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Daily Extract Description

for

ETAdirect

Version 4.5
Part Number E62404-01

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1 Introduction

As of ETAdirect version 4.5.14 the DWH functionality has been renamed to 'ETAdirect Daily Extract'.

The new name carries a clearer message and better describes the purpose of the data extraction functionality. Any further references to Daily Extract will mean the same functionality which was previously referred to as DWH. For backward compatibility the underlying data structures remain unchanged.

1.1   Document Purpose

The document is designed to provide understanding of Daily Extract configuration and file structure in ETAdirect 4.5.

1.2   Scope of the Document

The document describes the Daily Extract structure and provides description of all relevant files and fields. The document is up-to-date with the functionality implemented in ETAdirect version 4.5.14.

Note: all values used in the examples are sample values. The ranges of possible values in the actual ETAdirect application may include other values not mentioned in this document. The lists of possible values may be configured according to the company's preferences. Please refer to the corresponding ETAdirect manuals for the supported value ranges.

1.3   Target Audience

The document itself and examples it includes do not contain any company-specific information and are intended for the programmers working with the ETAdirect Data Warehouse as well as for customers.

1.4   Glossary

The following terms are necessary for appropriate understanding of the document and used herein as described below:

Term	Description
Activity	Entity of the ETAdirect system that represents any time-consuming activity of the resource
Custom property	Property added to ETAdirect for specific Company custom properties can be assigned to the following entities: • activity • resource • inventory • service requests
Field	Property present in the system by default
GPS	Global Positioning System – space-based global navigation satellite system, providing data on location of objects on the Earth in a given moment of time
GUI	Graphical User Interface, allowing people to use software by manipulating images rather than by issuing text commands
Inventory	Equipment that can be installed or deinstalled during an activity
Link	Dependency defined between several related Activities

Message (Notification)	Messages passed within software, which may or may not be human-readable, and human-readable messages delivered via computer software for person-to-person communication
PAS	Post Appointment Survey
Property	Field and field value assigned to an entity in ETAdirect (to resource, activity, inventory or service request)
Route	Reference to the list of activities assigned to a resource for a specific date or a list of non-scheduled activities assigned to a resource
Resource	Element of the resource tree, defined company asset
Resource Tree	Hierarchy of company resources, showing "parent-child" relationships
Service Request	Creation of a special message with a predefined template and recipient and an Action Link used to call such a template
Service Window	Time frame expected by the customer for an activity as scheduled by the company
Time Slot	1) Fixed service window, defined with a name and label, specifying when certain types of activities can be performed 2) Service Window (if the activity type does not support time slots)
User	1)Person using ETAdirect 2) Entity used for authentication and authorization allowing people or external software to access ETAdirect
Work Skill	1) Activity that a resource is qualified to perform (resource property) 2) Qualification required to perform an activity (activity property)
XML file	File in which the Daily Extract functionality can extract data in Extensible Markup Language format

2 Daily Extract

The Daily Extract functionality is used to extract data from ETAdirect for storage and further analysis and reporting. Data extracted from ETAdirect is stored in the Daily Extract Database as a package of XML files.

3 Daily Extract Configuration

The set of files to be extracted by Daily Extract can be configured manually at the implementation stage. At a later stage they can also be modified when necessary.

However, ETAdirect also offers the possibility of configuring the custom Daily Extract file sets in the Manage Application GUI. Access to the Daily Extract configuration functionality is controlled by the special 'Daily Extract Configuration' permission which is granted to specific profiles.

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Figure 1: 'Daily Extract Configuration' permission

3.1   Daily Extract Files Creation

When the Daily Extract permission is enabled, the user can access the 'Daily Extract Configuration' screen where the set of files for Daily Extract and their content can be customized.

Figure 2: 'Daily Extract Configuration' screen

The 'Daily Extract configuration' screen consists of the list of files for extraction organized as a grid. For each file name the list shows the entity to which the extraction file is related (the 'Entity' column) and the fields exported in such file (the 'Exported field' column).

New files can be added to the list by clicking the 'Add new' button. This opens the 'Add configure' window where a new Daily Extract file can be created.
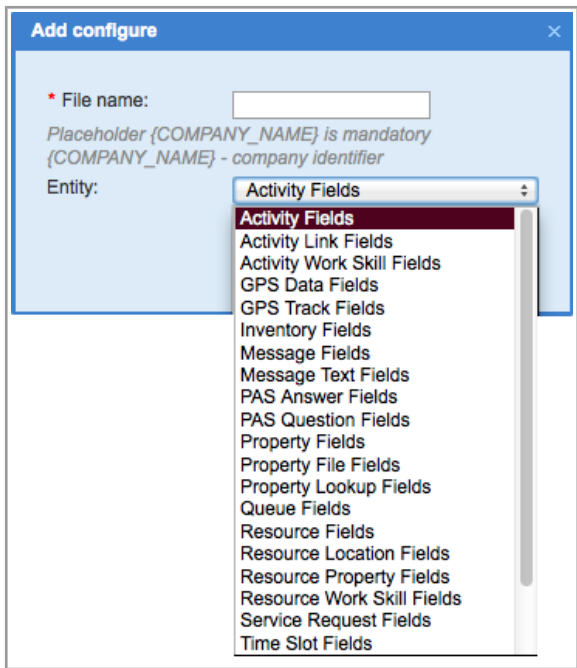
Figure 3: 'Add configure' window

The file name which is a mandatory field must always contain the {COMPANY_NAME} placeholder in the exact format. If the placeholder is missing or its format is incorrect, the file creation is rejected with the 'File name placeholder {COMPANY_NAME} is missing' error message.
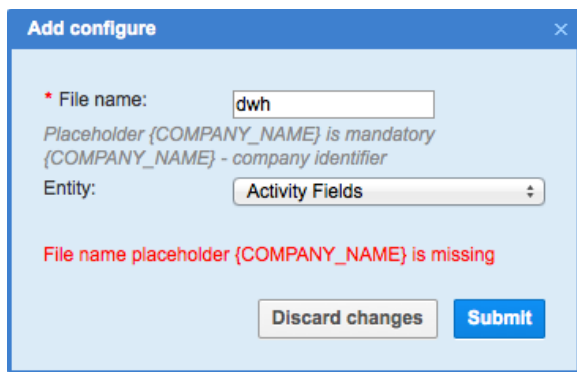
Figure 4: Error message for invalid file name

The 'Entity' drop-down list allows selecting the entity, the fields of which are to be exported in the file. All files are described in detail with examples below.

Note: all Daily Extract files are created in the XML format.

An existing Daily Extract file name can be modified by clicking the 'Edit' link in the 'Actions' column. This link leads to the 'Edit configure' window where the file name can be edited. However, the entity related to the file cannot be modified, and this field is always shown in the ReadOnly mode.
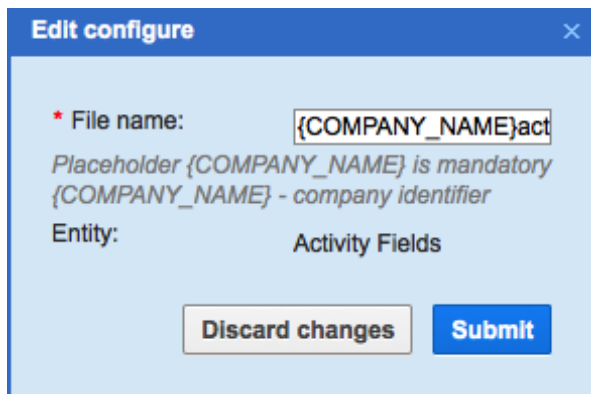
Figure 5: 'Edit configure' window

An individual Daily Extract file can be deleted by clicking the 'Delete' link in the 'Actions' column. One or more files can be deleted simultaneously by selecting them in the list and using the group 'Delete' action link.

Figure 6: Group 'Delete' action link

3.2 Daily Extract File Structure Configuration

A new Daily Extract file is created empty, and for the export to work, the fields to be exported must be specified.

Note: each file must have at least 2 fields, otherwise extraction will result in an error.

The fields to be exported in a Daily Extract file can be selected by clicking 'Structure' for the corresponding file in the 'Actions' column. This link leads to the screen where the structure of the Daily Extract file can be defined.
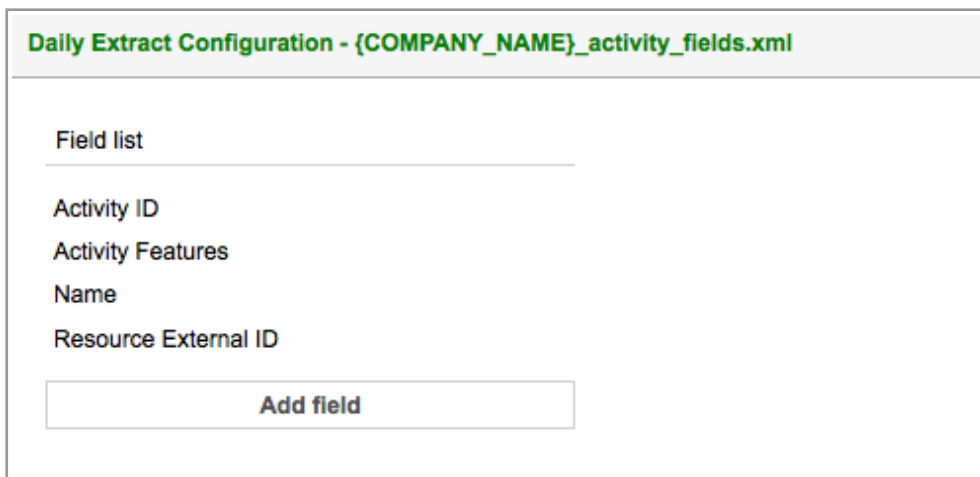
Figure 7: Daily Extract file structure screen

To add new fields to the existing configuration the user should click 'Add field' and then select the necessary fields in the 'Add field' window.
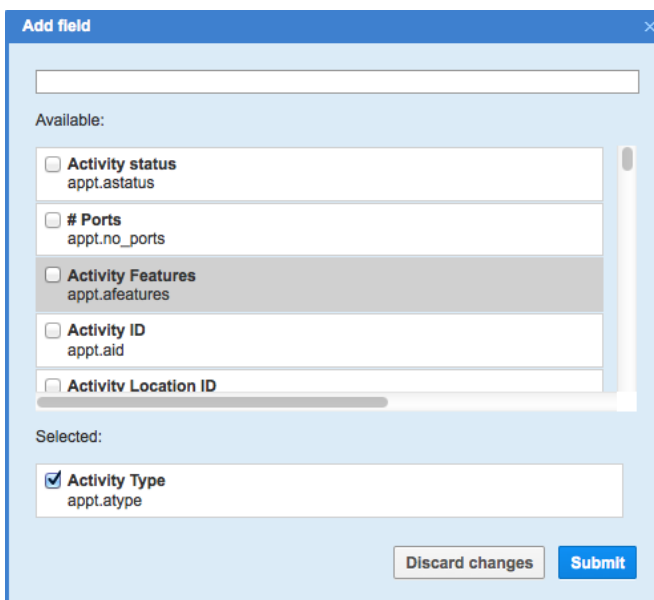
Figure 8: 'Add field' window

Fields can be searched in the list either by scrolling up and down or by typing the field name in the search line in the top part of the window. The list is filtered as the user types the field name with only the fields matching the search key remaining. The selected fields are moved to the 'Selected' section of the window. A field can be selected only once per file structure. As soon as a field is selected it disappears from the 'Available' list. Similarly, once a field is included in the 'Field list', it can no longer be found in the 'Available' list. Multiple fields can be selected at the same time. When the 'Submit' button is clicked, the selected fields appear in the 'Field list'.

Clicking a field name in the list opens the field properties – 'Name', 'Original name' and 'Source'.

Figure 9: Field properties

The name of the field can be modified by the user. The 'Original name' field contains the name under which the field was created in ETAdirect and 'Source' – the parameter in the database table to which the field refers.

Note: property names cannot be changed for the 'GPS Data Fields', 'GPS Track Fields', 'Type List Fields' and 'Property File Fields' entities. Property names in their structures are shown in ReadOnly mode, no modification is possible.

Figure 10: Property names in ReadOnly mode

In addition, the 'Add field' action link allows adding another field immediately following the selected one. The 'Delete' link deletes the selected field.

Note: if a custom property is deleted from the list of ETAdirect properties, the user must also delete it from the field list of any Daily Extract files using such property, otherwise the extraction will return an error.

The list of properties in a structure can be rearranged by dragging and dropping. After all changes in the Daily Extract file structure are performed, the 'Submit' button must be clicked to save the

changes. To keep the previous structure the 'Discard changes' button must be clicked.

When the Daily Extract configuration is defined, the Daily Extract script, when run, will extract the files included in the configuration with the properties defined in their structure.

3.3   Daily Extract Configuration Export and Import

Daily Extract configuration can be created or updated by importing the configuration from an external source. Daily Extract configuration is imported in the format of an XML file containing data of individual Daily Extract files. If the configuration to be imported contains the same file name as the existing Daily Extract configuration, such file is overwritten in the process of import (the user is alerted and requested to confirm the overwrite). If the import contains file names different from those in the existing Daily Extract configuration, such files are added.

To import Daily Extract configuration the user should click the 'Import' button and select the XML file to be imported.
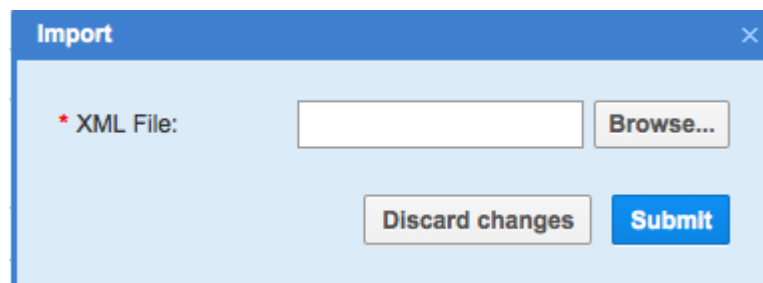
Figure 11: Daily Extract 'Import' window

If the selected file format is other than XML, the error message 'Import file type must be XML' is displayed.
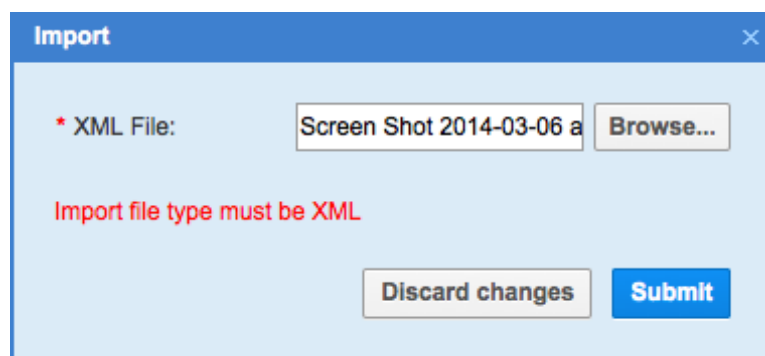
Figure 12: Error message for invalid import file

The existing Daily Extract configuration can be exported by means of the 'Export' button for further use in external applications.

4 Daily Extract Files Overview

Daily Extract files are results of data processing by ETAdirect system and contain the details of main ETAdirect entities, such as activities, inventory, messages. Only data structures described in this document can be received as part of the Daily Extract. In order to get access to other data elements of

ETAdirect, different interfaces should be used (e.g. Resource Management API).

The extracted files are basically intended for reporting and historical analysis of the events in the system.

4.1   Extraction Period

Daily Extract files are typically generated once a day and contain all data the processing of which has been finished since the previous extraction.

If the company does not support overnight shifts, the extraction period covers time since the previous extraction and till the end of the previous day.

If the company supports overnight shifts, the Daily Extract data for the previous day are available for extraction after the overnight expiration, i.e., at 00:00 AM + overnight. If the data is extracted before that time, the resulting files will contain data of 2 days before.

Note: a company can operate in several time zones, however, the Daily Extract functionality extracts data according to the time zone defined for the company in the 'Business Rules'. Only the following files are extracted in GMT:

–   General Message Details

–   Message Text Details

–   PAS Answer Details

–   'gpstracks' Details

–   'gpsman' Details

Upon the first extraction all available data is collected.

4.2   Extraction Files and Extraction Data Sets

Data on details of different ETAdirect entities processed in the system during the extraction period or available in the system by the end of extraction period can be collected and extracted in the files (in this document 'during the extraction period' means that if at any time during the extraction period the entity was available in the system it will be extracted, and 'by the end of extraction period' means that if an entity was created at some time during the extraction period and was deleted before the end of extraction period, it will not be extracted).

This data can be divided into 'data sets', i.e. groups of details related to one and the same entity in the system. In some cases data related to one entity is divided in several different data sets.

Note: Data from several data sets cannot be extracted in one file but data from one data set can be divided to be extracted in any number of files. For example, the file created for the 'Activity Fields' entity cannot also include data for the 'Resource Fields' entity. At the same time, one file can refer to several database tables according to the exported fields configuration. For example, an 'Activity Fields' file may include data from the 'queue' table, when configured so.

The following data sets are available for export. The actual list of data sets to be exported in configurable according to the company preferences.

Activity Fields – data on all fields/properties assigned by the end of extraction period to activities processed in the system during the extraction period (activities that were to be performed or were performed during the extraction period). Described in more detail here.

Activity Link Fields – details of all links between activities defined in the system by the end of extraction period. Described in more detail here.

Activity Work Skill Fields – contains details of work skills per activity at the moment of extraction. Described in more detail here.

GPS Details – details of all GPS data gathered during the data extraction period. There are two data sets: 'gpsman' and gpstracks'.

     GPS Data Fields ('**gpsman**') contains the details of all GPS data uploads received by ETAdirect from external systems during the extraction period. The ETAdirect-meaningful data is extracted into separate columns/fields and the rest is kept in the 'properties' in json format as is. The data set is described in more detail here.

     GPS Track Fields ('**gpstracks**') contains data calculated on the basis of the GPS data in ETAdirect in fixed format native for ETAdirect. All GPS data collected for each resource in the course of extraction period is gathered. The data set is described in more detail here.

Inventory Fields – data on all fields/properties assigned to all inventory items available in the system by the end of extraction period. The data set is described in more detail here.

Message Details – data on all messages generated (all messages that were sent or were to be sent by the system) during the extraction period divided into two data sets.

     Message Fields – basic details on the messages excluding the actual text of the message. Described in more detail here.

     Message Text Fields – parameters of the text of each specific message. Described in more detail here.

PAS Answers Fields – details of the customer's answers to questions asked in the Post Appointment Survey that are present in the system with status 'delivered' by the moment of extraction. Described in more detail here.

PAS Questions Fields – details of questions for Post Appointment Surveys by the moment of extraction. Described in more detail here.

Property Fields – details of all fields and custom properties available in the system by the end of extraction period. Described in more detail here.

Property File Fields – contents of file properties (images, etc.) available in the system by the end of extraction period. Described in more detail here.

Property Lookup Fields – sets of values that can be used to identify a field or custom property for all fields and custom properties available in the system by the end of extraction period. Described in more detail here.

Queue Fields – data on all fields/properties assigned to routes processed in the system during the extraction period (routes that were to be executed during the extraction period), including all and any

fields and properties assigned to resources, to which a route is directly assigned by the end of extraction period. Described in more detail here.

Resource Fields – details of the properties of all resources available in the system by the end of extraction period (including inactive resources) and their position in the Resource Tree. The data set is described in more detail here.

Resource Location Fields – details of locations defined for each resource in the system by the end of the extraction period. Described in more detail here.

Resource Property Fields – details of all properties defined for each resource in the system by the end of the extraction period. Described in more detail here.

Resource Work Skill Fields – details of work skills per resource at the moment of extraction. The data set is described in more detail here.

Service Request Fields – details of service requests created in the system during the extraction period. Described in more detail here.

Time Slots Fields – details of time slots defined in the system by the end of extraction period. Described in more detail here.

Type List Fields – sets of values used to identify the type of entity by its ID for all types available in the system by the end of the extraction period. Described in more detail here.

User List Fields – details of all users existing in the system by the end of the extraction period. Described in more detail here.

User-Resource Relation Fields – details of the resources visible to each user as defined in the system by the end of the extraction period. Described in more detail here.

Note: Daily Extract processes property labels regardless of whether any special symbols or capital letters are used in their labels.

4.3 Extraction File Format and Settings

In ETAdirect 4.5 data is extracted as XML files.

If the Daily Extract is configured manually during implementation, the following settings can be defined (they should be specified by the client as part of the Implementation process and are to be documented in the appropriate section of the SRS document):

- list of fields and custom properties extracted in the file (**Note**: only fields and custom properties from one data set can be extracted in one file)
- names that will be displayed for the fields and properties in the tables
- order in which fields and custom properties are to be extracted
- name of the file
- if the file should be archived (zip, tar and tar.gz are available)
- folder to which the file should be saved
- external program which can be called to process the file

4.4   Extraction Details and Examples

The paragraphs below contain the basic rules for file extraction within each data set.

Details of Activity, Inventory, Resource and Service Request details can include information on all field and properties assigned to all activities, inventory, resources and service requests, respectively, – therefore, for them only some examples of available values are provided.

For other data sets values of only a limited list of fields is collected and such list of fields is provided in each of the corresponding sections.

Some fields are related to different data sets, for example, resources described in 'Queue Details' are also described with the 'Resource Hierarchy Position' data set. In this case, a unique internal identifier of the entity is present in both data sets.

While in the examples files are provided only for several sample entities, in reality data will be provided for all entities relevant for the data set.

For all examples some sample names of the fields are taken, for activity, inventory and resource a random set of fields and properties is chosen.

4.4.1   Activity Fields

The 'Activity Fields' data set contains values of the fields and custom properties assigned to activities processed in the system during the extraction period. Activity Fields are exported in the Daily Extract file for which 'Activity Fields' is selected as the entity. Any activity properties and fields available in ETAdirect (for example, 'Activity ID', 'Activity status', 'Name', etc.) can be included in the Daily Extract by adding them to the file structure.

Depending on the requirements of the company, the list of exported properties and fields can be changed at any time by removing or adding certain fields.

Data can be retrieved as one or more XML files consisting of the 'appointments' root element which contains 'appointment' elements. 'appointment' elements are sets of 'Field' elements whose attributes are names of the fields and custom properties defined for the activities and whose contents are their corresponding values.

4.4.1.1 Example of Activity Fields File

Data is collected for several sample activities on the following fields in the following order (names of the fields and properties are written in **bold italics** and are just sample names):

- unique internal identifier of the activity in the system – ***Activity ID***

- date of the route the activity is assigned to – ***Activity Date***

- unique internal identifier of the route the activity is assigned to – ***Queue ID***

- status of the activity – ***Activity Status***

- name of the customer for whom the activity is provided – ***Customer name***

- custom property ***Is a VIP*** that has two values:

    - **1** – customer for whom the activity is provided is a VIP customer

    - **2** – customer for whom the activity is provided is not a VIP customer

- **Example of Activity Fields File. Wording**

The examples below contain data on two activities, *541118* and *56214*, assigned for *2013-11-08* to the same route, *546278*. Activity *54118* was provided for the customer with the name *John Smith*, who was *not a VIP person,* and the activity was *cancelled.*

Activity 56214 was provided for the customer whose name was not defined, but who was a VIP customer and the activity was completed.

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- **Example of Activity Fields XML File**

```xml
<?xml version="1.0" encoding="UTF-8"?>
<appointments>
  <appointment>
    <Field name="Activity ID">54118</Field>
    <Field name="Activity Date">2013-11-08</Field>
    <Field name="Activity Queue">546278</Field>
    <Field name="Activity Status">cancelled</Field>
    <Field name="Customer Name">John Smith</Field>
    <Field name="Is a VIP">1</Field>
  </appointment>
   <appointment>
    <Field name="Activity ID">56214</Field>
    <Field name="Activity Date">2013-11-08</Field>
    <Field name="Activity Queue">546278</Field>
    <Field name="Activity Status">completed</Field>
    <Field name="Customer Name" />
    <Field name="Is a VIP">2</Field>
  </appointment>
</appointments>
```

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4.4.2   Activity Link Fields

Details of all links defined between activities by the end of the extraction period can be extracted. Activity Link Fields are exported in the Daily Extract file for which 'Activity Link Fields' is selected as the entity. Any properties and fields used to define links between activities in ETAdirect (for example, 'Activity Link Type Label', '1st Activity ID', 'Resource External ID', etc.) can be included in the Daily Extract by adding them to the file structure.

Depending on the requirements of the company, the list of exported properties and fields can be changed at any time by removing or adding certain fields.

Data can be retrieved as one or more XML files consisting of the 'links' root element which contains 'link' elements. 'link' elements are sets of 'Field' elements whose attributes are names of the properties and fields used to identify entity types and whose contents are their corresponding values.

4.4.2.1 Example of Activity Link Fields File

Details of several sample links are provided in the examples. The following fields are extracted and have the following names (names are written in **bold italics**)

- unique internal identifier of the resource to which linked activity 1 is assigned – ***Resource ID Link1***
- unique internal identifier of the activity 1 – ***Activity ID Link1***
- date of the queue within which activity 1 is performed – ***Queue Date Link1***
- unique internal identifier of the queue within which activity 1 is performed – ***Queue ID Link1***
- unique internal identifier of the activity 2 – ***Activity ID Link2***
- date of the queue within which activity 2 is performed – ***Queue Date Link2***
- unique internal identifier of the queue within which activity 2 is performed – ***Queue ID Link2***
- unique internal identifier of the link type used between the activities – ***Link ID***
- sequence of the activities in the link – ***Sequence*** with possible values:
    - finish-to-start
    - start-to-start
    - simultaneous
- minimal interval between consequential activities – ***Min***
- maximal interval between consequential activities – ***Max***
- field restricting the linked activities assignment to resources – ***Assignment*** with the following values:
    - same resource
    - different resources
- field restricting the date selection for the linked activities – ***Scheduling*** with the following values:
    - same day
    - different days

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- **Example of Activity Link Fields File. Wording**

Details for links of resources *25874* and *65879* are collected. Resource *25874* is assigned activity *1478* that is linked to activity *1489* as *finish-to-start* (Link ID *1*). Activity *1489* assigned to queue *035* of *04 November 2013* can be performed only after the end of activity *1478* assigned to queue *058* of the same date. The minimal interval between two activities is *30* minutes, the maximal interval is *120* minutes. They must be performed by *different resources* on the *same day*.

At the same time activity *1478* is linked to activity *1576 simultaneously* (Link ID *2*), i.e. activity *1576* assigned to queue *087* should be started at the same time with activity *1478*.

Resource *65279* is assigned activity *1568* that is linked to activity *1645* as *start-to-start* (Link ID *3*). Activity *1586* is assigned to queue *087* of *04 November 2013* and activity *1645* is assigned to queue *098* of the same date. The minimal interval between activity *1645* and activity *1568* is *15* minutes, the maximal interval is not defined. They must be performed by *different resources* on the *same day.*

- **Example of Activity Link Fields XML File**

```
<?xml version="1.0" encoding="UTF-8"?>
<links>
  <link>
    <Field name="Resource ID Link1">25874</Field>
    <Field name="Activity ID Link1">1478</Field>
    <Field name="Queue Date Link1">04-11-2013</Field>
    <Field name="Queue ID Link1">058</Field>
    <Field name="Activity ID Link2">1489</Field>
    <Field name="Queue Date Link2">04-11-2013</Field>
    <Field name="Queue ID Link2">035</Field>
    <Field name="Link ID">1</Field>
    <Field name="Sequence">finish-to-start</Field>
    <Field name="Min">30</Field>
    <Field name="Max">120</Field>
    <Field name="Assignment">different resources</Field>
    <Field name="Scheduling">same day</Field>
  </link>
  <link>
    <Field name="Resource ID Link1">25874</Field>
    <Field name="Activity ID Link1">1478</Field>
    <Field name="Queue Date Link1">04-11-2013</Field>
    <Field name="Queue ID Link1">058</Field>
    <Field name="Activity ID Link2">1576</Field>
    <Field name="Queue Date Link2">04-11-2013</Field>
    <Field name="Queue ID Link2">087</Field>
    <Field name="Link ID">2</Field>
    <Field name="Sequence">simultaneous</Field>
    <Field name="Min"/>
    <Field name="Max"/>
```

```
       <Field name="Assignment"/>
       <Field name="Scheduling"/>
  </link>
  <link>
       <Field name="Resource ID Link1">65279</Field>
       <Field name="Activity ID Link1">1568</Field>
       <Field name="Queue Date Link1">04-11-2013</Field>
       <Field name="Queue ID Link1">087</Field>
       <Field name="Activity ID Link2">1645</Field>
       <Field name="Queue Date Link2">04-11-2013</Field>
       <Field name="Queue ID Link2">098</Field>
       <Field name="Link ID">3</Field>
       <Field name="Sequence">start-to-start</Field>
       <Field name="Min">15</Field>
       <Field name="Max"/>
       <Field name="Assignment">different resources</Field>
       <Field name="Scheduling">same day</Field>
  </link>
</links>
```

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4.4.3   Activity Work Skill Fields

The 'Activity Work Skill Fields' data set contains details of work skills per activity at the moment of extraction.

Activity Work Skill Fields are exported in the Daily Extract file for which 'Activity Work Skill Fields' is selected as the entity. The 'Activity Work Skill Fields' file can include only the following fields: 'Activity ID', 'Work Skill Preferable Level', 'Work Skill Required Level' and 'Activity Work Skill ID'.

Depending on the requirements of the company, the list of exported fields can be changed at any time by removing or adding certain fields.

Data can be retrieved as one or more XML files consisting of 'appt_work_skills' root element that contains 'appt_work_skill' elements. 'appt_work_skill' elements are sets of 'Field' elements whose attributes are names of activity work skill fields and whose contents are their corresponding values.

4.4.3.1 Example of Activity Work Skill Fields File

Details of several work skills for two activities are provided in the examples. The following fields are extracted and have the following names an order (names are written in **bold italics**):

- identifier of the activity – **aid**
- identifier of the work skill defined for the activity – **work_skill_id**
- required level of the skill for the activity – **required_level**
- preferable level of the skill for the activity – **preferable_level**

- **Example of Activity Work Skill Fields File. Wording**

Details of work skills for two activities *12345* an *23456* are extracted.

Activity *12345* requires two work skills – *Install* (identifier – *1*) and *Deinstall* (identifier – *2*). The required level for Install is *70* and preferable is *100*. The required level for Deinstall is *50* and preferable is *60*. Activity 23456 requires only one work skill – *Update* (identifier – *5*), required level for Update skill is *40* and preferable is *70*.

- **Example of Activity Work Skill Fields XML File**

```xml
<?xml version="1.0" encoding="UTF-8"?>
<appt_work_skills>
  <appt_work_skill>
      <Field name=aid">12345</Field>
      <Field name="work_skill_id">1</Field>
      <Field name="required_level">70</Field>
      <Field name="preferable_level">100</Field>
  </appt_work_skill>
  <appt_work_skill>
      <Field name=aid">12345</Field>
      <Field name="work_skill_id">2</Field>
      <Field name="required_level">50</Field>
      <Field name="preferable_level">60</Field>
  </appt_work_skill>
  <appt_work_skill>
      <Field name=aid">23456</Field>
      <Field name="work_skill_id">5</Field>
      <Field name="required_level">40</Field>
      <Field name="preferable_level">70</Field>
  </appt_work_skill>
</appt_work_skills>
```

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4.4.4   GPS Data Fields ('gpsman')

The 'GPS Data Fields' ('gpsman') data set contains the details of all GPS data uploads received by ETAdirect from external systems during the extraction period. The ETAdirect-meaningful data is extracted into separate fields and the rest is kept in the 'properties' in json format as is.

GPS Data Fields are exported in the Daily Extract file for which 'GPS Data Fields' is selected as the entity. Any GPA Data fields available in ETAdirect (for example, 'latitude', 'longitude', 'src_type', etc.) can be included in the Daily Extract by adding them to the file structure.

Note: field name editing is not allowed for this entity.

Depending on the requirements of the company, the list of exported properties and fields can be changed at any time by removing or adding certain fields.

Data can be retrieved as one or more XML files consisting of 'positions' root element that contains 'position' elements. 'position' elements are sets of 'Field' elements whose attributes are names of GPS Data fields and whose contents are their corresponding values.

4.4.4.1 Example of GPS Data Fields File

Details of several GPS data uploads are provided in the examples. The following fields are extracted and have the following names and order (names are written in ***bold italics***):

- identifier of entity for which GPS data is uploaded (string) – ***src_entity***
- type of entity for which GPS data is uploaded – ***src_type***

  possible values: *user, device, resource*
- identifier of entity to which GPS data is assigned – ***dst_entity***
- type of entity to which GPS data is assigned – ***dst_type***

  the only possible value is resource
- x coordinate of the position – ***longitude***
- y coordinate of the position – ***latitude***
- timestamp received along with the GPS data – ***time***
- properties – the array in json format of any other properties received along with the position

- **Example of GPS Data Fields File. Wording**

Details of two GPS data uploads are provided. The first one was received from the mobile phone (*device*) with external id *12345* and assigned to resource *330009*. At *09:08:15*, *10 Oct 2013* the device was at (*48º 51' 32" North; 02º 17' 45" West*). Another set of data was received from the device used by *user* with external ID *678907* and assigned to resource *430018*. At *21:10:15*, *10 Oct 2013* the user was at (*41° 22' 51" North; 02° 07' 22" East*).

- **Example of GPS Data Fields XML File**

```xml
<?xml version="1.0" encoding="UTF-8"?>
 <positions>
   <position>
     <Field name="src_entity">12345</Field>
     <Field name="src_type">device</Field>
     <Field name="dst_entity">330009</Field>
     <Field name="dst_type">resource</Field>
     <Field name="longitude">48.858889</Field>
     <Field name="latitude">-2.295833</Field>
     <Field name="time">2012-04-10 09:08:15</Field>
     <Field name="properties"/>
   </position>
   <position>
     <Field name="src_entity">678907</Field>
     <Field name="src_type">user</Field>
     <Field name="dst_entity">430018</Field>
     <Field name="dst_type">resource</Field>
     <Field name="longitude">41.380833</Field>
     <Field name="latitude">2.122778</Field>
     <Field name="time">2012-04-10 21:10:15</Field>
     <Field name="properties"/>
   </position>
 </positions>
```

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4.4.5   GPS Track Fields ('gpstracks')

The 'GPS Track Fields' ('gpstracks') contains data calculated on the basis of the GPS data in ETAdirect in fixed format native for ETAdirect. All GPS data collected for each resource in the course of extraction period is gathered.

GPS Track Fields are exported in the Daily Extract file for which 'GPS Track Fields' is selected as the entity. Any GPS Track fields available in ETAdirect (for example, 'distance', 'idle', 'status', etc.) can be included in the Daily Extract by adding them to the file structure.

Note: field name editing is not allowed for this entity.

Depending on the requirements of the company, the list of exported properties and fields can be changed at any time by removing or adding certain fields.

Data can be retrieved as one or more XML files consisting of 'tracks' root element that contains 'track' elements. 'track' elements are sets of 'Field' elements whose attributes are names of GPS Track fields and whose contents are their corresponding values.

4.4.5.1 Example of GPS Track Fields File

Details of two positions of a resource are provided in the examples. The following fields are extracted and have the following names and order (names are written in **_bold italics_**):

- id of the queue for which the geolocation data has been received – **_queue_id_**
- id of the activity started at the moment of the data collection or if there were no started activities at the moment of the next activity in the resource queue – **_aid_**
- timestamp received along with the GPS data – **_time_**
- x coordinate of the position – **_longitude_**
- y coordinate of the position – **_latitude_**
- distance from the resource's location to the '_aid'_ activity – **_distance_**
- location status – **_status_**
- number of seconds the resource spent in the point – **_idle_**

- **Example of GPS Track Fields File. Wording**

Details of two positions of a resource are provided in the examples.

On _10 October, 2012_ , which corresponds to queue _00234_, at _09:08:15, 10 October, 2013_ the resource was at (_41° 22' 51" North; 02° 07' 22" East_) performing activity _89765_ and the location of the resource _fully complied with the route_. On the same day at _10:25:45_ the resource was at (_41° 25' 49" North; 02° 27' 25" East) 5230_ meters away from the next activity _96754_. The resource had spent _36000_ seconds at this point, which _exceeds the idle threshold_.

- **Example of GPS Track Fields XML File**

```xml
<?xml version="1.0" encoding="UTF-8"?>
 <tracks>
   <track>
     <Field name="queue_id">00234</Field>
     <Field name="aid">89765</Field>
     <Field name="time">2012-04-10 09:08:15</Field>
     <Field name="longitude">41.380833</Field>
     <Field name="latitude">2.122778</Field>
     <Field name="distance">0</Field>
     <Field name="status">0</Field>
     <Field name="latitude" />
   </track>
   <track>
     <Field name="queue_id">00234</Field>
     <Field name="aid">96754</Field>
     <Field name="time">2012-04-10 10:25:45</Field>
     <Field name="longitude">41.430278</Field>
     <Field name="latitude">2.456944</Field>
     <Field name="distance">5230</Field>
     <Field name="status">8</Field>
     <Field name="latitude">36000</Field>
   </track>
</tracks>
```

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4.4.6   Inventory Fields

The 'Inventory Fields' data set contains all fields and properties assigned to all inventory items, except inventory in resources' pools, available in the system by the end of extraction period.

Inventory Fields are exported in the Daily Extract file for which 'Inventory Fields' is selected as the entity. Any inventory properties and fields available in ETAdirect (for example, 'Inventory ID', 'Model', 'Quantity', etc.) can be included in the Daily Extract by adding them to the file structure.

Depending on the requirements of the company, the list of exported properties and fields can be changed at any time by removing or adding certain fields.

Data can be retrieved as one or more XML files consisting of 'inventories' root element that contains 'inventory' elements. 'inventory' elements are sets of 'Field' elements whose attributes are names of fields and custom properties defined for the inventory and whose contents are their corresponding values.

4.4.6.1 Example of Inventory Fields File

For example, data on the sample inventory items is collected for the following fields in the following order (names of the fields and properties are written in **bold italics** and are just sample names):

- unique internal identifier of the inventory item – **Inventory ID**
- pool to which the inventory item belongs – **Inventory Pool** with possible values:
    - **customer** – inventory was at the customer's site before the activity performance
    - **install** – inventory was installed in the course of the activity
    - **deinstall** – inventory was deinstalled in the course of the activity
- unique internal identifier of the activity, to which the inventory item is assigned – **Activity ID**
- inventory type – **Inventory Type**
- serial number – **Serial No**
- quantity of non-serialized inventory – **Quantity**
- custom property **Manufacturer Name** that corresponds to the inventory manufacturer name

- **Example of Inventory Fields File. Wording**

The data is collected for two inventory items – *customer* inventory *456890* of inventory type *Cable Video,* serial number *PTI1234789* assigned to activity *100067* manufactured by *Sample Manufacturer Ltd*. and *install* inventory *908764*, of inventory type *Ethernet Cable*, quantity 300 ft*,* used in the same activity.

- **Example of Inventory Fields XML File**

```xml
<?xml version="1.0" encoding="UTF-8"?>
<inventories>
  <inventory>
    <Field name="Inventory ID">456890</Field>
    <Field name="Inventory Pool">customer</Field>
    <Field name="Activity ID">100067</Field>
    <Field name="Inventory Type">Cable Video</Field>
    <Field name="Serial No">PTI1234789</Field>
    <Field name="Quantity">1</Field>
    <Field name="Manufacturer Name">Sample Manufacturer ltd.</Field>
  </inventory>
   <inventory>
    <Field name="Inventory ID">908764</Field>
    <Field name="Inventory Pool">install</Field>
    <Field name="Activity ID">100067</Field>
    <Field name="Inventory Type">Ethernet Cable</Field>
    <Field name="Serial No"/>
    <Field name="Quantity">300</Field>
    <Field name="Manufacturer Name"/>
  </inventory>
</inventories>
```

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4.4.7   Message Fields

Message Fields are basic details on all messages that were sent or were to be sent by the system during the extraction period, including messages that were blocked with message blocking conditions and/or firewalls.

Message Fields are exported in the Daily Extract file for which 'Message Fields' is selected as the entity. Any message properties and fields available in ETAdirect (for example, 'Message ID', 'Message Address', 'Time of Message Sending', etc.) can be included in the Daily Extract by adding them to the file structure.

Depending on the requirements of the company, the list of exported properties and fields can be changed at any time by removing or adding certain fields.

Data can be retrieved as one or more XML files consisting of 'messages' root element that contains 'message' elements. 'message' elements are sets of 'Field' elements whose attributes are names of fields and custom properties defined for the message and whose contents are their corresponding values.

Note: date and time values in the 'Message Fields' file are exported in GMT time zone.

4.4.7.1 Example of Message Fields File

As the message detail fields are rather extensive, only some of the fields will be chosen for the examples below. Data for the following fields in the following order and with the following names is extracted in the example (names are written in **bold italics**)

- internal unique string identifier of the message – ***Message ID***
- unique internal identifier of the queue – ***Queue ID***
- unique internal identifier of the activity – ***Activity ID***
- unique internal identifier of the inventory item – ***Inventory ID***
- recipient of the message – ***Message Recipient***
- unique identifier of the customer – ***Customer ID***
- UTC date and time when the message was sent – ***Date&Time (UTC)***
- name of the message scenario – ***Message Scenario***
- name of the scenario step – ***Scenario Step***
- method of notification – ***Notification Method***
- final status of the message – ***Final Status***
- description, complementing the final status – ***Status Description***

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- **Example of Message Fields File. Wording**

In the example data is provided for message *7224*. The message was created within the queue with ID *5352* for activity with ID *3949.* The message is not related to inventory and had to be sent to customer with external ID *019980*. The message was attempted to be sent on *08-11-2013 at 17:09:24* and was created with the *'Day_before'* message scenario at its start step – *'day_before'*. Method of notification was an outbound voice call (*voice*). The message could not be delivered (*falsemethod*) as *customer phone was not available*.

- **Example of Message Fields XML File**

```
<?xml version="1.0" encoding="UTF-8"?>
<messages>
  <message>
    <Field name="Int Message ID">7224</Field>
    <Field name="Queue ID">5352</Field>
    <Field name="Activity ID">3949</Field>
    <Field name="Inventory ID"/>
    <Field name="Message Recipient">customer</Field>
    <Field name="Customer ID">019980</Field>
    <Field name="Date&Time (UTC)">08-11-2013 17:09:24</Field>
    <Field name="Message Scenario">Day_before</Field>
    <Field name="Scenario Step">day_before</Field>
    <Field name="Notification Method">voice</Field>
    <Field name="Final Status">falsemethod</Field>
    <Field name="Status
Description">'CUSTOMER_PHONE_IS_NOT_AVAILABLE'</Field>
  </message>
</messages>
```

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4.4.8   Message Text Fields

The 'Message Text Fields' data set contains the details of texts of all messages that were sent or were to be sent by the system during the extraction period.

Message Text Fields are exported in the daily Extract file for which 'Message Text Fields' is selected as the entity. The 'Message Text Fields' file can include only the following fields: 'Message Body', 'Message ID' and 'Message Subject'.

Depending on the requirements of the company, the list of exported properties and fields can be changed at any time by removing or adding certain fields.

Data can be retrieved as one or more XML files consisting of 'message_texts' root element that contains 'message_text' elements. 'message_text' elements are sets of 'Field' elements whose attributes are names of fields and custom properties defined for the message and whose contents are their corresponding values.

4.4.8.1 Example of Message Text Fields File

Text details of one sample message are provided in the examples. The following fields are extracted and have the following names (names are written in **bold italics**)

- unique internal identifier of the message – ***Message ID***
- subject of the message – ***Message Subject***
- body of the message – ***Message Body***

- **Example of Message Text Fields File. Wording**

In the example text details for message with ID *7224595* are provided. The message is an XML file.

- **Example of Message Text Fields XML File**

```
<?xml version="1.0" encoding="UTF-8"?>
<message_texts>
  <message_text>
    <Field name="Message ID">7224595</Field>
    <Field name="Message Subject"><![CDATA[<set> <servers
host=""http://BestCable.etadirect.com:8080/outbound?
mapname=BestCable&amp;timeout=350""> <prefix>555</prefix> </servers>
</set>]]></Field>
    <Field name="Message Body"><![CDATA['<envelope company=""BestCable""
file=""day_before.tpl.vxml"" from=""08:00"" to=""10:00""> <add
work_order_class=""*"" work_order_type=""IN"" cphone=""555310218001"" />
</envelope>']]></Field>
  </message_text>
</message_texts>
```

4.4.9   PAS Answer Fields

The 'PAS Answer Fields' data set contains details of customer's answers to questions asked in the Post Appointment Survey that are present in the system with status 'delivered' by the moment of extraction.

PAS Answer Fields are exported in the Daily Extract file for which 'PAS Answer Fields' is selected as the entity.

Any PAS answer properties and fields available in ETAdirect (for example, 'PAS Question Number', 'Message ID', 'PAS-Related Activity ID', etc.) can be included in the Daily Extract by adding them to the file structure.

Depending on the requirements of the company, the list of exported properties and fields can be changed at any time by removing or adding certain fields.

Data can be retrieved as one or more XML files consisting of 'pas_answers' root element that contains 'pas_answer' elements. 'pas_answer' elements are sets of 'Field' elements whose attributes are names of PAS question fields and whose contents are their corresponding values.

Note: date and time values in the 'Pas Answer Fields' file are exported in GMT time zone.

4.4.9.1 Example of PAS Answer Fields File

Details of several PAS answers are provided in the examples. The following fields are extracted and have the following names an order (names are written in **_bold italics_**)

- identifier of the question, to which the answer is given – **_qid_**
- date and time of the activity on which the questions were asked – **_date_**
- identifier of the activity at which the answer is given – **_aid_**
- identifier of the message with which the question is asked – **_mid_**
- number of the question, to which the answer is given – **_qnum_**
- customer's answer – **_answ_**

- **Examples of PAS Answer Fields File. Wording**

Details for answers to questions _101_ an _102_ are extracted for activity _34567_ performed on _November 8, 2013_, the questions were asked within message _567_. Answer to both questions was '_Yes_'.

- **Example of PAS Answer Fields XML File**

```xml
<?xml version="1.0" encoding="UTF-8"?>
<pas_answers>
  <pas_answer>
    <Field name="qid">101</Field>
    <Field name="date">08-03-2011</Field>
    <Field name="aid">34567</Field>
    <Field name="mid">567</Field>
    <Field name="qnum">01</Field>
    <Field name="answ">Y</Field>
  </pas_answer>
  <pas_answer>
    <Field name="qid">102</Field>
    <Field name="date">08-03-2011</Field>
    <Field name="aid">34567</Field>
    <Field name="mid">567</Field>
    <Field name="qnum">02</Field>
    <Field name="answ">Y</Field>
  </pas_answer>
</pas_answers>
```

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4.4.10   PAS Question Fields

The 'PAS Question Fields' data set contains details of questions for Post Appointment Surveys by the moment of extraction.

PAS Question Fields are exported in the Daily Extract file for which 'PAS Question Fields' is selected as the entity. The 'PAS Question Fields' file can include only the following fields: 'PAS Question Language', 'PAS Question ID' and 'PAS Question Text'.

Depending on the requirements of the company, the list of exported properties and fields can be changed at any time by removing or adding certain fields.

Data can be retrieved as one or more XML files consisting of 'pas_questions' root element that contains 'pas_question' elements. 'pas_question' elements are sets of 'Field' elements whose attributes are names of PAS question fields and whose contents are their corresponding values.

4.4.10.1   Example of PAS Question Fields File

Details of several PAS questions are provided in the examples. The following fields are extracted and have the following names an order (names are written in **_bold italics_**)

- identifier of the question – **_qid_**
- identifier of the language used for the question – **_lid_**
- text of the question – **_text_**

- **Example of PAS Question Fields File. Wording**

Details for two questions are extracted: Question _101_ – '_Are you satisfied with the service provided?_' and Question _102_ – '_Was the service provided on time?_'

- **Example of PAS Question Details XML File**

```
<?xml version="1.0" encoding="UTF-8"?>
<pas_questions>
  <pas_question>
    <Field name="qid">101</Field>
    <Field name="lid">1</Field>
  <Field name="text">"Are you satisfied with the service provided?"</Field>
  </pas_question>
  <pas_question>
    <Field name="qid">102</Field>
    <Field name="lid">1</Field>
    <Field name="text">"Was the service provided on time?"</Field>
 </pas_question>
</pas_questions>
```

4.4.11   Property Fields

The 'Property Fields' data set contains details of all fields and custom properties available in the system by the end of extraction period.

Property Fields are exported in the Daily Extract file for which 'Property Fields' is selected as the entity. Any property fields available in ETAdirect (for example, 'Property ID', 'Property Name', 'Property Label', etc.) can be included in the Daily Extract by adding them to the file structure.

Depending on the requirements of the company, the list of exported properties and fields can be changed at any time by removing or adding certain fields.

Data can be retrieved as one or more XML files consisting of 'properties' root element that contains 'property' elements. 'property' elements are sets of 'Field' elements whose attributes are names of fields and custom properties defined for the property and whose contents are their corresponding values.

4.4.11.1   Example of Property Fields File

Details of several sample properties are provided in the examples. The following fields are extracted and have the following names (names are written in ***bold italics***)

- unique internal identifier of the property in the system – ***Property ID***
- name of the property – ***Property Name***
- unique external identifier of the field/property – ***Property Label***
- integer that corresponds to the type of entity to which the the property belongs – ***Property Type*** with the following values:
  - **1** – activity
  - **2** – inventory
  - **3** – resource
  - **5** – service request
  - **9** – user
  - **10** – required inventory

- **Example of Property Fields File. Wording**

Details for Properties *154897*, *248961*, *356894, 568743, 657456* are exported. *154897* is '*Activity ID*' labelled as '*a_id*' and related to an *activity*. *248961* is '*Credence*' labelled as '*credence*' and related to a *resource*. *356894* is '*Inventory Pool*' labelled as '*i_pool*' and related to *inventory* and *568743* is '*Request Date*' labelled '*sreq_date*' and related to a *service request*. *657456* is '*Logged-in Last*', labelled as '*last_login_date'* and related to a *user*.

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• **Example of Property Fields XML File**

```xml
<?xml version="1.0" encoding="UTF-8"?>
<properties>
  <property>
    <Field name="Property ID">154897</Field>
    <Field name="Property Name">Activity ID</Field>
    <Field name="Property Label">a_id</Field>
    <Field name="Property Type">1</Field>
  </property>
  <property>
    <Field name="Property ID">248961</Field>
    <Field name="Property Name">Credence/Field>
    <Field name="Property Label">credence</Field>
    <Field name="Property Type">3</Field>
  </property>
  <property>
    <Field name="Property ID">356894</Field>
    <Field name="Property Name">Inventory Pool</Field>
    <Field name="Property Label">i_pool</Field>
    <Field name="Property Type">2</Field>
  </property>
  <property>
    <Field name="Property ID">568743</Field>
    <Field name="Property Name">Request Date</Field>
    <Field name="Property Label">sreq_date</Field>
    <Field name="Property Type">5</Field>
  </property>
  <property>
    <Field name="Property ID">657456</Field>
    <Field name="Property Name">Logged-in Last</Field>
    <Field name="Property Label">last_login_date</Field>
    <Field name="Property Type">9</Field>
  </property>
</properties>
```

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4.4.12   Property File Fields

Daily Extract supports export of the contents of the file properties (images, files in pdf-format, etc.) available in the system by the end of the extraction period.

Property File Fields are exported in the Daily Extract file for which 'Property File Fields' is selected as the entity. The only property file field available in ETAdirect is 'property_file'.

Note: field name editing is not allowed for this entity.

File properties are exported in their original format or added to the archive, if archives are used. File properties are exported under names created according to the following pattern:

```
companyName_propertyID_entityID_filename
```

where:

- companyName – name of the company in ETAdirect

- propertyID – numeric ID of the file property in ETAdirect

- entityID – numeric ID of the entity (activity, inventory, resource, support request) to which the file property is attached. The 'entityID' is obtained from the corresponding tables in the database

- filename – name of the file attached to the file property

For example, image file *06082013036.png* attached to file property with ID *563* being a property of activity *23244105* in company *Sunrise* will be exported under the following name:

```
sunrise_563_23244105_06082013036.png
```

4.4.13   Property Lookup Fields

The 'Property Lookup Fields' data set contains the values that can be used to identify properties available in the system by the end of extraction period can be collected. Such details are fixed sets of fields.

Property Lookup Fields are exported in the Daily Extract file for which 'Property Lookup Fields' is selected as the entity. The 'Property Lookup Fields' file can include only the following fields: 'Property ID', 'Property Language', 'Property Name' and 'Text Entry Identifier'

Depending on the requirements of the company, the list of exported properties and fields can be changed at any time by removing or adding certain fields.

Data can be retrieved as one or more XML files consisting of 'properties' root element that contains 'property' elements. 'property' elements are sets of 'Field' elements whose attributes are names of fields used to identify the property and whose contents are their corresponding values.

4.4.13.1   Example of Property Lookup Fields File

Details of several sample properties are provided in the examples. The following fields are extracted and have the following names (names are written in ***bold italics***).

- unique internal identifier of the property in the system – ***Property ID***
- integer that corresponds to the language of the property – ***Property Language***
    - ***1 – English***
    - ***2 – Spanish***
- number of default value – ***Property Index***
- name of the property or its default value – ***Property Text***

- **Example of Property Lookup Fields File. Wording**

Details for Properties *154897*, *356850* are exported. *154897* is '*Activity ID*', two languages can be used for the property and there are no values to choose from. *356850* is '*Resource Type*', two languages can be used for the property and there are three values the resource type can be chosen from.

- **Example of Property Lookup Fields XML File**

```xml
<?xml version="1.0" encoding="UTF-8"?>
<properties>
  <property>
    <Field name="Property ID">154897</Field>
    <Field name="Property Language">1</Field>
    <Field name="Property Index">0</Field>
    <Field name="Property Text">Activity ID</Field>
  </property>
   <property>
    <Field name="Property ID">154897</Field>
    <Field name="Property Language">2</Field>
    <Field name="Property Index">0</Field>
    <Field name="Property Text">ID de Actividad</Field>
  </property>
   <property>
    <Field name="Property ID">356850</Field>
    <Field name="Property Language">1</Field>
    <Field name="Property Index">0</Field>
    <Field name="Property Text">Resource Type</Field>
  </property>
  <property>
    <Field name="Property ID">356850</Field>
    <Field name="Property Language">2</Field>
    <Field name="Property Index">0</Field>
    <Field name="Property Text">Tipo de Recurso</Field>
  </property>
   <property>
    <Field name="Property ID">356850</Field>
    <Field name="Property Language">1</Field>
    <Field name="Property Index">1</Field>
    <Field name="Property Text">Technician</Field>
  </property>
  <property>
    <Field name="Property ID">356850</Field>
    <Field name="Property Language">2</Field>
    <Field name="Property Index">1</Field>
    <Field name="Property Text">Tecnico</Field>
  </property>
   <property>
    <Field name="Property ID">356850</Field>
    <Field name="Property Language">1</Field>
    <Field name="Property Index">2</Field>
    <Field name="Property Text">Bucket</Field>
  </property>
  <property>
```

```
    <Field name="Property ID">356850</Field>
    <Field name="Property Language">2</Field>
    <Field name="Property Index">2</Field>
    <Field name="Property Text">Cubo</Field>
  </property>
  <property>
    <Field name="Property ID">356850</Field>
    <Field name="Property Language">1</Field>
    <Field name="Property Index">3</Field>
    <Field name="Property Text">Group</Field>
  </property>
  <property>
    <Field name="Property ID">356850</Field>
    <Field name="Property Language">2</Field>
    <Field name="Property Index">3</Field>
    <Field name="Property Text">Grupo</Field>
  </property>
</properties>
```

4.4.14   Queue Fields

The 'Queue Fields' data set contains values of the fields and properties assigned by the end of the extraction period to routes processed in the system during the extraction period, as well as fields and properties of the resources, to which each route is directly assigned by the end of the extraction period.

Queue Fields are exported in the Daily Extract file for which 'Queue Fields' is selected as the entity. Any route properties and fields available in ETAdirect (for example, 'Queue ID', 'Resource ID', 'Status', etc.) can be included in the Daily Extract by adding them to the file structure.

Note: route identifiers are unique within the single extraction, except identifier '0' which can be used more than once. Route identifier '0' is used to extract properties of buckets, groups, etc., that is, resources having no own queues. In this case, the resource is identified by its ID, and the same file can have multiple 'queue' elements containing queue identifier '0'. In all cases, the 'queue identifier' + 'resource identifier' combination is unique per extraction.

Depending on the requirements of the company, the list of exported properties and fields can be changed at any time by removing or adding certain fields.

Data can be retrieved as one or more XML files consisting of 'queues' root element that contains 'queue' elements. 'queue' elements are sets of 'Field' elements whose attributes are names of fields and custom properties defined for the route and resource executing the route and whose contents are their corresponding values.

Note: date and time values in the 'Queue Fields' file are exported in the resource time zone.

4.4.14.1   Example of Queue Fields File

For example, data on the sample queues is collected on the following fields in the following order (names of the fields and properties are written in **_bold italics_** and are just sample names):

- date of the route – **_Queue Data_**
- unique internal identifier of the route – **_Queue ID_**
- unique internal identifier of the resource executing the route – **_Resource ID_**
- name of the resource executing the route – **_Resource Name_**
- scheduled work day start for the resource executing the route – **_Day Start_**
- scheduled work day end for the resource executing the route – **_Day End_**
- custom property **_Credence_** that corresponds to credence of the resource executing the route

- **Example of Queue Fields File. Wording**

The data is collected for two routes of November 8, 2013; Route 546279 is assigned to resource 500001, Walter Ambriz, whose working day by the calendar is from 1 to 8 pm, and Route 535788 is assigned to resource 500123, Jennifer White, whose working day is actually an overnight from 10 pm to 8 am of the next day. No credence is provided for Jennifer.

- **Example of Queue Fields XML File**

```xml
<?xml version="1.0" encoding="UTF-8"?>
<queues>
  <queue>
    <Field name="Queue Date">2013-11-08</Field>
    <Field name="Queue ID">546279</Field>
    <Field name="Resource ID">500001</Field>
    <Field name="Resource Name"> Walter Ambriz</Field>
    <Field name="Day Start">13:00</Field>
    <Field name="Day End">20:00</Field>
    <Field name="Credence">Walter Ambriz, an install technician with our
company, will be arriving at your requested location to meet your digital
cable and internet needs. Walter has successfully completed our extensive
certification program and has passed all given motor vehicle, drug and
background screenings.</Field>
  </queue>
   <queue>
  <Field name="Queue Date">2013-11-08</Field>
    <Field name="Queue ID">535788</Field>
    <Field name="Resource ID">500123</Field>
    <Field name="Resource Name">Jennifer White</Field>
    <Field name="Day Start">22:00</Field>
    <Field name="Day End">08:00</Field>
    </Field name="Credence"/>
  </queue>
</queues>
```

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4.4.15   Resource Fields

The 'Resource Fields' data set contains all fields and properties assigned to the resource, as well as its position in the Resource Tree, available in the system by the end of extraction period.

Resource Fields are exported in the Daily Extract file for which 'Resource Fields' is selected as the entity. Any resource properties and fields available in ETAdirect (for example, 'Resource ID', 'Status', 'Resource Parent', etc.) can be included in the Daily Extract by adding them to the file structure.

Depending on the requirements of the company, the list of exported properties and fields can be changed at any time by removing or adding certain fields.

Data can be retrieved as one or more XML files consisting of 'providers' root element that contains 'provider' elements. 'provider' elements are sets of 'Field' elements whose attributes are names of fields and custom properties defined for the resource and whose contents are their corresponding values.

4.4.15.1   Example of Resource Fields File

For example, data is extracted in a file for the following Resource Tree:
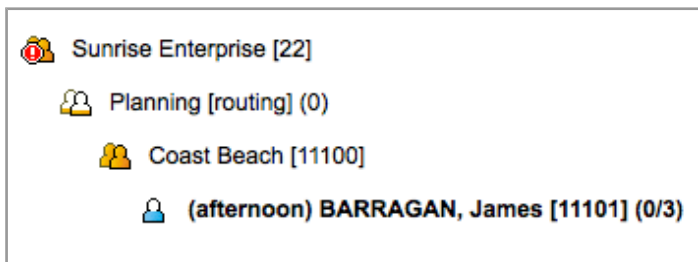
The following fields are extracted (names are written in **bold italics** and are sample names):

- unique identifier of the resource in the system – **Resource ID**
- name of the resource – **Resource Name**
- type of the resource – **Resource Type** with the following values: defined for the company at the implementation level, for example: **1** – technician, **2** – group of resources, **3** – bucket
- flag of Resource status – **Is Resource Active** (1 – resource is active and 0 – resource is inactive)
- unique identifier of the group of resources or bucket to which the resource belongs – **Owner ID**
- name of the group of resources or bucket to which the resource belongs – **Owner Name**
- integer that defines the subordination level – **Subordination**

- **Example of Resource Fields File. Wording**

Data in the ResourcePosition is collected for the following resources:

- Resource *1* named *Sunrise Enterprise*, of a 'Group of resources' type (in our example the type corresponds to *3*)
- Resource *10000* named *Planning*, of 'Group of resources' type (in our example the type corresponds to *3*)

- Resource *11000* named *Coast Beach*, of a 'Bucket type' (in our example the type corresponds to *2*)
- Resource *10001* named *BARRAGAN, James* of a 'Technician' type (in our example the type corresponds to *1*)

In our exampled *BARRAGAN, James* belongs to *Coast Beach*, *Coast Beach* is a child resource of *Planning* and *Planning* belongs to *Sunrise Enterprise*.

This way all resources are active and:

- Resource *10000* (*Planning*) belong to Resource *1* (*Sunrise Enterprise*) only and the subordination level is *1*
- Resource *11000* (*Coast Beach*) belongs to Resource *10000* (*Planning*) with subordination level *1* and belongs to Resource *1* (*Sunrise Enterprise*) with subordination level *2*
- Resource *10001* (*BARRAGAN, James*) belongs to Resource *11000* (*Coast Beach*) with subordination level *1,* belongs to Resource *10000* (*Planning*) with subordination level *2* and belongs to Resource *1* (*Sunrise Enterprise*) with subordination level *3*

- **Example of Resource Fields XML File**

```xml
<?xml version="1.0" encoding="UTF-8"?>
<providers>
  <provider>
    <Field name="Resource ID">10000</Field>
    <Field name="Resource Name">Planning</Field>
    <Field name="Resource Type">3</Field>
    <Field name="Is Resource Active">1</Field>
    <Field name="Owner ID">1</Field>
    <Field name="Owner Name">Sunrise Enterprise</Field>
    <Field name="Subordination">1</Field>
  </provider>
    <provider>
    <Field name="Resource ID">11000</Field>
    <Field name="Resource Name">Coast Beach</Field>
    <Field name="Resource Type">2</Field>
    <Field name="Is Resource Active">1</Field>
    <Field name="Owner ID">10000</Field>
    <Field name="Owner Name">Planning</Field>
    <Field name="Subordination">1</Field>
  </provider>
  <provider>
    <Field name="Resource ID">11000</Field>
    <Field name="Resource Name">Coast Beach</Field>
    <Field name="Resource Type">2</Field>
    <Field name="Is Resource Active">1</Field>
    <Field name="Owner ID">1</Field>
    <Field name="Owner Name">Sunrise Enterprise</Field>
```

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```
      <Field name="Subordination">2</Field>
  </provider>
  <provider>
    <Field name="Resource ID">10001</Field>
    <Field name="Resource Name">BARRAGAN, James</Field>
    <Field name="Resource Type">1</Field>
    <Field name="Is Resource Active">1</Field>
    <Field name="Owner ID">11000</Field>
    <Field name="Owner Name">Coast Beach</Field>
    <Field name="Subordination">1</Field>
  </provider>
  <provider>
    <Field name="Resource ID">10001</Field>
    <Field name="Resource Name">BARRAGAN, James</Field>
    <Field name="Resource Type">1</Field>
    <Field name="Is Resource Active">1</Field>
    <Field name="Owner ID">10000</Field>
    <Field name="Owner Name">Planning</Field>
    <Field name="Subordination">2</Field>
  </provider>
<provider>
    <Field name="Resource ID">10001</Field>
    <Field name="Resource Name">BARRAGAN, James</Field>
    <Field name="Resource Type">1</Field>
    <Field name="Is Resource Active">1</Field>
    <Field name="Owner ID">1</Field>
    <Field name="Owner Name">Sunrise Enterprise</Field>
    <Field name="Subordination">2</Field>
  </provider>
</providers>
```

4.4.16   Resource Location Fields

Details for all resource locations existing in the system by the end of the extraction period can be extracted.

Resource Location Fields are exported in the Daily Extract file for which 'Resource Location Fields' is selected as the entity. The 'Resource Location Fields' file can include only the following fields: 'Latitude', 'Longitude', 'Location label', 'Location Type' and 'Resource ID'.

Depending on the requirements of the company, the list of exported properties and fields can be changed at any time by removing or adding certain fields.

Data can be retrieved as one or more XML files consisting of 'locations' root element that contains 'location' elements. 'location' elements are sets of 'Field' elements whose attributes are names of resource properties and whose contents are their corresponding values.

4.4.16.1   Examples of Resource Location File

Details of two resource locations are provided in the examples. The following fields are extracted and have the following names and order (names are written in **bold italics**):

- unique internal identifier of the resource to which the location is assigned – **system_pid**

- external identifier of the resource to which the location is assigned – **provider_id**

- location type – **location_type**

- location label – **location_label**

- geographic coordinates resolved for the location – **coord_x, coord_y**

- days of the week on which the location is assigned to the resource – **weekdays**

   possible values: 0 – No, 1 – Mo, 2 – Tu, 3 – We, 4 – Th, 5 – Fr, 6 – Sa, 7 – Su

- **Example of Resource Location File. Wording**

Details of two resource locations are provided in the examples:

Location of type '*start*', labelled '*warehouse*', assigned to resource with internal identifier *Basile Terry*, external identifier *33035*, geographic coordinates of the location are *-106.03448* and *39.64311*, the location is assigned to the resource on *Mondays, Wednesdays* and *Saturdays*.

Location of type '*end*', labelled '*garage*', assigned to the same resource geographic coordinates of the location are *-104.59838* and *38.28359*, the location is assigned to the resource on *Mondays, Wednesdays* and *Saturdays*.

- **Example of Resource Location XML File**

```xml
<?xml version="1.0" encoding="UTF-8"?>
<locations>
  <location>
    <Field name="system_pid">Basile Terry</Field>
    <Field name="provider_id">33035</Field>
    <Field name="location_type">start</Field>
    <Field name="location_label">warehouse</Field>
    <Field name="coord_x">-106.03448</Field>
    <Field name="coord_y">39.64311</Field>
    <Field name="weekdays">137</Field>
  </location>
  <location>
    <Field name="system_pid">Basile Terry</Field>
    <Field name="provider_id">33035</Field>
    <Field name="location_type">end</Field>
    <Field name="location_label">garage</Field>
    <Field name="coord_x">-104.59838</Field>
    <Field name="coord_y">338.28359 </Field>
    <Field name="weekdays">137</Field>
  </location>
</locations>
```

4.4.17   Resource Property Fields

The 'Resource Property Fields' data set contains details of work skills per resource at the moment of extraction.

Resource Property Fields are exported in the Daily Extract file for which 'Resource Property Fields' is selected as the entity. Any resource properties and fields available in ETAdirect (for example, 'Resource External ID', 'Email address', 'Status', etc.) can be included in the Daily Extract by adding them to the file structure.

Depending on the requirements of the company, the list of exported properties and fields can be changed at any time by removing or adding certain fields.

Data can be retrieved as one or more XML files consisting of 'provider_properties' root element that contains 'provider_property' elements. 'provider_property' elements are sets of 'Field' elements whose attributes are names of resource properties and whose contents are their corresponding values.

4.4.17.1   Examples of Resource Property Fields File

Properties of two resources are provided in the examples. The following fields are extracted and have the following names and order (names are written in **_bold italics_**):

- unique internal identifier of the resource – **_provider_id_**
- resource name – **_provider_name_**
- resource type – **_provider_type_**
- resource's status – **_provider_active_**

    possible values: 0 – inactive, 1 – active
- custom properties containing the resource's address – **_custom_property_1 (1-4)_**

- **Example of Resource Property Fields File. Wording**

Details of properties of two resources are provided in the examples – resource Norman Kilburn, with ID 33037, of type 2, having the status 'active', located at the address: 120 Willow Dr., Lake Mary, FL, 32746; resource Deanna Bohn, with ID 55102, of type 4, having the status 'inactive', located at the address: 500 Pine Way, Sanford, 32771.

- **Example of Resource Property Fields XML File**

```xml
<?xml version="1.0" encoding="UTF-8"?>
<provider_properties>
  <provider_property>
    <Field name="provider_id">33037</Field>
    <Field name="provider_name">Norman Kilburn</Field>
    <Field name="provider_type">2</Field>
    <Field name="provider_active">1</Field>
    <Field name="custom_property_1">120 Willow Dr.</Field>
    <Field name="custom_property_2">Lake Mary</Field>
    <Field name="custom_property_3">FL</Field>
    <Field name="custom_property_4">32746</Field>
  </provider_property>
  <provider_property>
    <Field name="provider_id">55102</Field>
    <Field name="provider_name">Deanna Bohn</Field>
    <Field name="provider_type">4</Field>
    <Field name="provider_active">0</Field>
    <Field name="custom_property_1">500 Pine Way</Field>
    <Field name="custom_property_2">Sanford</Field>
    <Field name="custom_property_3">FL</Field>
    <Field name="custom_property_4">32771</Field>
  </provider_property>
</provider_properties>
```

4.4.18   Resource Work Skill Fields

The 'Resource Work Skill Fields' data set contains details of work skills per resource at the moment of extraction.

Resource Work Skill Fields are exported in the Daily Extract file for which 'Resource Work Skill Fields' is selected as the entity. The 'Resource Work Skill Fields' file can include only the following fields: 'provider_id', 'Resource Work Skill Level' and 'Resource Work Skill ID'.

Depending on the requirements of the company, the list of exported properties and fields can be changed at any time by removing or adding certain fields.

Data can be retrieved as one or more XML files consisting of 'provider_work_skills' root element that contains 'provider_work_skill' elements. 'provider_work_skill' elements are sets of 'Field' elements whose attributes are names of resource work skill fields and whose contents are their corresponding values.

4.4.18.1   Example of Resource Work Skill Fields File

Details of several work skills for two resources are provided in the examples. The following fields are extracted and have the following names an order (names are written in **_bold italics_**)

- identifier of the resource – **_pid_**
- identifier of the work skill defined for the resource – **_work_skill_id_**
- the level of experience for the skill – **_ratio_**

- **Example of Resource Work Skill Fields File. Wording**

Details of work skills for two resources _120345_ and _300001_ are extracted.

Resource _120345_ has two work skills – Install (identifier – _1_) with _80_ per cent ratio and Deinstall (identifier – _2_) with _60_ per cent ratio.

Resource _300001_ has only one work skill – Update (identifier – _5_) with _100_ per cent ratio.

- **Example of Resource Work Skill Fields XML File**

```xml
<?xml version="1.0" encoding="UTF-8"?>
<provider_work_skills>
  <provider_work_skill>
     <Field name="pid">120345</Field>
     <Field name="work_skill_id">1</Field>
     <Field name="ratio">80</Field>
  </provider_work_skill>
  <provider_work_skill>
     <Field name="pid">120345</Field>
     <Field name="work_skill_id">2</Field>
     <Field name="ration">60</Field>
  </provider_work_skill>
  <provider_work_skill>
     <Field name="pid">300001</Field>
     <Field name="work_skill_id">5</Field>
     <Field name="ratio">100</Field>
  </provider_work_skill>
</provider_work_skills>
```

4.4.19   Service Request Fields

Details of fields and custom properties for all service requests created in the system during the extraction period can be extracted. Service Request Fields are exported in the Daily Extract file for which 'Service Request Fields' is selected as the entity. Any properties and fields used to define service requests in ETAdirect (for example, 'Request type', 'Text', 'User ID', etc.) can be included in the Daily Extract by adding them to the file structure.

Depending on the requirements of the company, the list of exported properties and fields can be changed at any time by removing or adding certain fields.

Data can be retrieved as one or more XML files consisting of 'service_requests' root element which contains 'service_request' elements. 'service_request' elements are sets of 'Field' elements whose attributes are names of the fields and custom properties defined for service requests and whose contents are their corresponding values.

4.4.19.1   Example of Service Request Fields File

Sample details of several sample service requests are provided in the example. The fields are extracted in the following order and have the following names (names are written in **_bold italics_** and are just sample names).

- date and time of the service request – **_SR Date&Time_**
- unique internal identifier of the resource to which the service request was assigned – **_SR Resource ID_**
- unique internal identifier of the activity to which the service request was assigned – **_SR Activity ID_**
- unique internal identifier of the inventory to which the service request was assigned – **_SR Inventory ID_**
- custom property **_Importance_** that corresponds to importance of the request and has the following values:
    - **_1_** – critical
    - **_2_** – average
    - **_3_** – minor

- **Example of Service Request Fields File. Wording**

Details for two service requests: _critical_ request generated at _14:29:15_ of _November 20, 2013_ on Resource _56879_ and _minor_ request generated at _17:35:23_ of the same date on Inventory _45687_.

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- **Example of Service Request Fields XML File**

```
<?xml version="1.0" encoding="UTF-8"?>
<support_requests>
  <support_request>
    <Field name="SR Date&Time">14:29:15 20-11-2013</Field>
    <Field name="SR Activity ID"/>
    <Field name="SR Resource ID">56879</Field>
    <Field name="SR Inventory ID"/>
    <Field name="Importance">1</Field>
  </support_request>
  <support_request>
    <Field name="SR Date&Time">17:35:23 20-11-2013</Field>
    <Field name="SR Activity ID"/>
    <Field name="SR Resource ID"/>
    <Field name="SR Inventory ID">45687</Field>
    <Field name="Importance">3</Field>
  </support_request>
</support_requests>
```

4.4.20   Time Slot Fields

Details of fields and custom properties for all time slots existing in the system by the end of the extraction period can be extracted. Time Slot Fields are exported in the Daily Extract file for which 'Time Slot Fields' is selected as the entity. Any time slot properties and fields available in ETAdirect (for example, 'Time Slot Label', 'Time Slot Status', 'Time Slot Name', etc.) can be included in the Daily Extract by adding them to the file structure.

Depending on the requirements of the company, the list of exported properties and fields can be changed at any time by removing or adding certain fields.

Data can be retrieved as one or more XML files consisting of 'time_slots' root element which contains 'time_slot' elements. 'time_slot' elements are sets of 'Field' elements whose attributes are names of time slot fields and custom properties and whose contents are their corresponding values.

4.4.20.1   Example of Time Slot Fields File

Details of several sample time slots are provided in the examples. The following fields are extracted and have the following names and order (names are written in **bold italics**)

- unique internal identifier of the time slot – ***TSlot ID***
- unique label of the time slot – ***TSlot Label***
- name of the time slot (value displayed at the screen) – ***TSlot Name***
- field that identifies if the time slot is active (used by the system) – ***Is TSlot Active*** with possible values:
    - ***1*** – time slot is active
    - ***0*** – time slot is not active
- time, at which the times slot starts – ***TSlot Start***
- time, at which the times slot ends – ***TSlot End***

- **Example of Time Slot Fields File. Wording**

Details for two active time slots are extracted: Time Slot *01*, labelled '*08-10*', named '*08-10*' which starts at *08:00* and ends at *10:00* and Time Slot *03*, labelled '*lun*' and named '*Lunch*' that starts at *12:00* and ends at *13:00*.

- **Example of Time Slot Fields XML File**

```
<?xml version="1.0" encoding="UTF-8"?>
<time_slots>
  <time_slot>
    <Field name="TSlot ID">01</Field>
    <Field name="TSlot Label">08-10</Field>
    <Field name="TSlot Name">08-10</Field>
    <Field name="Is TSlot Active">1</Field>
    <Field name="TSlot Start">08:00</Field>
    <Field name="TSlot End">10:00</Field>
  </time_slot>
  <time_slot>
    <Field name="TSlot ID">03</Field>
    <Field name="TSlot Label">lun</Field>
    <Field name="TSlot Name">Lunch</Field>
    <Field name="Is TSlot Active">1</Field>
    <Field name="TSlot Start">12:00</Field>
    <Field name="TSlot End">13:00</Field>
  </time_slot>
</time_slots>
```

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4.4.21   Type List Fields

The 'Type List Fields' data set contains the values identifying the type of entity used in the system. Details of all entity types available in the system by the end of extraction period can be collected.

Type List Fields are exported in the Daily Extract file for which 'Type List Fields' is selected as the entity. Any properties and fields used to identify entity types in ETAdirect (for example, 'type_id', 'type_label', 'type_name', etc.) can be included in the Daily Extract by adding them to the file structure.

Note: field name editing is not allowed for this entity.

Depending on the requirements of the company, the list of exported properties and fields can be changed at any time by removing or adding certain fields.

Data can be retrieved as one or more XML files consisting of the 'types' root element which contains 'type' elements. 'type' elements are sets of 'Field' elements whose attributes are names of the properties and fields used to identify entity types and whose contents are their corresponding values.

4.4.21.1   Example of Type List Fields File

Details of several sample types are provided in the examples. The following fields are extracted and have the following names (names are written in **_bold italics_**)

- unique internal identifier of the type – **_Type ID_**
- unique label of the type – **_Type Label_**
- language available for the type – **_Type Language_** with possible values:
    - **_en_** – English
    - **_sp_** – Spanish
- name that corresponds to the type and language – **_Type Text_**
- entity, type of which is defined – **_Type Entity_** with possible values:
- resource
- activity
- inventory
- service request
- work skill
- non-working reason
- notification trigger

- **Example of Type List Fields File. Wording**

Details for types _028_, _029_ and _035_ are exported. _028_ and _029_ are related to a _resource_, _028_ is labelled '_gr_' and in English corresponds to _Group_ and in Spanish corresponds to _Grupo_, _029_ is labelled '_buc_' and corresponds to _Bucket_ in English and to _Cubo_ in Spanish. Type _035_ is related to _Activity_ and labelled '_in_', it correspond to '_Installation_' in English and '_Instalación'_ in Spanish.

- **Example of Type List Fields XML File**

```xml
<?xml version="1.0" encoding="UTF-8"?>
<types>
  <type>
    <Field name="Type ID">028</Field>
    <Field name="Type Label">gr</Field>
    <Field name="Type Language">en</Field>
    <Field name="Type Text">Group</Field>
    <Field name="Type Entity">resource</Field>
  </type>
  <type>
    <Field name="Type ID">028</Field>
    <Field name="Type Label">gr</Field>
    <Field name="Type Language">sp</Field>
    <Field name="Type Text">Grupo</Field>
    <Field name="Type Entity">resource</Field>
  </type>
  <type>
    <Field name="Type ID">029</Field>
    <Field name="Type Label">buc</Field>
    <Field name="Type Language">en</Field>
    <Field name="Type Text">Bucket</Field>
    <Field name="Type Entity">resource</Field>
  </type>
  <type>
    <Field name="Type ID">029</Field>
    <Field name="Type Label">buc</Field>
    <Field name="Type Language">sp</Field>
    <Field name="Type Text">Cubo</Field>
    <Field name="Type Entity">resource</Field>
  </type>
  <type>
    <Field name="Type ID">035</Field>
    <Field name="Type Label">in</Field>
    <Field name="Type Language">en</Field>
    <Field name="Type Text">Installation</Field>
    <Field name="Type Entity">activity</Field>
  </type>
  <type>
    <Field name="Type ID">035</Field>
    <Field name="Type Label">in</Field>
    <Field name="Type Language">sp</Field>
    <Field name="Type Text">Instalación</Field>
    <Field name="Type Entity">activity</Field>
  </type>
</types>
```

4.4.22   User List Fields

Details of all users existing in the system and resources assigned to such users by the end of the extraction period can be extracted.

User List Fields are exported in the Daily Extract file for which 'User List Fields' is selected as the entity. User properties and fields available in ETAdirect and the properties of resources assigned to such users (for example, 'User ID', 'User Login', 'Resource ID', etc.) can be included in the Daily Extract by adding them to the file structure.

Depending on the requirements of the company, the list of exported properties and fields can be changed at any time by removing or adding certain fields.

Data can be retrieved as one or more XML files consisting of 'users' root element that contains 'user' elements. 'user' elements are sets of 'Field' elements whose attributes are names of resource properties and whose contents are their corresponding values.

4.4.22.1   Example of User List Fields File

Properties of two users are provided in the examples. The following fields are extracted and have the following names and order (names are written in **bold italics**):

- user's identifier in ETAdirect – **user_id**
- name of the user – **user_name**
- user's login in ETAdirect – **login**
- user's status – **status**

  possible values: inactive, active
- unique internal identifier of the resource assigned to the user – **provider_id**
- name of the resource assigned to the user – **provider_name**
- logic policy selected for the user – **login_policy**
- display profile assigned to the user – **display_profile**
- time of the user's last login to ETAdirect – **last_login**
- time of last password reset for the user – **last_password_reset**
- user's time zone – **time_zone_name**
- time of user creation – **registered**
- time of user last update – **updated**
- indicator of whether the forced password change at next login is enabled for the user – **force_reset_next_login**

  possible values: 0 – No, 1 – Yes

- **Example of User List Fields File. Wording**

Details of properties of two users are provided in the examples:

User with ID *2324*, name *Admin*, login '*admin*', status '*active*', with no resources assigned, the user's login policy is *2*, display profile *7*, the user logged in last on *19 July, 2013,* at *07:30:09*, the password was reset last on *27 September, 2011*, at *18:00:56*, the user's time zone is *Eastern*, the user was registered on *03 February, 2006* at *09:20:08* and updated on *15 May, 2013*, at *12:28:04*. No forced password change has been enabled for this user.

Details of properties of two users are provided in the examples:

User with ID *4395*, name *Billy Holm*, login '*billy*', status 'in*active*', assigned resource is Billy Holm, ID 33003, the user's login policy is *2*, display profile *8*, the user logged in last on *12 May, 2013,* at *11:03:*33, the password was reset last on *09 May, 2013*, at *11:04:13*, the user's time zone is *Eastern*, the user was registered on *15 September, 2010* at *14:27:50* and updated on *15 May, 2013*, at *11:53:13*. Forced password change has been enabled for this user.

- **Example of User List Fields XML File**

```xml
<?xml version="1.0" encoding="UTF-8"?>
<users>
  <user>
    <Field name="user_id">2324</Field>
    <Field name="user_name">Admin</Field>
    <Field name="login">admin</Field>
    <Field name="status">active</Field>
    <Field name="provider_id"/>
    <Field name="provider_name"/>
    <Field name="login_policy">2</Field>
    <Field name="display_profile">7</Field>
    <Field name="last_login">2013-07-19 07:30:09</Field>
    <Field name="last_password_reset">2011-09-27 18:00:56</Field>
    <Field name="time_zone_name">Eastern</Field>
    <Field name="registered">2006-02-03 09:20:08</Field>
    <Field name="updated">2013-05-15 12:28:04</Field>
    <Field name="force_reset_next_login">0</Field>
  </user>
  <user>
    <Field name="user_id">4395</Field>
    <Field name="user_name">Billy Holm</Field>
    <Field name="login">billy</Field>
    <Field name="status">inactive</Field>
    <Field name="provider_id">33033</Field>
    <Field name="provider_name">Billy Holm</Field>
    <Field name="login_policy">2</Field>
    <Field name="display_profile">8</Field>
    <Field name="last_login">2013-05-12 11:03:33</Field>
    <Field name="last_password_reset">2013-05-09 11:04:13</Field>
    <Field name="time_zone_name">Eastern</Field>
    <Field name="registered">2011-09-15 14:27:50</Field>
    <Field name="updated">2013-05-15 11:53:13</Field>
    <Field name="force_reset_next_login">1</Field>
  </user>
</users>
```

4.4.23   User-Resource Relation Fields

Details of all users existing in the system and resources visible to such users by the end of the extraction period can be extracted.

User-Resource Relation Fields are exported in the Daily Extract file for which 'User-Resource Relation Fields' is selected as the entity. User properties and fields available in ETAdirect and the properties of resources assigned to such users (for example, 'User ID', 'User Login', 'Resource ID', etc.) can be included in the Daily Extract by adding them to the file structure.

Depending on the requirements of the company, the list of exported properties and fields can be changed at any time by removing or adding certain fields.

Data can be retrieved as one or more XML files consisting of 'users' root element that contains 'user' elements. 'user' elements are sets of 'Field' elements whose attributes are names of resource properties and whose contents are their corresponding values.

4.4.23.1   Example of User-Resource Relation Fields File

Details of two users are provided in the examples. The following fields are extracted and have the following names and order (names are written in **_bold italics_**):

  • user's identifier in ETAdirect – **_user_id_**
  • user's login in ETAdirect – **_login_**
  • unique internal identifier of the resource visible to the user – **_user_visibility_id_**
  • external identifier of the resource visible to the user – **_user_visibility_external_id_**

  • **Example of User-Resource Relation Fields File. Wording**

Details of two users are provided in the examples:

User with ID _4374_ and login _engineer_, able to view resource with internal identifier _Arndt William_ and external identifier _33001_.

User with ID _2318_ and login _dispatcher_, able to view resource with internal identifier _Sunrise Enterprise_ and external identifier _22_.

- **Example of User-Resource Relation Fields XML File**

```xml
<?xml version="1.0" encoding="UTF-8"?>
<users>
  <user>
    <Field name="user_id">4374</Field>
    <Field name="login">engineer</Field>
    <Field name="user_visibility_id">Arndt William</Field>
    <Field name="user_visibility_external_id">33001</Field>
  </user>
  <user>
    <Field name="user_id">2318</Field>
    <Field name="login">dispatcher</Field>
    <Field name="user_visibility_id">Sunrise Enterprise</Field>
    <Field name="user_visibility_external_id">22</Field>
  </user>
</users>
```

5 Previous Versions and Updates

ETAdirect 4.4 to 4.5:

The functionality has been renamed from DWH to Daily Extract.

The Daily Extract functionality has been modified and enhanced as follows as compared to the previous versions:

- the 'map' file has been removed from the list of files available for export.

- 'atravelkey' and 'adurationkey' fields, previously used in the 'Activity Details' export configuration, have been removed from the database. These fields can be sent empty to avoid errors.

- the 'Activity Links' file structure has been changed in accordance with the changes in the 'Activity Links' functionality. Please refer to the relevant section for details.

- the 'Inventory' file structure has been changed in accordance with the changes in the 'Inventory' functionality. Please refer to the relevant section for details.

- new files have been included in the export configuration:

    - Resource Property Fields

    - User List Fields

    - Resource Location Fields

    - User-Resource Relation Fields

With the implementation of the Daily Extract Configuration screen in the Manage Application, the document has been expanded by adding the description of the related functionality. The possibility of Daily Extract configuration through the GUI has brought in the flexibility of configuration where the user is able to define the list of fields and properties to be extracted. Therefore, the concept of 'default' Daily Extract configuration has become obsolete and the document has been changed accordingly.