ODI – OPERAT

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11/5/14

OFI - V1.1.0

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[OFI – OPERATIONAL FILE INTEGRATION]

Supporting FILE delivery between ODI Providers and Consumers

5   **Document Editing History**

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Date	Initial	Version	Editing Activity
3/16/2015	JMA	1.0.0	Document Origination
3/16/2015	JMA	1.0.0	Publication #1 – For Review
5/4/2015	MAD	1.1.0	Added CONTROL FILE for additional information and security
1/18/2018	MAD	1.1.0	Expand OFI file name to include milliseconds. The OFI file negotiated name cannot contain underscore is called out.
3/14/2018	MAD	1.1.0	Added evaluation and testing scenarios

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Enterprise System Enhancement

Title: **Operational File Integration (OFI)**

Date: **11/5/2014 – 3/16/2015**

Product: **Operation Data Integration (ODI)**

Business Narrative:

Data transfer among JHA products using FILES is traditionally a point to point activity and essentially custom / ad-hoc with little commonality in technique or security.

ODI Data Consumers are requesting the ability for Data Providers to make available files of data (large, medium or small) while also providing many of the base features of ODI such as security, distribution, notification, etc. Data inside these files may be in any file-form including binary. These data files may be needed / retrieved by <u>more than one Data Consumer</u> and each data file is generally considered a single whole item to both the Data Provider and Data Consumer.

Data Consumers of ODI are currently utilizing the identity / security / communications models and support the ability for ODI to provide the means of making FILES available in a similar manner as ODI makes DATA available today, including from Providers that may be at a distance from the Consumer where the Consumer may not have direct access to the Provider.

The following enhancement will define the expectations for supporting Operational File Integration (OFI) within the existing ODI product. This enhancement will support the needs of the stakeholders and create an option for ODI to utilize allowing the forwarding of original files from one ODI to another ODI.

Enhancement Details:

A simple listing of behaviors in consideration:

New Data Provider Behaviors:

- Data Providers can configure a Provider Data Contract to identify whether the file being delivered should NOT be ingested into the ODI data store and held as a whole object (file).
  - *(Future)*The ability to support both options may be interesting to ODI itself or to support Data Consumers with varying needs.
- The filename of the FILE will conform to the Provider Data Contract definition. ***Filename instructions from the original ODI specification with highlighted updates:***

  Designate each exported data file with a filename containing the following:
    - Financial Institution Number (ABA) ex. 123456789
    - "Negotiated File-Name"
    - Date_Time in CCYYMMDDT24MMSSffffff   ex. 20080123T13024520
    - Environment ex. PROD, TEST, V2010

43		o	Extension ex. .XML or .ZIP or whatever extension is correct

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44   o   Delimiters between the above filename components will be the underscore (_)

45   character.

46   o   Full example:

47   ▪   `123456789_MyNiceBinaryFile_20080123T13024520_PROD.DMP`

48   ▪   `---ABA---_--Negotiated----_--DATE--T-TIME-_ENV.???`

49

50   o   Supplying a 'dummy'/'empty' XSD contract is acceptable to support existing ODI

51   processes if needed. (Not an expectation of this enhancement.)

52   o   The negotiated file name **cannot** contain an underscore (_) embedded in the name.

53

54   •   Every submitted OFI file will be accompanied with a "control file" that identifies the contents,

55   provider, consumer, and additional data that supports enhanced OFI behaviors over default

56   behaviors.

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58   The following expectations will outline the use and support of a control file:

59   o   The control file filename will accurately match the data file name with the exception of

60   the file extension. The file extension will always be ~OFI~;

61   o   Full example of the control file filename:

62   `123456789_MyNiceBinaryFile_20080123T130245_PROD.OFI`

63   `---ABA---_--Negotiated----_--DATE--T-TIME-_ENV.OFI`

64   o   Each control file will be an XML file with the following content:

65   ▪   Institution Routing Identification

66   ▪   OFI File Name

67   ▪   Event Time and Date

68   ▪   Institution Environment

69   ▪   Provider Family Name

70   ▪   Provider Name

71   ▪   ARRAY(Optional)

72   •   Consumer Name (Required if collection exist)

73   •   Service Ticket/Response Id (optional)

74   ▪   ARRAY-END

75   o   ODI will support the ability to deliver/provide the OFI file to only the defined Consumers

76   IF "ConsumerName(s)" are listed in the control file.

77

78   •   Data Providers and ODI can be provided with an Enterprise XSD Data Extract contract or other

79   file format documentation for files that will not be ingested into the ODS, but that do need to

80   conform to a specific file structure. This structure documentation would be to ensure Data

81   Providers conform to defined formats and also to document the structure for Data Consumers.

82   The use of this structure document by ODI will be of little interest in the processing of the files.

83   o   The structure of the OFI file should be published by the Provider and available (outside

84   ODI) for Consumer documentation and development efforts.

85   •   Data Providers can FTP the FILE to ODI using the same procedures as they do today.

86   •   Data Providers can store files in a directory for ODI to monitor and pick-up as done today.

87 **New ODI Behaviors:**

88   •   When receiving any file from a Data Provider, ODI will reference the Data Provider's Data

89   Contracts to determine if the file should be ingested or NOT. Files that are not ingested can skip

90   the processing steps that ingested files would take and can be promoted to available-for-

91   distribution immediately.

92   •   ODI will expect the filename of the file conforms to the Provider Data Contract instructions.

- ODI will make no value judgment to the fitness of any FILE as ODI may not have the ability to access the file contents if the file is binary or otherwise encrypted.
- ODI will announce the Consumer Data Contract is ready to the Data Consumers as is done today for XML and CSV type files defined in the Consumer Data Contract.
- ODI will include the [Consumer Name](s) and [Service Ticket/Response Id](s) in the 'Data Contract Ready' announcement IF those items are included in the Control File.
- ODI will ensure that only the identified Data Consumer [Consumer Name] can access the OFI file IF the information is included in the Control File.
- ODI Data Consumer Data Contract will support a new export file type. "OFI" – This indicates that the Data Consumer is utilizing the ODI's ability to support an 'original file' delivery instead of an ingested file delivery.
- ODI will forward or hold-for-pick-up the OFI-file as is done today for XML and CSV type files.
- ODI will define, in configuration settings, the Data Retention specifics for OFI-files.

New Data Consumer Behaviors:

- Data Consumers can configure a Consumer Data Contract to identify the Provider Data Contract they wish to receive and in this case it will be an OFI-file.
- Data Consumers will not be able to create a VIEW of a FILE as they can with data that has been ingested into the ODI data store.
- Data Consumers will receive event notification of new OFI-files based on their Consumer Data Contracts in the same manner as done today.
- Data Consumers can locate [Consumer Name] and [Service Ticket/Response ID] within the event notifications for OFI files specifically sent in response to prior requests.
- Data Consumers can retrieve or receive the available OFI-files in the same manner as they do XML-files & CSV-files today.

User Stories:

- As a Data Provider, I would like to send an OFI-file to ODI using all the same processes as I would for any other defined ODI data file and have that file be made available to Data Consumers as a whole file (OFI-file).
- As a Data Provider, I will expect to provide details of my OFI-files filenames, content, and format for use/setup in Data Contracts and also to follow any predetermined/established Data Contracts.
- As ODI, I would like to support receiving a file from a Data Provider (based on a Data Provider Data Contract) and not ingest the file into the data store, but rather make the file available to Data Consumers who have created a Data Consumer Data Contract indicating the Data Provider Data Contract and selecting OFI-file format.
- As ODI, I would like to not change any of my touch-points for Data Providers and Data Consumers except for very minor Data Contract requirements to support OFI activities.
- As ODI, I will expect to communicate with Data Providers and Data Consumers in exactly the same manner as I do today regarding applicable notifications.
- As a Data Consumer, I will expect to provide details of the OFI-files I wish to receive using Consumer Data Contracts.
- As a Data Consumer, I would like to receive an OFI-file from ODI using all the same processes as I would for any other type of file from ODI.

| 136 | • | As a Data Consumer, I expect that when I receive an OFI-file, it is in exactly the same format as |
| 137 | | when it was created by the Data Provider. |

## Evaluation/Testing:

139 Scenarios:

140 *An ODI/OFI File Not Registered with an Enterprise Provider Contract*
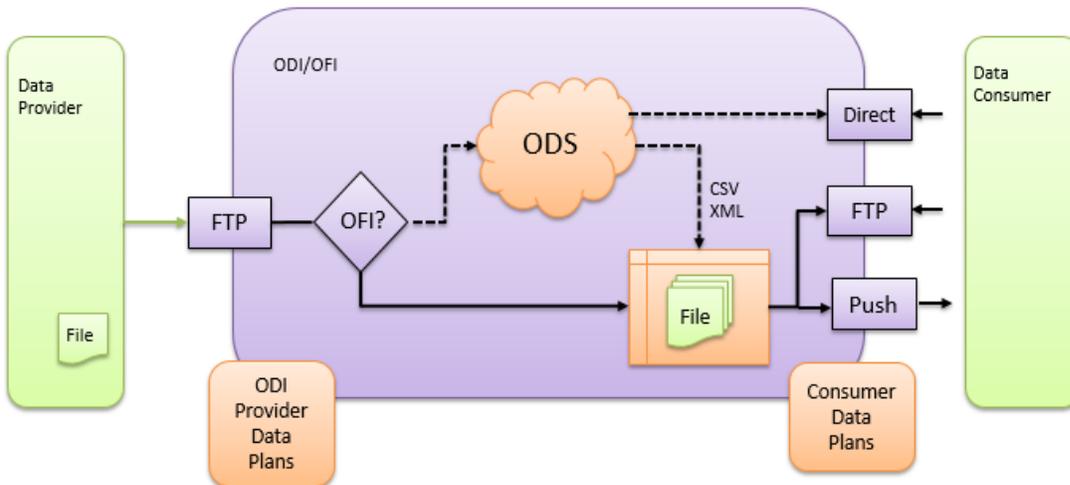
141

- a. Configuration Steps
  1. Data Provider is known to ODI/OFI implying the provider can deliver files;
  2. Data Consumer is known to ODI/OFI implying the consumer can retrieve files;
  3. OFI registers Enterprise governed contract names that represent some future files;
  4. Configuration steps completed
- b. Run Steps
  1. Data Provider has a file (MyErrorReport13) to be sent to a specific consumer;
  2. Data Provider drops off the file via FTP at OFI and it is named
     123456789_MyErrorReport13_20180302T11:12:00_Prod.Txt along with the companion
     OFI control file;
     i. OFI control names a specific consumer along with a transaction reference;
  3. OFI stores the file;
  4. OFI determines if the delivered file is pre-registered (false);
  5. OFI determines if the OFI control file explicitly defines a consumer recipient (true);
  6. OFI determines if the file name is defined as part of an Enterprise governed data
     contract (true or false);
  7. OFI makes the file available to the explicitly named consumer;
  8. OFI sends the event (50040) broadcasting the
     123456789_MyErrorReport13_20180302T11:12:00_Prod.Txt is ready;
  9. OFI has completed its steps for this specific file delivery
- c. Consumer Steps
  1. Consumer subscribes to event 50040 waiting for file;
  2. Consumer receives event that the file is ready;
  3. Consumer retrieves their FTP credentials;
  4. Consumer accesses FTP and retrieves the file;
  5. Consumer has completed its steps

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169   *An ODI/OFI File Pre-Registered with an Enterprise Provider Contract*
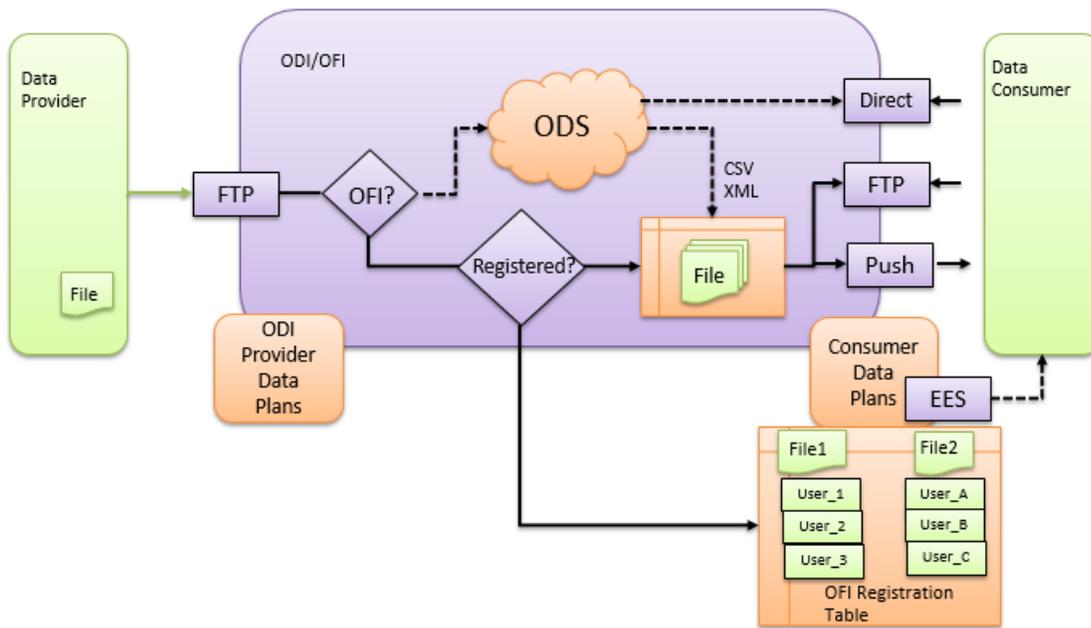
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171   a. Configuration Steps
172   1. Data Provider is known to ODI/OFI implying the provider can deliver files;
173   2. Data Consumer is known to ODI/OFI implying the consumer can retrieve files;
174   3. The File name *"File1"* is placed into the registry;
175   4. Data Consumer *"User_1"* requests ODI to register them for *"File1"* for a specific
176   Financial Institution;
177   5. A Consumer Data Plan "*PLAN:1234*" is created specifically to *"User_1"* for *"File1"* for the
178   specific Financial Institution;
179   6. Configuration steps completed
180   b. Run Steps
181   1. Data Provider drops off a file (via FTP) at OFI names:
182   *123456789_File1_20180201T11:12:00_Prod.Txt* and
183   *123456789_File1_20180201T11:12:00_Prod.OFI;*
184   2. OFI stores the file;
185   3. OFI determines if the OFI control file explicitly identifies the consumer to get the file
186   (true or false);
187   4.   OFI determines if the file name is in the registry (true);
188   5. OFI determines if there exists any Consumer Data Plans signed up for *"File1"* *(User_1;*
189   *User_2; User_3);*
190   6. OFI makes the file available for the approved registered users;
191   7. OFI sends the event (50040) broadcasting the
192   *123456789_File1_20180201T11:12:00_Prod.Txt* is ready;
193   8. OFI has completed its steps for this specific file delivery;
194   c. Consumer Steps
195   1. *User1* subscribes to event 50040 for the specific data consumer plan;
196   2. *User1* receives event that the file is ready;
197   3. *User1* retrieves their FTP credentials;
198   4. *User1* accesses FTP and retrieves the file;
199   5. Consumer has completed its steps