

Oracle® Active Topology Automator

Asynchronous Events Guide



Release 7.8
G26989-02
August 2025

ORACLE®

Copyright © 2023, 2025, Oracle and/or its affiliates.

This software and related documentation are provided under a license agreement containing restrictions on use and disclosure and are protected by intellectual property laws. Except as expressly permitted in your license agreement or allowed by law, you may not use, copy, reproduce, translate, broadcast, modify, license, transmit, distribute, exhibit, perform, publish, or display any part, in any form, or by any means. Reverse engineering, disassembly, or decompilation of this software, unless required by law for interoperability, is prohibited.

The information contained herein is subject to change without notice and is not warranted to be error-free. If you find any errors, please report them to us in writing.

If this is software, software documentation, data (as defined in the Federal Acquisition Regulation), or related documentation that is delivered to the U.S. Government or anyone licensing it on behalf of the U.S. Government, then the following notice is applicable:

U.S. GOVERNMENT END USERS: Oracle programs (including any operating system, integrated software, any programs embedded, installed, or activated on delivered hardware, and modifications of such programs) and Oracle computer documentation or other Oracle data delivered to or accessed by U.S. Government end users are "commercial computer software," "commercial computer software documentation," or "limited rights data" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, the use, reproduction, duplication, release, display, disclosure, modification, preparation of derivative works, and/or adaptation of i) Oracle programs (including any operating system, integrated software, any programs embedded, installed, or activated on delivered hardware, and modifications of such programs), ii) Oracle computer documentation and/or iii) other Oracle data, is subject to the rights and limitations specified in the license contained in the applicable contract. The terms governing the U.S. Government's use of Oracle cloud services are defined by the applicable contract for such services. No other rights are granted to the U.S. Government.

This software or hardware is developed for general use in a variety of information management applications. It is not developed or intended for use in any inherently dangerous applications, including applications that may create a risk of personal injury. If you use this software or hardware in dangerous applications, then you shall be responsible to take all appropriate fail-safe, backup, redundancy, and other measures to ensure its safe use. Oracle Corporation and its affiliates disclaim any liability for any damages caused by use of this software or hardware in dangerous applications.

Oracle®, Java, MySQL, and NetSuite are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

Intel and Intel Inside are trademarks or registered trademarks of Intel Corporation. All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. AMD, Epyc, and the AMD logo are trademarks or registered trademarks of Advanced Micro Devices. UNIX is a registered trademark of The Open Group.

This software or hardware and documentation may provide access to or information about content, products, and services from third parties. Oracle Corporation and its affiliates are not responsible for and expressly disclaim all warranties of any kind with respect to third-party content, products, and services unless otherwise set forth in an applicable agreement between you and Oracle. Oracle Corporation and its affiliates will not be responsible for any loss, costs, or damages incurred due to your access to or use of third-party content, products, or services, except as set forth in an applicable agreement between you and Oracle.

Contents

Preface

Audience	i
Documentation Accessibility	i
Diversity and Inclusion	i

1 About ATA Asynchronous Events

2 ATA Events and Definitions

TopologyEdgeCreate	1
TopologyEdgeDelete	2
TopologyEdgeUpdate	3
TopologyNodeCreate	4
TopologyNodeDelete	5
TopologyNodeUpdate	5
TopologyProfileCreate	6
TopologyProfileDelete	8
TopologyProfileUpdate	9

3 TMF 642 Alarm Events and Definitions

TMF 642 Alarm	1
AlarmCreateEvent	1
AlarmAttributeValueChangeEvent	2
ClearAlarmCreateEvent	3
AlarmDeleteEvent	4
TMF 642 ThresholdCrossing Alarm	5
AlarmCreateEvent	5
AlarmAttributeValueChangeEvent	6
ClearAlarmCreateEvent	7
AlarmDeleteEvent	8

4 SmartSearch Consumer Events and Definitions

TopologyEdgeCreate	1
TopologyEdgeUpdate	3
TopologyEdgeDelete	4
TopologyNodeCreate	4
TopologyNodeUpdate	5
TopologyNodeDelete	6

5 Schemas, Valid Values, and Authorization

Preface

This document outlines the events available in the Active Topology Automation (ATA) service for asynchronous processing.

Audience

This document is for system administrators, database administrators, and developers who install and configure Unified Inventory and Topology.

Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc>.

Access to Oracle Support

Oracle customers that have purchased support have access to electronic support through My Oracle Support. For information, visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info> or visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs> if you are hearing impaired.

Diversity and Inclusion

Oracle is fully committed to diversity and inclusion. Oracle respects and values having a diverse workforce that increases thought leadership and innovation. As part of our initiative to build a more inclusive culture that positively impacts our employees, customers, and partners, we are working to remove insensitive terms from our products and documentation. We are also mindful of the necessity to maintain compatibility with our customers' existing technologies and the need to ensure continuity of service as Oracle's offerings and industry standards evolve. Because of these technical constraints, our effort to remove insensitive terms is ongoing and will take time and external cooperation.

1

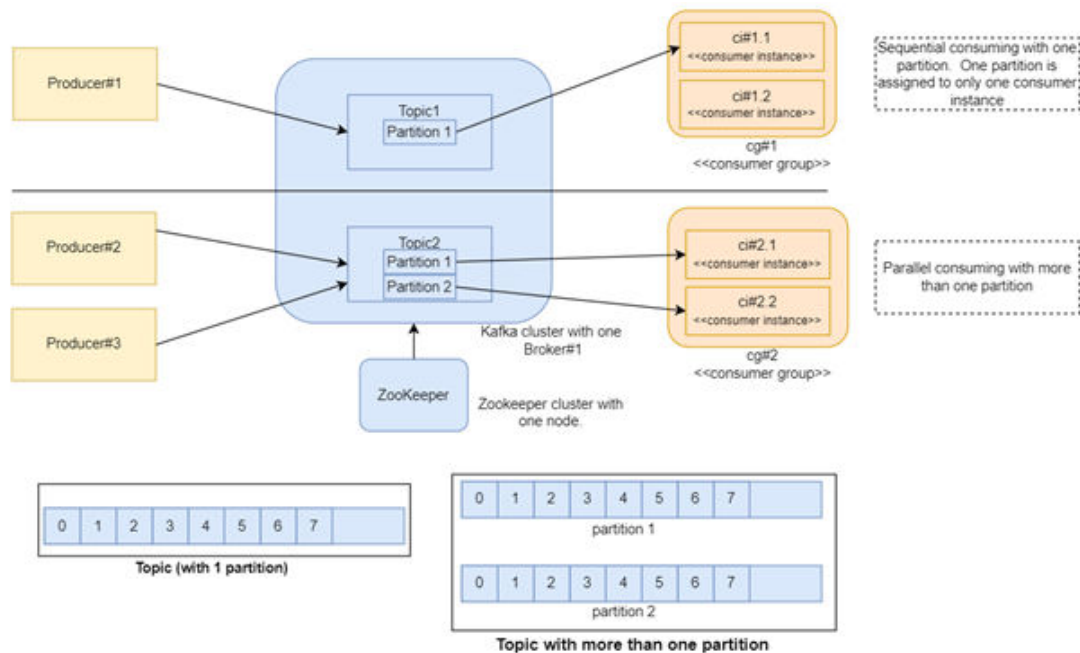
About ATA Asynchronous Events

Active Topology Automation (ATA) uses the Oracle Communications Unified Operations Message Bus (UOMB) for processing these events.

The UOMB service is a distributed event store and stream-processing platform service. The Message Bus client sends/receives events (or messages) to/from the Message Bus service from a specific channel called a Topic, so that the source and target clients (or services) are loosely coupled and asynchronous. The Message Bus uses Apache Kafka in its platform to support the event store and stream-processing.

Apache Kafka is a distributed publish-subscribe messaging system that receives data from disparate source systems and makes the data available to target systems in real time. Similar to other message brokers systems, Kafka facilitates the asynchronous data exchange between processes, applications and servers.

The following figure illustrates the architecture diagram of Apache Kafka.



2

ATA Events and Definitions

This chapter describes ATA events and definitions.

The types of events in ATA are Topology events. The Topology events provide an event-driven architecture for creating, updating, and deleting Topology Vertices and Edges. The Topology events are listed as follows and are available as messages in the **ora-uim-topology** topic.

Table 2-1 Topology Events

Topology Event	Definition
TopologyEdgeCreate	This event supports the creation of all types of Topology Edges except Profile Edges.
TopologyEdgeDelete	This event supports the deletion of all types of Topology Edges except Profile Edges.
TopologyEdgeUpdate	This event supports updates of all types of Topology Edge except Profile Edges.
TopologyNodeCreate	This event supports the creation of all types of Topology Vertices except Profile Vertices.
TopologyNodeDelete	This event supports the deletion of all types of Topology Vertices except Profile Vertices.
TopologyNodeUpdate	This event supports updates of all types of Topology Vertices except Profile Vertices.
TopologyProfileCreate	This event supports the creation of Topology Profiles which represent an end-to-end trail of nodes and edges. For example, Service Topology is a Topology profile.
TopologyProfileDelete	This event supports the deletion of Topology Profiles.
TopologyProfileUpdate	This event supports updates Topology Profiles.

TopologyEdgeCreate

The following table provides the TopologyEdgeCreate event details and the corresponding values:

Table 2-2 TopologyEdgeCreate

Event Details	Value
Summary	Receives messages for creating Topology Edges.
Message Header (with examples)	eventType: "TopologyEdgeCreate" sourceSystemId: "UIM" transactionId: "uim-topology-nnnnnn"
Topic	ora-uim-topology
Producer	UIM, any External System, typically an Inventory System.
Consumer	ATA

Table 2-2 (Cont.) TopologyEdgeCreate

Event Details	Value
URL	Provided during the deployment.
Schemas	Edge

Example Payload:

```
{
    "businessObjectClass": "PacketConnectivityDAO",
    "inventoryStatus": "INSTALLED",
    "name": "ELCN01PR.SR-1 / WSHN01DC.SR-1 / 40GigE / GE10 / 1",
    "referenceId": 1579678,
    "specName": "INNI Connectivity",
    "technology" : "Ethernet",
    "ratecode" : "10GigE",
    "fromNodeReferenceId" : "655350",
    "fromNodeBusinessObjectClass" : "LogicalDeviceDAO",
    "toNodeReferenceId" : "218472",
    "toNodeBusinessObjectClass" : "LogicalDeviceDAO",
    "edgeType" : "COMMUNICATES_WITH"
}
```

TopologyEdgeDelete

The following table provides the TopologyEdgeDelete event details and the corresponding values:

Table 2-3 TopologyEdgeDelete

Event Details	Value
Summary	Receives messages for deleting Topology Edges.
Message Header (with examples)	eventType: "TopologyEdgeDelete" sourceSystemId: "UIM" transactionId: "uim-topology-nnnnnn"
Topic	ora-uim-topology
Producer	UIM, any External System, typically an Inventory System.
Consumer	ATA
URL	Provided during the deployment.
Schemas	Edge

Example Payload (using Edge entityID):

```
{
    "entityId" : 1356
}
```

Example Payload (using businessObjectClass, referenceId and edgeType):

```
{
    "businessObjectClass": "PacketConnectivityDAO",
    "referenceId": 1579678,
    "edgeType" : "COMMUNICATES_WITH"
}
```

Example Payload (using fromNode, toNode and edgeType):

```
{
    "businessObjectClass": "TopologyOnly",
    "fromNode" : 1354,
    "toNode" : 1355,
    "edgeType" : "PARENT_DEVICE"
}
```

TopologyEdgeUpdate

The following table provides the TopologyEdgeUpdate event details and the corresponding values:

Table 2-4 TopologyEdgeUpdate

Event Details	Value
Summary	Receives messages for updating Topology Edges.
Message Header (with examples)	eventType: "TopologyEdgeUpdate" sourceSystemId: "UIM" transactionId: "uim-topology-nnnnnnn"
Topic	ora-uim-topology
Producer	UIM, any External System, typically an Inventory System.
Consumer	ATA
URL	Provided during the deployment.
Schemas	Edge

Example Payload (Communication Edge):

```
{
    "entityId" : 1356,
    "businessObjectClass": "PacketConnectivityDAO",
    "inventoryStatus": "INSTALLED",
    "name": " ELCN01PR.SR-1 / WSHN01DC.SR-1 / 40GigE / GE10 / 1",
    "referenceId": 1579678,
    "specName": "INNI Connectivity",
    "technology" : "Ethernet",
    "ratecode" : "10GigE",
    "fromNode" : 4889,
    "fromNodeBusinessObjectClass" : "LogicalDeviceDAO",
    "toNode" : 6584,
```

```

        "toNodeBusinessObjectClass" : "LogicalDeviceDAO",
        "edgeType" : "COMMUNICATES_WITH"
    }

```

Example Payload (Topological Edge with Edge Label = PARENT_DEVICE):

```

{
    "businessObjectClass": "TopologyOnly",
    "inventoryStatus": "INSTALLED",
    "name": "EquipmentShelfI-PhysicalDeviceI",
    "fromNodeReferenceId" : "675001",
    "fromNodeBusinessObjectClass" : "EquipmentDAO",
    "toNodeReferenceId" : "600001",
    "toNodeBusinessObjectClass" : "PhysicalDeviceDAO",
    "edgeType" : "PARENT_DEVICE",
    "properties" : {
        "propertyOne" : "newValueOne",
        "propertyTwo" : "newValueTwo"
    }
}

```

TopologyNodeCreate

The following table provides the TopologyNodeCreate event details and the corresponding values:

Table 2-5 TopologyNodeCreate

Event Details	Value
Summary	Receives messages for creating Topology Nodes and Vertices.
Message Header (with examples)	eventType: "TopologyNodeCreate" sourceSystemId: "UIM" transactionId: "uim-topology-nnnnnnn"
Topic	ora-uim-topology
Producer	UIM, any External System, typically an Inventory System.
Consumer	ATA
URL	Provided during the deployment.
Schemas	Vertex

Example Payload:

```

{
    "businessObjectClass": "LogicalDeviceDAO",
    "inventoryStatus": "INSTALLED",
    "name": "BDFR01TX.T-1.LD",
    "id" : "BDFR01TX.T-1",
    "referenceId": 3375004,
    "specName": "Cisco ASR 920 LD"
}

```

TopologyNodeDelete

The following table provides the TopologyNodeDelete event details and the corresponding values:

Table 2-6 TopologyNodeDelete

Event Details	Value
Summary	Receives messages for deleting Topology Nodes or Vertices.
Message Header (with examples)	eventType: "TopologyNodeDelete" sourceSystemId: "UIM" transactionId: "uim-topology-nnnnnn"
Topic	ora-uim-topology
Producer	UIM, any External System, typically an Inventory System.
Consumer	ATA
URL	Provided during the deployment.
Schemas	Vertex

Example Payload (using entityId):

```
{
    "entityId" : 1354
}
```

Example Payload (using businessObjectClass, referenceId):

```
{
    "businessObjectClass": "LogicalDeviceDAO",
    "referenceId": 999997
}
```

TopologyNodeUpdate

The following table provides the TopologyNodeUpdate event details and the corresponding values:

Table 2-7 TopologyNodeUpdate

Event Details	Value
Summary	Receives messages for updating Topology Nodes and Vertices.
Message Header (with examples)	eventType: "TopologyNodeUpdate" sourceSystemId: "UIM" transactionId: "uim-topology-nnnnnn"
Topic	ora-uim-topology
Producer	UIM, any External System, typically an Inventory System.

Table 2-7 (Cont.) TopologyNodeUpdate

Event Details	Value
Consumer	ATA
URL	Provided during the deployment.
Schemas	Vertex

Example Payload:

```
{
    "businessObjectClass": "LogicalDeviceDAO",
    "inventoryStatus": "INSTALLED",
    "name": "BDFR01TX.T-1.LD",
    "nodeCategory": "Access",
    "id" : "BDFR01TX.T-1",
    "referenceId": 3375004,
    "specName": "Cisco ASR 920 LD"
}
```

TopologyProfileCreate

The following table provides the TopologyProfileCreate event details and the corresponding values:

Table 2-8 TopologyProfileCreate

Event Details	Value
Summary	Receives messages for creating Topology Profiles.
Message Header (with examples)	eventType: "TopologyProfileCreate" sourceSystemId: "UIM" transactionId: "uim-topology-nnnnnn"
Topic	ora-uim-topology
Producer	UIM, any External System, typically an Inventory System.
Consumer	ATA
URL	Provided during the deployment.
Schemas	Profile, ProfileEdge, ProfileVertex

Example Payload:

```
{
    "entityId": 0,
    "entityVersion": 0,
    "businessObjectClass": "ServiceConfigurationVersionDAO",
    "id": "5100001:1",
    "name": "dev_service:dev_service - 1",
    "referenceId": 118500001,
    "zoomLevel": 0,
    "refresh": false,
}
```

```

"profileVertices": [
  {
    "entityId": 0,
    "entityVersion": 0,
    "businessObjectClass": "LogicalDeviceDAO",
    "id": "5475001",
    "exclude": false,
    "device": 100155338,
    "name": "dev_device",
    "imageName":
"oracle.communications.platform.entity.impl.MediaDAO-1381575223.png",
    "xPos": 0,
    "yPos": 0,
    "profile": 0,
    "createdDate": "2023-03-06T15:41:17.076Z",
    "lastModifiedDate": "2023-03-06T15:41:17.076Z"
  },
  {
    "entityId": 0,
    "entityVersion": 0,
    "businessObjectClass": "LogicalDeviceDAO",
    "id": "5475003",
    "exclude": false,
    "device": 100155343,
    "name": "dev_zdevice",
    "imageName":
"oracle.communications.platform.entity.impl.MediaDAO-1381575223.png",
    "xPos": 0,
    "yPos": 0,
    "profile": 0,
    "createdDate": "2023-03-06T15:41:17.076Z",
    "lastModifiedDate": "2023-03-06T15:41:17.076Z"
  },
  {
    "entityId": 0,
    "entityVersion": 0,
    "businessObjectClass": "LogicalDeviceDAO",
    "id": "5475002",
    "exclude": false,
    "device": 100155341,
    "name": "dev_ydevice",
    "imageName":
"oracle.communications.platform.entity.impl.MediaDAO-1381575223.png",
    "xPos": 0,
    "yPos": 0,
    "profile": 0,
    "createdDate": "2023-03-06T15:41:17.076Z",
    "lastModifiedDate": "2023-03-06T15:41:17.076Z"
  }
],
"profileEdges": [
  {
    "entityId": 0,
    "entityVersion": 0,
    "businessObjectClass": "PacketConnectivityDAO",
    "id": "5250001",

```

```

    "communication": 100155339,
    "name": "YYY / ZZZ / 1GigE / GE1 / 23",
    "exclude": false,
    "profileNode": {
      "entityId": 0,
      "entityVersion": 0,
      "businessObjectClass": "LogicalDeviceDA0",
      "id": "5475002",
      "exclude": false,
      "device": 100155341,
      "name": "dev_ydevice",
      "imageName":
"oracle.communications.platform.entity.impl.MediaDA0-1381575223.png",
      "xPos": 0,
      "yPos": 0,
      "profile": 0,
      "createdDate": "2023-03-06T15:41:17.076Z",
      "lastModifiedDate": "2023-03-06T15:41:17.076Z"
    },
    "toProfileNode": {
      "entityId": 0,
      "entityVersion": 0,
      "businessObjectClass": "LogicalDeviceDA0",
      "id": "5475003",
      "exclude": false,
      "device": 100155343,
      "name": "dev_zdevice",
      "imageName":
"oracle.communications.platform.entity.impl.MediaDA0-1381575223.png",
      "xPos": 0,
      "yPos": 0,
      "profile": 0,
      "createdDate": "2023-03-06T15:41:17.076Z",
      "lastModifiedDate": "2023-03-06T15:41:17.076Z"
    },
    "profile": 0,
    "createdDate": "2023-03-06T15:41:17.161Z",
    "lastModifiedDate": "2023-03-06T15:41:17.161Z"
  }
},
"createdDate": "2023-03-06T15:41:16.865Z",
"lastModifiedDate": "2023-03-06T15:41:16.865Z"
}
```

TopologyProfileDelete

The following table provides the TopologyProfileDelete event details and the corresponding values:

Table 2-9 TopologyProfileDelete

Event Details	Value
Summary	Receives messages for deleting Topology Profiles.

Table 2-9 (Cont.) TopologyProfileDelete

Event Details	Value
Message Header (with examples)	eventType: "TopologyProfileDelete" sourceSystemId: "UIM" transactionId: "uim-topology-nnnnnn"
Topic	ora-uim-topology
Producer	UIM, any External System, typically an Inventory System.
Consumer	ATA
URL	Provided during the deployment.
Schemas	Profile, ProfileEdge, ProfileVertex

Example Payload:

```
{
  "entityId": 100155358
}
```

TopologyProfileUpdate

The following table provides the TopologyProfileUpdate event details and the corresponding values:

Table 2-10 TopologyProfileUpdate

Event Details	Value
Summary	Receives messages for updating Topology Profiles.
Message Header (with examples)	eventType: "TopologyProfileUpdate" sourceSystemId: "UIM" transactionId: "uim-topology-nnnnnn"
Topic	ora-uim-topology
Producer	UIM, any External System, typically an Inventory System.
Consumer	ATA
URL	Provided during the deployment.
Schemas	Profile, ProfileEdge, ProfileVertex

Example Payload:

```
{
  "businessObjectClass": "ServiceConfigurationVersionDAO",
  "createdDate": "2023-03-06T15:55:47.892Z",
  "entityId": 100155358,
  "entityVersion": 0,
  "id": "5100001:3",
  "lastModifiedDate": "2023-03-06T15:55:47.892Z",
  "name": "dev_service:dev_service - 3",
}
```

```

"profileEdges": [
  {
    "businessObjectClass": "PacketConnectivityDAO",
    "communication": 100155339,
    "createdDate": "2023-03-06T15:55:48.180Z",
    "entityId": 100155362,
    "entityVersion": 0,
    "exclude": false,
    "id": "5250001",
    "lastModifiedDate": "2023-03-06T15:55:48.180Z",
    "name": "YYY / ZZZ / 1GigE / GE1 / 23",
    "profile": 100155358,
    "profileNode": {
      "businessObjectClass": "LogicalDeviceDAO",
      "device": 100155341,
      "entityId": 100155350,
      "entityVersion": 1,
      "exclude": false,
      "id": "5475002",
      "imageName":
"oracle.communications.platform.entity.impl.MediaDAO-1381575223.png",
      "location": 0,
      "name": "dev_ydevice",
      "nec": 0,
      "network": 0,
      "profile": 100155347,
      "xPos": 0,
      "yPos": 0
    },
    "toProfileNode": {
      "businessObjectClass": "LogicalDeviceDAO",
      "device": 100155343,
      "entityId": 100155349,
      "entityVersion": 1,
      "exclude": false,
      "id": "5475003",
      "imageName":
"oracle.communications.platform.entity.impl.MediaDAO-1381575223.png",
      "location": 0,
      "name": "dev_zdevice",
      "nec": 0,
      "network": 0,
      "profile": 100155347,
      "xPos": 0,
      "yPos": 0
    }
  }
],
"profileVertices": [
  {
    "businessObjectClass": "LogicalDeviceDAO",
    "createdDate": "2023-03-06T15:55:48.105Z",
    "device": 100155338,
    "entityId": 100155359,
    "entityVersion": 0,
    "exclude": false,

```

```
        "id": "5475001",
        "imageName":
"oracle.communications.platform.entity.impl.MediaDAO-1381575223.png",
        "lastModifiedDate": "2023-03-06T15:55:48.105Z",
        "name": "dev_device",
        "profile": 100155358,
        "xPos": 0,
        "yPos": 0
    },
    {
        "businessObjectClass": "LogicalDeviceDAO",
        "createdDate": "2023-03-06T15:55:48.107Z",
        "device": 100155343,
        "entityId": 100155360,
        "entityVersion": 0,
        "exclude": false,
        "id": "5475003",
        "imageName":
"oracle.communications.platform.entity.impl.MediaDAO-1381575223.png",
        "lastModifiedDate": "2023-03-06T15:55:48.107Z",
        "name": "dev_zdevice",
        "profile": 100155358,
        "xPos": 0,
        "yPos": 0
    },
    {
        "businessObjectClass": "LogicalDeviceDAO",
        "createdDate": "2023-03-06T15:55:48.108Z",
        "device": 100155341,
        "entityId": 100155361,
        "entityVersion": 0,
        "exclude": false,
        "id": "5475002",
        "imageName":
"oracle.communications.platform.entity.impl.MediaDAO-1381575223.png",
        "lastModifiedDate": "2023-03-06T15:55:48.108Z",
        "name": "dev_ydevice",
        "profile": 100155358,
        "xPos": 0,
        "yPos": 0
    }
],
"referenceId": 118500005,
"refresh": false,
"zoomLevel": 0,
"status": "CANCELLED"
}
```

3

TMF 642 Alarm Events and Definitions

This chapter provides information on TMF 642 alarm events.

The TMF 642 alarm events provide an event-driven architecture for creating, updating, and deleting alarm and threshold crossing alarms on devices maintained by ATA.

The TMF 642 alarms events are listed here and are available as Kafka message in the **ora-alarm-topology** topic.

TMF 642 Alarm

This section provides the list of TMF 642 Alarm events.

AlarmCreateEvent

The following table provides the AlarmCreateEvent event details and the corresponding values:

Table 3-1 AlarmCreateEvent

Event Details	Value
Summary	TMF 642 AlarmCreateEvent message
Message Header (with Examples)	eventType: "AlarmCreateEvent"
Topic	ora-alarm-topology
Producer	Any Assurance System or Alarm Management System
Consumer	ATA
URL	Provided during Deployment
Schemas	TMF-642 Version 5.0

Example Payload:

```
{
  "eventId": "500001",
  "eventTime": "2024-07-16T08:53:43.608Z",
  "eventType": "AlarmCreateEvent",
  "@type": "AlarmCreateEvent",
  "event": {
    "alarm": {
      "id": "300001",
      "alarmChangedTime": "2024-06-19T09:45:26.495Z",
      "alarmDetails": "Details in string format",
      "alarmedObject": {
        "@referredType": "DeviceInterface",
        "@type": "AlarmedObjectRef",
        "id": "ARLN01TXAW.P01::ARLN01TXAW.P01.100GigE-2_1",
        "name": ""
      }
    },
  },
}
```

```
        "alarmRaisedTime": "",
        "alarmReportingTime": "2024-06-19T05:41:02.000Z",
        "alarmType": "processingErrorAlarm",
        "perceivedSeverity": "major",
        "probableCause": "ECI_ALARM_UC05 Ext-Alm2(Battery Discharge)",
        "reportingSystemId": "123.assurance.com",
        "specificProblem": "",
        "state": "raised"
    }
}
}
```

AlarmAttributeValueChangeEvent

The following table provides the AlarmAttributeValueChangeEvent event details and the corresponding values:

Table 3-2 AlarmAttributeValueChangeEvent

Event Details	Value
Summary	TMF 642 AlarmAttributeValueChangeEventmessage
Message Header (with Examples)	eventType: "AlarmAttributeValueChangeEvent"
Topic	ora-alarm-topology
Producer	Any Assurance System or Alarm Management System
Consumer	ATA
URL	Provided during Deployment
Schemas	TMF-642 Version 5.0

Example Payload:

```
{
  "@type": "AlarmAttributeValueChangeEvent",
  "event": {
    "alarm": {
      "alarmChangedTime": "2024-06-19T09:45:26.495Z",
      "alarmDetails": "Alarm detials",
      "alarmedObject": {
        "@referredType": "DeviceInterface",
        "@type": "AlarmedObjectRef",
        "id": "ARLN01TXAW.P01::ARLN01TXAW.P01.100GigE-2_1",
        "name": ""
      },
      "alarmRaisedTime": "",
      "alarmReportingTime": "2024-06-19T05:41:02.000Z",
      "alarmType": "processingErrorAlarm",
      "id": "300001",
      "perceivedSeverity": "critical",
      "probableCause": "ECI_ALARM_UC05 Ext-Alm2(Battery Discharge)",
      "reportingSystemId": "123.assurance.com",
      "state": "updated"
    },
    "eventId": "500011",
  }
}
```

```
    "eventTime": "2024-07-16T09:12:31.544Z",
    "eventType": "AlarmAttributeValueChangeEvent"
  }
```

ClearAlarmCreateEvent

The following table provides the ClearAlarmCreateEvent event details and the corresponding values:

Table 3-3 ClearAlarmCreateEvent

Event Details	Value
Summary	TMF 642 ClearAlarmCreateEvent message
Message Header (with Examples)	eventType: "ClearAlarmCreateEvent"
Topic	ora-alarm-topology
Producer	Any Assurance System or Alarm Management System
Consumer	ATA
URL	Provided during Deployment
Schemas	TMF-642 Version 5.0

Example Payload:

```
{
  "@type": "ClearAlarmCreateEvent",
  "event": {
    "clearAlarm": {
      "@type": "ClearAlarm",
      "alarmClearedTime": "2024-08-08T10:09:25.000Z",
      "clearedAlarm": [
        {
          "alarmChangedTime": "2024-08-08T10:10:06.648Z",
          "alarmDetails": "Alarm detials",
          "alarmedObject": {
            "@referredType": "DeviceInterface",
            "@type": "AlarmedObjectRef",
            "id": "ARLN01TXAW.P01::ARLN01TXAW.P01.100GigE-2_1",
            "name": ""
          },
          "alarmedObjectType": "OT_PHYSICAL_TERMINATION_POINT",
          "alarmRaisedTime": "",
          "alarmReportingTime": "2024-08-08T10:08:35.000Z",
          "alarmType": "processingErrorAlarm",
          "id": "300001",
          "perceivedSeverity": "cleared",
          "probableCause": "ECI_ALARM_UC05 Ext-Alm2(Battery
Discharge)",
          "reportingSystemId": "123.assurance.com",
          "specificProblem": "ECI_ALARM_UC01 Communication-Fail",
          "state": "cleared"
        }
      ],
      "clearSystemId": "123.assurance.com",
      "clearUserId": "admin",
    }
  }
}
```

```
        "state": "done"
      },
    },
    "eventId": "502011",
    "eventTime": "2024-08-08T10:10:06.673Z",
    "eventType": "ClearAlarmCreateEvent"
  }
}
```

AlarmDeleteEvent

The following table provides the AlarmDeleteEvent event details and the corresponding values:

Table 3-4 AlarmDeleteEvent

Event Details	Value
Summary	TMF 642 AlarmDeleteEventmessage
Message Header (with Examples)	eventType: "AlarmDeleteEvent"
Topic	ora-alarm-topology
Producer	Any Assurance System or Alarm Management System
Consumer	ATA
URL	Provided during Deployment
Schemas	TMF-642 Version 5.0

Example Payload:

```
{
  "@type": "AlarmDeleteEvent",
  "event": {
    "alarm": {
      "alarmChangedTime": "2024-06-19T09:45:26.495Z",
      "alarmDetails": "Alarm details",
      "alarmedObject": {
        "@referredType": "DeviceInterface",
        "@type": "AlarmedObjectRef",
        "id": "ARLN01TXAW.P01::ARLN01TXAW.P01.100GigE-2_1",
        "name": ""
      },
    },
    "alarmRaisedTime": "",
    "alarmReportingTime": "2024-06-19T05:41:02.000Z",
    "alarmType": "processingErrorAlarm",
    "id": "300001",
    "perceivedSeverity": "major",
    "probableCause": "ECI_ALARM_UC05 Ext-Alm2(Battery Discharge)",
    "reportingSystemId": "123.assurance.com",
    "specificProblem": "",
    "state": "updated"
  },
},
"eventId": "500031",
"eventTime": "2024-07-16T12:14:22.845Z",
"eventType": "AlarmDeleteEvent"
}
```

TMF 642 ThresholdCrossing Alarm

This section provides the list of TMF 642 ThresholdCrossing Alarm events.

AlarmCreateEvent

The following table provides the AlarmCreateEvent event details and the corresponding values:

Table 3-5 AlarmCreateEvent

Event Details	Value
Summary	TMF 642 AlarmCreateEvent message
Message Header (with Examples)	eventType: "AlarmCreateEvent"
Topic	ora-alarm-topology
Producer	Any Assurance System or Alarm Management System
Consumer	ATA
URL	Provided during Deployment
Schemas	TMF-642 Version 5.0

Example Payload:

```
{
  "@type": "AlarmCreateEvent",
  "event": {
    "alarm": {
      "alarmChangedTime": "2024-08-07T08:29:59.000Z",
      "alarmDetails": "Alarm details",
      "alarmedObject": {
        "@referredType": "Equipment",
        "@type": "AlarmedObjectRef",
        "id": "ARLN01TXAW.P01P::ARLN01TXAW.P01-194.2H.06-Line-1",
        "name": ""
      },
      "alarmRaisedTime": "",
      "alarmReportingTime": "2024-08-07T08:29:59.000Z",
      "alarmType": "qualityOfServiceAlarm",
      "crossedThresholdInformation": {
        "direction": "up",
        "granularity": "15min",
        "indicatorName": " ECI_TCA_UC05 LSNEXT_PKTS_ERROR : TWM_HIGH",
        "indicatorUnit": "",
        "observedValue": "-32768.0"
      },
      "id": "4001",
      "perceivedSeverity": "minor",
      "probableCause": "ECI_TCA_UC05 LSNEXT_PKTS_ERROR",
      "reportingSystemId": "123.assurance.com",
      "specificProblem": "TWM_HIGH",
      "state": "raised"
    }
  }
}
```

```
    },
    "eventId": "700001",
    "eventTime": "2024-08-07T08:29:59.407Z",
    "eventType": "AlarmCreateEvent"
  }
}
```

AlarmAttributeValueChangeEvent

The following table provides the AlarmAttributeValueChangeEvent event details and the corresponding values:

Table 3-6 AlarmAttributeValueChangeEvent

Event Details	Value
Summary	TMF 642 AlarmAttributeValueChangeEventmessage
Message Header (with Examples)	eventType: "AlarmAttributeValueChangeEvent"
Topic	ora-alarm-topology
Producer	Any Assurance System or Alarm Management System
Consumer	ATA
URL	Provided during Deployment
Schemas	TMF-642 Version 5.0

Example Payload:

```
{
  "@type": "AlarmAttributeValueChangeEvent",
  "event": {
    "alarm": {
      "alarmChangedTime": "2024-08-07T08:30:25.000Z",
      "alarmDetails": "Alarm detials",
      "alarmedObject": {
        "@referredType": "Equipment",
        "@type": "AlarmedObjectRef",
        "id": "ARLN01TXAW.P01P::ARLN01TXAW.P01-194.2H.06-Line-1",
        "name": ""
      },
    },
    "alarmRaisedTime": "",
    "alarmReportingTime": "2024-08-07T08:29:59.000Z",
    "alarmType": "qualityOfServiceAlarm",
    "crossedThresholdInformation": {
      "direction": "up",
      "granularity": "15min",
      "indicatorName": " ECI_TCA_UC05 LSNEXT_PKTS_ERROR : TWM_HIGH",
      "indicatorUnit": "",
      "observedValue": "-32768.0"
    },
  },
  "id": "4001",
  "perceivedSeverity": "major",
  "probableCause": "ECI_TCA_UC05 LSNEXT_PKTS_ERROR",
  "reportingSystemId": "123.assurance.com",
  "specificProblem": "TWM_HIGH",
  "state": "updated"
}
```

```
    },
    "eventId": "700004",
    "eventTime": "2024-08-07T08:30:25.347Z",
    "eventType": "AlarmAttributeValueChangeEvent"
  }
}
```

ClearAlarmCreateEvent

The following table provides the ClearAlarmCreateEvent event details and the corresponding values:

Table 3-7 ClearAlarmCreateEvent

Event Details	Value
Summary	TMF 642 ClearAlarmCreateEvent message
Message Header (with Examples)	eventType: "ClearAlarmCreateEvent"
Topic	ora-alarm-topology
Producer	Any Assurance System or Alarm Management System
Consumer	ATA
URL	Provided during Deployment
Schemas	TMF-642 Version 5.0

Example Payload:

```
{
  "@type": "ClearAlarmCreateEvent",
  "event": {
    "clearAlarm": {
      "@type": "ClearAlarm",
      "alarmClearedTime": "2024-08-07T08:30:25.000Z",
      "clearedAlarm": [
        {
          "alarmChangedTime": "2024-08-07T08:31:04.742Z",
          "alarmDetails": "Alarm Details",
          "alarmedObject": {
            "@referredType": "Equipment",
            "@type": "AlarmedObjectRef",
            "id": "ARLN01TXAW.P01P::ARLN01TXAW.P01-194.2H.06-
Line-1",
            "name": ""
          },
          "alarmRaisedTime": "",
          "alarmReportingTime": "2024-08-07T08:29:59.000Z",
          "alarmType": "qualityOfServiceAlarm",
          "crossedThresholdInformation": {
            "direction": "up",
            "granularity": "15min",
            "indicatorName": " ECI_TCA_UC05 LSNEXT_PKTS_ERROR :
TWM_HIGH",
            "indicatorUnit": "",
            "observedValue": "-32768.0"
          },
          "id": "4001",

```

```
        "perceivedSeverity": "cleared",
        "probableCause": "ECI_TCA_UC05 LSNEXT_PKTS_ERROR",
        "reportingSystemId": "123.assurance.com",
        "specificProblem": "TWM_HIGH",
        "state": "cleared"
    },
    ],
    "clearSystemId": "123.assurance.com",
    "clearUserId": "admin",
    "state": "done"
}
},
"eventId": "700008",
"eventTime": "2024-08-07T08:30:25.347Z",
"eventType": "ClearAlarmCreateEvent"
}
```

AlarmDeleteEvent

The following table provides the AlarmDeleteEvent event details and the corresponding values:

Table 3-8 AlarmDeleteEvent

Event Details	Value
Summary	TMF 642 AlarmDeleteEventmessage
Message Header (with Examples)	eventType: "AlarmDeleteEvent"
Topic	ora-alarm-topology
Producer	Any Assurance System or Alarm Management System
Consumer	ATA
URL	Provided during Deployment
Schemas	TMF-642 Version 5.0

Example Payload:

```
{
  "@type": "AlarmDeleteEvent",
  "event": {
    "alarm": {
      "alarmChangedTime": "2024-08-07T08:33:01.567Z",
      "alarmDetails": "Alarm detials",
      "alarmedObject": {
        "@referredType": "Equipment",
        "@type": "AlarmedObjectRef",
        "id": "ARLN01TXAW.P01P::ARLN01TXAW.P01-194.2H.06-Line-1",
        "name": ""
      },
    },
    "alarmRaisedTime": "",
    "alarmReportingTime": "2024-08-07T08:29:59.000Z",
    "alarmType": "qualityOfServiceAlarm",
    "crossedThresholdInformation": {
      "direction": "up",
      "granularity": "15min",
      "indicatorName": " ECI_TCA_UC05 LSNEXT_PKTS_ERROR : TWM_HIGH",
    }
  }
}
```

```
        "indicatorUnit": "",
        "observedValue": "-32768.0"
    },
    "id": "4001",
    "perceivedSeverity": "cleared",
    "probableCause": "ECI_ALARM_UC05 Ext-Alm2(Battery Discharge)",
    "reportingSystemId": "123.assurance.com",
    "serviceAffecting": false,
    "specificProblem": "TWM_HIGH",
    "state": "updated"
}
},
"eventId": "700024",
"eventTime": "2024-08-07T08:30:25.347Z",
"eventType": "AlarmDeleteEvent"
}
```

4

SmartSearch Consumer Events and Definitions

This chapter provides information on SmartSearch consumer events and definitions

The events in SmartSearch provide an event-driven architecture for creating, updating, and deleting Topology Vertices and Edges. These are listed as follows and are available as messages in the **ora-uim-topology** topic.

Table 4-1 SmartSearch Events

SmartSearch Event	Definition
TopologyEdgeCreate	This event supports the creation of all types of Topology Edges except Profile Edges.
TopologyEdgeDelete	This event supports the deletion of all types of Topology Edges except Profile Edges.
TopologyEdgeUpdate	This event supports updates of all types of Topology Edge except Profile Edges.
TopologyNodeCreate	This event supports the creation of all types of Topology Vertices except Profile Vertices.
TopologyNodeDelete	This event supports the deletion of all types of Topology Vertices except Profile Vertices.
TopologyNodeUpdate	This event supports updates of all types of Topology Vertices except Profile Vertices.

TopologyEdgeCreate

The following table provides the TopologyEdgeCreate event details and the corresponding values:

Table 4-2 TopologyEdgeCreate

Event Details	Value
Summary	Receives messages for creating Topology Edges.
Message Header (with examples)	eventType: "TopologyEdgeCreate" sourceSystemId: "UIM" transactionId: "uim-topology-nnnnnnn"
Topic	ora-uim-topology
Producer	UIM, any External System, typically an Inventory System.
Consumer	SmartSearch
URL	Provided during the deployment.
Schemas	Edge

Example Payload:

```
{
  "entityId": 0,
  "entityVersion": 0,
  "businessObjectClass": "PipeDAO",
  "technology": "WDM",
  "id": "P67336P3",
  "name": "PLANO / DALLAS / 7675",
  "edgeType": "COMMUNICATES_WITH",
  "fromNode": 2997853,
  "fromNodeBusinessObjectClass": "LogicalDeviceDAO",
  "fromNodeData":
    "oracle.communications.platform.entity.impl.PipeTerminationPointDAO-135000054"
  ,
  "isPipeInterfaceTerminated": true,
  "toNode": 2997849,
  "toNodeBusinessObjectClass": "LogicalDeviceDAO",
  "toNodeData":
    "oracle.communications.platform.entity.impl.PipeTerminationPointDAO-135000056"
  ,
  "referenceId": 135000053,
  "inventoryStatus": "INSTALLED",
  "createdDate": "2024-11-15T08:25:42.456Z",
  "createdUser": "inv",
  "lastModifiedDate": "2024-11-15T08:25:42.456Z",
  "properties": {
    "SmartSearchProperties.aTerminationPoint": "8475001",
    "SmartSearchProperties.zLocation":
      "[{\\"id\\":\\"8250005\\",\\"name\\":\\"DALLATEST1034\\"}]",
    "SmartSearchProperties.zTerminationPoint": "8475002",
    "SmartSearchProperties.zTerminationDevice":
      "[{\\"id\\":\\"L4801024\\",\\"name\\":\\"DALLATEST1034.P01.LD\\",\\"businessObjectType\\":\\"LogicalDeviceDAO\\"}]",
    "SmartSearchProperties.isNameOverridden": "false",
    "SmartSearchProperties.aLocation":
      "[{\\"id\\":\\"8250002\\",\\"name\\":\\"PLANOTEST1034\\"}]",
    "SmartSearchProperties.aTerminationDevice":
      "[{\\"id\\":\\"L4726027\\",\\"name\\":\\"PLANOTEST1034.P01.LD\\",\\"businessObjectType\\":\\"LogicalDeviceDAO\\"}]",
    "{\\"id\\":\\"5325003\\",\\"name\\":\\"PLANOTEST1034.P01.EQP\\",\\"businessObjectType\\":\\"EquipmentDAO\\"}]"
  },
  "maxBandwidth": 0,
  "totalCapacity": 0,
  "availableCapacity": false,
  "isChannelized": false,
  "capacities": [],
  "specName": "CWDM_Optical_Fiber",
  "fromNodeReferenceId": "133500015",
  "toNodeReferenceId": "133500016",
  "trailPaths": 0
}
```

TopologyEdgeUpdate

The following table provides the TopologyEdgeUpdate event details and the corresponding values:

Table 4-3 TopologyEdgeUpdate

Event Details	Value
Summary	Receives messages for updating Topology Edges.
Message Header (with examples)	eventType: "TopologyEdgeUpdate" sourceSystemId: "UIM" transactionId: "uim-topology-nnnnnn"
Topic	ora-uim-topology
Producer	UIM, any External System, typically an Inventory System.
Consumer	SmartSearch
URL	Provided during the deployment.
Schemas	Edge

Example Payload:

```
{
  "entityId": 2997901,
  "entityVersion": 1,
  "businessObjectClass": "PipeDAO",
  "technology": "WDM",
  "id": "P67336P3",
  "name": "PLANO / DALLAS / 7675",
  "edgeType": "COMMUNICATES_WITH",
  "isPipeInterfaceTerminated": true,
  "referenceId": 135000053,
  "inventoryStatus": "INSTALLED",
  "createdDate": "2024-11-15T02:55:42.000Z",
  "createdUser": "inv",
  "lastModifiedDate": "2024-11-15T02:55:42.000Z",
  "lastModifiedUser": "inv",
  "properties": {
    "SmartSearchProperties.zLocation": "[]",
    "SmartSearchProperties.zTerminationDevice": "[]",
    "SmartSearchProperties.aLocation":
      "[{\\"id\\":\\"8250002\\",\\"name\\":\\"PLANOTEST1034\\"}]",
    "SmartSearchProperties.aTerminationDevice":
      "[{\\"id\\":\\"L4726027\\",\\"name\\":\\"PLANOTEST1034.P01.LD\\",\\"businessObjectType\\":\\"LogicalDeviceDAO\\"},
      {\\"id\\":\\"5325003\\",\\"name\\":\\"PLANOTEST1034.P01.EQP\\",\\"businessObjectType\\":\\"EquipmentDAO\\"}]"
  },
  "maxBandwidth": 0,
  "totalCapacity": 0,
  "availableCapacity": false,
  "isChannelized": false,
}
```

```

    "capacities": [],
    "specName": "CWDM_Optical_Fiber",
    "trailPaths": 0
  }

```

TopologyEdgeDelete

The following table provides the TopologyEdgeDelete event details and the corresponding values:

Table 4-4 TopologyEdgeDelete

Event Details	Value
Summary	Receives messages for deleting Topology Edges.
Message Header (with examples)	eventType: "TopologyEdgeDelete" sourceSystemId: "UIM" transactionId: "uim-topology-nnnnnnn"
Topic	ora-uim-topology
Producer	UIM, any External System, typically an Inventory System.
Consumer	SmartSearch
URL	Provided during the deployment.
Schemas	Edge

Example Payload:

```

{
  "entityVersion": 0,
  "businessObjectClass": "PipeDAO",
  "edgeType": "COMMUNICATES_WITH",
  "referenceId": 135000053
}

```

TopologyNodeCreate

The following table provides the TopologyNodeCreate event details and the corresponding values:

Table 4-5 TopologyNodeCreate

Event Details	Value
Summary	Receives messages for creating Topology Nodes and Vertices.
Message Header (with examples)	eventType: "TopologyNodeCreate" sourceSystemId: "UIM" transactionId: "uim-topology-nnnnnnn"
Topic	ora-uim-topology
Producer	UIM, any External System, typically an Inventory System.

Table 4-5 (Cont.) TopologyNodeCreate

Event Details	Value
Consumer	SmartSearch
URL	Provided during the deployment.
Schemas	Vertex

Example Payload:

```
{
  "entityId": 0,
  "entityVersion": 0,
  "businessObjectClass": "LogicalDeviceDAO",
  "id": "L4726024",
  "name": "PLANO.LD",
  "specName": "Ciena 6500",
  "inventoryStatus": "INSTALLED",
  "deviceIdentifier": "PLANO.LD",
  "referenceId": 133500012,
  "relationships": {
    "vendor": "Ciena",
    "locationReference": "18000003"
  },
  "properties": {
    "SmartSearchProperties.locationId": "750002",
    "SmartSearchProperties.isNameOverridden": "false"
  },
  "createdDate": "2024-11-15T08:14:24.482Z",
  "createdUser": "inv",
  "lastModifiedDate": "2024-11-15T08:14:24.482Z"
}
```

TopologyNodeUpdate

The following table provides the TopologyNodeUpdate event details and the corresponding values:

Table 4-6 TopologyNodeUpdate

Event Details	Value
Summary	Receives messages for updating Topology Nodes and Vertices.
Message Header (with examples)	eventType: "TopologyNodeUpdate" sourceSystemId: "UIM" transactionId: "uim-topology-nnnnnn"
Topic	ora-uim-topology
Producer	UIM, any External System, typically an Inventory System.
Consumer	SmartSearch

Table 4-6 (Cont.) TopologyNodeUpdate

Event Details	Value
URL	Provided during the deployment.
Schemas	Vertex

Example Payload:

```
{
  "entityId": 0,
  "entityVersion": 0,
  "businessObjectClass": "LogicalDeviceDAO",
  "id": "L4726024",
  "name": "PLANO.P01.LD",
  "specName": "Ciena 6500",
  "inventoryStatus": "INSTALLED",
  "deviceIdentifier": "PLANO.LD",
  "referenceId": 133500012,
  "relationships": {
    "childDeviceReference": "",
    "vendor": "Ciena",
    "locationReference": "18000003",
    "necReference": "",
    "parentDeviceReference": ""
  },
  "properties": {
    "SmartSearchProperties.locationId": "750002",
    "SmartSearchProperties.isNameOverridden": "false"
  },
  "createdDate": "2024-11-15T08:16:19.359Z",
  "lastModifiedDate": "2024-11-15T08:16:19.359Z",
  "lastModifiedUser": "inv"
}
```

TopologyNodeDelete

The following table provides the TopologyNodeDelete event details and the corresponding values:

Table 4-7 TopologyNodeDelete

Event Details	Value
Summary	Receives messages for deleting Topology Nodes or Vertices.
Message Header (with examples)	eventType: "TopologyNodeDelete" sourceSystemId: "UIM" transactionId: "uim-topology-nnnnnn"
Topic	ora-uim-topology
Producer	UIM, any External System, typically an Inventory System.
Consumer	SmartSearch

Table 4-7 (Cont.) TopologyNodeDelete

Event Details	Value
URL	Provided during the deployment.
Schemas	Vertex

Example Payload:

```
{
  "entityVersion": 0,
  "businessObjectClass": "LogicalDeviceDAO",
  "referenceId": 133500012
}
```

5

Schemas, Valid Values, and Authorization

This chapter provides information on schemas, valid values, and authorization.

Schemas

For more information on the Vertex, Edge, Event, Profile, ProfileEdge, and ProfileVertex schemas, see *ATA REST API Guide*.

Valid Values

For more information on data valid values, see *ATA Model Documentation*.

Authorization

For more information on Client Access, see the "Client Access" section in *Unified Inventory and Topology Deployment Guide*.