Location Intelligence
Infrastructure Asset Management

Confirm®

IoT Connector Schema

v20.20f.AM

Open Source Attribution Notice

The Confirm suite of products contain the following open source software:

- Feature Data Objects v 3.5.0, which is licensed under GNU Lesser General Public License, Version 2.1, February 1999 with the unRAR restriction. The license can be downloaded from: **http://fdo.osgeo.org/licenceAndGovernance.html**. The source code for this software is available from **http://fdo.osgeo.org/content/fdo-350-downloads**
- MrSID software (specifically the mrsid32.dll) is used under license and is Copyright © 1995-2002, LizardTech, Inc., 1008 Western Ave., Suite 200, Seattle, WA 98104. All rights reserved. MrSID is protected by U.S. Patent No. 5,710,835. Foreign patents are pending. Unauthorized use or duplication prohibited.

  Patented technology in the Software was developed in part through a project at the Los Alamos National Laboratory, funded by the U.S. Government and managed by the University of California. The U.S. Government has reserved rights in the technology, including a non-exclusive, nontransferable, irrevocable, paid-up license to practice or have practiced throughout the world, for or on behalf of the United States, inventions covered by the patent, and has other rights under 35 U.S.C. § 200-212 and applicable implementing regulations.

  For further information, contact Lizardtech.

- NodaTime, version number 1.3.10, which is licensed under the Apache license, version number 2.0. The license can be downloaded from http://www.apache.org/licenses/LICENSE-2.0 . The source code for this software is available from http://nodatime.org/.
- Chromium Embedded Framework, version 3, which is licensed under the New BSD License. The license can be downloaded from http://opensource.org/licenses/BSD-3-Clause. The source code for this software is available from http://code.google.com/p/chromiumembedded/downloads/list.
- Xilium.CefGlue, version 3, which is licensed under the MIT License (with portions licensed under the New BSD License). The licenses can be downloaded from http://opensource.org/licenses/MIT and http://opensource.org/licenses/BSD-3-Clause. The source code for this software is available from http://xilium.bitbucket.org/cefglue/.
- D3 Data Driven Documentation, version 3.4.1, which is licensed under the New BSD License. The license can be downloaded from from https://github.com/mbostock/d3/blob/master/LICENSE. The source code for this software is available from http://d3js.org/.
- OpenLayers, version 2.12, which is licensed under the Modified BSD License. The license can be downloaded from http://svn.openlayers.org/trunk/openlayers/license.txt. The source code for this software is available from http://trac.osgeo.org/openlayers/browser.
- OpenLayers, version 3, which is licensed under the BSD 2-Clause Licence. The license which can be downloaded from https://github.com/openlayers/ol3/blob/master/LICENSE.md. The source code for this software is available from https://github.com/openlayers/ol3.
- Proj4js, version 1+, which is licensed under the Apache License, Version 2, January 2004. The license can be downloaded from http://www.apache.org/licenses/LICENSE-2.0.html. The source code for this software is available from http://trac.osgeo.org/proj4js/.
- requireJS, version 2.1.2, which is licensed under the MIT License or the New BSD License. The license can be downloaded from https://github.com/jrburke/requirejs/blob/master/LICENSE. The source code for this software is available from http://requirejs.org/.

- Apache Cordova, version 8.1.2, which is licensed under the Apache License, Version 2, January 2004. The license can be downloaded from http://www.apache.org/licenses/LICENSE-2.0.html. The source code for this software is available from http://phonegap.com/download/.
- Xilium.CefGlue, version 75.1, which is unlicensed. The source code for this software is available from https://gitlab.com/xiliumhq/chromiumembedded/cefglue.
- Chromium Embedded Framework, version 75.0, which is licensed according to the following criteria:

  Copyright (c) 2008-2014 Marshall A. Greenblatt. Portions Copyright (c) 2006-2009 Google Inc. All rights reserved.

  Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

  * Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

  * Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

  * Neither the name of Google Inc. nor the name Chromium Embedded Framework nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

  THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

  The source code for this software is available from http://opensource.spotify.com/cefbuilds/index.html#

August 20, 2020

Contents

Specifications

The following sections outline all the Specifications that exist within the Confirm functionality.

In this section

IoT Connector XML Schema

Introduction

This document describes the XML schema used to allow an external system or website to update Feature Conditions and check for existing Defects and create new ones, using the Confirm Connector.

The data transfer will be initiated by the external system or website. The Connector will always send data as a reply to the request.

Operation Overview

The Request sent to the Connector contains an “Authentication” section detailing the database connection and Confirm User information, and an “Operation” section detailing the operations to be carried out on that database.

The rest of this document describes briefly each of the operations that might be included in a Request, and the corresponding Response for each.

Where data is provided in a lookup field it must correspond to a valid record in the Confirm database, otherwise a Fault will be returned.

Where subsequent sections refer to a “User” this is the Connector User, i.e. the Login Name the Connector uses in connecting to the Confirm database. This determines which data will be returned where Data Key Security is in place.

XML Schema Definitions

The Request XML is defined in the following schema documents:

- IoT.xsd

The Response XML is defined with the methods in the following section.

Methods

This section describes the Requests to be sent from the external system or website to Confirm, and what the Responses will contain.

FeatureUpdate > FeatureCondition

This operation is used to update Feature Conditions in Confirm. This method does not create history and is designed to be called frequently without storing additional data in Confirm.

A single request can update multiple Features each having multiple Observation Types with a Value specified.

In order to update Feature Condition, either the Observation Grade or Value need to be supplied.

Any validation errors (e.g. the Value not matching the Grade min or max conditions) are returned as a Warnings collection in the response.

Schema validation errors are returned as Connector Fault Responses.

GetDefectsForFeature

Returns the outstanding Defects for a Feature. This is intended to be used by external systems to prevent the creation of duplicate Defects.

Defects matching the following criteria are returned:

- Defects not linked to a Job that have Action Required set on the Defect Status
- Defects linked to a Job where the Actual Completion Date is not set and the Job Status is Outstanding

Schema validation errors are returned as Connector Fault Responses.

GetDefectsForFeature Response

When Outstanding Defects are found for the requested Feature the following information is returned.

Field	Type	Notes
DefectNumber	Decimal	
DefectDate	DateTime	
DefectTypeCode	String	
DefectTypeName	String	
DefectEasting	Decimal	Coordinates are for the defect itself.
DefectNorthing	Decimal	Coordinates are for the defect itself.

FeatureUpdate > FeatureDefect

This operation is used to create Defects in Confirm.

A single request can update multiple Features each having multiple Defects.

Any validation errors are returned as a Warnings collection in the response.

Schema validation errors are returned as Connector Fault Responses.