a href="#">FlexNet Operations Reporting Limitations</a>	Lists limitations of FlexNet Operations reporting.
<a href="#">Installation</a>	Explains where to find instructions on installing FlexNet Operations Reporting and configuring your servers.

## FlexNet Operations Reporting Concepts

You must be familiar with FlexNet Operations features and licensing concepts before running reports on your FlexNet Operations data. Please review the Getting Started Guides for FlexNet Operations for an introduction to FlexNet Operations, and the FlexNet Operations Installation Guide for instructions on installing and configuring FlexNet Operations reporting.

- [What is a Report?](#)
- [Reporting Database and Server](#)

## What is a Report?

A report is a collection of data corresponding to specific criteria, presented in a tabular or graphical format. For example, if you want to see all entitlements fulfilled during the last six months, a report would collect and present the data in the format you specify, such as alphabetical by product.

Often, a report is optimized for printing, but can be exported to a variety of file formats.

## Reporting Database and Server

The reporting database contains the FlexNet Operations data that is used to build reports. This database is distinct from the FlexNet Operations database. Data is transmitted from the FlexNet Operations database to the reporting database in a process known as data transformation.

# FlexNet Operations Reporting Limitations

FlexNet Operations reporting includes the following limitations:

- [Entities and Relationships Unavailable for Reporting](#)
- [State Change History](#)
- [Test Entitlements, Devices, etc.](#)
- [Served Client Devices](#)
- [Device Product License State](#)
- [Custom Attributes](#)
- [Old, Imported Fulfillment Records](#)
- [Required for Reporting Flag](#)
- [Security and Authorization](#)

## Entities and Relationships Unavailable for Reporting

The FlexNet Operations reporting model does not support the generation of reports on the following entities or relationships:

- Account hierarchies.
- Relationships between user and accounts.
- Product hierarchies, such as the relationship between suites and products.
- Product relationships, such as the relationship between line items and maintenance items.
- Policies, such as the number of allowed rehosts, returns or extra activations.

## State Change History

Data transformation to the reporting database depends on the state change history records. The data transformation process can mis-handle certain deployment scenarios and entitlement line item imports:



- When a line item is deployed, the total number of copies on the line item are recorded in the state change history. If the line item is moved back to the draft state and then re-deployed, the total number of copies on the line item will be recorded again in the state change history. Hence, in the reporting database, the number of copies is inflated for that line item. However, if the count is changed for a deployed line item without a state change, FlexNet Operations records this as a count event in state change history. In this case, the data in the reporting database is accurate.
- If entitlement line items are imported into FlexNet Operations, the count changes on entitlement lines item are not properly captured. Only the final count on a given entitlement line item is recorded. As a result, the reporting database shows the final count on the line item, not the historical count changes.

## Test Entitlements, Devices, etc.

Entities in Test status are not transformed to the reporting database.

## Served Client Devices

Served clients are transformed to reporting in both the DEVICE\_DIMENSION and DEVICE\_FACT tables but do not contain all the necessary information to create reports. They are not transformed to the DEVICE\_ADDON\_FACT table.

## Device Product License State

Details about license state changes for product licenses are not transformed to the reporting database. For product licenses, only events that change the requested copies or consumed copies counts are available for reporting.

## Custom Attributes

FlexNet Operations reporting imposes limits on the names used for custom license model attributes and custom host attributes, the value types used for custom attributes, and the use of host attributes in custom license technologies:

**Table 2-2 • Custom Attributes Limitations**

Attribute	Description
<b>Custom License Model Attribute Names</b>	<p>If a custom license model attribute is required for reporting, the name of the attribute cannot contain special characters like single quote ('), double quote ("), comma (,) and question mark (?).</p> <p>The maximum length of the attribute name is 29 characters.</p> <p>Note that there are three types of custom license model attributes based on when the attribute's value is set:</p> <ul style="list-style-type: none"> <li>● License model time</li> <li>● Entitlement time</li> <li>● Fulfillment time</li> </ul> <p>Only entitlement-time and fulfillment-time custom license model attribute types are transformed to the reporting database.</p>

Table 2-2 • Custom Attributes Limitations

Attribute	Description
<b>Custom Host Attribute Names</b>	<p>Like custom license model attribute names, if a custom host attribute is required for reporting, its name cannot contain special characters, and additional constraints are imposed on the length of custom host attribute names.</p> <p>When a custom host attribute is loaded to the reporting database, FlexNet Operations combines the custom host attribute name and the entity's host type to derive a unique value for the custom host attribute's column name. The column name contains first the host type, followed by two underscore characters, followed by the custom host attribute name:</p> <pre>&lt;host_type&gt;__&lt;custom_host_attribute_name&gt;</pre> <p>The maximum combined length of the custom host attribute name and the host type is 27 characters.</p>
<b>Custom Attribute Value Types</b>	<p>Not all possible value types for custom license model attributes and custom host attributes are supported for reporting. Specifically, the value types "multi-value" and "long text" are not supported, and these value types are not transformed by the data transformation process. All other value types are supported for reporting.</p>
<b>Host Attributes for Custom Licensing Technologies</b>	<p>Host attributes for non-FlexNet licensing technologies are not transformed to the reporting database. Only FlexNet licensing host attributes are available for reporting.</p>

## Old, Imported Fulfillment Records

Data transformation is incremental and only the new data is transformed. If old fulfillment records are imported into FlexNet Operations after data is moved to the reporting database, the transformation of these fulfillment records requires special handling. To ensure these old records are included in the reporting database, run **flexnet loadreportdb** to reset the reporting database and start the data transformation again.

## Required for Reporting Flag

Data transformation is an incremental process. Only new or modified line items are copied to the reporting database during transformation. If the **Required for Reporting** flag on the custom attribute is set to true *after* data transformation is done, FlexNet Operations does not update custom attribute information on the line items that have already been transformed.

To avoid this issue, consider setting the **Required for Reporting** flag when the custom attribute is initially created. If all line item records must be updated with custom attribute information, run **flexnet loadreportdb** to reset the reporting database and start the data transformation again.

## Security and Authorization

Item level security is not enabled. Permissions in FlexNet Operations do not carry over into FlexNet Reporting.

For example, some FlexNet Operations users can be disabled from viewing product information or entitlements. However, these permissions are not included in FlexNet Operations reporting, whether the reports are run as direct SQL queries on the reporting database or in the administrative console. A user who has the View Reports permissions can see all reports and all data in a report.



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**Important** • Producers who are upgrading from FlexNet Operations On-Premises version 2014 or older, and who used device-reporting functionality in that version, please contact Flexera support. Event ID types are no longer used in the data warehouse. This change requires additional steps, after the upgrade, to resolve device-reporting differences.



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**Version** • Only changes made to the reporting database after 2017 R2 is installed will be affected by 2017 R2 software changes. Existing records (i.e. records already transformed before 2017 R2) will not be modified.

Please consult the *FlexNet Operations Release Notes* for information on known issues with FlexNet Operations reporting.

## Installation

For instructions on installing FlexNet Operations Reporting and configuring your servers, consult the *FlexNet Operations Installation Guide*.



# FlexNet Operations Reporting Model

This section describes the tables that comprise the FlexNet Operations reporting database. It includes entity-relationship diagrams; descriptions of the columns in the dimension, fact, and other tables; and information about sample SQL scripts.

This chapter describes the various tables—mainly dimensions and facts—that are available in the FlexNet Operations reporting model. You can use these tables when creating or modifying SQL scripts to generate your own reports.

**Table 3-1 • FlexNet Operations Reporting Model**

Section	Description
<b>Reporting Schema Diagrams</b>	Schema diagram illustrating the tables in the FlexNet Operations reporting database and the relationships among them.
<b>Reporting Facts</b>	Most producers use reporting to view some sort of aggregated data. These data are called facts (or measures): numeric values that are measurable and additive. This section lists the FlexNet Operations reporting database fact tables.
<b>Report Dimensions</b>	A dimension is a set of related properties based on available data, which can be made use of in a report. Most dimensions have attributes that express some aspect of the dimension. This section lists the FlexNet Operations reporting database dimension tables.
<b>Custom Attribute Tables</b>	Custom Attribute tables store custom content that is used in the End-User Portal to customize page instructions on supported pages, add announcements to the home page, or create standalone pages. This section lists the FlexNet Operations reporting database custom attribute tables.
<b>Other Tables</b>	This section lists additional tables in the FlexNet Operations reporting database.
<b>Sample SQL Scripts</b>	Describes the scripts provided to illustrate SQL queries that generate reports based on data in the FlexNet Operations reporting database.

The fact and dimension tables, as well as supporting date, user, and housekeeping tables, are documented in this chapter and illustrated in the [Reporting Schema Diagrams](#).

**Table 3-2 • FlexNet Operations Reporting Tables**

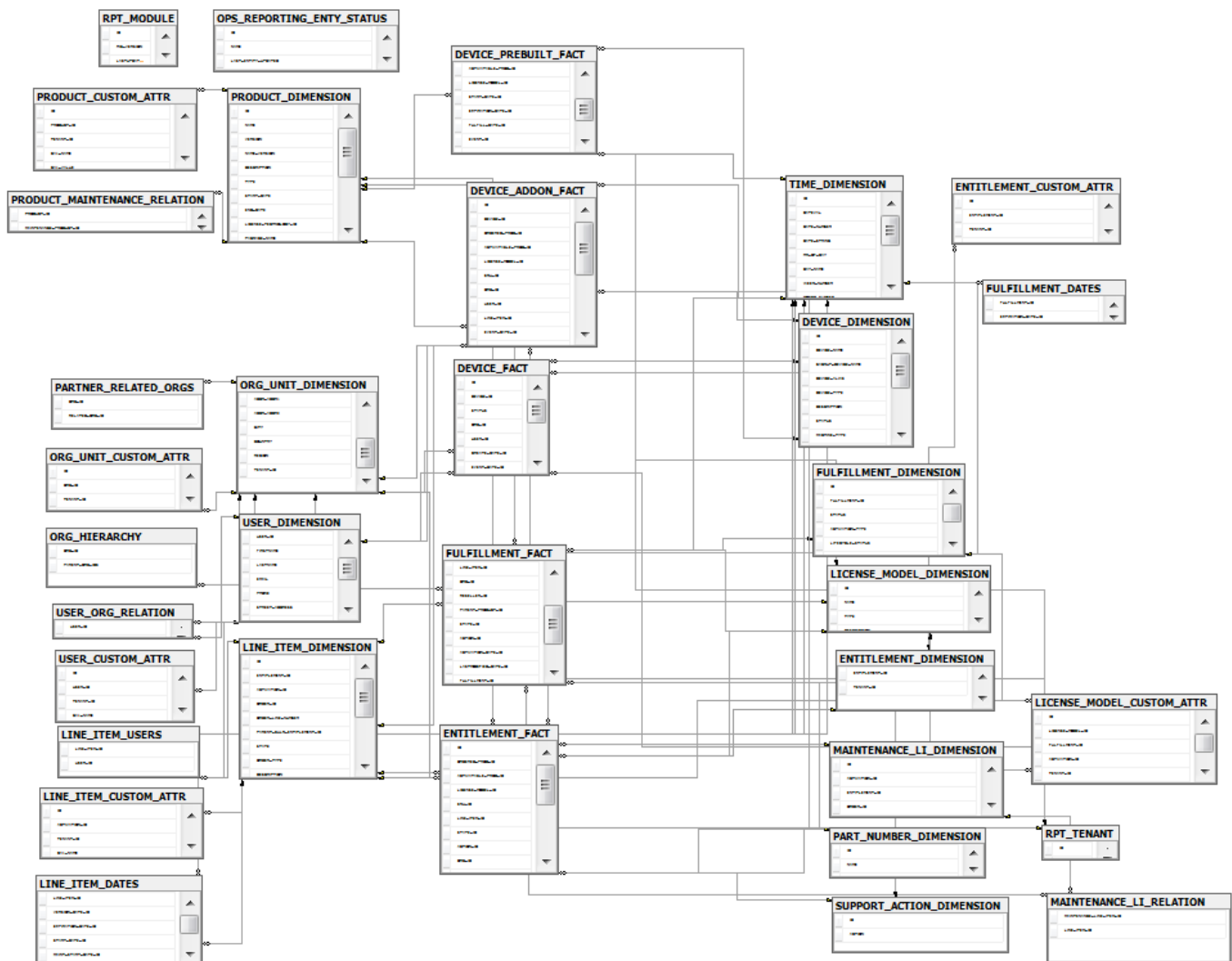
Type	Tables
<b>Facts</b>	DEVICE_ADDON_FACT DEVICE_FACT DEVICE_PREBUILT_FACT ENTITLEMENT_FACT FULFILLMENT_FACT SERVED_CLIENT_FEATURE_FACT
<b>Dimensions</b>	CONTACT_DIMENSION DEVICE_DIMENSION ENTITLEMENT_DIMENSION FULFILLMENT_DIMENSION LICENSE_MODEL_DIMENSION LINE_ITEM_DIMENSION MAINTENANCE_LI_DIMENSION ORG_UNIT_DIMENSION PART_NUMBER_DIMENSION PRODUCT_DIMENSION SUPPORT_ACTION_DIMENSION TIME_DIMENSION USER_DIMENSION
<b>Custom Attribute</b>	ENTITLEMENT_CUSTOM_ATTR LICENSE_MODEL_CUSTOM_ATTR LINE_ITEM_CUSTOM_ATTR MAINTENANCE_LI_CUSTOM_ATTR ORG_UNIT_CUSTOM_ATTR PRODUCT_CUSTOM_ATTR USER_CUSTOM_ATTR
<b>Other</b>	ENTITLEMENT_CHANNEL_PARTNERS FULFILLMENT_DATES LINE_ITEM_DATES LINE_ITEM_RELATION LINE_ITEM_USERS MAINTENANCE_LI_RELATION OPS_REPORTING_ENTY_STATUS ORG_HIERARCHY PARTNER_RELATED_ORGS PRODUCT_RELATION RPT_MODULE USER_ORG_RELATION USER_ORG_ROLE



**Note** • Unless the entity is specifically mentioned in this chapter, it is not supported by FlexNet Operations reporting.

## Reporting Schema Diagrams

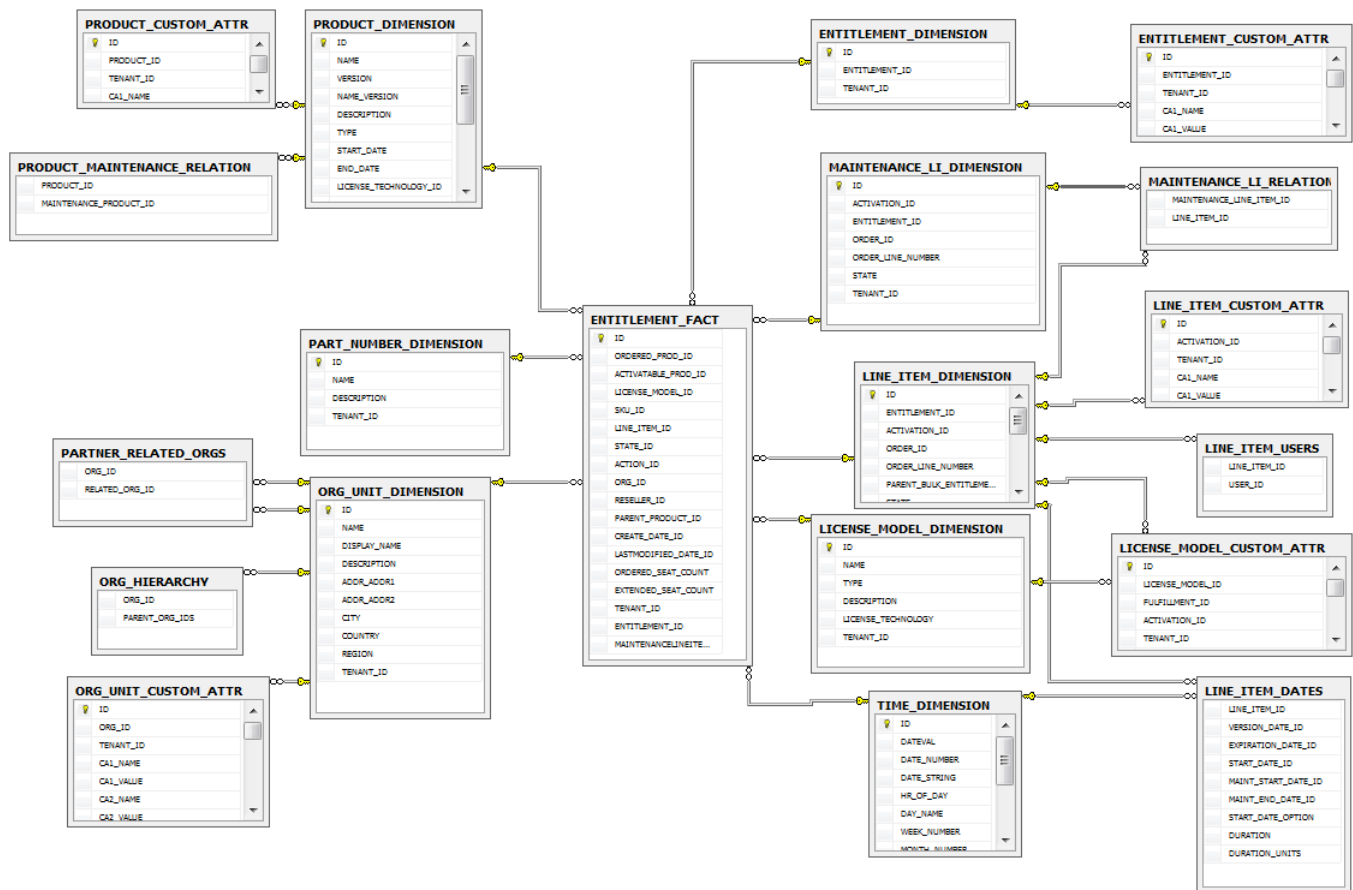
This schema diagram illustrates the tables in the FlexNet Operations reporting database and the relationships among them. Subsequent diagrams focus on relationships between individual fact tables and their foreign key links with dimension tables.



**Figure 3-1:** Entity-Relationships Among Tables in the FlexNet Operations Reporting Schema

## Entitlement Fact Relationships

The ENTITLEMENT\_FACT table is linked to the following dimensions: ORG\_UNIT\_DIMENSION, TIME\_DIMENSION, LICENSE\_MODEL\_DIMENSION, LINE\_ITEM\_DIMENSION, PART\_NUMBER\_DIMENSION, SUPPORT\_ACTION\_DIMENSION, and PRODUCT\_DIMENSION.



**Figure 3-2: Entity Relationships for the ENTITLEMENT\_FACT Table**

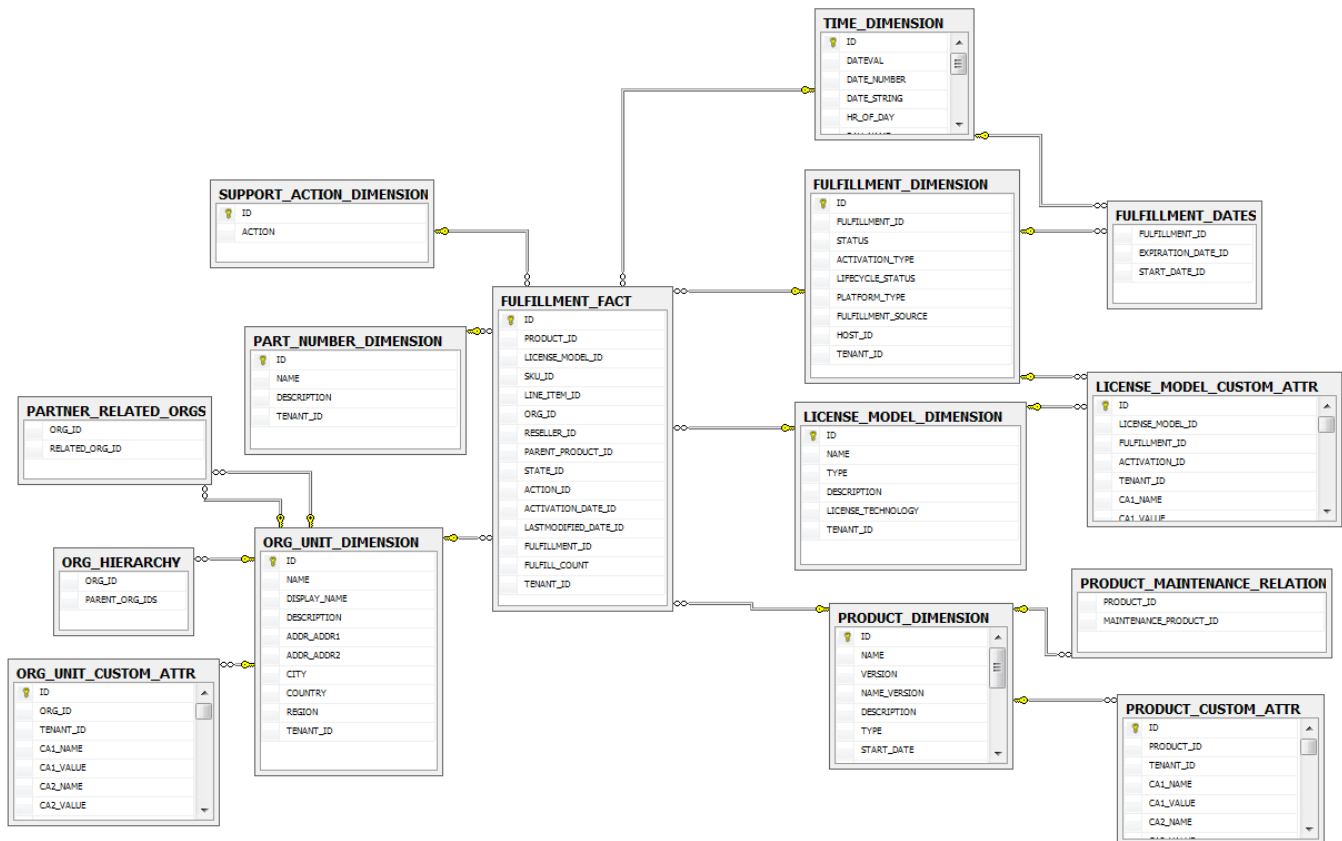
Although the connections are not shown, here, the `LINE_ITEM_DIMENSION` table also links to the `LINE_ITEM_DATES` and `LINE_ITEM_USERS` tables which, in turn, link to the `TIME_DIMENSION` and `USER_DIMENSION` tables, respectively.

See [ENTITLEMENT\\_FACT](#) for details on all the columns in the `ENTITLEMENT_FACT` table.

## Fulfillment Fact Relationships

The `FULFILLMENT_FACT` table is linked to the following dimensions: `FULFILLMENT_DIMENSION`, `ORG_UNIT_DIMENSION`, `TIME_DIMENSION`, `LICENSE_MODEL_DIMENSION`, `LINE_ITEM_DIMENSION`, `PART_NUMBER_DIMENSION`, `SUPPORT_ACTION_DIMENSION`, and `PRODUCT_DIMENSION`.





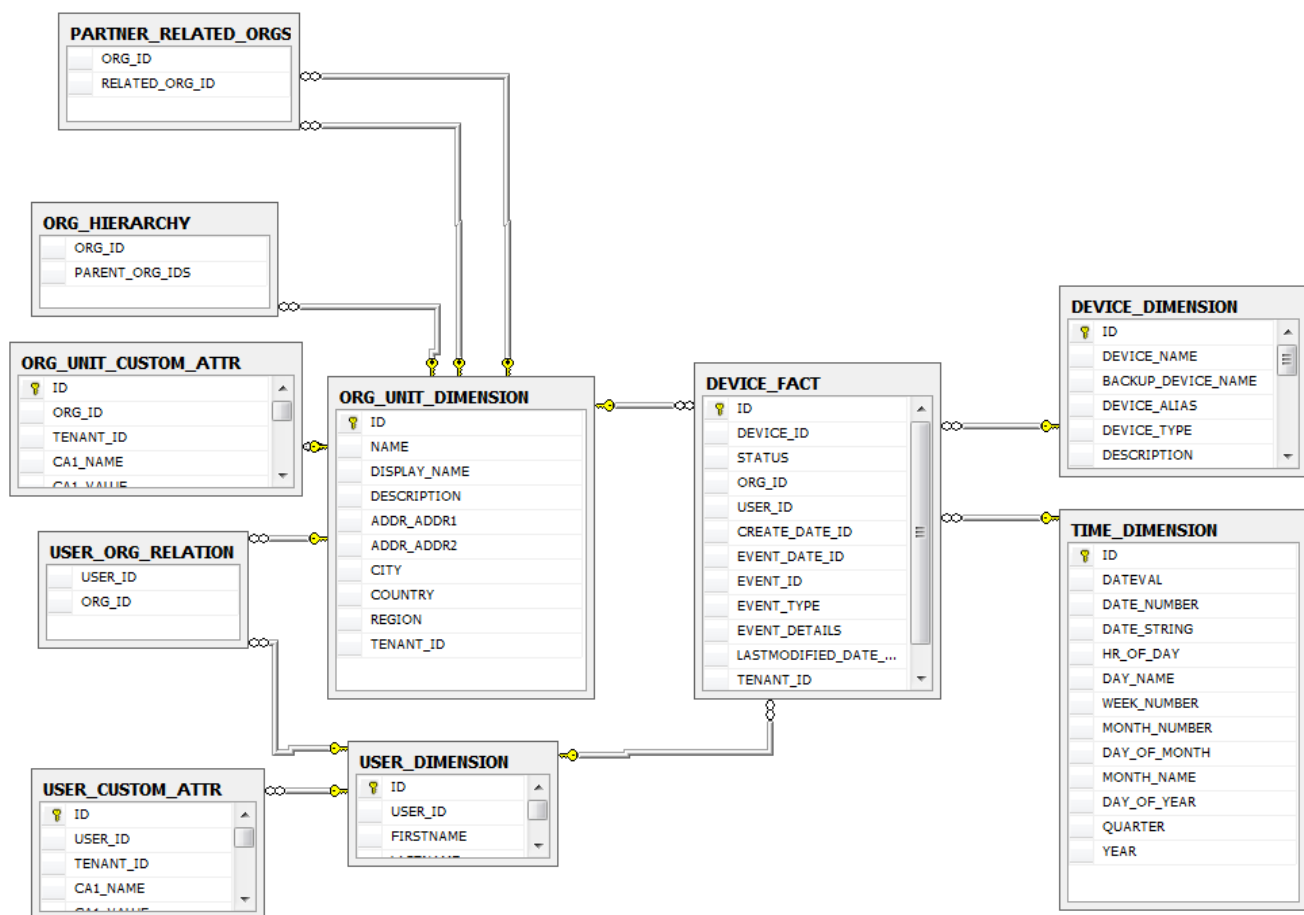
**Figure 3-3:** Entity Relationships for the FULFILLMENT\_FACT Table

Although the connections are not shown, here, the **LINE\_ITEM\_DATES** and **LINE\_ITEM\_USERS** tables link to the **LINE\_ITEM\_DIMENSION** table. **LINE\_ITEM\_DATES** also links to the **TIME\_DIMENSION** table. Likewise, **LINE\_ITEM\_USERS** also links to the **USER\_DIMENSION** table. In addition, the **FULFILLMENT\_DATES** table links to the **FULFILLMENT\_DIMENSION** and to the **TIME\_DIMENSION**.

See [FULFILLMENT\\_FACT](#) for details on all the columns in the FULFILLMENT\_FACT table.

## Device Fact Relationships

The **DEVICE\_FACT** table is linked to the following dimensions: **USER\_DIMENSION**, **DEVICE\_DIMENSION**, **ORG\_UNIT\_DIMENSION**, **CONTACT\_DIMENSION**, and **TIME\_DIMENSION**.

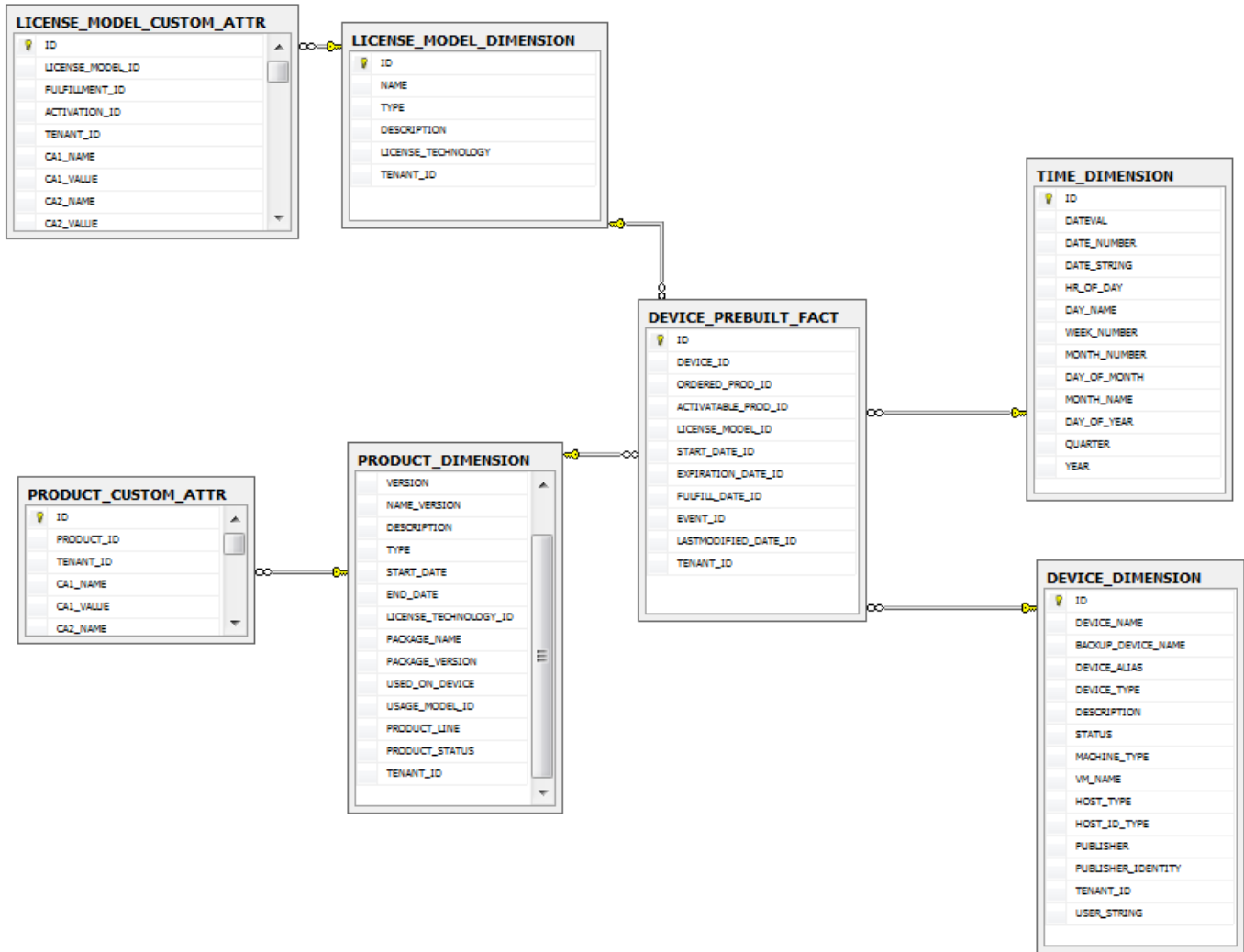


**Figure 3-4:** Entity Relationships for the **DEVICE\_FACT** Table

See [DEVICE\\_FACT](#) for details about all the columns in the **DEVICE\_FACT** table.

## Device Prebuilt Fact Relationships

The **DEVICE\_PREBUILT\_FACT** table is linked to the following dimensions: **DEVICE\_DIMENSION**, **LICENSE\_MODEL\_DIMENSION**, **PRODUCT\_DIMENSION**, and **TIME\_DIMENSION**.

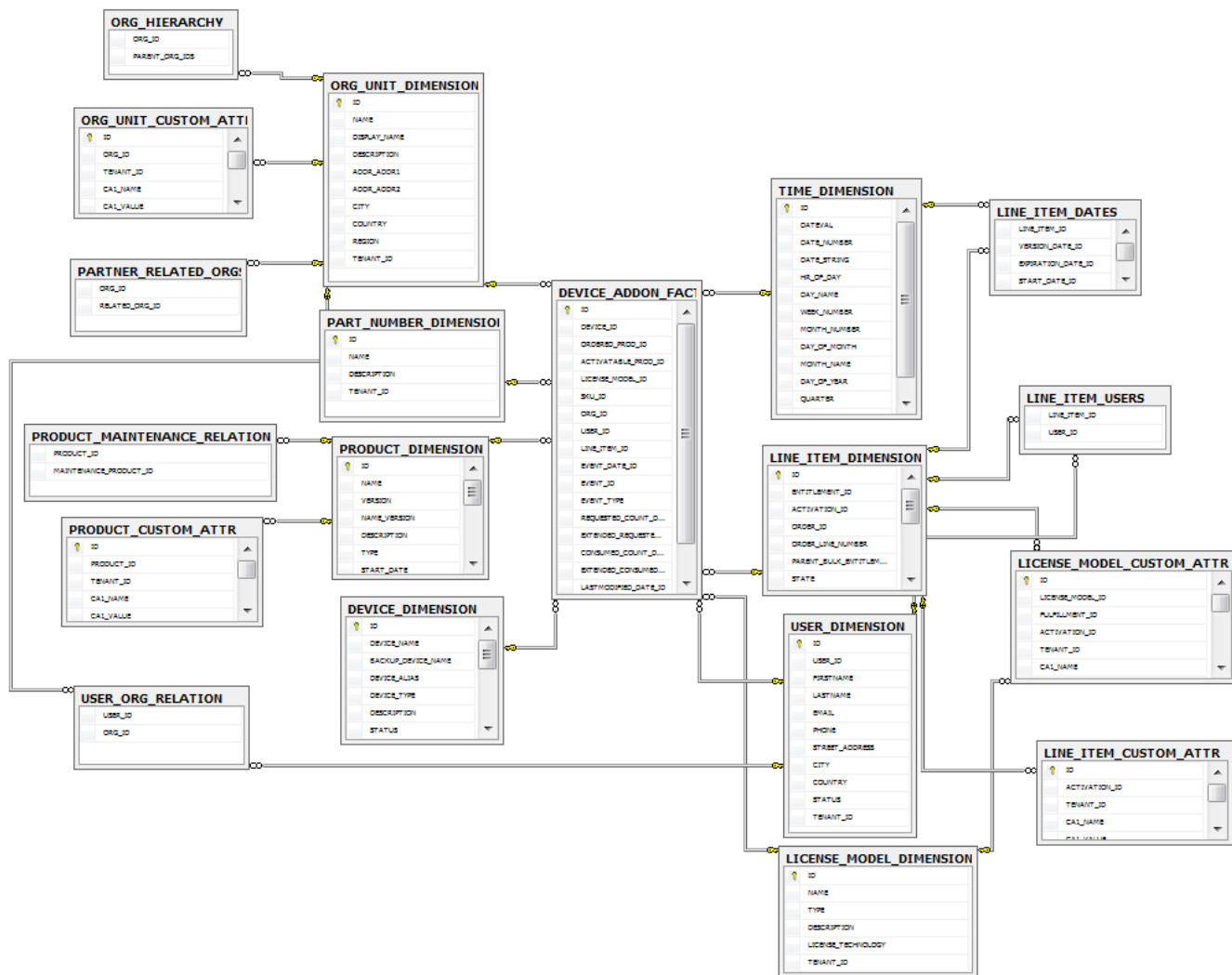


**Figure 3-5:** Entity Relationships for the **DEVICE\_PREBUILT\_FACT** Table

See [DEVICE\\_PREBUILT\\_FACT](#) for details on all the columns in the **DEVICE\_PREBUILT\_FACT** table.

## Device Addon Fact Relationships

The **DEVICE\_ADDON\_FACT** table is linked to the following dimensions: **USER\_DIMENSION**, **DEVICE\_DIMENSION**, **ORG\_UNIT\_DIMENSION**, **TIME\_DIMENSION**, **LICENSE\_MODEL\_DIMENSION**, **LINE\_ITEM\_DIMENSION**, **PART\_NUMBER\_DIMENSION**, **CONTACT\_DIMENSION**, and **PRODUCT\_DIMENSION**.



**Figure 3-6:** Entity Relationships for the **DEVICE\_ADDON\_FACT** Table

Although the connections are not shown, here, the **LINE\_ITEM\_DATES** and **LINE\_ITEM\_USERS** tables link to the **LINE\_ITEM\_DIMENSION** table. **LINE\_ITEM\_DATES** also links to the **TIME\_DIMENSION** table. Likewise, **LINE\_ITEM\_USERS** also links to the **USER\_DIMENSION** table.

See [DEVICE\\_ADDON\\_FACT](#) for details on all the columns in the **DEVICE\_ADDON\_FACT** table.

## Reporting Facts

Most producers use reporting to view some sort of aggregated data. These data are called facts (or measures): numeric values that are measurable and additive. For example, producers would like to know how many seats of a product were activated in a given year. In this case, number of seats is a fact.

The FlexNet Operations reporting database includes the following fact tables:

- [DEVICE\\_ADDON\\_FACT](#)
- [DEVICE\\_FACT](#)

- [DEVICE\\_PREBUILT\\_FACT](#)
- [ENTITLEMENT\\_FACT](#)
- [FULFILLMENT\\_FACT](#)
- [SERVED\\_CLIENT\\_FEATURE\\_FACT](#)

## DEVICE\_ADDON\_FACT

This section describes the various device product facts that the producer can use in reports. The Device Add-on Fact table contains information about device products. A record is written to this table when an event causes a change in the requested count or consumed count of a device's product.




**Note** • When a device is mapped to a contact, only contact specific fields are populated and user specific fields are omitted. If a device is mapped to a user, both user and contact fields will be populated.

**Table 3-3** • Device Add-on Facts

Column	Type	Length	Description
<b>ID</b>	numeric	19	A 19-digit (non-nullable) unique identifier of the Device Add-on Fact record as defined in FlexNet Operations.
<b>DEVICE_ID</b>	numeric	19	A 19-digit (non-nullable) unique identifier of the Device Dimension record as defined in FlexNet Operations.
<b>ORDERED_PROD_ID</b>	numeric	19	A 19-digit (non-nullable) unique identifier for the device's ordered product ID.
<b>ACTIVATABLE_PROD_ID</b>	numeric	19	A 19-digit (non-nullable) unique identifier for the device's activatable product ID. ACTIVATABLE_PROD_ID is a foreign key to the product record in the PRODUCT_DIMENSION table.
<b>LICENSE_MODEL_ID</b>	numeric	19	A 19-digit unique identifier for the device's License Model Dimension record. LICENSE_MODEL_ID is a foreign key to the LICENSE_MODEL_DIMENSION table, and it can be null.
<b>SKU_ID</b>	numeric	19	A 19-digit unique identifier for the device's Part Number Dimension record. SKU_ID is a foreign key to the PART_NUMBER_DIMENSION table. SKU_ID can be null.

**Table 3-3 • Device Add-on Facts**

Column	Type	Length	Description
<b>ORG_ID</b>	numeric	19	<p>A 19-digit (non-nullable) unique identifier of the device's Organization Unit Dimension record. ORG_ID is a foreign key to the ORG_UNIT_DIMENSION table.</p>  <p><b>Note •</b> ORG_ID refers to the organization's account ID in FlexNet Operations.</p>
<b>USER_ID</b>	numeric	19	<p>If the device is mapped to a user and the <b>Device user option</b> is set to <b>On with validation</b>, this is a 19-digit unique identifier for the user ID specified in FlexNet Operations for this user (the identifier the user uses to log in). USER_ID is a foreign key to the USER_DIMENSION table.</p> <p>If the device is mapped to a contact or the <b>Device user option</b> is set to <b>Off</b> (default setting) or <b>On without validation</b> or the user is inactive, this column will be null.</p> <p>See "Configuring FlexNet Operations" in the Producer Portal Help Guide for more information on configuring the <b>Device user option</b>.</p>
<b>LINE_ITEM_ID</b>	numeric	19	<p>A 19-digit (non-nullable) unique identifier for the product's line item ID. LINE_ITEM_ID is a foreign key to the line item record in the LINE_ITEM_DIMENSION table.</p>
<b>EVENT_DATE_ID</b>	numeric	19	<p>A 19-digit unique identifier for a device event date. EVENT_DATE_ID is a foreign key to the TIME_DIMENSION table.</p>
<b>EVENT_ID</b>	numeric	19	<p>A 19-digit unique identifier for a device event.</p>

**Table 3-3 • Device Add-on Facts**

Column	Type	Length	Description
<b>EVENT_TYPE</b>	string	64	<p>A device event type. EVENT_TYPE is the event type name for the event ID number in EVENT_ID. EVENT_TYPE may be one of the following values:</p> <p>ACTIVATABLE_ITEM_ADDED</p> <p>ACTIVATABLE_ITEM_REMOVED</p> <p>ACTIVATABLE_ITEM_INCREASED</p> <p>ACTIVATABLE_ITEM_DECREASED</p> <p>ACTIVATABLE_ITEM_MARK_REMOVED</p> <p>CAPABILITY_RESPONSE_SENT</p> <p>CAPABILITY_RESPONSE_GENERATED</p>
<b>REQUESTED_COUNT_DELTA</b>	numeric	19	<p>The change to a device product's requested count as the result of event identified by the EVENT_ID value. The value is the difference between the current requested count and the old requested count.</p>
<b>EXTENDED_REQUESTED_COUNT</b>	numeric	19	<p>A count of a product or suite included in the line item request. For each product and suite, this value is calculated by multiplying the REQUESTED_COUNT_DELTA value by the counts of the product or suite in the line item. Example:</p> <ul style="list-style-type: none"> <li>Line Item L1 contains 2 copies of product PA and 3 copies of suite SA.</li> <li>Suite SA contains 2 copies of product PB, 3 copies of product PC, and 1 copy of product PD.</li> <li>A request for 2 counts for L1 occurs.</li> </ul> <p>The REQUESTED_COUNT_DELTA is 2. Five rows are written to the Device Add-on Facts table (one for each product or suite). The EXTENDED_REQUESTED_COUNT value for product PA is 4, suite SA is 6, product PB is 12, product PC is 18, and product PD is 6.</p>
<b>CONSUMED_COUNT_DELTA</b>	numeric	19	<p>The change to a device's consumed count as the result of event identified by the EVENT_ID value, like CAPABILITY_RESPONSE_SENT or CAPABILITY_RESPONSE_GENERATED. The value is the difference between the current consumed count and the old consumed count.</p>

Table 3-3 • Device Add-on Facts

Column	Type	Length	Description
EXTENDED_CONSUMED_COUNT	numeric	19	A count of a product or suite consumed as part of a line item request. The consumed count is recorded for products for which a license has been generated. For each product and suite, this value is calculated by multiplying the CONSUMED_COUNT_DELTA value by the counts of the product or suite in the line item. This count is calculated similar to the EXTENDED_REQUESTED_COUNT,
LASTMODIFIED_DATE_ID	numeric	19	A 19-digit unique identifier for the device product's Last Modified Date.
CONTACT_ID	numeric	19	<p>If the <b>Device user option</b> is set to <b>On with validation</b>, a 19-digit unique identifier for a contact. CONTACT_ID is a foreign key to the CONTACT_DIMENSION table.</p> <p>If the <b>Device user option</b> is set to <b>On without validation</b> or <b>Off</b>, this column will be null.</p>

## DEVICE\_FACT

This section describes the various device facts that the producer can use in reports. The Device Fact table contains information about changes to a device over time. Records are written to this table when devices are created, activated, or made obsolete.



**Note** • When a device is mapped to a contact, only contact specific fields are populated and user specific fields are omitted. If a device is mapped to a user, both user and contact fields will be populated.

Table 3-4 • Device Fact Columns

Column	Type	Length	Description
ID	numeric	19	A 19-digit (non-nullable) unique identifier of the Device Fact record as defined in FlexNet Operations.
DEVICE_ID	numeric	19	A 19-digit (non-nullable) unique identifier of the Device Dimension record as defined in FlexNet Operations.
STATUS	string	64	The status of the device: Active or Obsolete.



**Table 3-4 • Device Fact Columns**


Column	Type	Length	Description
<b>ORG_ID</b>	numeric	19	<p>A 19-digit (non-nullable) unique identifier of the device's Organization Unit Dimension record. ORG_ID is a foreign key to the ORG_UNIT_DIMENSION table.</p>  <p><b>Note</b> • ORG_ID refers to the organization's account ID in FlexNet Operations.</p>
<b>USER_ID</b>	numeric	19	<p>If the device is mapped to a user and the <b>Device user option</b> is set to <b>On with validation</b>, this is a 19-digit unique identifier for the user ID specified in FlexNet Operations for this user (the identifier the user uses to log in). USER_ID is a foreign key to the USER_DIMENSION table.</p> <p>If the device is mapped to a contact or the <b>Device user option</b> is set to <b>Off</b> (default setting) or <b>On without validation</b> or the user is inactive, this column will be null.</p> <p>See "Configuring FlexNet Operations" in the Producer Portal Help Guide for more information on configuring the <b>Device user option</b>.</p>
<b>CREATE_DATE_ID</b>	numeric	19	A 19-digit unique identifier for the device's creation date. CREATE_DATE_ID is a foreign key to the TIME_DIMENSION table.
<b>EVENT_DATE_ID</b>	numeric	19	A 19-digit unique identifier for a device event date. EVENT_DATE_ID is a foreign key to the TIME_DIMENSION table.
<b>EVENT_ID</b>	numeric	19	A 19-digit unique identifier for a device event.
<b>EVENT_TYPE</b>	string	64	<p>A device event type for the event identified by the number in EVENT_ID. EVENT_TYPE can be one of the following values:</p> <p>DEVICE_CREATED</p> <p>DEVICE_STATE_ACTIVE</p> <p>DEVICE_STATE_OBSOLETE</p>
<b>EVENT_DETAILS</b>	string	2000	An optional description for the event.
<b>LASTMODIFIED_DATE_ID</b>	numeric	19	A 19-digit unique identifier for the device's Last Modified Date.

Table 3-4 • Device Fact Columns

Column	Type	Length	Description
<b>Contact_ID</b>	numeric	19	If the <b>Device user option</b> is set to <b>On with validation</b> , a 19-digit unique identifier for a contact. CONTACT_ID is a foreign key to the CONTACT_DIMENSION table.  If the <b>Device user option</b> is set to <b>On without validation</b> or <b>Off</b> , this column will be null.

## DEVICE\_PREBUILT\_FACT

This section describes the various device pre-installation facts that the producer can use in reports. The Device Prebuilt Fact table contains information about device pre-installed licenses. Records are written to this table when a PREBUILT\_LICENSE\_GENERATED event occurs.

Table 3-5 • Device Prebuilt Fact Columns

Column	Type	Length	Description
<b>ID</b>	numeric	19	A 19-digit (non-nullable) unique identifier of the Device Prebuilt Fact record as defined in FlexNet Operations.
<b>DEVICE_ID</b>	numeric	19	A 19-digit (non-nullable) unique identifier of the Device Dimension record as defined in FlexNet Operations.
<b>ORDERED_PROD_ID</b>	numeric	19	A 19-digit (non-nullable) unique identifier for the device's ordered product ID.
<b>ACTIVATABLE_PROD_ID</b>	numeric	19	A 19-digit (non-nullable) unique identifier for the device's activatable product ID. ACTIVATABLE_PROD_ID is a foreign key to the product record in the PRODUCT_DIMENSION table.
<b>LICENSE_MODEL_ID</b>	numeric	19	A 19-digit unique identifier for the device's License Model Dimension record. LICENSE_MODEL_ID is a foreign key to the LICENSE_MODEL_DIMENSION table. LICENSE_MODEL_ID can be null.
<b>START_DATE_ID</b>	numeric	19	A 19-digit unique identifier of the pre-installed license's Start Date. START_DATE_ID is a foreign key to the TIME_DIMENSION table.
<b>EXPIRATION_DATE_ID</b>	numeric	19	A 19-digit unique identifier of the pre-installed license's Expiration Date. EXPIRATION_DATE_ID is a foreign key to the TIME_DIMENSION table.

**Table 3-5 • Device Prebuilt Fact Columns**

Column	Type	Length	Description
<b>FULLFILL_DATE_ID</b>	numeric	19	A 19-digit unique identifier of the pre-installed license's Fulfillment Date. The fulfillment date is the date the license was generated. FULLFILL_DATE_ID is a foreign key to the TIME_DIMENSION table.
<b>EVENT_ID</b>	numeric	19	A 19-digit unique identifier for a device event.
<b>LASTMODIFIED_DATE_ID</b>	numeric	19	A 19-digit unique identifier for the pre-installed license's Last Modified Date.

## ENTITLEMENT\_FACT

The following entitlement related facts are available in the reporting model.

**Table 3-6 • Entitlement Facts**

Columns	Type	Length	Description
<b>ID</b>	numeric	19	A 19-digit (non-nullable) unique identifier of the Entitlement Fact record as defined in FlexNet Operations.
<b>ORDERED_PROD_ID</b>	numeric	19	A 19-digit (non-nullable) unique identifier for the entitlement's ordered product ID.
<b>ACTIVATABLE_PROD_ID</b>	numeric	19	A 19-digit (non-nullable) unique identifier for the entitlement's activatable product ID. ACTIVATABLE_PROD_ID is a foreign key to the PRODUCT_DIMENSION table.
<b>LICENSE_MODEL_ID</b>	numeric	19	A 19-digit unique identifier for the entitlement's License Model Dimension record. LICENSE_MODEL_ID is a foreign key to the LICENSE_MODEL_DIMENSION table. LICENSE_MODEL_ID can be null.
<b>SKU_ID</b>	numeric	19	A 19-digit unique identifier for the entitlement's Part Number Dimension record. SKU_ID can be null. SKU_ID is a foreign key to the PART_NUMBER_DIMENSION table.
<b>LINE_ITEM_ID</b>	numeric	19	A 19-digit (non-nullable) unique identifier for the entitlement's line item ID. LINE_ITEM_ID is a foreign key to the LINE_ITEM_DIMENSION table.

**Table 3-6 • Entitlement Facts**

Columns	Type	Length	Description
<b>STATE_ID</b>	numeric	19	A 19-digit unique identifier of the entitlement's current state.
<b>ACTION_ID</b>	numeric	19	A 19-digit (non-nullable) unique identifier of the entitlement's Support Action Dimension record. ACTION_ID is a foreign key to the SUPPORT_ACTION_DIMENSION table.
<b>ORG_ID</b>	numeric	19	<p>A 19-digit (non-nullable) unique identifier of the entitlement's Organization Unit Dimension record. ORG_ID identifies the sold-to account for the entitlement. ORG_ID is a foreign key to the ORG_UNIT_DIMENSION table.</p>  <p><b>Note •</b> ORG_ID refers to the organization's account ID in FlexNet Operations.</p>
<b>RESELLER_ID</b>	numeric	19	A unique ID for the reseller. This column is populated when an entitlement line item is created from a web register key and values identify the organization unit (account) of the parent bulk entitlement of the web register key. Reseller ID can be null.
<b>PARENT_PRODUCT_ID</b>	numeric	19	A 19-digit unique identifier of the entitlement's parent product.
<b>CREATE_DATE_ID</b>	numeric	19	A 19-digit unique identifier for the entitlement's creation date. CREATE_DATE_ID is a foreign key to the TIME_DIMENSION table.
<b>LASTMODIFIED_DATE_ID</b>	numeric	19	A 19-digit unique identifier for the entitlement's Last Modified Date.
<b>ORDERED_SEAT_COUNT</b>	numeric	19	Net copies available for the line item. This includes all new, upgrade, upsell and renew orders, and excludes all upgraded, upsold, renewed, obsolete, and inactive orders for a line item.
<b>EXTENDED_SEAT_COUNT</b>	numeric	19	Count of the activated products. This count includes the number of copies of a given product purchased on its own as well as those copies included in a suite.


**Table 3-6 • Entitlement Facts**

Columns	Type	Length	Description
<b>MAINTENANCELINEITEM_ID</b>	numeric	19	A 19-digit unique identifier for the maintenance ID record. MAINTENANCELINEITEM_ID is a foreign key element to the MAINTENANCE_LI_DIMENSION table.

## FULFILLMENT\_FACT

This section describes the various fulfillment facts that the producer can use in reports.

**Table 3-7 • Fulfillment Facts**

Columns	Type	Length	Description
<b>ID</b>	numeric	19	A 19-digit (non-nullable) unique identifier of the Fulfillment Fact record as defined in FlexNet Operations.
<b>PRODUCT_ID</b>	numeric	19	A 19-digit (non-nullable) unique identifier of the Product Dimension record as defined in FlexNet Operations. PRODUCT_ID is a foreign key to the PRODUCT_DIMENSION table.
<b>LICENSE_MODEL_ID</b>	numeric	19	A 19-digit (non-nullable) unique identifier of the License Model Dimension record as defined in FlexNet Operations. LICENSE_MODEL_ID is a foreign key to the LICENSE_MODEL_DIMENSION table.
<b>SKU_ID</b>	numeric	19	A 19-digit unique identifier for the fulfillment's Part Number Dimension record. SKU_ID is a foreign key to the PART_NUMBER_DIMENSION table.
<b>LINE_ITEM_ID</b>	numeric	19	A 19-digit (non-nullable) unique identifier of the Line Item Dimension record. LINE_ITEM_ID is a foreign key to the LINE_ITEM_DIMENSION table.
<b>ORG_ID</b>	numeric	19	A 19-digit (non-nullable) unique identifier of the Organization Unit Dimension record. ORG_ID is a foreign key to the ORG_UNIT_DIMENSION table.
 <p><b>Note •</b> ORG_ID refers to the organization's account ID in FlexNet Operations.</p>			

**Table 3-7 • Fulfillment Facts**

Columns	Type	Length	Description
<b>RESELLER_ID</b>	numeric	19	A unique ID for the reseller. This column is populated when an entitlement line item is created from a web register key and values identify the organization unit (account) of the parent bulk entitlement of the web register key. Reseller ID can be null.
<b>PARENT_PRODUCT_ID</b>	numeric	19	A 19-digit unique identifier of the fulfillment's parent product.
<b>STATE_ID</b>	numeric	19	A 19-digit unique identifier of the fulfillment's current state.
<b>ACTION_ID</b>	numeric	19	A 19-digit (non-nullable) unique identifier of the fulfillment's Support Action Dimension record. ACTION_ID is a foreign key to the SUPPORT_ACTION_DIMENSION table.
<b>ACTIVATION_DATE_ID</b>	numeric	19	A 19-digit unique identifier of the fulfillment's Activation Date. ACTIVATION_DATE_ID is a foreign key to the TIME_DIMENSION table.
<b>LASTMODIFIED_DATE_ID</b>	numeric	19	A 19-digit unique identifier for the fulfillment's Last Modified Date.
<b>FULFILLMENT_ID</b>	numeric	19	A 19-digit (non-nullable) unique identifier of the Fulfillment Dimension record. FULFILLMENT_ID is a foreign key to the FULFILLMENT_DIMENSION table.
<b>FULFILLMENT_COUNT</b>	integer	10	Number of copies fulfilled for a given ordered product.

## SERVED\_CLIENT\_FEATURE\_FACT

The Served Client Feature Fact table records the features of the served client.

**Table 3-8 • Served Client Feature Fact Columns**

Columns	Type	Length	Description
<b>ID</b>	numeric	19	A 19-digit unique identifier. This is the primary key for the table.
<b>DEVICE_ID</b>	numeric	19	The Device ID. This is a foreign key to the DEVICE_DIMENSION table.

**Table 3-8 • Served Client Feature Fact Columns**

Columns	Type	Length	Description
<b>PARENT_ID</b>	varchar2	100	The server ID, this tells who is the parent server for this served client. This is a foreign key to the DEVICE_DIMENSION table.
<b>LASTMODIFIED_DATE_ID</b>	numeric	19	The time when the served client was last modified.
<b>LAST_SYNC_TIME_ID</b>	numeric	19	The time when the served client was last synced with its server.
<b>EXPIRATION_ID</b>	numeric	19	The time when the served client's feature is going to expire.
<b>FEATURE_NAME</b>	varchar2	100	The Feature name.
<b>FEATURE_COUNT</b>	numeric	19	The count of each feature.
<b>SERVED_STATUS</b>	varchar	100	The status of the served client. A server client status can be one of the following: <ul style="list-style-type: none"> <li>● NORMAL</li> <li>● EXPIRED</li> <li>● DROPPED</li> </ul>
<b>TENANT_ID</b>	varchar2	255	The Tenant ID.

## Report Dimensions

In reporting terms, a dimension is a set of related properties based on available data, which can be made use of in a report. Most dimensions have attributes that express some aspect of the dimension.

For example, the license model dimension includes the attributes of license model name, type, description and license technology.

- [List of Dimension Tables](#)
- [Custom Attributes and Custom Host Attributes in Dimension Tables](#)

### List of Dimension Tables

The FlexNet Operations reporting database includes the following dimension tables:

- [CONTACT\\_DIMENSION](#)
- [DEVICE\\_DIMENSION](#)
- [ENTITLEMENT\\_DIMENSION](#)
- [FULFILLMENT\\_DIMENSION](#)
- [LICENSE\\_MODEL\\_DIMENSION](#)

- [LINE\\_ITEM\\_DIMENSION](#)
- [MAINTENANCE\\_LI\\_DIMENSION](#)
- [ORG\\_UNIT\\_DIMENSION](#)
- [PART\\_NUMBER\\_DIMENSION](#)
- [PRODUCT\\_DIMENSION](#)
- [SUPPORT\\_ACTION\\_DIMENSION](#)
- [TIME\\_DIMENSION](#)
- [USER\\_DIMENSION](#)



**Note** • The `EVENT_TYPE_DIMENSION` table also exists in the reporting database, but it is not used by FlexNet Operations reporting. This table is a simple lookup table to look up event types by their event type ID.

### Custom Attributes and Custom Host Attributes in Dimension Tables

In addition to the columns listed in the dimension tables, you may include your custom license model attributes and custom host attributes in your reporting model.

- Custom license model attributes are supported in reports only for fulfillment-time and entitlement-time attributes. Entitlement-time custom license model attributes are carried in the `LINE_ITEM_DIMENSION` table. Fulfillment-time custom license model attributes are carried in the `FULFILLMENT_DIMENSION` table.
- Custom host model attribute columns are carried in the `DEVICE_DIMENSION` table.

Because of the nature of custom attributes, you must track them independently of the standard dimensions.

## CONTACT\_DIMENSION

The Contact dimension stores data about contacts.



**Note** • If the `EMAIL` of a contact is updated or a contact is upgraded to a user and a device was mapped to the contact, this will not be reflected in reporting until there is an update for the device.

**Table 3-9** • Contact Dimension Columns

Columns	Type	Length	Description
<b>ID</b>	numeric	19	This is the primary key.
<b>FIRSTNAME</b>	nvarchar	150	First Name of the contact.
<b>LASTNAME</b>	nvarchar	150	Last Name of the contact.
<b>PHONE</b>	nvarchar	50	Phone number of the contact.



Table 3-9 • Contact Dimension Columns

Columns	Type	Length	Description
EMAIL	nvarchar	100	Email ID of the contact.
DISPLAYNAME	nvarchar	255	Display Name of the contact.
STREET_ADDRESS	nvarchar	3000	Street Address of the contact.
CITY	nvarchar	150	City of the contact.
COUNTRY	nvarchar	75	Country of the contact.
TENANT_ID	nvarchar	255	The tenant ID data for the contact.

## DEVICE\_DIMENSION

The Device dimension (DEVICE\_DIMENSION) contains device records with details about the device name, alias, type, status and so on. The following attributes are available for each entity in this dimension and can be used in reports.

In addition to the columns documented here, the DEVICE\_DIMENSION table includes a column for each custom host attribute you load in to the reporting database. Columns for custom host attributes can be added to this dimension in the Administrative Console. Click **Configure Reporting Server > Add Custom Host Attributes**.

Table 3-10 • Device Dimension Columns

Columns	Type	Length	Description
ID	numeric	19	A 19-digit (non-nullable) unique identifier of the device record as defined in FlexNet Operations. The ID is the primary key for the Device dimension.
DEVICE_NAME	string	2000	A 2000-character (non-nullable) name of the device.
BACKUP_DEVICE_NAME	string	2000	A 2000-character (nullable) backup name for the device. Only used for server devices.
DEVICE_ALIAS	string	64	A 64-character (nullable) device alias.
DEVICE_TYPE	string	64	A 64-character (nullable) device type. The possible values are CLIENT, SERVER or SERVED_CLIENT.
DESCRIPTION	string	2000	A 2000-character (nullable) description of the device.
STATUS	string	64	A 64-character (nullable) status statement for the device. Device status can be ACTIVE or OBSOLETE.
MACHINE_TYPE	string	64	A 64-character (nullable) machine type. The possible machine type values are PHYSICAL, VIRTUAL, or UNKNOWN.

**Table 3-10 • Device Dimension Columns**

Columns	Type	Length	Description
<b>VM_NAME</b>	string	64	A 64-character (nullable) VM name for the device. VM_NAME is null if MACHINE_TYPE is not VIRTUAL.
<b>HOST_TYPE</b>	string	255	A 255-character (nullable) host type. The host type FLX_CLIENT and FLEX_SERVER are common host types, but no additional restrictions are placed on the value of HOST_TYPE.
<b>HOST_ID_TYPE</b>	string	64	A 64-character host ID type. Common values are ETHERNET, FLEXID_9, FLEXID_10, String, and VM_UUID. Default: String.
<b>PUBLISHER</b>	string	64	A 64-character producer name.
<b>PUBLISHER_IDENTITY</b>	string	64	A 64-character (nullable) identifier for the device producer.
<b>USER_STRING</b>	varchar2	255	<p>If the <b>Device user option</b> is set to <b>On with validation</b> and the device is mapped to a user, this is the user name. If the device is mapped to a contact, this is the contact's email ID. The USER_STRING is a foreign key to the CONTACT_DIMENSION table.</p> <p>If the <b>Device user option</b> is set to <b>On without validation</b> and the device is mapped to a user or a contact, this is the plain text string provided with the device during activation.</p> <p>If the <b>Device user option</b> is set to <b>Off</b> (default setting) or the device is mapped to a user or a contact, this is null.</p> <p>See “Configuring FlexNet Operations” in the Producer Portal Help Guide for more information on configuring the <b>Device user option</b>.</p>

## ENTITLEMENT\_DIMENSION

The Entitlement dimension stores data about entitlements. .

**Table 3-11 • Entitlement Dimension Columns**

Columns	Type	Length	Description
<b>ID</b>	numeric	19	This is the primary key.
<b>ENTITLEMENT_ID</b>	numeric	19	The entitlement ID.
<b>TENANT_ID</b>	nvarchar	255	The tenant ID data for the entitlement.

**Table 3-11 • Entitlement Dimension Columns**

Columns	Type	Length	Description
<b>SHIP_TO_EMAIL</b>	nvarchar	1024	The email to which the entitlement should be shipped. SHIP_TO_EMAIL can be null.
<b>SHIP_TO_ADDRESS</b>	nvarchar	1000	The address to which the entitlement should be shipped. SHIP_TO_ADDRESS can be null.
<b>COMMENTS</b>	nvarchar	2000	Description about the entitlement. COMMENTS can be null.

## FULFILLMENT\_DIMENSION

This dimension contains all fulfillment records and their details. All fulfillment records including obsolete fulfillment records are copied to the reporting database.

In addition to the columns documented here, the FULFILLMENT\_DIMENSION table includes a column for each fulfillment-time custom attribute you load in to the reporting database. Columns for custom attributes can be added to this dimension in the administrative console. Click **Configure Reporting Server > Add Custom Attributes**.

The following attributes are available for each entity in this dimension and can be used in reports.

**Table 3-12 • Fulfillment Dimension Columns**

Columns	Type	Length	Description
<b>ID</b>	numeric	19	A 19-digit (non-nullable) unique identifier of the device record as defined in FlexNet Operations. The ID is the primary key for the Fulfillment dimension.
<b>FULFILLMENT_ID</b>	string	255	A 255-character, non-nullable unique identifier of the fulfillment record as defined in FlexNet Operations.
<b>STATUS</b>	string	255	State of the fulfillment record: Active or Obsolete.

**Table 3-12 • Fulfillment Dimension Columns**

Columns	Type	Length	Description
<b>ACTIVATION_TYPE</b>	string	64	<p>Method of activation for trusted storage activations. The following choices are available:</p> <ul style="list-style-type: none"> <li>● <b>SHORTCODE:</b> Trusted storage fulfillment records generated using keyboard (short code) activation.</li> <li>● <b>MANUAL:</b> Trusted storage fulfillment records generated using manual (or offline activation) by using manually processing request and response XML files.</li> <li>● <b>PROGRAMMATIC:</b> Trusted storage fulfillment records generated using regular online activation from the client.</li> <li>● <b>CERTIFICATE:</b> Certificate licenses.</li> <li>● <b>TRUSTED:</b> Legacy trusted storage fulfillment records which do not have specific information about how they were activated.</li> <li>● <b>EMBEDDED:</b> Licenses generated using FlexNet Embedded for hardware devices.</li> <li>● <b>CUSTOM:</b> Fulfillment records that belong to any non-FlexNet licensing technology.</li> </ul>
<b>LIFECYCLE_STATUS</b>	string	64	<p>Indicates any support action on the fulfillment record. The following choices are available:</p> <ul style="list-style-type: none"> <li>● <b>Master:</b> A new fulfillment record</li> <li>● <b>Returned:</b> A fulfillment record that has been returned.</li> <li>● <b>Rehosted:</b> A fulfillment record that has been rehosted.</li> <li>● <b>Repaired:</b> A fulfillment record that has been repaired.</li> <li>● <b>Reinstalled:</b> A fulfillment record that has been reinstalled.</li> <li>● <b>Emergency:</b> A fulfillment record that was created as an emergency license.</li> <li>● <b>Stop Gap:</b> A fulfillment record that was created as a stop gap license.</li> <li>● <b>Upgraded:</b> A fulfillment record that was upgraded to another fulfillment record.</li> <li>● <b>Upsold:</b> A fulfillment record that was created was upsold to another fulfillment record.</li> <li>● <b>Renewed:</b> A fulfillment record that was created was renewed to another fulfillment record.</li> </ul>

**Table 3-12 • Fulfillment Dimension Columns**

Columns	Type	Length	Description
<b>PLATFORM_TYPE</b>	string	64	<p>Indicates the platform on which a trusted storage license is activated. In FlexNet Operations 11.5.0.1 and FlexNet Publisher 11.5, the platform type is included in the trusted storage activation requests. This platform type is copied to the reporting database.</p> <p>The choices are:</p> <ul style="list-style-type: none"> <li>● i86_n3 (Windows)</li> <li>● i86_re3 (Linux)</li> <li>● Mac</li> <li>● Other types supported by FlexNet Publisher Licensing Toolkit</li> </ul>
<b>FULFILLMENT_SOURCE</b>	string	255	<p>Indicates the activation process used for fulfillment. Choices are</p> <ul style="list-style-type: none"> <li>● ONLINE: For fulfillment records generated using web services.</li> <li>● APPLICATION: For fulfillment records generated using FlexNet Operations user interface.</li> <li>● LEGACY: Used for legacy fulfillment records that do not have information about how the fulfillment records were generated.</li> </ul>
<b>HOST_ID</b>	string	255	<p>Host on which the license is activated.</p> <ul style="list-style-type: none"> <li>● For certificate licenses, HOST_ID is the usual host identifier (like INTERNET=64.0.0.1).</li> <li>● For trusted licenses, HOST_ID is UMN or Machine Identifier.</li> <li>● For non-FlexNet technologies, HOST_ID is the custom host identifier.</li> </ul>

## LICENSE\_MODEL\_DIMENSION

This dimension represents the license model used to create the entitlement line item. All non-draft license models defined in FlexNet Operations database are copied to the reporting database.

The following attributes are available for each entity in this dimension and can be used in reports.

**Table 3-13 • License Model Dimension Columns**

Columns	Type	Length	Description
<b>ID</b>	numeric	19	A 19-digit (non-nullable) unique identifier of the device record as defined in FlexNet Operations. The ID is the primary key for the License Model dimension.
<b>NAME</b>	string	128	A non-nullable, unique name of the license model, as defined in FlexNet Operations.
<b>TYPE</b>	string	32	Type of the license model. The following choices are available. <ul style="list-style-type: none"><li>● Floating Counted</li><li>● Floating Uncounted</li><li>● Nodelocked Uncounted</li><li>● Nodelocked Counted</li><li>● Retail Activation</li><li>● Enterprise Activation</li><li>● Floating Transferable (Trusted - Concurrent)</li><li>● Floating Borrowable (Hybrid)</li><li>● Custom</li></ul>
<b>DESCRIPTION</b>	string	2000	Optional description of the license model, as defined in FlexNet Operations.
<b>LICENSE_TECHNOLOGY</b>	string	50	License technology associated with the license model. The following choices are available: <ul style="list-style-type: none"><li>● FlexNet - Certificate</li><li>● FlexNet - Trusted</li><li>● FlexNet - Embedded</li><li>● Various non-FlexNet License Technology names.</li></ul>

## LINE\_ITEM\_DIMENSION

This dimension contains the details of entitlement line items. Only non-draft and non-test line items are copied to the reporting database. Web register keys are not copied to the reporting database.

In addition to the columns documented here, the LINE\_ITEM\_DIMENSION table includes a column for each entitlement-time custom attribute you load in to the reporting database. Columns for custom attributes can be added to this dimension in the administrative console. Click **Configure Reporting Server > Add Custom Attributes**.

The following attributes are available for each entity in this dimension and can be used in reports.

**Table 3-14 •** Line Item Dimension Columns

Attribute	Type	Length	Description
<b>ID</b>	numeric	19	A 19-digit (non-nullable) unique identifier of the device record as defined in FlexNet Operations. The ID is the primary key for the Line Item dimension.
<b>ENTITLEMENT_ID</b>	string	255	A non-nullable, unique identifier of the entitlement as defined in FlexNet Operations.
<b>ACTIVATION_ID</b>	string	255	A non-nullable, unique identifier of the entitlement line item as defined in FlexNet Operations.
<b>ORDER_ID</b>	string	255	Order ID defined for the entitlement line item. This field is typically used to correlate the data back to an ERP system. ORDER_ID can be null.
<b>ORDER_LINE_NUMBER</b>	string	255	Order line number defined for the entitlement line item. This field is also typically used to correlate the data back to an ERP system. ORDER_LINE_NUMBER can be null.
<b>PARENT_BULK_ENTITLEMENT_ID</b>	string	255	If this entitlement line item is created by activating a web register key, this field will track the parent bulk entitlement of the web register key.
<b>STATE</b>	string	64	State of the entitlement line item: deployed, inactive or obsolete.

**Table 3-14 • Line Item Dimension Columns**

Attribute	Type	Length	Description
<b>ORDER_TYPE</b>	string	64	<p>Indicates how and why the line item was created; that is, whether it is part of a new order, or it an upgrade from another line item and so on. The choices are:</p> <ul style="list-style-type: none"> <li>• Seat Changed</li> <li>• Upgraded To</li> <li>• Upgraded From</li> <li>• Renewed To</li> <li>• Renewed From</li> <li>• Upsold To</li> <li>• Upsold From</li> <li>• Obsolete</li> <li>• Inactive</li> <li>• State Changed</li> <li>• Deployed</li> </ul>
<b>DESCRIPTION</b>	string	3000	Optional description of the line item from FlexNet Operations.
<b>ISUPGRADED</b>	boolean		Indicates that this line item has been upgraded. The value for ISUPGRADED is 0 (false) or 1 (true).
<b>ISRENEWED</b>	boolean		Indicates that this line item has been renewed. The value for ISRENEWED is 0 (false) or 1 (true).
<b>ISUPSOLD</b>	boolean		Indicates that this line item has been upsold. The value for ISUPSOLD is 0 (false) or 1 (true).
<b>ISMAINTENANCE</b>	boolean		<p>Indicates that this line item has maintenance. The value for ISMAINTENANCE is 0 (false) or 1 (true).</p> <p>Maintenance items are not transformed. But this column indicates whether or not a maintenance item is associated with the line item. Maintenance item start and end dates are transformed in to the reporting database.</p>
<b>ENT_DESCRIPTION</b>	string	2000	Optional description of the parent entitlement from FlexNet Operations.



## MAINTENANCE\_LI\_DIMENSION

The Maintenance Line Item dimension stores data about entitlements and line items for maintenance products.

**Table 3-15** • Maintenance Line Item Dimension Columns

Columns	Type	Length	Description
<b>ID</b>	numeric	19	A unique identifier of the maintenance ID record as defined in FlexNet Operations.
<b>ACTIVATION_ID</b>	string	255	An identifier for a maintenance line item in FlexNet Operations.
<b>ENTITLEMENT_ID</b>	string	255	An identifier for entitlement, to which maintenance is associated.
<b>ORDER_ID</b>	string	255	This is specified in FlexNet operations while creating a maintenance line item. ORDER_ID can be null
<b>ORDER_LINE_NUMBER</b>	string	255	This is specified in FlexNet operations while creating a maintenance line item. ORDER_LINE_ITEM can be null.
<b>STATE</b>	string	64	Represents the current state of maintenance line item (Deployed/Obsolete). STATE can be null.
<b>TENANT_ID</b>	string	255	An Identifier representing tenant, to which this maintenance belongs. TENANT_ID can be null.
<b>START_DATE</b>	datetime		Maintenance product start date. START_DATE can be null.
<b>END_DATE</b>	datetime		Maintenance product Expiration date. END_DATE can be null.
<b>MAINTENANCE_PRODUCT</b>	varchar	255	Maintenance product name. MAINTENANCE_PRODUCT can be null.
<b>MAINT_PART_NUMBER</b>	varchar	255	Part Number associated with maintenance product. MAINT_PART_NUMBER can be null.

## ORG\_UNIT\_DIMENSION

This dimension is the organization unit (account) to which the entitlement was sold. All organization units are at the same level in the reporting database and are not hierarchical.

Seed organization units like producer's home organization unit and UNKNOWN\_ORG\_UNIT are copied to the reporting database as well, as entitlements may be associated with these organization units. PORTAL\_ORG\_UNIT is not copied.

For simple entitlements, the organization unit records identify the account in the End Customer tier. However, for simple entitlements created from redeemed web register keys, the organization unit records identify the account in the Distributor tier.


For bulk entitlements, the organization unit records identify the account in the Distributor tier; accounts not in the Distributor tier are unavailable for reporting.

For devices, the organization unit records identify the account in the End Customer tier; accounts not in the End Customer tier are unavailable for reporting.

Reports cannot be constructed using the account hierarchy structure, nor around users and their assigned accounts. However, you can still report on entitlements linked to individual accounts.

The following columns are available for each entity in this dimension and can be used in reports.

**Table 3-16 • ORG\_UNIT\_DIMENSION Columns**

Column	Type	Length	Description
<b>ID</b>	numeric	19	A 19-digit (non-nullable) unique identifier of the device record as defined in FlexNet Operations. The ID is the primary key for the Organization Unit (account) dimension.
<b>NAME</b>	string	128	Unique name of the account as defined in FlexNet Operations. (For example, Stark International Enterprises).  <b>Note •</b> Names longer than 128 characters are truncated in the data transformation.
<b>DISPLAY_NAME</b>	string	255	Display name of the account as defined in FlexNet Operations. (For example, Stark.)
<b>DESCRIPTION</b>	string	255	Optional description of the account.
<b>ADDR_ADDR1</b>	string	255	First line of optional account address.
<b>ADDR_ADDR2</b>	string	255	Second line of optional account address.
<b>CITY</b>	string	150	City where the account is situated.
<b>COUNTRY</b>	string	75	Country where the account is situated.
<b>REGION</b>	string	75	Region where the account is situated, for instance, EMEA or APAC.
<b>TENANT_ID</b>	string	255	An Identifier representing tenant, to which the account belongs.
<b>CREATEDATE</b>	timestamp	6	Account created date.
<b>LASTUPDATED</b>	timestamp	6	Account updated date.

**Table 3-16 •** ORG\_UNIT\_DIMENSION Columns

Column	Type	Length	Description
<b>ACCOUNT_TYPE</b>	string	255	Can be one of the following: <ul style="list-style-type: none"> <li>• HOME</li> <li>• PUBLISHER</li> <li>• CUSTOMER</li> <li>• SELF_REGISTERED</li> <li>• UNKNOWN</li> <li>• CHANNEL_PARTNER</li> </ul>

## PART\_NUMBER\_DIMENSION

This dimension represents the part number used to create the entitlement line item. Note that part number is not a required attribute for a line item in FlexNet Operations. Hence, some facts may not have part number associated with them. If the part number is not associated to the fact, it will show up empty in the report.

The following attributes are available for each entity in this dimension and can be used in reports.

**Table 3-17 •** Part Number Dimension Columns

Columns	Type	Length	Description
<b>ID</b>	numeric	19	A 19-digit (non-nullable) unique identifier of the device record as defined in FlexNet Operations. The ID is the primary key for the Part Number dimension.
<b>NAME</b>	string	50	Actual part number as defined in FlexNet Operations. NAME cannot be null.
<b>DESCRIPTION</b>	string	2000	Optional description of the part number.

## PRODUCT\_DIMENSION

The Product dimension represents the product or suite specified in the entitlement line item. Note that all non-draft products in the FlexNet Operations database are copied to the reporting database.

The following attributes are available for each entity in this dimension and can be used in reports.

**Table 3-18 • Product Columns**

Columns	Type	Length	Description
<b>ID</b>	numeric	19	A 19-digit (non-nullable) unique identifier of the device record as defined in FlexNet Operations. The ID is the primary key for the Product dimension.
<b>NAME</b>	string	128	Name of the product or suite as defined in FlexNet Operations.
<b>VERSION</b>	string	64	Version of the product or suite as defined in FlexNet Operations.
<b>NAME_VERSION</b>	string	192	A compound attribute obtained by concatenating the name and version. Name and version form the unique identifier for the product in the FlexNet Operations database. This dimension attribute can be used to obtain counts for a specific product entity.
<b>DESCRIPTION</b>	string	2000	The optional description of the product, as defined in FlexNet Operations.
<b>TYPE</b>	string	50	The type of the product, such as Product or Suite. TYPE cannot be null.
<b>START_DATE</b>	string	64	The optional start date of this product. Date format is YYYY-MM-DD HH:MM:SS.
<b>END_DATE</b>	string	64	The optional end date of this product. Date format is YYYY-MM-DD HH:MM:SS.
<b>LICENSE_TECHNOLOGY_ID</b>	numeric	19	The numeric ID of the license technology.
<b>PACKAGE_NAME</b>	string	64	The optional unique name of the package. If specified, PACKAGE_VERSION is also required to be set.
<b>PACKAGE_VERSION</b>	string	64	The optional numeric version format. Required if PACKAGE_NAME is specified.
<b>USED_ON_DEVICE</b>	numeric	2	Optional field specifying if the product can be used on the device. <ul style="list-style-type: none"> <li>1 = Yes</li> <li>2 = No</li> </ul>
<b>USAGE_MODEL_ID</b>	string	64	Available when the USED_ON_DEVICE is set to Yes.
<b>PRODUCT_LINE</b>	string	64	Optional product line to map to the product.

Table 3-18 • Product Columns

Columns	Type	Length	Description
PRODUCT_STATUS	string	64	Status of the product

## SUPPORT\_ACTION\_DIMENSION

The Support Action dimension table contains only ID and ACTION columns to record support actions types related to fulfillment and entitlement events.

Table 3-19 • Support Action Dimension Columns

Columns	Type	Length	Description
ID	numeric	19	A 19-digit (non-nullable) unique identifier of the device record as defined in FlexNet Operations. The ID is the primary key for the Support Action dimension.
ACTION	string	128	A 128-character, non-nullable, support action. ACTION can be <ul style="list-style-type: none"><li>• MASTER</li><li>• REHOST</li><li>• RETURN</li><li>• REPAIR</li><li>• STOPGAP</li><li>• EMERGENCY</li><li>• PUBLISHER_ERROR</li><li>• REGENERATE</li></ul>

## TIME\_DIMENSION

Date values in all tables are tied to TIME\_DIMENSION by the ID. By default, the time dimension contains time and date values for a 20-year period. This period can be extended using the extendTimeDimension command. To do so, change to your FlexNet Operations install directory and enter **flexnet extendTimeDimension**.

Table 3-20 • Time Dimension Columns

Columns	Type	Length	Description
ID	numeric	19	A 19-digit (non-nullable) unique identifier of the device record as defined in FlexNet Operations. The ID is the primary key for the Time dimension.

**Table 3-20 • Time Dimension Columns**

Columns	Type	Length	Description
<b>DATEVAL</b>	datetime	8	Date as a date type. DATEVAL can be used to do date arithmetic for reports.
<b>DATE_NUMBER</b>	numeric	19	Date as a number. DATE_NUMBER can be null.
<b>DATE_STRING</b>	string	50	Date as a string. DATE_STRING can be null.
<b>HR_OF_DAY</b>	numeric	2	Hour of the day.
<b>DAY_NAME</b>	string	50	Name of the day.
<b>WEEK_NUMBER</b>	numeric	2	Number of the week in the year, from 1-52.
<b>MONTH_NUMBER</b>	numeric	2	Number of the month in the year, from 1-12.
<b>DAY_OF_MONTH</b>	numeric	2	Number of the day in the month.
<b>MONTH_NAME</b>	string	50	Name of the month.
<b>DAY_OF_YEAR</b>	numeric	3	Number of the day in the year.
<b>QUARTER</b>	numeric	1	Number of the quarter in the year, from 1-4.
<b>YEAR</b>	numeric	4	Number (4 digits) of the year.

## USER\_DIMENSION

The User dimension stores details from user accounts. Only user accounts with usernames are transformed into the reporting database. User accounts that do not include a username are not available for reporting.

**Table 3-21 • User Dimension Columns**

Columns	Type	Length	Description
<b>ID</b>	numeric	19	A 19-digit (non-nullable) unique identifier of the device record as defined in FlexNet Operations. The ID is the primary key for the User dimension.
<b>USER_ID</b>	string	255	A non-nullable, user ID specified in FlexNet Operations for this user (the identifier the user uses to log in).
<b>FIRSTNAME</b>	string	150	First name of the user, as defined in FlexNet Operations.
<b>LASTNAME</b>	string	150	Last name of the user, as defined in FlexNet Operations.

**Table 3-21 • User Dimension Columns**

Columns	Type	Length	Description
<b>EMAIL</b>	string	100	Email address of the user, as defined in FlexNet Operations.
<b>PHONE</b>	string	50	Phone number of the user, as defined in FlexNet Operations
<b>STREET_ADDRESS</b>	string	3000	Street part of the address specified for the user.
<b>CITY</b>	string	150	City part of the address specified for the user.
<b>COUNTRY</b>	string	75	Country part of the address specified for the user.
<b>STATUS</b>	string	255	Shows whether the user is ACTIVE or INACTIVE.
<b>TENANT_ID</b>	string	255	An Identifier representing tenant, to which this maintenance belongs.
<b>RENEWAL_SUBSCRIPTION</b>	bit		Indicates whether the user should receive renewal reminders about expiring and expired entitlements. The value for RENEWAL_SUBSCRIPTION is 0 (false) or 1 (true).
<b>SHAREDLOGIN</b>	bit		Indicates whether the user is a shared login or not The value for SHAREDLOGIN is 0 (false) or 1 (true).
<b>SYSTEMADMIN</b>	bit		Indicates whether the user is a system admin or not The value for SYSTEMADMIN is 0 (false) or 1 (true).
<b>LASTUPDATED</b>	datetime		The date and time the user was last updated. LASTUPDATED can be null.
<b>LASTAUTHENTICATED</b>	datetime		The date and time the user was last authenticated. LASTAUTHENTICATED can be null.
<b>CREATEDATE</b>	datetime		The date and time the user was created. CREATEDATE can be null.
<b>RENEWAL_SUBSCRIPTION</b>	NUMBER	1	Stores the user information for the <b>Expiring entitlements email</b> check box value.

## Custom Attribute Tables

The Custom Attribute tables store custom content that is used in the End-User Portal to customize page instructions on supported pages, add announcements to the home page, or create standalone pages.

- [ENTITLEMENT\\_CUSTOM\\_ATTR](#)
- [LICENSE\\_MODEL\\_CUSTOM\\_ATTR](#)

- [LINE\\_ITEM\\_CUSTOM\\_ATTR](#)
- [MAINTENANCE\\_LI\\_CUSTOM\\_ATTR](#)
- [ORG\\_UNIT\\_CUSTOM\\_ATTR](#)
- [PRODUCT\\_CUSTOM\\_ATTR](#)
- [USER\\_CUSTOM\\_ATTR](#)

## ENTITLEMENT\_CUSTOM\_ATTR

The Entitlement Custom Attributes table holds all the custom attributes belonging to entitlements.

**Table 3-22** • Entitlement Custom Attributes Columns

Columns	Type	Length	Description
<b>ID</b>	numeric	19	A 19-digit unique identifier of the device record as defined in FlexNet Operations. The ID is the primary key for the Entitlement custom attribute.
<b>ENTITLEMENT_ID</b>	numeric	19	A 19-digit unique identifier of the entitlement. ENTITLEMENT_ID is a foreign key to the LINE_ITEM_DIMENSION table.
<b>TENANT_ID</b>	varchar	255	The tenant ID data for the entitlement.
<b>CA1_NAME</b> <b>CA1_VALUE</b>  <b>CA2_NAME</b> <b>CA2_VALUE</b>  . . .  <b>CA30_NAME</b> <b>CA30_VALUE</b>	varchar	255	The Name/Value pairs of the Entitlement custom attribute.

## LICENSE\_MODEL\_CUSTOM\_ATTR

The License Model Custom Attributes table holds all the custom attributes belonging to license models.

**Table 3-23** • License Model Custom Attributes Columns

Columns	Type	Length	Description
<b>ID</b>	numeric	19	A 19-digit unique identifier of the device record as defined in FlexNet Operations. The ID is the primary key for the License Model custom attribute.



**Table 3-23 • License Model Custom Attributes Columns**

Columns	Type	Length	Description
<b>LICENSE_MODEL_ID</b>	numeric	19	A 19-digit unique identifier of the license model. LICENSE_MODEL_ID is a foreign key to the LICENSE_MODEL_DIMENSION table.
<b>FULFILLMENT_ID</b>	numeric	19	A 19-digit unique identifier of the fulfillment ID. FULFILLMENT_ID is a foreign key to the LICENSE_MODEL_DIMENSION table.
<b>ACTIVATION_ID</b>	numeric	19	A 19-digit unique identifier of the activation ID. ACTIVATION_ID is a foreign key to the LICENSE_MODEL_DIMENSION table.
<b>TENANT_ID</b>	varchar	255	The tenant ID data for the license model.
<b>CA1_NAME</b> <b>CA1_VALUE</b>  <b>CA2_NAME</b> <b>CA2_VALUE</b>  • • •  <b>CA30_NAME</b> <b>CA30_VALUE</b>	varchar	255	The Name/Value pairs of the License Model custom attribute.

## LINE\_ITEM\_CUSTOM\_ATTR

The Line Item Custom Attributes table holds all the custom attributes belonging to line items.

**Table 3-24 • Line Item Custom Attributes Columns**

Columns	Type	Length	Description
<b>ID</b>	numeric	19	A 19-digit unique identifier of the device record as defined in FlexNet Operations. The ID is the primary key for the Line Item custom attribute.
<b>ACTIVATION_ID</b>	numeric	19	A 19-digit unique identifier of the line item. ACTIVATION_ID is a foreign key to the LINE_ITEM_DIMENSION table.
<b>TENANT_ID</b>	varchar	255	The tenant ID data for the line item.

**Table 3-24 •** Line Item Custom Attributes Columns

Columns	Type	Length	Description
CA1_NAME CA1_VALUE	varchar	255	The Name/Value pairs of the Line Item custom attribute.
CA2_NAME CA2_VALUE			
•			
•			
•			
CA30_NAME CA30_VALUE			

## MAINTENANCE\_LI\_CUSTOM\_ATTR

The License Model Custom Attributes table holds all the custom attributes belonging to maintenance line items.


**Table 3-25 •** Maintenance Line Item Custom Attributes Columns

Columns	Type	Length	Description
ID	numeric	19	A 19-digit unique identifier of the device record as defined in FlexNet Operations. The ID is the primary key for the Maintenance Line Item custom attribute.
ACTIVATION_ID	numeric	19	A 19-digit unique identifier of the activation ID. ACTIVATION_ID is a foreign key to the MAINTENANCE_LI_DIMENSION table.
TENANT_ID	varchar	255	The tenant ID data for the maintenance line item.
CA1_NAME CA1_VALUE	varchar	255	The Name/Value pairs of the License Model custom attribute.
CA2_NAME CA2_VALUE			
•			
•			
•			
CA30_NAME CA30_VALUE			

## ORG\_UNIT\_CUSTOM\_ATTR

The Organization Unit Custom Attributes table holds all the custom attributes belonging to accounts.

**Table 3-26** • Organization Unit Custom Attributes Columns

Columns	Type	Length	Description
ID	numeric	19	A 19-digit unique identifier of the device record as defined in FlexNet Operations. The ID is the primary key for the Organization Unit (account) custom attribute.
ORG_ID	numeric	19	A 19-digit unique identifier of the organization. ORG_ID is a foreign key to the ORG_UNIT_DIMENSION table.  <b>Note</b> • ORG_ID refers to the organization's account ID in FlexNet Operations.
TENANT_ID	varchar	255	The tenant ID data for the account.
CA1_NAME CA1_VALUE CA2_NAME CA2_VALUE . . . CA30_NAME CA30_VALUE	varchar	255	The Name/Value pairs of the Organization Unit (account) custom attribute.

## PRODUCT\_CUSTOM\_ATTR

The Product Custom Attributes table holds all the custom attributes belonging to products.

**Table 3-27** • Product Custom Attributes Columns

Columns	Type	Length	Description
ID	numeric	19	A 19-digit unique identifier of the device record as defined in FlexNet Operations. The ID is the primary key for the Product custom attribute.
PRODUCT_ID	numeric	19	A 19-digit unique identifier of the product. PRODUCT_ID is a foreign key to the PRODUCT_DIMENSION table.
TENANT_ID	varchar	255	The tenant ID data for the product.

**Table 3-27 • Product Custom Attributes Columns**

Columns	Type	Length	Description
CA1_NAME CA1_VALUE	varchar	255	The Name/Value pairs of the Product custom attribute.
CA2_NAME CA2_VALUE			
.			
.			
.			
CA30_NAME CA30_VALUE			

## USER\_CUSTOM\_ATTR

The User Custom Attributes table holds all the custom attributes belonging to users.

**Table 3-28 • User Custom Attributes Columns**

Columns	Type	Length	Description
ID	numeric	19	A 19-digit unique identifier of the device record as defined in FlexNet Operations. The ID is the primary key for the User custom attribute.
USER_ID	numeric	19	A 19-digit unique identifier of the user. USER_ID is a foreign key to the USER_DIMENSION table.
CA1_NAME CA1_VALUE	varchar	255	The Name/Value pairs of the User custom attribute.
CA2_NAME CA2_VALUE			
.			
.			
.			
CA30_NAME CA30_VALUE			

## Other Tables

Other than the fact and dimension tables included in prior sections of this chapter, the reporting database includes the following tables:

- [ENTITLEMENT\\_CHANNEL\\_PARTNERS](#)

- [FULFILLMENT\\_DATES](#)
- [LINE\\_ITEM\\_DATES](#)
- [LINE\\_ITEM\\_RELATION](#)
- [LINE\\_ITEM\\_USERS](#)
- [MAINTENANCE\\_LI\\_RELATION](#)
- [OPS\\_REPORTING\\_ENTY\\_STATUS](#)
- [ORG\\_HIERARCHY](#)
- [PARTNER\\_RELATED\\_ORGS](#)
- [PRODUCT\\_RELATION](#)
- [RPT\\_MODULE](#)
- [USER\\_ORG\\_RELATION](#)
- [USER\\_ORG\\_ROLE](#)

## ENTITLEMENT\_CHANNEL\_PARTNERS

The Entitlement Channel Partners table is used to transform entitlements for intermediate tiers when there is more than one channel partner.



**Note** • If a bulk entitlement is transformed to the `ENTITLEMENT_CHANNEL_PARTNERS` table, then the values for End Customer and Tier1 partner are set to the same account.

**Table 3-29** • Entitlement Channel Partners Columns

Columns	Type	Length	Description
<b>ENTITLEMENT_ID</b>	numeric	19	A 19-digit unique identifier of the entitlement. <code>ENTITLEMENT_ID</code> is a foreign key to the <code>ENTITLEMENT_DIMENSION</code> table.
<b>TIER_NAME</b>	varchar	255	The name of the partner tier.
<b>ORGUNIT_ID</b>	numeric	19	A 19-digit (non-nullable) unique identifier of the device record as defined in FlexNet Operations. It is a foreign key. The <code>ORGUNIT_ID</code> is the primary key to the <code>ORG_UNIT_DIMENSION</code> table.
<b>TENANT_ID</b>	string	255	The tenant ID data for the account.

## FULFILLMENT\_DATES

The Fulfillment Dates table ties key dates to fulfillments.

**Table 3-30** • Fulfillment Dates Columns

Columns	Type	Length	Description
<b>FULFILLMENT_ID</b>	numeric	19	A 19-digit unique identifier of the fulfillment record as defined in FlexNet Operations.
<b>EXPIRATION_DATE_ID</b>	numeric	19	A 19-digit unique identifier of the expiration date for a fulfillment.
<b>START_DATE_ID</b>	numeric	19	A 19-digit unique identifier of the start date for a fulfillment.




## LINE\_ITEM\_DATES

The Line Item Dates table ties key dates to line items.

**Table 3-31** • Line Item Dates Columns

Columns	Type	Length	Description
<b>LINE_ITEM_ID</b>	numeric	19	A 19-digit unique identifier of the line item record as defined in FlexNet Operations.
<b>VERSION_DATE_ID</b>	numeric	19	A 19-digit unique identifier for the line item's version date.
<b>EXPIRATION_DATE_ID</b>	numeric	19	A 19-digit unique identifier of the expiration date for a line item.  A value of -1 means the line item is not permanent (existing functionality). A value of -2 means the expiration date cannot be definitively determined and depends on when the activation was performed.
<b>START_DATE_ID</b>	numeric	19	A 19-digit unique identifier of the start date for a line item.
<b>MAINT_START_DATE_ID</b>	numeric	19	A 19-digit unique identifier of the start date for a maintenance item.
<b>MAINT_END_DATE_ID</b>	numeric	19	A 19-digit unique identifier of the end date for a maintenance item.

**Table 3-31 • Line Item Dates Columns**

Columns	Type	Length	Description
<b>START_DATE_OPTION</b>	string	40	<p>This field has the following options:</p> <ul style="list-style-type: none"> <li>• SPECIFY_AT_EACH_ACTIVATION</li> <li>• USE_FIRST_ACTIVATION_DATE</li> <li>• SPECIFY_AT_FIRST_ACTIVATION</li> <li>• USE_EACH_ACTIVATION_DATE</li> <li>• SPECIFY_VALUE_NOW</li> </ul>  <p><b>Note •</b> This column is null for maintenance line items.</p>
<b>DURATION</b>	string	10	<p>Specifies the duration unit type.</p>  <p><b>Note •</b> This column is null for maintenance line items.</p>
<b>DURATION_UNITS</b>	numeric	10	<p>Represents the number of YEAR, MONTH, WEEK, and DAY</p>  <p><b>Note •</b> This column is null for maintenance line items.</p>

## LINE\_ITEM\_RELATION

The Line Item Relation table records the relation between line item and a parent line item.

**Table 3-32 • Line Item Relation Columns**

Columns	Type	Length	Description
<b>LINE_ITEM_ID</b>	numeric	19	It is a foreign key. The ID is the primary key for the Line Item dimension.
<b>RELATION_TYPE</b>	varchar	255	<p>Defines what relation exists between a child and parent line item. Valid values include:</p> <ul style="list-style-type: none"> <li>• UPGRADE</li> <li>• RENEWAL</li> <li>• UPSELL</li> </ul>
<b>PARENT_LINE_ITEM_ID</b>	numeric	19	This is a foreign key. The ID is the primary key for the parent Line Item in the Line Item Dimension table.

## LINE\_ITEM\_USERS

The Line Item Users table ties users to line items.

**Table 3-33** • Line Item Users Columns

Columns	Type	Length	Description
<b>LINE_ITEM_ID</b>	numeric	19	A 19-digit unique identifier of the line item record as defined in FlexNet Operations.
<b>USER_ID</b>	numeric	19	A 19-digit unique identifier for the user ID specified in FlexNet Operations for this user (the identifier the user uses to log in).

## MAINTENANCE\_LI\_RELATION

The Maintenance Line Item Relation table records the relation between line item and maintenance line items..

**Table 3-34** • Maintenance/Line Item Relation Columns

Columns	Type	Length	Description
<b>MAINTENANCE_LINE_ITEM_ID</b>	numeric	19	A unique identifier of the maintenance record as defined in FlexNet Operations.
<b>LINE_ITEM_ID NUMERIC</b>	numeric	19	A unique identifier for the Line item ID to which the particular maintenance is mapped.

## OPS\_REPORTING\_ENTY\_STATUS

The Operations Reporting Entity Status table records the state of the data transformation. It indicates the last entity that was transformed and when that transformation took place. This is an essential housekeeping table for the FlexNet Operations reporting database, but is not intended to be queried by users generating reports.

**Table 3-35** • Operations Reporting Entity Status Columns

Columns	Type	Length	Description
<b>ID</b>	numeric	19	A 19-digit unique identifier of the entity status record.
<b>NAME</b>	character	128	A name associated with the entity last updated as part of the data transformation job.
<b>LAST_ENTITY_UPDATED</b>	datetime		The date and time when the entity identified by the LAST_ENTITY_ID value was updated. This value indicates when the data transformation job ended.




**Table 3-35 • Operations Reporting Entity Status Columns**

Columns	Type	Length	Description
LAST_ENTITY_ID	numeric	19	A 19-digit unique identifier of the last entity updated when the data transformation job ran.

## ORG\_HIERARCHY

The Organization Hierarchy table records the relationship between accounts and parent accounts..

**Table 3-36 • Organization Hierarchy Columns**

Columns	Type	Length	Description
ORG_ID	numeric	19	A unique identifier of the organization as defined in FlexNet Operations.  <b>Note •</b> <i>ORG_ID</i> refers to the organization's account ID in FlexNet Operations.
PARENT_ORG_IDS	VARCHAR	255	A comma separated list of the parent account hierarchy.

For example, if the account ID is 16016 and its parent is 16009, which has a parent account ID of 16008, it would be represented as follows:


**Table 3-37 • ORG\_HIERARCHY Table Example**

ORG_ID	PARENT_ORG_ID
16016	16009,16008
16009	16008
16008	null

## PARTNER\_RELATED\_ORGS

The Partner Related Organizations table is used to transform partner accounts and their relationships to customer accounts and partner accounts.

**Table 3-38** • Partner Related Organizations Columns

Columns	Type	Length	Description
<b>ORG_ID</b>	numeric	19	A unique identifier of the account as defined in FlexNet Operations for the newly defined customer account.   <b>Note</b> • <i>ORG_ID</i> refers to the organization's account ID in FlexNet Operations.
<b>RELATED_ORG_IDS</b>	numeric	19	The account ID of the original partner account.

## PRODUCT\_RELATION

The Product Relation table records the relation between different products including maintenance products. .

**Table 3-39** • Product Relation Columns

Columns	Type	Length	Description
<b>PRODUCT_ID</b>	numeric	19	It is a foreign key. The ID is the primary key for the Product dimension.
<b>RELATION_TYPE</b>	nvarchar	255	Defines what relation exists between two products. For example: <ul style="list-style-type: none"><li>● UPGRADE_FROM</li><li>● UPGRADE_TO</li><li>● UPSELL_FROM</li><li>● UPSELL_TO</li><li>● DEMO_OF</li><li>● PRODUCTION_VERSION_OF</li><li>● IS_MAINTENANCE</li><li>● HAS_MAINTENANCE</li></ul>
<b>RELATED_PRODUCT_ID</b>	numeric	19	This is a foreign key. The ID is the primary key for the related product in the Product Dimension table.

## RPT\_MODULE

The Report Module table records the schema version of the reporting database.

**Table 3-40 •** Report Module Columns

Columns	Type	Length	Description
<b>ID</b>	numeric	10	A 10-digit identifier of the Report Module record.
<b>HIB_VERSION</b>	numeric	10	A 10-digit identifier for the schema version.
<b>LASTUPDATED</b>	datetime		The date and time the schema was last updated.
<b>NAME</b>	character	2000	The name of the schema, typically “reporting.”
<b>SEQUENCENUMBER</b>	numeric	10	A 10-digit sequence number.
<b>VERSION</b>	character	2000	The version number of the schema.

## USER\_ORG\_RELATION

The User/Org Relation table records user and account mapping details.

**Table 3-41 •** User/Org Relation Columns

Columns	Type	Length	Description
<b>USER_ID</b>	numeric	19	A unique identifier of the user ID record defined in FlexNet Operations.
<b>ORG_ID</b>	numeric	19	A unique identifier of the account ID to which the particular user is mapped.
<b>EXPIRY_DATE</b>	datetime		The date and time the user’s access to an account expires. EXPIRY_DATE can be null.

## USER\_ORG\_ROLE

The User Organization Role table records a user’s organization role.

**Table 3-42 •** User Organization Role Columns

Columns	Type	Length	Description
<b>ID</b>	numeric	19	A 10-digit identifier of the User Organization Role record.
<b>TENANT_ID</b>	navchar	255	The tenant ID of the user

**Table 3-42 • User Organization Role Columns**

Columns	Type	Length	Description
<b>LASTUPDATED</b>	datetime		The date and time the schema was last updated.
<b>USER_ID</b>	number	19	The user ID of a user. The USER_ID is a foreign key to the USER_DIMENSION table.
<b>ORG_ID</b>	numeric	19	The organization ID of a user. The ORG_ID is a foreign key to the ORG_UNIT_DIMENSION table.
<b>ROLE_ID</b>	numeric	19	The user role ID.
<b>ROLE_NAME</b>	navchar	255	The user role name.

## Sample SQL Scripts

FlexNet Operations provides several scripts to illustrate SQL queries that generate reports based on data in the FlexNet Operations reporting database.

- [Locating Sample SQL Scripts](#)
- [SQL Script Descriptions](#)

## Locating Sample SQL Scripts

The sample SQL scripts included in your FlexNet Operations instance can be located within the FlexNet Operations root directory (referred to, here, as <install\_dir>). These scripts are available for both SQL Server and Oracle database environments.



### **Task** *To locate sample SQL scripts for SQL Server*

On the machine that hosts your FlexNet Operations instance, navigate to the following location:

```
<install_dir>\site\samples\reportingdbscripts\SqlServerScripts
```



### **Task** *To locate sample SQL scripts for Oracle*

On the machine that hosts your FlexNet Operations instance, navigate to the following location:

```
<install_dir>\site\samples\reportingdbscripts\OracleScripts
```

# SQL Script Descriptions

For both SQL Server and Oracle environments, FlexNet Operations provides the same collection of sample SQL scripts.

**Table 3-43 • Sample SQL Scripts Included with FlexNet Operations Reporting**

Script Type	Script Description and Name
<b>Subscription Billing Report</b>	For a given date, this report shows a list of product line items that are expiring, along with additional details about those products.  ADDONS_EXPIRING_ON_A_DATE_OR_TIMEPERIOD.sql
<b>Consumed Count Trends</b>	For a given customer, this report shows a list of products for which the consumed copies increased or decreased during a specified time period.  ADDONS_WITH_CHANGED_CONSUMED_COPIES_FOR_CUSTOMER_OVER_A_TIMEPERIOD.sql
<b>Device Activity Report</b>	For a given date range, this report shows device activity (line items mapped or unmapped) as well as a number of related details like the event type, SKU, product name, event date, and so on.  DEVICE_ACTIVITY_REPORT(AVID).sql
<b>Maintenance Expiration Report for a Customer</b>	For a given customer, this report shows all the customer's devices with maintenance items that are expiring.  DEVICES_WITH_EXPIRING_MAINTENANCES.sql
<b>Unactivated Products on Devices</b>	For a given date and a given product, this report shows a list of devices for which the product was requested but the consumed count is 0.  DEVICES_WITH_UNACTIVATED_ADDONS.sql
<b>Maintenance Expiration Report for Products</b>	For a given date, this report shows a list of maintenance items that are expiring and the products related to those expiring maintenance items.  MAINTENANCE_PRODUCTS_EXPIRING_ON_GIVEN_DATE.sql
<b>Devices with Pre-Installed Licenses by Customer</b>	For a given customer, this report shows the list of devices with pre-installed licenses and includes the device name, device status, host type or host attribute, and the date the license was generated.  MANUFACTURER_PREBUILT_LICENSE_DEVICES_FOR_CUSTOMER.sql
<b>Total Number of Devices by Machine Type</b>	This report shows the total number of devices and the VM name (as appropriate) for each machine type (virtual, physical, or unknown).  TOTAL_NUMBER_OF_DEVICES_FOR_MACHINE_TYPE_OR_VM_NAME.sql
<b>Total Number of Devices by Status and by Host Type or Host Attribute</b>	For a given device status and a given host type or host attribute, this report shows the total number of devices.  TOTAL_NUMBER_OF_DEVICES_FOR_A_HOSTTYPE_OR_HOSTATTRIBUTE.sql

