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| --- | --- |
| *Pacific Gas and Electric Company* | |
| Run Book | |
|  |  |
|  |  |
| Program | ArcFM Web Config Limited |
| Project | ED AM/GIS |
|  |  |
| Prepared by | Ashish Narasimham |
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|  |  |
| --- | --- |
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|  |  |

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|  |  |
| --- | --- |
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# Application / System Description

* System/Application Name (s): **ArcFM Web Config Limited**
* System/Application Description: Applies visibility and field order changes exported from a database to another database

## Description

ArcFM Web Config Limited is a command-line (batch) program which runs based on a given configuration file and an operation. It converts between any two of the following formats: GDB, CSV, and XLSX.

> ArcFmWebConfigLimited.exe -h

ProcessArguments

Usage:

ArcFmWebConfigLimited.exe -o <WriteDbToCsv|WriteDbToXlsx|WriteCsvToDb|WriteXlsxT

oDb|WriteCsvToXlsx|WriteXlsxToCsv>

Use one of the provided commands for the -o option

ArcFmWebConfigLimited.exe -h

Provides help with command usage

Ex:

ArcFmWebConfigLimited.exe -o WriteDbToCsv

When dealing with indices, you must provide all subtypes and all fields of a feature class for the application to re-order fields of a feature class. I.E., you may delete all unnecessary rows but be sure to keep entire feature classes if re-ordering.

Changing the properties for the '-1' subtype code of an object class with subtypes will not apply changes to all subtypes of that feature class. You must set the property for each subtype to accomplish this.

## Configurations

The Web Config tool includes the following configuration file to run nightly:

- ArcFMWebConfigLimited.exe.config

## Scheduled Tasks

The intention is to run the tool nightly to set the field properties for WEBR in accordance with business requirements.

# 2. System Diagram

The workflow for the Web Config tool is as follows:



Figure – ArcFM Web Config Limited Workflow

# 3. Resource Information

## 3.1 Application Server:

OS: Windows XP or Windows 7

## 3.2 Database Server:

DBMS: Oracle Client 11G

OS: Windows XP or Windows 7

## 3.3 Database Name/Instance:

## 3.4 File Transfers

# 4. Contact Information

## 4.1 Information Technology

|  |  |
| --- | --- |
| IT Contact | |
| Name: |  |
| Email: |  |
| Phone: |  |

## 4.2 Business

|  |  |
| --- | --- |
| Business Contact | |
| Name: |  |
| Email: |  |
| Phone: |  |

## 4.3 Vendor

|  |  |
| --- | --- |
| Vendor Contact\* | |
| Company: |  |
| Address: |  |
| Name: |  |
| Email: |  |
| Phone: |  |

\* Include contact information for all vendor components

# 5. Administration and Operational Tasks

## ­­5.1 Create Required Database Connections

These tasks will be used within the procedures of various other tasks, and will not need to be performed unless called for explicitly by another task.

|  |  |  |
| --- | --- | --- |
| **Task Title** | **Description** | **Procedural Steps** |
| Install Primary Interop assemblies |  | 1. Use the following .msi:   [\\sfetgis-nas01\sfgispoc\_data\ApplicationDevelopment\IBM\_Delivery\Releases\WEBR Field Properties\o2010pia.msi](file:///\\sfetgis-nas01\sfgispoc_data\ApplicationDevelopment\IBM_Delivery\Releases\WEBR%20Field%20Properties\o2010pia.msi)   1. Install the msi by following the above link and following the installation steps. |
| Create database connection files to EDER | Use ArcCatalog to determine whether or not database connection files exist – create them if not. | 1. Open ArcCatalog. 2. Ensure that the “Location” toolbar reads “Database Connections”. If not, find the Catalog Tree and choose “Database Connections”. 3. Click “Add Spatial Database Connection”. 4. Under “Service”, type in the electric database where the application will be run. Ex. “eder” or “lbgisq3q” 5. Enter in a valid username and password for the server. The application will have a specific user configured to run – ensure that the username is correct. 6. Ensure that the “Save username and password” checkbox is checked. 7. Click “OK”. 8. Give the connection an appropriate name and press enter. 9. Note the name you gave the connection for use in other steps. 10. Repeat the above for the substation database. |
| Find database connection files location | Locate the file for the desired connection and note it for use when configuring the application to start. | 1. Open ArcCatalog. 2. Ensure that the “Location” toolbar reads “Database Connections”. If not, find the Catalog Tree and choose “Database Connections”. 3. Find the desired connection. If no connection exists, see the previous task (“Create Database Connection File”) to create one. 4. Right-click on the connection and choose “Properties”. 5. In the window that appears, select the “General” tab if it is not already selected. 6. Copy the text to the right of the “Name” section and save it for later use. Do the same for the substation database connection. |
| Open Database Connection in ArcCatalog | The starting point of various tasks herein. Use ArcCatalog to open the database connection so that other tasks may be performed | 1. Open ArcCatalog. 2. Ensure that the “Location” toolbar reads “Database Connections”. If not, find the Catalog Tree and choose “Database Connections”. 3. Find the desired connection. If no connection exists, see the previous task (“Create Database Connection File”) to create one. 4. Double-click on the connection to open it. |
| Create database connection file to the desktop connection as EDGIS | Repeat the first step for the desktop connection. | 1. Repeat all previous steps in this section for the desktop connection. |
| Create database connection file to Publication as SDE | Repeat the first step for the Publication connection. | 1. Repeat all previous steps in this section for the Publication connection. |

## 5.2 Configure Application Settings

|  |  |  |
| --- | --- | --- |
| **Task Title** | **Description** | **Procedural Steps** |
| Install Excel and Primary Interop assemblies |  | 1. Install this if you do not have Excel and the Microsoft Office Interop assemblies installed on the machine being installed to. 2. The installation of Microsoft Office is not in scope for this document. Refer to IT documentation to perform this step. 3. Follow step “Install Excel Interop assemblies” in section 5. |
| Configure application settings for ArcFM Web Config | Ensure that the application configuration is correct. | 1. Navigate to the location where the ArcFM Web Config executable file is located. 2. Navigate to the installed location in a Windows Explorer window and open ArcFmWebConfigLimited.exe.config file in notepad. 3. Find the ElecReadSDEConnection key and set the value using an SDE connection configured to connect as EDGIS to the target database. For example <add key="ElecReadSDEConnection" value="C:\Temp\ LBGISQ3Q\_EDGIS.sde"/>. You will only need to use this value if you are creating a new field properties file. In most cases, you will only be configuring the tool to execute in UC4 and write to the databse (not read from it). 4. Find the **SubReadSDEConnection** key and set the value using an SDE connection configured to connect as EDGIS to the target database. For example <add key="**SubReadSDEConnection**" value="**C:\Temp\ LBGISS1Q\_EDGIS.sde**"/>. You will only need to use this value if you are creating a new field properties file. In most cases, you will only be configuring the tool to execute in UC4 and write to the database (not read from it). 5. Find the ElecWriteSDEConnection key and configure value to reference the target electric database as SDE with necessary credentials. For example <add key="ElecWriteSDEConnection" value="C:\temp\SDE@LBGIQ3Q\_EDGIS.sde" /> 6. Find the SubWriteSDEConnection key and configure value to reference the target substation database as SDE with necessary credentials. For example <add key="ElecWriteSDEConnection" value="C:\temp\SDE@LBGISS1Q\_EDGIS.sde" /> 7. Additional parameters that can be changed, but are not required to be changed are: **ElecFilePathAndBase/SubFilePathAndBase –** The file path for the output file to be written to and the base file name of the file. Do not include the file extension (“.csv”, “.xlsx”). |

## 5.3 Generate Web Config Output File

ArcFMWebConfigLimited must be run from the Command Prompt.

|  |  |  |
| --- | --- | --- |
| Run standalone application through Command Prompt | Open Command Prompt and execute tool | 1. Start > All Programs > Accessories > Command Prompt, Navigate to the install folder for ArcFMWebConfigLimited e.g. cd “Program Files (x86)\Miner and Miner\PG&E Custom Components\ArcFMWebConfigLimited” 2. Enter the following (without the quotes) “ArcFMWebConfigLimited.exe –o WriteDbToXlsx” 3. Any errors will be output to the screen in red. |

## Modify Output File and Convert

|  |  |  |
| --- | --- | --- |
| Modify file generated by the tool and convert the file to a csv. | Open the xlsx and modify the file, then run command to convert | 1. Browse to the Excel file in Windows Explorer and double click it to open. The step to generate an output file needs to be completed prior to this. The location of this file was specified in the config file for the Web Config tool. 2. Once modifications are complete, cd to the exe file location in a command prompt and run the following: “ArcFmWebConfigLimited.exe –o WriteXlsxToCsv”. This will convert the xlsx to a csv file. |

## Import File Into Database

|  |  |  |
| --- | --- | --- |
| Import the output file generated by the tool into a database | Import the output file into a database using the tool | 1. Open a command prompt in the location of the exe and run the following command: “ArcFmWebConfigLimited.exe –o WriteCsvToDb”. This will write the properties stored in the csv to the “WriteSDEConnection” parameter in the config file. |

.

## 5.11 Viewing Application & Server Logs

|  |  |  |
| --- | --- | --- |
| **Task Title** | **Description** | **Procedural Steps** |
| View application output log | View the output log from the application containing all errors and messages generated by the application. | 1. Navigate to the location where the application executable file is located. 2. Find the “log-file.txt” file and open it with a text editor. 3. Output information including error messages will be contained herein. |
| Check for errors in output log | Use the output log to find any errors generated from the application and determine whether or not these errors caused an application failure. | 1. Open the output log using the steps from the previous task. 2. Press CTRL+F to open up a “Find” prompt and search for the word error, or manually scroll through the last execution based on start and end times to find each relevant message. |

## 5.10 Monitoring Tasks

|  |  |  |
| --- | --- | --- |
| **Task Title** | **Description** | **Procedural Steps** |
| Monitor application output from standalone execution | View the application output while it is running from its console window. | 1. Open the command prompt window that is running the current Web Config task. 2. Keep the window open to view messages as they are displayed. |
| Monitor application output log | View the application log while it is running. | 1. Navigate to the location where the ArcFmWebConfigLimited executable file is located. 2. Find the file “log-file.txt” and open it with a text editor. Messages from the latest execution will be displayed. 3. New information will require the file to be closed and reopened. |

# 6. Troubleshooting Tasks

## 6.1 Operations Reported Problems

Describe the procedures for resolving faults/problems reported by operations.

|  |  |  |
| --- | --- | --- |
| **Task Title** | **Description** | **Procedural Steps** |
| Non-critical error encountered in application output | *No subtypes with code -1 for feature class [feature class name] "found. Not re-ordering indices.* | This is typically indicative of erroneous data within the GIS system. Report these errors to a GIS administrator whenever possible. |
| *Could not parse index value as int32: [erroneous value], skipping row [rowid]* | The input file does not have the correct data for the row. Report to a GIS admin |
| *Duplicate index found on feature class [object class name], subtype [subtype name], not saving any changes to this feature class* | The field order in the input file is configured incorrectly. Index values are duplicated within the listed object class |
| *Unexpected value encountered: [field name], [field setting name], [field setting value]. Kept original value.* | The value for the listed field setting in the input file is not ‘TRUE’ or ‘FALSE’, which it should be. |
| Any other non-critical error is encountered other than the above – indicated by the application continuing to run after the error is recorded. | Forward the errors onto a GIS administrator whenever possible. |

## 6.3 Application Failure

Describe the actions to take when an application failure occurs.

|  |  |  |
| --- | --- | --- |
| **Task Title** | **Description** | **Procedural Steps** |
| The application exited with an error code of **1**. | A critical error is encountered other than the errors listed below – a non-specific error code was provided and needs more diagnosis. | Copy the exception details from the output logs and raise the issue with IT/GIS personnel. |

## 6.4 System Failure

|  |  |  |
| --- | --- | --- |
| **Task Title** | **Description** | **Procedural Steps** |
| System Failure occurs during ArcFmWebConfgLimited run |  | The database will likely remain untouched since the tool does not write until the end of its execution.   1. Re-run the tool to apply the desired settings. This will overwrite previous settings if incorrect. |
| System.IO.FileNotFoundException: Could not load file or assembly 'Micros  oft.Office.Interop.Excel, Version=14.0.0.0, Culture=neutral, PublicKeyToken=71e9  bce111e9429c' or one of its dependencies. The system cannot find the file specif  ied. |  | The Excel interop assemblies or Excel itself are not installed. Install using the following .msi: [\\sfetgis-nas01\sfgispoc\_data\ApplicationDevelopment\IBM\_Delivery\Releases\WEBR Field Properties\o2010pia.msi](file:///\\sfetgis-nas01\sfgispoc_data\ApplicationDevelopment\IBM_Delivery\Releases\WEBR%20Field%20Properties\o2010pia.msi) |
|  |  |  |

## 6.5 System Failover

This solution is not configured to run in a system failover environment.

# 7. Known Issues

|  |  |  |
| --- | --- | --- |
| **Item #:** | **Issue:** | **Action:** |
| 1 |  |  |
| 2 |  |  |
| 3 |  |  |

# 8. Backups

ArcFm Web Config Limited occurs within the framework of the existing EDER system/database/application backup framework.

## 8.1 System Backup

*<Document the procedure for performing a system backup. For each applicable platform, include: server name, platform name, required frequency of full backup, list of volumes or servers to backup, retention requirements, and storage media requirements.>*

## 8.2 Database Backup

*<Document the procedure for performing a database backup. For each applicable platform, include: server name, platform name, required frequency of database backup, list of databases to backup, retention requirements, and storage media requirements.>*

## 8.3 Application Backup

*<Document the procedure for performing an application backup. For each applicable application, include: server name, platform type (UNIX, NT, etc.), required frequency of application backup (differential or full), list of application filenames, directories, drives and/or volumes to backup, retention requirements (keep one week of tapes on-site, one week off-site and rotate, quarterly tapes kept off-site and rotated annually, year-end tapes kept permanently off-site), and storage media requirements (8mm or 4mm tape).>*

# 9. Restore

ArcFM Web Config Limited occurs within the framework of the existing EDER system/database/application restore framework.

## 9.1 File Restore

*<Document the procedures for restoring a file(s) for each applicable platform.>*

## 9.2 Database Restore

*<Document the procedures for restoring a database for each applicable platform.>*

## 9.3 Application Restore

*<Document the procedures for restoring an application for each applicable platform.>*

## 9.3 System Restore

*<Document the procedures for restoring a system for each applicable platform.>*

# 10. Links to Supporting Documentation

# ArcFM Web Config Limited Installation Guide