



Rowa® Technologies

BD Rowa Germany GmbH

WWKS2 File Interface

Version 1.3

Version	Date	Changes	Author
1.3	16.02.2022	English translation of German specification v1.2 Message id in filename no longer needs to be a timestamp.	Andreas Kohlhof

Content

1	Introduction	3
2	Interface	3
	2.1 File exchange	3
	2.2 File content	3
	2.3 Supported WWKS2 messages	4
	2.4 Message structure differences	5
	2.5 Parallel usage of WWKS2 network and file interface	5
3	Example: Stock query	5
	3.1.1 Query stock data request	5
	3.1.2 Stock data response of the robot	6

1 Introduction

In some cases, using a network-based interface between picking robot and pharmacy IT system may be challenging.

As an alternative, BD Rowa robots support exchanging some WWKS2 message via file exchange.

This document describes the differences of using WWKS2 via file exchange compared to standard network based WWKS2. For a detailed description of WWKS2 message please refer to the WWKS2 reference specification.

2 Interface

2.1 File exchange

Files are exchanged via a shared directory that both parties may read from and write to. The picking robot has to be able to access the directory via a windows network share.

Files are written using a temporary name. Once they are fully written, they are renamed to their final name according to this specification.

The file name contains a request id. This may be a timestamp or another ordered id that allows the receiver to detect which file is newer. Responses use the same id as the request to allow matching of responses to the right request.

The receiving system scans the directory in regular, configurable intervals for new files with the agreed filename pattern. If a new file is detected, it will process the file immediately. After processing, it moves the file to a back-up directory or, in case processing is logged somewhere else, deletes the file.

We recommend using different directories for each transfer direction.
All messages for the same transfer direction have to use the same directory.

2.2 File content

- Files contain XML and are structured in an XML-compliant manner.
- Each file contains exactly one root element <WWKS> which contains exactly one message element.
- In same way as in network based WWKS2 it is allowed to transmit additional attributes in a message element to simplify future extensions of the protocol. The receiver ignores all attributes unknown to him.
- Filename: „<Name of WWKS2 message>-<request id>.xml“
 - Example: ArticleMasterSetRequest_1234.xml
- Different to network-based XML it is allowed to use a timestamp as message id. This allows the receiver to handle incoming files in the order of creation. In this case the filename format is : „<Name of WWKS2 message>_YYYY-MM-DD_HH-mm-ss-fff.xml“
 - Example: ArticleMasterSetRequest_2018-08-09_12-01-23-523.xml
 - YYYY: Year (4 digits)
 - MM: Month (2 digits)

- DD: Day (2 digits)
 - HH: Hour (2 digits)
 - mm: Minute (2 digits)
 - ss: Second (2 digits)
 - fff: Millisecond (3 digits)
- The message id is created by the sender in the request. Responses use the same id to allow matching of responses to the request. This allow to send another request before the previous one has been answered and to detect missing responses.

2.3 Supported WWKS2 messages

Not all WWKS2 message are supported by file exchange.

Messages	Supported	Comment
HelloRequest HelloResponse	No	An explicit setup of the connection is not required when using file exchange.
KeepAliveRequest KeepAliveResponse	No	No need to keep a connection open.
StatusRequest StatusResponse	Yes	
InputRequest InputResponse	No	The required answer times for input request cannot be guaranteed when using file exchange.
InputMessage	Yes	
InitiateInputRequest InitiateInputResponse InitiateInputMessage	No	
ArticleMasterSetRequest ArticleMasterSetResponse	Yes	
StockDeliverySetRequest StockDeliverySetResponse	Yes	
StockInfoRequest StockInfoResponse	Yes	
StockInfoMessage	Yes	
OutputRequest OutputResponse OutputMessage	Yes	
TaskInfoRequest TaskInfoResponse	Yes	
TaskCancelRequest TaskCancelResponse	Yes	Execution of task cancellation may be delayed compared to network based WWKS2.

2.4 Message structure differences

The attributes "Id" in requests and responses are optional when using WWKS2 file interface. The Id is defined in the filename instead.

2.5 Parallel usage of WWKS2 network and file interface

BD Rowa robots are able handle to file and network interfaces in parallel.

For the network interface, the HelloRequest should only contain the capabilities handled via network.

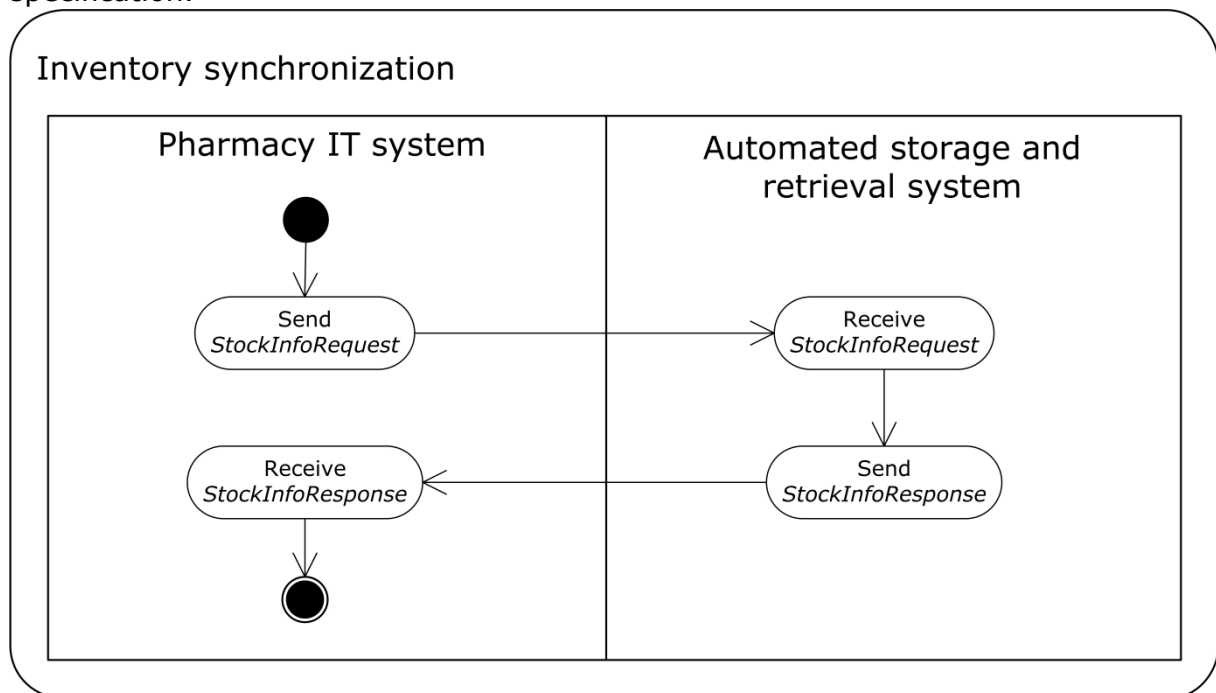
This applies as well or responses to requests posted via file exchange.

Example: A StockInfoRequest is transmitted via file. The robot will transmit the StockInfoResponse via file system and in addition via network if the network HelloRequest contains Capability="StockInfo".

The file interface does not support negotiation of capabilities via the interface. Instead, both sides have to configure messages that shall be received and sent.

3 Example: Stock query

For further message specifications please refer to the (network) WWKS2 specification.



3.1.1 Query stock data request

File name: "StockInfoResponse_<Message id>.xml"

Examples:

„StockInfoRequest_2022-02-15_14-23-01-123.xml“ (Message id = timestamp).

„StockInfoRequest_1234.xml“ (Message id = 1234).

Content sample:

Query of full stock:

```
<?xml version="1.0" encoding="UTF-8"?>
<WWKS>
  <StockInfoRequest IncludePacks="True" IncludeArticleDetails="True">
  </StockInfoRequest>
</WWKS>
```

3.1.2 Stock data response of the robot

File name: „StockInfoResponse_<request message id>“.

Examples:

„StockInfoResponse_2022-02-15_14-23-01-123.xml“ (Message id = request timestamp).

„StockInfoResponse_1234.xml“ (Message id = request id = 1234).

Content sample:

List of all articles and packs on stock at the time of processing the request.

```
<?xml version="1.0" encoding="UTF-8"?>
<WWKS>
  <StockInfoResponse>
    <Article Id="000092278" Name="AUTOSANA BDE 250X0.3 HAUT"
      DosageForm="" PackagingUnit="10 CM" Quantity="4">
      <Pack Id="4536" BatchNumber="C32647D" ExpiryDate="2019-12-31" ExternalId=""
        StockInDate="2018-07-01" MachineLocation="999" />
      <Pack Id="4537" BatchNumber="C32647D" ExpiryDate="2019-12-31" ExternalId=""
        StockInDate="2018-07-01" MachineLocation="998" />
      <Pack Id="89457" BatchNumber="C32688X" ExpiryDate="2019-06-30" ExternalId=""
        StockInDate="2018-07-05" MachineLocation="999" />
      <Pack Id="90457" BatchNumber="C32688X" ExpiryDate="2019-06-30" ExternalId=""
        StockInDate="2018-07-05" MachineLocation="999" />
    </Article>
    <Article Id="000092858" Name="REGUPSYCHON LSG VET"
      DosageForm="" PackagingUnit="50 ML" Quantity="2">
      <Pack Id="77584" BatchNumber="745757" ExpiryDate="2018-12-31" ExternalId=""
        StockInDate="2018-07-02" MachineLocation="999" />
      <Pack Id="77585" BatchNumber="745757" ExpiryDate="2018-12-31" ExternalId=""
        StockInDate="2018-07-02" MachineLocation="999" />
    </Article>
  </StockInfoResponse>
</WWKS>
```