WIS/ASRA

Interface Description of the ASRA Joborder Files

Version 2.0

Change History

Version	Status	Administrator	Changes
1.0	11.07.2011	Christine Huwig, GSP/OIP christine.huwig@daimler.com	Complete revision of the document on "WIS/ASRA net Joborder File Interface Description" in view of the documents "WIS 3.2 Joborder in XML v11.doc" and "WIS 3.2: SAR Webparts Integration"
2.0	21.07.2011	Christine Huwig	Deletion of Sec. 1.3, with reference to separate documentation

Contents

1. ASRA Joborder File Interface Description

1.1 Definition

Description of the file interface between the ASRA module in the WIS/ASRA workshop information system and the Dealer Management System (DMS) for transferring the ASRA operation items list.

ASRA is the German abbreviation for work units, standard texts, flat rates and operation texts.

Daimler AG creates operation items for all repair operations that may be encountered in the workshop. The operation items consist of operation texts and work units (concepts employed in Germany) or of standard texts and flat rates. The terms "operation texts" and "standard texts" refer to the operation texts in operation items. The terms "work units" and "flat rates" refer to time values. One work unit (WU) corresponds to 5 minutes, while the flat rates are specified in decimals of hours (0.1 corresponds to 6 minutes).

ASRA is an electronic catalog of work units and flat rates that facilitates the fast and reliable search for operation items and working hours.
The data determined with ASRA include the basis for

- creating work orders with time allowed for the mechanic
- invoice for services rendered by the mechanic
- writing of invoice for the customer
- warranty processing
- preparation of cost estimates for customers

1.2 Interface Description

1.2.1 Interface Type

Combined communication and integration interface

1.2.2 Data Provision

The data are provided to the DMS on request by command call. The request occurs n times per workshop order or warranty claim depending on the number of user calls.

Another use of the stored joborder file is that the user can save operation items lists in file form to a local folder, in order to read and use them again as required.

1.2.3 Application of the Data

The requested data are stored in the calling commercial system in the workshop order or warranty claim.

1.2.4 Data Scope

The transfer file contains operation texts/standard texts with the corresponding work units/labor times, data on the vehicle context and possibly other data stored in the ASRA operation items list, like customer requests, order numbers, warranty codes, damage codes.

1.2.5 Data Volume

The data volume is based on the number of the necessary items in the workshop order or warranty claim for filling the customer order. It must be classified as low.

1.2.6 Data Flow

The DMS requests the data, and ASRA supplies the requested data in the joborder file. The data request occurs with the ASRA command line call. The call interface is specified in the document EWANAPI Description.

1.2.7 Data Checks

None

1.2.8 Memory Location and File Formats

The joborder file is locally stored. The default path is C:\temp\MBCASE\joborder.
The individual joborder files are stored in the folder. This path can be overwritten using F2 (Options/Setup) or using the EWANAPI call parameter –D. The default folder is ignored if the call parameter –D is used for transferring the file path and the file name.

The name and format of the joborder file can be specified via the ASRA system preferences in the Setup, in the Save dialog box in the ASRA operation items list or by the parameter transfer -D in the EWANAPI call from a calling system. The extension of the file name determines the output format.

The following formats are supported:

Record format (for old file structure):
- ASCII with extension **.txt**
- Unicode UTF8 with extension **.utf**
- Unicode UCS2 with extension **.ucs**
- XFR with extension **.xfr**

XML format (for new file structure):
- XML with extension **.xml**
- XML with extension **.x16**

The choice of file format depends on how the joborder file is to be processed. This file serves the transfer of the contents of the operation items list compiled in WIS/ASRA to a commercial system (DMS). The joborder file format is selected depending on the language in question, on the input format expected by the commercial system and on whether the warranty code is also to be transferred.

1.2.9 New File Format XML with New File Structure (including warranty code)

The warranty code newly introduced in WIS/ASRA Release 3.2 (06/2011), which can be entered in the ASRA operation items list, required an adjustment of the joborder file structure so that data can be transferred to DMS, where they are required for further processing (e.g. in warranty claims).

The joborder file structure including the warranty code is also available with the newly introduced xml format as of WIS/ASRA Release 3.2. In selecting the file format you therefore also choose between the old and new file structures. The xml file is generated in Unicode format.

That is, the warranty code can be stored only via files in an xml format and transferred to a DMS. The other file formats do not take the warranty code into account.

1.2.10 Data Record Description for Record Formats (.txt, .utf, .ucs, .xfr)

The individual fields of the output file are always written in a new record. As a result, for each record type the same number of lines must always be outputted and non-fillable fields must be outputted as empty lines.

Processed are data records with the following content

Data record description **Header**			
No.	**Designation**	**Example**	**Length**
1	Version number - 1st line Describes the version of the JOBORDER structure.	VERSION=1	9

Data record description **Order header**			
No.	**Designation**	**Example**	**Length**
1	Record type (01) - 15 lines	01	2
2	Category	00	2
3	Date Variable basic preferences for display of date	01.12.1997 Or 1997/12/01 ...	10
4	Time	09:41	5
5	VIN	WDB1240301A000001	17
6	Error 00 = OK; 01=valid model designation, WHC changed 02 = invalid model designation, new one entered in ASRA 03=valid model designation, steering/plant changed 04=valid model designation, category changed 05=valid model designation, family changed 06=valid model designation, model changed	00	2

7	Language (delivered text) 00 : GERMAN 02 : ENGLISH 03 : FRENCH 04 : SPANISH 05 : PORTUGUESE 06 : ITALIAN 07 : DUTCH 08 : DANISH 09 : SWEDISH 10 : FINNISH 12 : GREEK 15 : NORWEGIAN 17 : TURKISH 20 : JAPANESE 21 : HUNGARIAN 22 : RUSSIAN 24 : CZECH 25 : POLISH 27 : BULGARIAN 28 : CHINESE 29 : ROMANIAN 81 : SLOVENIAN 86 : KOREAN ...	00	2
8	Region	00	2
9	Production country	00	2
10	Family with designation	08 124 (until 09/92)	Var
11	Model code with model name	32 300 E	Var
12	Sales designation	300 E	Var
13	Engine model designation	103980	6
14	Order number		Var
15	Client ID		Var

Data record description **Customer request**			
No.	**Designation**	**Example**	**Length**
1	Record type (02) - 2 lines	02	2
2	Text of customer request	Noise rear left	150

Data record description Item record - operation number			
No.	**Designation**	**Example**	**Length**
1	Record type (03) - 11 lines	03	2
2	Design group	01	2
3	Operation number	2400	4
4	Line number	01	2
5	Time	068 or time prescribed by foreperson (ZM)	3
6	Time code 0 = time prescribed by foreperson (local time allowed) not overwritten 1 = time prescribed by foreperson overwritten	0 or 1	1
7	Unit of time A = WU (without decimal place) R = hr (1 decimal place, without decimal point)	A or R	1
	Operation text: (4 blocks)		
8	Search term	Engine	150
9	Description of activity	Remove/install	150
10	Linked condition	(engine removed)	150
11	As-built configuration	with manual transmission	150

Data record description Item record - damage code			
No.	**Designation**	**Example**	**Length**
1	Record type (04) - 7 lines	04	2
2	Damage ID (TGA)	0 or 1	1
3	Damaged part	12345	5
4	Damage type	L01 or (blank)01	3
5	Repair type	1, 7, 8, 9	1
6	Damaged part text	Engine	150
7	Damage type text	Noises	150

1.2.11 Notes on Processing:

The joborder file may be created only if at least one operation item has been selected and applied to the operation items list. The joborder file must generally contain the record types 01 and 03. The record types 02 and 04 are added optionally. The file ends with the entry "#joborder complete#".

The sequence of the operation items corresponds to that in the operation items list. Generally the record type 01 occurs at the beginning and once only. All other record types may occur several times in a different sequence. Normally record type 02 occurs before the corresponding item records with SA 03. Should a damage code record with SA 04 occur for a position record 03, that damage code record is written subsequently.

1.2.12 XML File Structure

1.2.12.1 File Structure

A joborder consists of a header and the list of operation items set by the user in ASRA.

1.2.12.2 Header

The header describes the operation items list and contains the information that is valid for all operation items.
In detail:

Element	Description	Length
group	Category of the vehicle	2
date	Creation date of the joborder. Formatting according to "language" element	10
time	Creation time of the joborder. Formatting according to "language" element	5
fin	Vehicle ident number	17
error	Error code	2
language	Dialog language of WIS/ASRA at time of saving	2
region	Region	2
country	Production country of the vehicle	2
family	Vehicle family	var
type	Vehicle model	var
sales_designation	Sales designation of the vehicle	var
Engine	6-digit engine number	6
order_number	?	var
client_id	Client ID	var

1.2.12.3 Operation item

A joborder contains a list consisting of one or more operation items with the following elements:

Element	Description	Length
design_group	Design group of the Operation item	2
operation_no	Operation number	4
line_no	Line number	2
operation_time	Labor time including parameters ➢ code: time code ➢ unit: unit of time	3 1 1
search_criteria	Search term for the operation item	Var
activity_text	Description of activity	Var
assembly_status	Linked condition	Var
vehicle_config	Installation description	Var
warranty_code	Warranty code	3
damage_code	Damage code of the operation item with the parameters: ➢ sign: damage ID ➢ part: damaged part ➢ type: damage type ➢ repair type	 1 5 3 1
part_text	Damaged part text	Var
type_text	Damage type text	Var

1.2.12.4 Example

The structure of the XML is now illustrated and detailed in the following section by means of the DTD.
The example is as follows:

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE job_order SYSTEM "job_order.dtd">

<job_order version="1.0">
	<header>
		<group>00</group>
		<date>2011-04-06</date>
		<time>17:04</time>
		<fin>WDC2020181A352731</fin>
		<error>00</error>
		<language>00</language>
		<region>00</region>
		<family>12 12</family>
		<type>21 C 180</type>
		<sales_designation>C 180</sales_designation>
		<engine>111920</engine>
		<order_number/>
	</header>
	<order_item>
		<design_group>03</design_group>
		<operation_no>4806</operation_no>
		<line_no>01</line_no>
		<operation_time code="1" unit="A">003</operation_time>
		<operation_text>
			<search_criteria>crankshaft gear</search_criteria>
			<activity_text>replace</activity_text>
			<assembly_status/>
			<vehicle_config>(timing case cover and oil pan removed)</vehicle_config>
		</operation_text>
		<damage_code part="03002" repair_type="7" sign="1" type="D1">
			<part_text>crankshaft gear                                    </part_text>
			<type_text>worn</type_text>
		</damage_code>
	</order_item>
</job_order>
```

1.2.12.5 DTD

The joborder XML is based on the following DTD:

```
<!ELEMENT job_order (header,(customer_request|order_item)*)>
<!ELEMENT header (group,date,time,fin,error,language,region,country,
                 family,type,sales_designation,engine,order_number,
                 client_id)>
<!ELEMENT order_item (design_group,operation_no,line_no,operation_time,
                    operation_text,warranty_code?,damage_code?)>
<!ELEMENT operation_text (search_criteria,activity_text,assembly_status,
                      vehicle_config)>
<!ELEMENT damage_code (part_text,type_text)>

<!ELEMENT customer_request (#PCDATA)>
<!ELEMENT group (#PCDATA)>
<!ELEMENT date (#PCDATA)>
<!ELEMENT time (#PCDATA)>
<!ELEMENT fin (#PCDATA)>
<!ELEMENT error (#PCDATA)>
<!ELEMENT language (#PCDATA)>
<!ELEMENT region (#PCDATA)>
<!ELEMENT country (#PCDATA)>
<!ELEMENT family (#PCDATA)>
<!ELEMENT type (#PCDATA)>
<!ELEMENT sales_designation (#PCDATA)>
<!ELEMENT engine (#PCDATA)>
<!ELEMENT order_number EMPTY>
<!ELEMENT client_id EMPTY>
<!ELEMENT design_group (#PCDATA)>
<!ELEMENT operation_no (#PCDATA)>
<!ELEMENT line_no (#PCDATA)>
<!ELEMENT operation_time (#PCDATA)>
<!ELEMENT search_criteria (#PCDATA)>
<!ELEMENT activity_text (#PCDATA)>
<!ELEMENT assembly_status (#PCDATA)>
<!ELEMENT vehicle_config (#PCDATA)>
<!ELEMENT warranty_code (#PCDATA)>
<!ELEMENT part_text (#PCDATA)>
<!ELEMENT type_text (#PCDATA)>

<!ATTLIST job_order version (1.0) #REQUIRED>
<!ATTLIST operation_time code (0|1) #REQUIRED>
<!ATTLIST operation_time unit (A|R) #REQUIRED>
<!ATTLIST damage_code part NMTOKEN #REQUIRED>
<!ATTLIST damage_code repair_type NMTOKEN #REQUIRED>
<!ATTLIST damage_code sign NMTOKEN #REQUIRED>
<!ATTLIST damage_code type NMTOKEN #REQUIRED>
```

1.3 Joborder for Web-based Applications

In contrast to a locally installed DMS, Web-based applications like ASM (SAR) and WebParts cannot use the joborder files provided in the file system. A new transfer service was therefore developed allowing saving of the joborder file on a central server.

If required, documentation on this can be requested from the EPC, WIS/ASRA Product Management.

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