# Condition Measurement Adapter

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Legal Disclaimer

The product described in this documentation may be connected to, and/or communicate information and data via, a network interface, which should be connected to a secure network. It is your sole responsibility to ensure a secure connection to the network and to establish and maintain appropriate measures (such as but not limited to the installation of firewalls, application of authentication measures, encryption of data, installation of antivirus programs, etc.) to protect the product, the network, your systems, and the interface against any kind of security breach, unauthorised access, interference, intrusion, leakage, damage, or corruption or theft of data. We are not liable for damages or losses related to any such security breach, unauthorised access, interference, intrusion, leakage, damage, or corruption or theft of data.
Condition Measurement Adapter

Overview
Condition Monitoring Measurements can be recorded in Ellipse against Equipment. Condition Monitoring measurement data can be recorded for the various measurement types that have been defined for the relevant Condition Monitoring Set. All measurements entered are checked against alarm levels and when Ellipse determines that an alarm level has been exceeded the triggering measurements are flagged for subsequent action to be undertaken by Maintenance Personnel.

The OAGIS request messages to be processed by the Condition Measurement adapter will be obtained from the MIB.COMMON.GW queue. The OAGIS response messages returned from the Condition Measurement adapter will be output to the MIB.COMMON.REPLY queue.

OAGIS Message
Operating Entry noun
The OAGIS standard DOES NOT contain any suitable nouns to represent Ellipse Condition Monitoring Measurements. Therefore the noun ConditionMeasurement has been created:

The OAGIS verb process will be supported.

Foreign Keys
N/A

Concurrent Updates
The potential exists for Condition Measurement attributes to be updated by both Ellipse and the 3rd party system. In these cases, the last update wins, meaning if the 3rd party system sends updates after Ellipse has performed an update, the 3rd party system updates will be applied (and vice versa).

Methods

Process
The process method calls the following Ellipse services to process the data passed:

- Condition Monitoring Measurements (CondMeasurement)

The processing logic of the Condition Measurement adapter in relation to creating or updating entries can be controlled through configuration. The processing will be controlled by a configuration property updateIfExists held in the ip-core.properties file. Where the configuration property updateIfExists is not set, the adapter will default the property value to 'true'. Therefore creation and modification of Condition Measurements will be processed by default.

Process Message Mapping
Mapping of OAGIS ProcessConditionMeasurement message attributes to Ellipse web service:

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
<th>Validation</th>
<th>Service</th>
<th>Attribute</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;ConditionMonitoringMeasurement&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;Equipment&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;ID&gt;String</td>
<td>Equipment Number.</td>
<td></td>
<td></td>
<td>equipmentNo</td>
</tr>
<tr>
<td>&lt;/Equipment&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;Component&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;Code&gt;String</td>
<td>Component Code for Equipment (CO Table Type).</td>
<td></td>
<td></td>
<td>compCode</td>
</tr>
<tr>
<td>&lt;ModifierCode&gt;String</td>
<td>Component Modifier Code for Equipment (MO Table Type).</td>
<td></td>
<td></td>
<td>modCode</td>
</tr>
<tr>
<td>&lt;/Component&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;Measurement&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;Type&gt;String</td>
<td>Type of measurement taken (MS Table Type).</td>
<td></td>
<td></td>
<td>condMonMeas</td>
</tr>
<tr>
<td>&lt;Value&gt;decimal</td>
<td>Value of measurement taken.</td>
<td></td>
<td></td>
<td>measureValue</td>
</tr>
<tr>
<td>&lt;/Measurement&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;MeasurementTimePeriod&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;StartDateTime&gt;dateTime</td>
<td>Date and Time measurement taken.</td>
<td></td>
<td></td>
<td>measureDate / measureTime</td>
</tr>
<tr>
<td>&lt;/MeasurementTimePeriod&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;Monitor&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;Type&gt;string</td>
<td>Monitoring type (e.g. Oil Analysis) (OI Table Type)</td>
<td></td>
<td></td>
<td>condMonType</td>
</tr>
<tr>
<td>&lt;/Monitor&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;Position&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;Code&gt;String</td>
<td>Position where measurement obtained from (PM Table Type)</td>
<td></td>
<td></td>
<td>condMonPos</td>
</tr>
</tbody>
</table>
**Processing Logic**

The Create/Modify processing will be controlled by the configuration flag `updateIfExists`. Where the property is set to `true` the adapter will attempt to create a new Condition Measurement entry with the passed details. Where an entry exists the adapter will modify the existing Condition Measurement entry with the passed details.

Where the property is set to `false` the adapter will attempt to create a new Condition Measurement entry with the passed details. Where an entry exists the adapter will not modify the existing Condition Measurement entry.

**Mandatory Attributes**

Where creating a Condition Measurement entry, the following attribute values must be provided:

- Equipment No (`equipmentNo`)
- Measurement Date (measureDate / measureTime)
- Measurement Type (`condMonMeas`)
- Measurement Value (`measureValue`)
- Monitor Type (`condMonType`)

In addition attributes to identify the Condition Monitoring Set must be provided:

- Component Code
- Component Modifier Code
- Position Code (`condMonPos`)

**Multiple Condition Measurements**

Multiple Condition Measurement updates can be processed via a single `ProcessConditionMeasurement` message. Use of this facility though is not recommended practice.

Processing multiple Condition Measurement updates in a single `ProcessConditionMeasurement` message will elongate the time taken to process the message. This can lead to adapter processing times exceeding the Ellipse transaction timeout period, causing the updates to fail. Where that occurs all the updates processed from the `ProcessConditionMeasurement` message will be rolled back in Ellipse.

**Message Examples**

**Process**

Update a Condition Measurement entry.

```xml
<ProcessConditionMeasurement xmlns:ip="http://www.ventyx.com/IP/1"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:noNamespaceSchemaLocation="file:///C:/git-clones/mib/mib-common/schema/IP/1_0_0/BODs/ProcessConditionMeasurement.xsd">
  <ApplicationArea>
    <ip:Sender>
      <ip:LogicalID>Testing</ip:LogicalID>
      <ip:TaskID>ProcessConditionMeasurement</ip:TaskID>
      <ip:ReferenceID>ReferenceID</ip:ReferenceID>
    </ip:Sender>
    <ip:CreationDateTime>2014-06-04T11:17:03</ip:CreationDateTime>
    <ip:BODID>JUnit Test</ip:BODID>
    <ip:Extension>
      <ip:AnyExtension>
        <ip:ServiceContext>
          <ip:ServiceName>ProcessConditionMeasurement</ip:ServiceName>
          <ip:ServiceVersion>1.0</ip:ServiceVersion>
          <ip:MessageType>ConditionMeasurement</ip:MessageType>
        </ip:ServiceContext>
      </ip:AnyExtension>
      <ip:ServiceContext>
        <ip:AuthorizedContext>
          <ip:Proxy>
            <ip:UserID>INTEGRAT</ip:UserID>
            <ip:OrgID>R100</ip:OrgID>
            <ip:Role>INTEGRAT</ip:Role>
          </ip:Proxy>
        </ip:AuthorizedContext>
      </ip:ServiceContext>
    </ip:Extension>
  </ApplicationArea>
  <Conditions>
    <ip:Condition>
      <ip:ConditionName>equipmentNo</ip:ConditionName>
      <ip:ConditionValue>equipmentNoValue</ip:ConditionValue>
    </ip:Condition>
    <ip:Condition>
      <ip:ConditionName>measureDate</ip:ConditionName>
      <ip:ConditionValue>measureDateValue</ip:ConditionValue>
    </ip:Condition>
    <ip:Condition>
      <ip:ConditionName>condMonMeas</ip:ConditionName>
      <ip:ConditionValue>condMonMeasValue</ip:ConditionValue>
    </ip:Condition>
    <ip:Condition>
      <ip:ConditionName>measureValue</ip:ConditionName>
      <ip:ConditionValue>measureValueValue</ip:ConditionValue>
    </ip:Condition>
    <ip:Condition>
      <ip:ConditionName>condMonType</ip:ConditionName>
      <ip:ConditionValue>condMonTypeValue</ip:ConditionValue>
    </ip:Condition>
  </Conditions>
</ProcessConditionMeasurement>
Test this Measurement text is updated and that a big long value is also ok tooooooooooooooooooooooooooo. Some extra changed text also to be sure...<Comments>
  <Component>
    <Code>1100</Code>
    <ModifierCode>F</ModifierCode>
  </Component>
  <Measurement>
    <Type>AL</Type>
    <Value>82.44</Value>
    <MeasurementTimePeriod>
      <StartDateTime>2013-01-16T00:00:00</StartDateTime>
    </MeasurementTimePeriod>
    <Monitor>
      <Type>OA</Type>
    </Monitor>
    <Position>
      <Code>GCASE</Code>
    </Position>
    <VisualInspection>
      <Code1>CL</Code1>
      <Code2>CO</Code2>
      <Code3>OL</Code3>
    </VisualInspection>
  </Measurement>
</ConditionMeasurement>
</DataArea>
</ProcessConditionMeasurement>