

[MS-OTASKXML]:

Office Task Extensions to Office Open XML Structure

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1 Introduction

This document specifies elements and attributes for representing **document tasks**, extending the XML vocabulary of WordprocessingML and SpreadsheetML file formats described in [\[ISO/IEC29500-1:2016\]](#). The new elements and attributes are presented using the extensibility mechanisms described in [\[ISO/IEC29500-3:2015\]](#).

Sections 1.7 and 2 of this specification are normative. All other sections and examples in this specification are informative.

1.1 Glossary

This document uses the following terms:

document task: A portion of work that can be assigned and tracked.

MAY, SHOULD, MUST, SHOULD NOT, MUST NOT: These terms (in all caps) are used as defined in [\[RFC2119\]](#). All statements of optional behavior use either MAY, SHOULD, or SHOULD NOT.

1.2 References

Links to a document in the Microsoft Open Specifications library point to the correct section in the most recently published version of the referenced document. However, because individual documents in the library are not updated at the same time, the section numbers in the documents may not match. You can confirm the correct section numbering by checking the [Errata](#).

1.2.1 Normative References

We conduct frequent surveys of the normative references to assure their continued availability. If you have any issue with finding a normative reference, please contact dochelp@microsoft.com. We will assist you in finding the relevant information.

[ISO/IEC29500-1:2016] ISO/IEC, "Information technology -- Document description and processing languages -- Office Open XML File Formats -- Part 1: Fundamentals and Markup Language Reference", ISO/IEC 29500-1:2016, <https://www.iso.org/standard/71691.html>

[ISO/IEC29500-2:2012] ISO/IEC, "Information technology -- Document description and processing languages -- Office Open XML File Formats -- Part 2: Open Packaging Conventions", ISO/IEC 29500-2:2012, http://www.iso.org/iso/home/store/catalogue_ics/catalogue_detail_ics.htm?csnumber=61796

[ISO/IEC29500-3:2015] ISO/IEC, "Information technology -- Document description and processing languages -- Office Open XML File Formats -- Part 3: Markup Compatibility and Extensibility", <https://www.iso.org/standard/65533.html>

[ISO/IEC29500-4:2016] ISO/IEC, "Information technology -- Document description and processing languages -- Office Open XML File Formats -- Part 4: Transitional Migration Features", <https://www.iso.org/standard/71692.html>

[MS-DOCX] Microsoft Corporation, "[Word Extensions to the Office Open XML \(.docx\) File Format](#)".

[MS-OEXTXML] Microsoft Corporation, "[Office Shared Extensibility in Office Open XML](#)".

[MS-XLSX] Microsoft Corporation, "[Excel \(.xlsx\) Extensions to the Office Open XML SpreadsheetML File Format](#)".

[RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, March 1997, <http://www.rfc-editor.org/rfc/rfc2119.txt>

[XMLSCHEMA1/2] Thompson, H., Beech, D., Maloney, M., and Mendelsohn, N., Eds., "XML Schema Part 1: Structures Second Edition", W3C Recommendation, October 2004, <http://www.w3.org/TR/2004/REC-xmlschema-1-20041028/>

[XMLSCHEMA2/2] Biron, P., and Malhotra, A., Eds., "XML Schema Part 2: Datatypes Second Edition", W3C Recommendation, October 2004, <http://www.w3.org/TR/2004/REC-xmlschema-2-20041028/>

1.2.2 Informative References

None.

1.3 Overview

The structures specified in this format provide an extended XML vocabulary for **document tasks** in WordprocessingML and SpreadsheetML documents as described in [\[ISO/IEC29500-1:2016\]](#).

A document task allows for describing and tracking some portion of work. As that work progresses, corresponding changes can be made to the task, such as the task being assigned to a user, the task title being updated, and more.

Each change made to a task is tracked by a history event ([CT_TaskHistoryEvent](#)) in the task's **History** ([CT_Task](#), [CT_TaskHistory](#)). The state of a task is determined by evaluating these events. See section [3](#) for examples of how to evaluate task history.

1.4 Relationship to Protocols and Other Structures

This specification is dependent on the structures and concepts defined in the following references:

- [\[ISO/IEC29500-1:2016\]](#) for baseline WordprocessingML and SpreadsheetML persistence formats.
- [\[ISO/IEC29500-2:2012\]](#) for open packaging conventions.
- [\[ISO/IEC29500-3:2015\]](#) for markup compatibility and extensibility.
- [\[ISO/IEC29500-4:2016\]](#) for backwards compatibility considerations.
- [\[MS-DOCX\]](#) for WordprocessingML extensions.
- [\[MS-XLSX\]](#) for SpreadsheetML extensions.
- [\[MS-OEXTXML\]](#) for complex types for extension lists.

1.5 Applicability Statement

This document specifies a persistence format for extensions as described in [\[ISO/IEC29500-1:2016\]](#) for WordprocessingML and SpreadsheetML documents. The extensions specified in this document enable expressing **document tasks** and are not applicable as a stand-alone file format. Each structure specified in this document is integrated with WordprocessingML and SpreadsheetML documents in a particular way as specified in the section for that structure. All structures are integrated into WordprocessingML and SpreadsheetML documents in a way that maintains compatibility with [\[ISO/IEC29500-1:2016\]](#) implementations.

The extensions specified in this document do not require any other extensions to be used and do not prohibit any other extensions from being used in the same document.

1.6 Versioning and Localization

None.

1.7 Vendor-Extensible Fields

None.

2 Structures

2.1 <http://schemas.microsoft.com/office/tasks/2019/documenttasks>

2.1.1 Elements

2.1.1.1 Tasks

Target namespace: <http://schemas.microsoft.com/office/tasks/2019/documenttasks>

The **Tasks** element is a [CT_Tasks](#) element that specifies information for the **document tasks** defined in the document. It is the root element of a Tasks part.

The following W3C XML Schema ([\[XMLSCHEMA1/2\]](#) section 2.1) fragment specifies the contents of this element.

```
<xsd:element name="Tasks" type="CT_Tasks"/>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1/2\]](#) section 2.1).

2.1.2 Attributes

None.

2.1.3 Complex Types

2.1.3.1 CT_CommentAnchor

Target namespace: <http://schemas.microsoft.com/office/tasks/2019/documenttasks>

Referenced by: [CT_TaskAnchor](#)

A complex type that specifies the comment in the document to which a task, task event, or other task-related data is anchored.

Attributes:

id: A string ([\[XMLSCHEMA2/2\]](#) section 3.2.1) attribute that specifies the identifier of the comment.

For WordprocessingML, the identifier is the value of the comment's **durableId** ([\[MS-DOCX\]](#) section 2.8.3.1) converted from hexadecimal **ST_LongHexNumber** ([\[ISO/IEC29500-1:2016\]](#) section 17.18.50) into a signed 32-bit decimal integer.

For SpreadsheetML, the identifier is the value of a threaded comment's **id** ([\[MS-XLSX\]](#) section 2.6.205).

The following W3C XML Schema ([\[XMLSCHEMA1/2\]](#) section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_CommentAnchor">
  <xsd:attribute name="id" type="xsd:string" use="required"/>
</xsd:complexType>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1/2\]](#) section 2.1).

2.1.3.2 CT_Task

Target namespace: <http://schemas.microsoft.com/office/tasks/2019/documenttasks>

Referenced by: [CT_Tasks](#)

A complex type that specifies a single **document task**.

The state of a task is determined by evaluating its **History**.

Some properties of a task have default values, which are detailed in corresponding types.

Child Elements:

Anchor: A [CT_TaskAnchor](#) element that specifies what the task is related to.

History: A [CT_TaskHistory](#) element that specifies the history of changes made to the task.

extLst: A **CT_ExtensionList** ([\[MS-OEXTXML\]](#) section 2.1.3.2) element that specifies the list of extensions for the task.

Attributes:

id: An [ST_Guid](#) attribute that specifies a unique identifier for this task.

The following W3C XML Schema ([\[XMLSCHEMA1/2\]](#) section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_Task">
  <xsd:sequence>
    <xsd:element name="Anchor" type="CT_TaskAnchor" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="History" type="CT_TaskHistory" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="extLst" minOccurs="0" maxOccurs="1" type="oel:CT_ExtensionList"/>
  </xsd:sequence>
  <xsd:attribute name="id" type="ST_Guid" use="required"/>
</xsd:complexType>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1/2\]](#) section 2.1).

2.1.3.3 CT_TaskAnchor

Target namespace: <http://schemas.microsoft.com/office/tasks/2019/documenttasks>

Referenced by: [CT_Task](#), [CT_TaskHistoryEvent](#)

A complex type that specifies what the task data is related to.

Child Elements:

Comment: A [CT_CommentAnchor](#) element that specifies which comment the task data is anchored to.

extLst: A **CT_ExtensionList** ([\[MS-OEXTXML\]](#) section 2.1.3.2) element that contains extensions for the anchor.

The following W3C XML Schema ([\[XMLSCHEMA1/2\]](#) section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_TaskAnchor">
  <xsd:sequence>
```



```
<xsd:element name="Comment" type="CT CommentAnchor" minOccurs="0" maxOccurs="1"/>
<xsd:element name="extLst" minOccurs="0" maxOccurs="1" type="oel:CT_ExtensionList"/>
</xsd:sequence>
</xsd:complexType>
```

See section [5.1](#) for the full W3C XML Schema ([XMLSCHEMA1/2] section 2.1).

2.1.3.4 CT_TaskCreateEventInfo

Target namespace: <http://schemas.microsoft.com/office/tasks/2019/documenttasks>

Referenced by: [CT_TaskHistoryEvent](#)

A complex type that specifies its event creates the task.

The following W3C XML Schema ([\[XMLSCHEMA1/2\]](#) section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_TaskCreateEventInfo"/>
```

See section [5.1](#) for the full W3C XML Schema ([XMLSCHEMA1/2] section 2.1).

2.1.3.5 CT_TaskDeleteEventInfo

Target namespace: <http://schemas.microsoft.com/office/tasks/2019/documenttasks>

Referenced by: [CT_TaskHistoryEvent](#)

A complex type that specifies that its event marks the task as deleted. The task is still preserved and can be unmarked as deleted by an event (CT_TaskHistoryEvent) with an **Undelete** element ([CT_TaskUndeleteEventInfo](#)).

A task defaults to being unmarked as deleted.

The following W3C XML Schema ([\[XMLSCHEMA1/2\]](#) section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_TaskDeleteEventInfo"/>
```

See section [5.1](#) for the full W3C XML Schema ([XMLSCHEMA1/2] section 2.1).

2.1.3.6 CT_TaskHistoryEvent

Target namespace: <http://schemas.microsoft.com/office/tasks/2019/documenttasks>

Referenced by: [CT_TaskHistory](#)

A complex type that specifies a single change done to a task.

Child Elements:

Attribution: A [CT_TaskUser](#) element that specifies the user who performed the change.

Anchor: A [CT_TaskAnchor](#) element that specifies what the event is related to.

Assign: A CT_TaskUser element that specifies the assignee that the event adds to the task.

Unassign: A `CT_TaskUser` element that specifies the assignee that the event removes from the task.

Create: A [CT_TaskCreateEventInfo](#) element that specifies that the event creates the task.

SetTitle: A [CT_TaskTitleEventInfo](#) element that specifies the title that the event sets on the task.

Schedule: A [CT_TaskScheduleEventInfo](#) element that specifies the schedule that the event sets on the task.

Progress: A [CT_TaskProgressEventInfo](#) element that specifies the progress that the event sets on the task.

Priority: A [CT_TaskPriorityEventInfo](#) element that specifies the priority that the event sets on the task.

Delete: A [CT_TaskDeleteEventInfo](#) element that specifies that the event marks the task as deleted. The task is still preserved and can be unmarked as deleted by an event with an **Undelete**.

Undelete: A [CT_TaskUndeleteEventInfo](#) element that specifies that the event unmarks the task as deleted.

UnassignAll: A [CT_TaskUnassignAll](#) element that specifies that the event removes all assignees from the task, leaving the task unassigned.

Undo: A [CT_TaskUndo](#) element that specifies which earlier event in the same task history that the event undoes.

extLst: A `CT_ExtensionList` ([\[MS-OEXTXML\]](#) section 2.1.3.2) element that specifies extensions for the event.

Attributes:

time: A `dateTime` ([\[XMLSCHEMA2/2\]](#) section 3.2.7) attribute that specifies the datetime in UTC that the event changes the task.

id: An [ST_Guid](#) attribute that specifies an identifier for the event that is unique within the same task history.

The following W3C XML Schema ([\[XMLSCHEMA1/2\]](#) section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_TaskHistoryEvent">
  <xsd:sequence>
    <xsd:element name="Attribution" type="CT_TaskUser" minOccurs="1" maxOccurs="1"/>
    <xsd:element name="Anchor" type="CT_TaskAnchor" minOccurs="0" maxOccurs="1"/>
    <xsd:choice minOccurs="0" maxOccurs="1">
      <xsd:element name="Assign" type="CT_TaskUser" minOccurs="1" maxOccurs="1"/>
      <xsd:element name="Unassign" type="CT_TaskUser" minOccurs="1" maxOccurs="1"/>
      <xsd:element name="Create" type="CT_TaskCreateEventInfo" minOccurs="1" maxOccurs="1"/>
      <xsd:element name="SetTitle" type="CT_TaskTitleEventInfo" minOccurs="1" maxOccurs="1"/>
      <xsd:element name="Schedule" type="CT_TaskScheduleEventInfo" minOccurs="1"
maxOccurs="1"/>
      <xsd:element name="Progress" type="CT_TaskProgressEventInfo" minOccurs="1"
maxOccurs="1"/>
      <xsd:element name="Priority" type="CT_TaskPriorityEventInfo" minOccurs="1"
maxOccurs="1"/>
      <xsd:element name="Delete" type="CT_TaskDeleteEventInfo" minOccurs="1" maxOccurs="1"/>
      <xsd:element name="Undelete" type="CT_TaskUndeleteEventInfo" minOccurs="1"
maxOccurs="1"/>
      <xsd:element name="UnassignAll" type="CT_TaskUnassignAll" minOccurs="1" maxOccurs="1"/>
      <xsd:element name="Undo" type="CT_TaskUndo" minOccurs="1" maxOccurs="1"/>
    </xsd:choice>
    <xsd:element name="extLst" type="oel:CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
  </xsd:sequence>
</complexType>
```

```

    </xsd:sequence>
    <xsd:attribute name="time" type="xsd:dateTime" use="required"/>
    <xsd:attribute name="id" type="ST_Guid" use="required"/>
  </xsd:complexType>

```

See section [5.1](#) for the full W3C XML Schema ([XMLSCHEMA1/2] section 2.1).

2.1.3.7 CT_TaskHistory

Target namespace: <http://schemas.microsoft.com/office/tasks/2019/documenttasks>

Referenced by: [CT_Task](#)

A complex type that specifies the sequence of changes done to a task.

A task's state is determined by evaluating the non-undone **Events** in the order that they appear in the XML. An **Event** is considered undone if it is referenced by the **Undo** element of a subsequent **Event** which itself is not undone.

There **MUST** be least one **Event** and the first **Event** **MUST** have a **Create** ([CT_TaskCreateEventInfo](#)) element.

For WordprocessingML documents:

- Excluding **Events** that are undone and then excluding **Events** that contain an **Undo** element, there **MUST** be at least one **Event** and the first **Event** **MUST** have a **Create** element. See examples in section [3.3](#).
- Excluding **Events** that are undone and then excluding **Events** that contain an **Undo** element, an **Event** with a **Create** element subsequent to an **Event** with a **Create** element resets the task to its default state. The default state of a task is comprised of properties whose values are set to the default values specified for each type of element subordinate to the [CT_TaskHistoryEvent](#). If a default value is not specified for a particular property, the default value is undefined. See example in section [3.2](#).

For SpreadsheetML documents:

- The history **MUST** only contain one **Event** with a **Create** element.
- The **Undo** element of an **Event** **MUST NOT** reference the **Event** with a **Create** element.

Child Elements:

Event: A [CT_TaskHistoryEvent](#) element that specifies a single event describing a change made to the task.

The following W3C XML Schema ([\[XMLSCHEMA1/2\]](#) section 2.1) fragment specifies the contents of this complex type.

```

<xsd:complexType name="CT_TaskHistory">
  <xsd:sequence>
    <xsd:element name="Event" type="CT_TaskHistoryEvent" minOccurs="0"
      maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>

```

See section [5.1](#) for the full W3C XML Schema ([XMLSCHEMA1/2] section 2.1).

2.1.3.8 CT_TaskPriorityEventInfo

Target namespace: <http://schemas.microsoft.com/office/tasks/2019/documenttasks>

Referenced by: [CT_TaskHistoryEvent](#)

A complex type that specifies the priority that its event sets on the task.

A task defaults to a priority value of 5.

Attributes:

value: An [ST_PriorityValue](#) attribute that specifies the priority.

The following W3C XML Schema ([\[XMLSCHEMA1/2\]](#) section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_TaskPriorityEventInfo">
  <xsd:attribute name="value" type="ST_PriorityValue" use="required"/>
</xsd:complexType>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1/2\]](#) section 2.1).

2.1.3.9 CT_TaskProgressEventInfo

Target namespace: <http://schemas.microsoft.com/office/tasks/2019/documenttasks>

Referenced by: [CT_TaskHistoryEvent](#)

A complex type that specifies the progress that its event sets on the task.

A task defaults to a progress value of 0.

Attributes:

percentComplete: An [ST_IntegerPercentage](#) attribute that specifies the completion percentage of a task.

The following W3C XML Schema ([\[XMLSCHEMA1/2\]](#) section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_TaskProgressEventInfo">
  <xsd:attribute name="percentComplete" type="ST_IntegerPercentage" use="required"/>
</xsd:complexType>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1/2\]](#) section 2.1).

2.1.3.10 CT_Tasks

Target namespace: <http://schemas.microsoft.com/office/tasks/2019/documenttasks>

Referenced by: [Tasks](#)

A complex type that specifies information for the tasks in the document.

Child Elements:

Task: A [CT_Task](#) element that specifies information for a single task in the document.

extLst: A **CT_ExtensionList** ([\[MS-OEXTXML\]](#) section 2.1.3.2) element that contains extensions to tasks.

The following W3C XML Schema ([\[XMLSCHEMA1/2\]](#) section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_Tasks">
  <xsd:sequence>
    <xsd:element name="Task" type="CT_Task" minOccurs="0" maxOccurs="unbounded"/>
    <xsd:element name="extLst" minOccurs="0" maxOccurs="1" type="oel:CT_ExtensionList"/>
  </xsd:sequence>
</xsd:complexType>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1/2\]](#) section 2.1).

2.1.3.11 CT_TaskScheduleEventInfo

Target namespace: <http://schemas.microsoft.com/office/tasks/2019/documenttasks>

Referenced by: [CT_TaskHistoryEvent](#)

A complex type that specifies the schedule that its event sets on the task.

A task defaults to having no start date and no due date.

Attributes:

startDate: A dateTime ([\[XMLSCHEMA2/2\]](#) section 3.2.7) attribute that specifies the datetime in UTC of when a task is scheduled to start. If this attribute is omitted, the start date is cleared.

dueDate: A dateTime ([\[XMLSCHEMA2/2\]](#) section 3.2.7) attribute that specifies the datetime in UTC of when a task is due. If this attribute is omitted, the due date is cleared. If **startDate** and **dueDate** are specified, **dueDate** MUST be equal to or later than **startDate**.

The following W3C XML Schema ([\[XMLSCHEMA1/2\]](#) section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_TaskScheduleEventInfo">
  <xsd:attribute name="startDate" type="xsd:dateTime" use="optional"/>
  <xsd:attribute name="dueDate" type="xsd:dateTime" use="optional"/>
</xsd:complexType>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1/2\]](#) section 2.1).

2.1.3.12 CT_TaskTitleEventInfo

Target namespace: <http://schemas.microsoft.com/office/tasks/2019/documenttasks>

Referenced by: [CT_TaskHistoryEvent](#)

A complex type that specifies the title its event sets on the task.

A task defaults to having no title.

Attributes:

title: A string ([\[XMLSCHEMA2/2\]](#) section 3.2.1) attribute that specifies the title for the task.

The following W3C XML Schema ([\[XMLSCHEMA1/2\]](#) section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_TaskTitleEventInfo">
  <xsd:attribute name="title" type="xsd:string" use="required"/>
</xsd:complexType>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1/2\]](#) section 2.1).

2.1.3.13 CT_TaskUnassignAll

Target namespace: <http://schemas.microsoft.com/office/tasks/2019/documenttasks>

Referenced by: [CT_TaskHistoryEvent](#)

A complex type that specifies its event removes all assignees from the task, leaving the task unassigned.

The following W3C XML Schema ([\[XMLSCHEMA1/2\]](#) section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_TaskUnassignAll"/>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1/2\]](#) section 2.1).

2.1.3.14 CT_TaskUndeleteEventInfo

Target namespace: <http://schemas.microsoft.com/office/tasks/2019/documenttasks>

Referenced by: [CT_TaskHistoryEvent](#)

A complex type that specifies that its event unmarks the task as deleted.

A task defaults to being unmarked as deleted.

The following W3C XML Schema ([\[XMLSCHEMA1/2\]](#) section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_TaskUndeleteEventInfo"/>
```

See section [5.1](#) for the full W3C XML Schema ([\[XMLSCHEMA1/2\]](#) section 2.1).

2.1.3.15 CT_TaskUser

Target namespace: <http://schemas.microsoft.com/office/tasks/2019/documenttasks>

Referenced by: [CT_TaskHistoryEvent](#)

A complex type that specifies the identity details of a user.

In the context of the **Assign** element of `CT_TaskHistoryEvent`, a task defaults to having no assignees.

Attributes:

userId: A string ([\[XMLSCHEMA2/2\]](#) section 3.2.1) attribute that specifies the provider issued id for the user.

When interpreted in the context of WordprocessingML, refer to the **userId** attribute of **CT_PresenceInfo** ([MS-DOCX] section 2.5.3.6).

When interpreted in the context of SpreadsheetML, refer to the **userId** attribute of **CT_Person** ([MS-XLSX] section 2.6.203).

userName: A string ([XMLSCHEMA2/2] section 3.2.1) attribute that specifies the display name of the user.

When interpreted in the context of WordprocessingML, refer to the **author** attribute of **CT_Person** ([MS-DOCX] section 2.5.3.5).

When interpreted in the context of SpreadsheetML, refer to the **displayName** attribute of **CT_Person** ([MS-XLSX] section 2.6.203)

userProvider: A string ([XMLSCHEMA2/2] section 3.2.1) attribute that specifies the provider that produced the **userId**.

When interpreted in the context of WordprocessingML, refer to the **userProvider** attribute of **CT_PresenceInfo** ([MS-DOCX] section 2.5.3.6).

When interpreted in the context of SpreadsheetML, refer to the **providerId** attribute of **CT_Person** ([MS-XLSX] section 2.6.203)

The following W3C XML Schema ([XMLSCHEMA1/2] section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_TaskUser">
  <xsd:attribute name="userId" type="xsd:string" use="required"/>
  <xsd:attribute name="userName" type="xsd:string" use="required"/>
  <xsd:attribute name="userProvider" type="xsd:string" use="required"/>
</xsd:complexType>
```

See section [5.1](#) for the full W3C XML Schema ([XMLSCHEMA1/2] section 2.1).

2.1.3.16 CT_TaskUndo

Target namespace: <http://schemas.microsoft.com/office/tasks/2019/documenttasks>

Referenced by: [CT_TaskHistoryEvent](#)

A complex type that specifies which earlier event in the same task history that its own event undoes.

An event that contains an **Undo** element can itself be undone.

When determining the state of a task, undone events are excluded and then remaining events are evaluated in order. When an event that contains an Undo element is evaluated during the in-order evaluation, no specific task state is changed. See [CT_TaskHistory](#) for more information.

Attributes:

id: An [ST_Guid](#) attribute that specifies the **id** of the [CT_TaskHistoryEvent](#) being undone.

The following W3C XML Schema ([XMLSCHEMA1/2] section 2.1) fragment specifies the contents of this complex type.

```
<xsd:complexType name="CT_TaskUndo">
  <xsd:attribute name="id" type="ST_Guid" use="required"/>
</xsd:complexType>
```

See section [5.1](#) for the full W3C XML Schema ([XMLSCHEMA1/2] section 2.1).

2.1.4 Simple Types

2.1.4.1 ST_Guid

Target namespace: <http://schemas.microsoft.com/office/tasks/2019/documenttasks>

Referenced by: [CT_Task](#), [CT_TaskHistoryEvent](#), [CT_TaskUndo](#)

This type specifies a GUID, or globally unique identifier ([\[ISO/IEC29500-4:2016\]](#) section A.7.9).

The following W3C XML Schema ([\[XMLSCHEMA1/2\]](#) section 2.1) fragment specifies the contents of this simple type.

```
<xsd:simpleType name="ST_Guid">
  <xsd:restriction base="xsd:token">
    <xsd:pattern value="\{[0-9A-F]{8}-[0-9A-F]{4}-[0-9A-F]{4}-[0-9A-F]{4}-[0-9A-F]{12}\}" />
  </xsd:restriction>
</xsd:simpleType>
```

See section [5.1](#) for the full W3C XML Schema ([XMLSCHEMA1/2] section 2.1).

2.1.4.2 ST_IntegerPercentage

Target namespace: <http://schemas.microsoft.com/office/tasks/2019/documenttasks>

Referenced by: [CT_TaskProgressEventInfo](#)

This type specifies percentage as an integer value from 0 to 100 inclusive.

The following W3C XML Schema ([\[XMLSCHEMA1/2\]](#) section 2.1) fragment specifies the contents of this simple type.

```
<xsd:simpleType name="ST_IntegerPercentage">
  <xsd:restriction base="xsd:int">
    <xsd:minInclusive value="0"/>
    <xsd:maxInclusive value="100"/>
  </xsd:restriction>
</xsd:simpleType>
```

See section [5.1](#) for the full W3C XML Schema ([XMLSCHEMA1/2] section 2.1).

2.1.4.3 ST_PriorityValue

Target namespace: <http://schemas.microsoft.com/office/tasks/2019/documenttasks>

Referenced by: [CT_TaskPriorityEventInfo](#)

This type specifies priority as an integer value from 0 to 10 inclusive. A lower value indicates a higher priority.

The following W3C XML Schema ([\[XMLSCHEMA1/2\]](#) section 2.1) fragment specifies the contents of this simple type.

```
<xsd:simpleType name="ST_PriorityValue">
```



```
<xsd:restriction base="xsd:int">
  <xsd:minInclusive value="0"/>
  <xsd:maxInclusive value="10"/>
</xsd:restriction>
</xsd:simpleType>
```

See section [5.1](#) for the full W3C XML Schema ([XMLSCHEMA1/2] section 2.1).

3 Structure Examples

3.1 Evaluating Task History

This example demonstrates how to determine the state of a **document task** by evaluating its history.

The below XML fragments are all part of the same task history, presented in order and entirety. Each fragment is followed by an explanation of how it affects the state of the task.

Before evaluating the history, note the default values of various task properties. Each property retains its default value unless an event sets it.

```
<t:History>
  <t:Event id="{E7BDF3B-2330-48A1-B284-6DB64686C7B9}" time="2020-08-28T23:18:55.177Z">
    <t:Attribution userId="jane@contoso.com" userProvider="0365" userName="Jane Doe" />
    <t:Anchor>
      <t:Comment id="395739706" />
    </t:Anchor>
    <t:Create />
  </t:Event>
```

Based on the initial creation event, the task was created by Jane.

```
<t:Event id="{B0984159-3573-4C41-9D97-C1FD2E38ED0E}" time="2020-08-28T23:19:30.327Z">
  <t:Attribution userId="jane@contoso.com" userProvider="0365" userName="Jane Doe" />
  <t:Assign userId="alice@contoso.com" userProvider="0365" userName="Alice" />
</t:Event>
<t:Event id="{794161C9-147A-49A7-A110-9C9FCC0C17A8}" time="2020-08-28T23:19:30.327Z">
  <t:Attribution userId="jane@contoso.com" userProvider="0365" userName="Jane Doe" />
  <t:SetTitle title="Fill in the numbers for the projects" />
</t:Event>
```

Previously the set of task assignees and task title had default values. With these events, the set of assignees is Alice and the title is "Fill in the numbers for the projects".

```
<t:Event id="{CAD0942B-90CA-450C-B6FE-E7AF352C8C85}" time="2020-08-28T23:21:28.25Z">
  <t:Attribution userId="alice@contoso.com" userProvider="0365" userName="Alice" />
  <t:Anchor>
    <t:Comment id="450234" />
  </t:Anchor>
  <t:UnassignAll />
</t:Event>
<t:Event id="{96D89D07-B1E0-45F3-A84E-A681CDE8EF1B}" time="2020-08-28T23:21:28.25Z">
  <t:Attribution userId="alice@contoso.com" userProvider="0365" userName="Alice" />
  <t:Anchor>
    <t:Comment id="450234" />
  </t:Anchor>
  <t:Assign userId="bob@contoso.com" userProvider="0365" userName="Bob" />
</t:Event>
<t:Event id="{17340C41-8376-4D98-A72F-D66B193E66C4}" time="2020-08-28T23:21:28.25Z">
  <t:Attribution userId="alice@contoso.com" userProvider="0365" userName="Alice" />
  <t:Anchor>
    <t:Comment id="450234" />
  </t:Anchor>
  <t:SetTitle title="Fill in the numbers for the projects and timetables" />
</t:Event>
```

The set of assignees is Bob. The UnassignAll event removes Alice from the set of assignees and the subsequent Assign adds Bob. If those events had been reversed, there would be no assignees.

The title is "Fill in the numbers for the projects and timetables".

```
<Event id="{8456198C-D1FB-4C5D-9148-4E6A2674FF43}" time="2020-08-28T23:31:01.134Z">
  <Attribution userId="alice@contoso.com" userProvider="0365" userName="Alice" />
  <Schedule startDate="2020-08-28T08:00:00Z" dueDate="2020-08-30T15:00:00Z" />
</Event>
<Event id="{D38E2424-6F0E-4796-A8A1-73F19D1CBB79}" time="2020-08-28T23:31:20.942Z">
  <Attribution userId="alice@contoso.com" userProvider="0365" userName="Alice" />
  <Schedule startDate="2020-08-28T08:00:00Z" />
</Event>
<Event id="{BDF7E845-7331-4D99-8CC1-FE765EE3C22D}" time="2020-08-28T23:31:34.005Z">
  <Attribution userId="alice@contoso.com" userProvider="0365" userName="Alice" />
  <Schedule dueDate="2020-08-31T20:00:00Z" />
</Event>
<Event id="{C5185531-C50B-4507-A664-5BB3C67009F5}" time="2020-08-28T23:31:52.608Z">
  <Attribution userId="alice@contoso.com" userProvider="0365" userName="Alice" />
  <Schedule />
</Event>
```

The first event sets the start date to 2020-08-28 08:00 UTC and the due date to 2020-08-30 15:00 UTC.

The second event sets the start date to 2020-08-28 08:00 UTC and the due date to none.

The third event sets the start date to none and the due date to 2020-08-31 20:00 UTC.

The fourth event sets the start date to none and the due date to none.

```
<t:Event id="{7608FE28-1234-48C4-860C-8D5E803DEEC0}" time="2020-08-29T12:05:55.007Z">
  <t:Attribution userId="bob@contoso.com" userProvider="0365" userName="Bob" />
  <Delete />
</t:Event>
<t:Event id="{4843FF28-39A2-4E00-8D5C-94AF89D28FA3}" time="2020-08-29T12:09:36.621Z">
  <t:Attribution userId="bob@contoso.com" userProvider="0365" userName="Bob" />
  <Undelete />
</t:Event>
```

The Delete event marks the task as deleted. The subsequent Undelete event unmarks the task as deleted.

```
<t:Event id="{EFDD6D86-3423-41C4-8E79-E54EF7E453E2}" time="2020-08-29T12:15:11.887Z">
  <t:Attribution userId="bob@contoso.com" userProvider="0365" userName="Bob" />
  <t:Progress percentComplete="100" />
</t:Event>
<t:Event id="{7071E89E-2039-458F-95E6-32742A388702}" time="2020-08-29T12:18:33.808Z">
  <t:Attribution userId="bob@contoso.com" userProvider="0365" userName="Bob" />
  <t:Undo id="{EFDD6D86-3423-41C4-8E79-E54EF7E453E2}" />
</t:Event>
```

Progress is the default value 0. Bob had set it to 100, but then undid that event. Since the Progress event was undone, it is excluded when determining the state of the task.

```
<t:Event id="{3592CD2A-4489-4130-BEAB-833DD3EBEC55}" time="2020-08-29T15:02:58.004Z">
  <t:Attribution userId="bob@contoso.com" userProvider="0365" userName="Bob" />
  <t:Undo id="{7071E89E-2039-458F-95E6-32742A388702}" />
</t:Event>
```

Progress is 100. This event undoes the previous Undo event, meaning the Progress event is not undone.

```

<t:Event id="{22144D29-25F1-4200-8052-109B36010841}" time="2020-08-29T15:03:06.439Z">
  <t:Attribution userId="bob@contoso.com" userProvider="0365" userName="Bob" />
  <t:Undo id="{3592CD2A-4489-4130-BEAB-833DD3EBEC55}" />
</t:Event>
</t:History>

```

Progress is 0. This event undoes the previous Undo, meaning the first Undo is not undone, meaning the Progress event is undone.

3.2 Evaluating Task History with Multiple Create Events

This example demonstrates how to determine the state of a **document task** with multiple Create events in a WordprocessingML document. In SpreadsheetML documents, multiple Create events are not allowed.

Below is a task history with two Create events.

```

<t:History>
  <t:Event id="{0972937C-8F36-4556-BC17-00B7DD5E1629}" time="2020-09-01T22:35:44.273Z">
    <t:Attribution userId="carlos@contoso.com" userProvider="0365" userName="Carlos" />
    <t:Anchor>
      <t:Comment id="2045561520" />
    </t:Anchor>
    <t:Create />
  </t:Event>
  <t:Event id="{B6653492-E83D-4CC1-AD13-771025139791}" time="2020-09-01T22:35:44.273Z">
    <t:Attribution userId="carlos@contoso.com" userProvider="0365" userName="Carlos" />
    <t:Anchor>
      <t:Comment id="2045561520" />
    </t:Anchor>
    <t:Assign userId="wei@contoso.com" userProvider="0365" userName="Wei" />
  </t:Event>
  <t:Event id="{96D89D07-B1E0-45F3-A84E-A681CDE8EF1B}" time="2020-09-01T22:35:44.273Z">
    <t:Attribution userId="carlos@contoso.com" userProvider="0365" userName="Carlos" />
    <t:SetTitle title="Update status" />
  </t:Event>
  <t:Event id="{C47CB52B-DCCA-4AA0-9AA9-A4FE4EE1234A}" time="2020-09-01T22:35:49.87Z">
    <t:Attribution userId="carlos@contoso.com" userProvider="0365" userName="Carlos" />
    <t:Progress percentComplete="50" />
  </t:Event>
  <t:Event id="{0804CCA4-5310-4081-9766-D5C89B5627D4}" time="2020-09-01T22:35:59.699Z">
    <t:Attribution userId="carlos@contoso.com" userProvider="0365" userName="Carlos" />
    <Schedule startDate="2020-09-03T13:30:00Z" dueDate="2020-09-10T13:30:00Z" />
  </t:Event>
  <t:Event id="{7009DBB5-5FC7-426B-9272-D6E3F4D73D59}" time="2020-09-01T22:36:06.564Z">
    <t:Attribution userId="carlos@contoso.com" userProvider="0365" userName="Carlos" />
    <t:Priority value="3" />
  </t:Event>
  <t:Event id="{F90C1609-7D24-4681-9483-36FC064B5F2A}" time="2020-09-01T22:36:18.173Z">
    <t:Attribution userId="carlos@contoso.com" userProvider="0365" userName="Carlos" />
    <t:Assign userId="mary@contoso.com" userProvider="0365" userName="Mary" />
  </t:Event>
  <t:Event id="{16DDC3AE-F6D5-41B3-8746-68EB3C00385D}" time="2020-09-01T22:36:29.523Z">
    <t:Attribution userId="carlos@contoso.com" userProvider="0365" userName="Carlos" />
    <Delete />
  </t:Event>
  <t:Event id="{AB51412A-52A1-46AF-BEDE-0219B8DED235}" time="2020-09-01T22:36:30.113Z">
    <t:Attribution userId="emma@contoso.com" userProvider="0365" userName="Emma" />
    <t:Anchor>
      <t:Comment id="1956107702" />
    </t:Anchor>
    <t:Create />
  </t:Event>
</t:History>

```

First, exclude undone events. In this example, there are none.

Second, evaluate the remaining events in order. The first event without an Undo element is a Create event, as is required. Subsequent events update properties of the task. Below are the values for those task properties before the second Create event.

Property	Value before second Create event
Marked as deleted	True
Assignees	Wei, Mary
Title	Update status
Start date, Due date	2020-09-03T13:30:00Z, 2020-09-10T13:30:00Z
Progress	50
Priority	3

The second Create event resets the task to its default state, meaning these properties are reset to the default values specified by the corresponding types of elements subordinate to [CT_TaskHistoryEvent](#). For example, the **Progress** element is of type [CT_TaskProgressEventInfo](#) which specifies that a task defaults to a Progress of 0.

3.3 Undoing a Create Event

This section explains the requirements around undoing a Create event in a WordprocessingML document. In SpreadsheetML, undoing a Create event is not allowed.

After excluding undone events and then excluding Undo events, a task history must have at least one remaining event and the first remaining event must be a Create event.

Below are example task histories that undo a Create event, with an explanation of why each is either valid or invalid.

The following history has a Create event that is undone by an Undo event. It is invalid because there are no remaining events after excluding undone events and then excluding Undo events.

```
<t:History>
  <t:Event id="{E7BDFA3B-2330-48A1-B284-6DB64686C7B9}" time="2020-08-28T23:18:55.177Z">
    <t:Attribution userId="jane@contoso.com" userProvider="0365" userName="Jane Doe" />
    <t:Create />
  </t:Event>
  <t:Event id="{3592CD2A-4489-4130-BEAB-833DD3EBEC55}" time="2020-08-28T23:19:12.004Z">
    <t:Attribution userId="jane@contoso.com" userProvider="0365" userName="Jane Doe" />
    <t:Undo id="{E7BDFA3B-2330-48A1-B284-6DB64686C7B9}" />
  </t:Event>
</t:History>
```

The following history is the same as the previous, but with an additional Assign event and Create event. It is invalid because the first event that isn't undone or an Undo event is the Assign event.

```
<t:History>
  <t:Event id="{E7BDFA3B-2330-48A1-B284-6DB64686C7B9}" time="2020-08-28T23:18:55.177Z">
    <t:Attribution userId="jane@contoso.com" userProvider="0365" userName="Jane Doe" />
    <t:Create />
  </t:Event>
  <t:Event id="{3592CD2A-4489-4130-BEAB-833DD3EBEC55}" time="2020-08-28T23:19:12.004Z">
    <t:Attribution userId="jane@contoso.com" userProvider="0365" userName="Jane Doe" />
  </t:Event>
  <t:Event id="{3592CD2A-4489-4130-BEAB-833DD3EBEC55}" time="2020-08-28T23:19:12.004Z">
    <t:Assign />
  </t:Event>
  <t:Event id="{3592CD2A-4489-4130-BEAB-833DD3EBEC55}" time="2020-08-28T23:19:12.004Z">
    <t:Create />
  </t:Event>
</t:History>
```

```

    <t:Undo id="{E7BDFA3B-2330-48A1-B284-6DB64686C7B9}" />
  </t:Event>
  <t:Event id="{B0984159-3573-4C41-9D97-C1FD2E38ED0E}" time="2020-08-28T23:19:13.327Z">
    <t:Attribution userId="bob@contoso.com" userProvider="O365" userName="Bob" />
    <t:Assign userId="alice@contoso.com" userProvider="O365" userName="Alice" />
  </t:Event>
  <t:Event id="{CAD0942B-90CA-450C-B6FE-E7AF352C8C85}" time="2020-08-28T23:19:17.023Z">
    <t:Attribution userId="carlos@contoso.com" userProvider="O365" userName="Carlos" />
    <t:Create />
  </t:Event>
</t:History>

```

The following history is the same as the previous, but with an Undo event that undoes the Assign event. It is valid because the first event that isn't undone or an Undo event is a Create event.

```

<t:History>
  <t:Event id="{E7BDFA3B-2330-48A1-B284-6DB64686C7B9}" time="2020-08-28T23:18:55.177Z">
    <t:Attribution userId="jane@contoso.com" userProvider="O365" userName="Jane Doe" />
    <t:Create />
  </t:Event>
  <t:Event id="{3592CD2A-4489-4130-BEAB-833DD3EBEC55}" time="2020-08-28T23:19:12.004Z">
    <t:Attribution userId="jane@contoso.com" userProvider="O365" userName="Jane Doe" />
    <t:Undo id="{E7BDFA3B-2330-48A1-B284-6DB64686C7B9}" />
  </t:Event>
  <t:Event id="{B0984159-3573-4C41-9D97-C1FD2E38ED0E}" time="2020-08-28T23:19:13.327Z">
    <t:Attribution userId="bob@contoso.com" userProvider="O365" userName="Bob" />
    <t:Assign userId="alice@contoso.com" userProvider="O365" userName="Alice" />
  </t:Event>
  <t:Event id="{CAD0942B-90CA-450C-B6FE-E7AF352C8C85}" time="2020-08-28T23:19:17.023Z">
    <t:Attribution userId="carlos@contoso.com" userProvider="O365" userName="Carlos" />
    <t:Create />
  </t:Event>
  <t:Event id="{794161C9-147A-49A7-A110-9C9FCC0C17A8}" time="2020-08-28T23:19:28.621Z">
    <t:Attribution userId="carlos@contoso.com" userProvider="O365" userName="Carlos" />
    <t:Undo id="{B0984159-3573-4C41-9D97-C1FD2E38ED0E}" />
  </t:Event>
</t:History>

```

4 Security

4.1 Security Considerations for Implementers

None.

4.2 Index of Security Fields

None.

5 Appendix A: Full XML Schemas

Schema name	Prefix	Section
http://schemas.microsoft.com/office/tasks/2019/documenttasks Schema	None.	5.1

5.1 <http://schemas.microsoft.com/office/tasks/2019/documenttasks> Schema

```
<xsd:schema xmlns="http://schemas.microsoft.com/office/tasks/2019/documenttasks"
targetNamespace="http://schemas.microsoft.com/office/tasks/2019/documenttasks"
elementFormDefault="qualified" attributeFormDefault="unqualified"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:oel="http://schemas.microsoft.com/office/2019/extlst">
  <xsd:import id="oel" namespace="http://schemas.microsoft.com/office/2019/extlst"
schemaLocation="officeextlst.xsd"/>
  <xsd:element name="Tasks" type="CT_Tasks"/>
  <xsd:complexType name="CT_Tasks">
    <xsd:sequence>
      <xsd:element name="Task" type="CT_Task" minOccurs="0" maxOccurs="unbounded"/>
      <xsd:element name="extLst" minOccurs="0" maxOccurs="1" type="oel:CT_ExtensionList"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:complexType name="CT_Task">
    <xsd:sequence>
      <xsd:element name="Anchor" type="CT_TaskAnchor" minOccurs="0" maxOccurs="1"/>
      <xsd:element name="History" type="CT_TaskHistory" minOccurs="0" maxOccurs="1"/>
      <xsd:element name="extLst" minOccurs="0" maxOccurs="1" type="oel:CT_ExtensionList"/>
    </xsd:sequence>
    <xsd:attribute name="id" type="ST_Guid" use="required"/>
  </xsd:complexType>
  <xsd:complexType name="CT_TaskHistory">
    <xsd:sequence>
      <xsd:element name="Event" type="CT_TaskHistoryEvent" minOccurs="0"
maxOccurs="unbounded"/>
    </xsd:sequence>
  </xsd:complexType>
  <xsd:complexType name="CT_TaskHistoryEvent">
    <xsd:sequence>
      <xsd:element name="Attribution" type="CT_TaskUser" minOccurs="1" maxOccurs="1"/>
      <xsd:element name="Anchor" type="CT_TaskAnchor" minOccurs="0" maxOccurs="1"/>
      <xsd:choice minOccurs="0" maxOccurs="1">
        <xsd:element name="Assign" type="CT_TaskUser" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="Unassign" type="CT_TaskUser" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="Create" type="CT_TaskCreateEventInfo" minOccurs="1"
maxOccurs="1"/>
        <xsd:element name="SetTitle" type="CT_TaskTitleEventInfo" minOccurs="1"
maxOccurs="1"/>
        <xsd:element name="Schedule" type="CT_TaskScheduleEventInfo" minOccurs="1"
maxOccurs="1"/>
        <xsd:element name="Progress" type="CT_TaskProgressEventInfo" minOccurs="1"
maxOccurs="1"/>
        <xsd:element name="Priority" type="CT_TaskPriorityEventInfo" minOccurs="1"
maxOccurs="1"/>
        <xsd:element name="Delete" type="CT_TaskDeleteEventInfo" minOccurs="1"
maxOccurs="1"/>
        <xsd:element name="Undelete" type="CT_TaskUndeleteEventInfo" minOccurs="1"
maxOccurs="1"/>
        <xsd:element name="UnassignAll" type="CT_TaskUnassignAll" minOccurs="1"
maxOccurs="1"/>
        <xsd:element name="Undo" type="CT_TaskUndo" minOccurs="1" maxOccurs="1"/>
      </xsd:choice>
      <xsd:element name="extLst" type="oel:CT_ExtensionList" minOccurs="0" maxOccurs="1"/>
    </xsd:sequence>
    <xsd:attribute name="time" type="xsd:dateTime" use="required"/>
  </xsd:complexType>
</xsd:schema>
```



```

    <xsd:attribute name="id" type="ST_Guid" use="required"/>
</xsd:complexType>
<xsd:complexType name="CT_TaskUser">
  <xsd:attribute name="userId" type="xsd:string" use="required"/>
  <xsd:attribute name="userName" type="xsd:string" use="required"/>
  <xsd:attribute name="userProvider" type="xsd:string" use="required"/>
</xsd:complexType>
<xsd:complexType name="CT_TaskAnchor">
  <xsd:sequence>
    <xsd:element name="Comment" type="CT_CommentAnchor" minOccurs="0" maxOccurs="1"/>
    <xsd:element name="extLst" minOccurs="0" maxOccurs="1" type="oel:CT_ExtensionList"/>
  </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="CT_CommentAnchor">
  <xsd:attribute name="id" type="xsd:string" use="required"/>
</xsd:complexType>
<xsd:simpleType name="ST_IntegerPercentage">
  <xsd:restriction base="xsd:int">
    <xsd:minInclusive value="0"/>
    <xsd:maxInclusive value="100"/>
  </xsd:restriction>
</xsd:simpleType>
<xsd:complexType name="CT_TaskProgressEventInfo">
  <xsd:attribute name="percentComplete" type="ST_IntegerPercentage" use="required"/>
</xsd:complexType>
<xsd:simpleType name="ST_PriorityValue">
  <xsd:restriction base="xsd:int">
    <xsd:minInclusive value="0"/>
    <xsd:maxInclusive value="10"/>
  </xsd:restriction>
</xsd:simpleType>
<xsd:complexType name="CT_TaskPriorityEventInfo">
  <xsd:attribute name="value" type="ST_PriorityValue" use="required"/>
</xsd:complexType>
<xsd:complexType name="CT_TaskScheduleEventInfo">
  <xsd:attribute name="startDate" type="xsd:dateTime" use="optional"/>
  <xsd:attribute name="dueDate" type="xsd:dateTime" use="optional"/>
</xsd:complexType>
<xsd:complexType name="CT_TaskTitleEventInfo">
  <xsd:attribute name="title" type="xsd:string" use="required"/>
</xsd:complexType>
<xsd:complexType name="CT_TaskCreateEventInfo"/>
<xsd:complexType name="CT_TaskDeleteEventInfo"/>
<xsd:complexType name="CT_TaskUndeleteEventInfo"/>
<xsd:complexType name="CT_TaskUnassignAll"/>
<xsd:complexType name="CT_TaskUndo">
  <xsd:attribute name="id" type="ST_Guid" use="required"/>
</xsd:complexType>
<xsd:simpleType name="ST_Guid">
  <xsd:restriction base="xsd:token">
    <xsd:pattern value="\{ [0-9A-F] {8} - [0-9A-F] {4} - [0-9A-F] {4} - [0-9A-F] {4} - [0-9A-F] {12} \}"/>
  </xsd:restriction>
</xsd:simpleType>
</xsd:schema>

```

6 Appendix B: Product Behavior

The information in this specification is applicable to the following Microsoft products or supplemental software. References to product versions include updates to those products.

Exceptions, if any, are noted in this section. If an update version, service pack or Knowledge Base (KB) number appears with a product name, the behavior changed in that update. The new behavior also applies to subsequent updates unless otherwise specified. If a product edition appears with the product version, behavior is different in that product edition.

Unless otherwise specified, any statement of optional behavior in this specification that is prescribed using the terms "SHOULD" or "SHOULD NOT" implies product behavior in accordance with the SHOULD or SHOULD NOT prescription. Unless otherwise specified, the term "MAY" implies that the product does not follow the prescription.

7 Change Tracking

This section identifies changes that were made to this document since the last release. Changes are classified as Major, Minor, or None.

The revision class **Major** means that the technical content in the document was significantly revised. Major changes affect protocol interoperability or implementation. Examples of major changes are:

- A document revision that incorporates changes to interoperability requirements.
- A document revision that captures changes to protocol functionality.

The revision class **Minor** means that the meaning of the technical content was clarified. Minor changes do not affect protocol interoperability or implementation. Examples of minor changes are updates to clarify ambiguity at the sentence, paragraph, or table level.

The revision class **None** means that no new technical changes were introduced. Minor editorial and formatting changes may have been made, but the relevant technical content is identical to the last released version.

The changes made to this document are listed in the following table. For more information, please contact dochelp@microsoft.com.

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