



Becton Dickinson Rowa Germany GmbH

WWKS 2 Extension for external input feeders

Revision 0.8

Revisions

Revisions	Date	Change	Author
0.2	16.03.2021	First draft	Thomas Reth, Marcus Neuendorf, Andreas Kohlhof
0.3	17.03.2021	Renamed capability to <code>InfeedInput</code> Added code samples in use cases Additional abort reasons in <code>InfeedInputResponse/-Message</code> Added human readable abort description <code>InfeedNumber</code> in <code>InfeedInputPackPlaceRequest</code> moved to <code>Details</code> element	Marcus Neuendorf, Andreas Kohlhof
0.4	18.03.2021	Hint that <code>InputMessage</code> might be Completed but <code>InfeedInputMessage</code> aborted and <code>InfeedInputMessage</code> must not be used for stock update Timeouts adjusted after negotiation with Vmax team GUID added to pack details Human readable error description added to <code>InfeedInputPackPlaceResponse</code> <code>InfeedInputTaskCancel</code> dialog marked as possible future extension	Marcus Neuendorf, Andreas Kohlhof
0.5	21.05.2021	Request reject reason " <code>NoSpaceOnBelt</code> " added.	Andreas Kohlhof
0.6	29.06.2021	<code>InfeedInputMessage</code> error reason " <code>SystemNotActivate</code> " added	Andreas Kohlhof
0.7	31.01.2022	Clarification in message flow diagram that process might end after <code>InfeedInputResponse</code> if input has been aborted by ASRS	Andreas Kohlhof
0.8	03.02.2022	New reject reason " <code>InputProcessInProgress</code> " added to <code>InfeedInputResponse</code> , changed description and corrected spelling for " <code>SystemNotActive</code> " reject reason. New <code>InfeedInputMessage</code> error reasons " <code>EmergencyStop</code> " and " <code>InternalError</code> " added.	Andreas Kohlhof

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1 Introduction

What is this document about?

WWKS2 is a protocol used for the communication between a pharmacy IT system (PIS) and an automatic storage and retrieval systems (ASRS).

This document describes an extension of the WWKS2 protocol to support external input feeding devices connected to the ASRS. It defines just the new messages and workflows. For a description of WWKS2, please refer to the WWKS2 specification.

Who should read this document?

This document is intended for:

- Personnel involved in integrating an input feeding device to an ASRS.

2 Capability InfeedInput

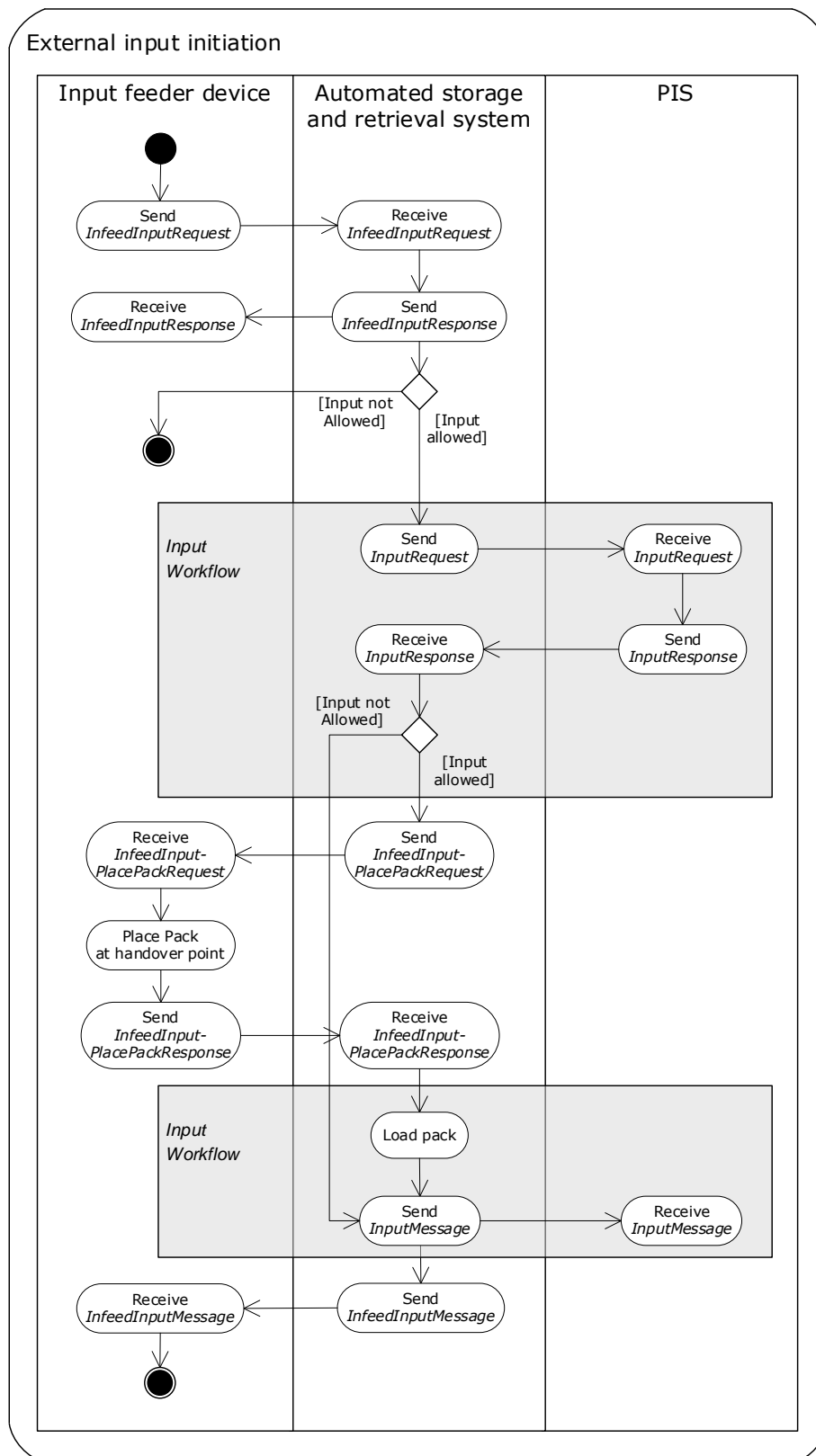
This extension defines a new capability `InfeedInput` that has to be listed in `HelloRequest-/Response` if this extension is supported.

3 Use case: External handover of items to load

Purpose

Instead of the user controlling the process of loading an item into an ASRS by scanning the pack barcode and entering any additional information required manually, an external device ("*input feeder*") may hand over the pack and provide all required information to handle the input.

The input feeder may open a dedicated WWKS2 connection to the ASRS to handle the workflow described here or the PIS may handle the communication via its WWKS2 connection with the ASRS.

Default procedure

The input feeder sends an `InfeedInputRequest` to the ASRS with all relevant information about the pack to be loaded and the input source that shall be used for the handover. The ASRS answers with an `InfeedInputResponse` to indicate if it has accepted the request. The ASRS may delay the response until the handover point is ready to accept new packs.

In case the ASRS accepted the request, it starts the default input workflow with the PIS (see 7.6.2.1) to see if the PIS accepts the packs and which data shall be used to store it.

If the PIS has accepted the pack, the ASRS sends an `InfeedInputPlacePackRequest` to the input feeder to tell that it is now ready to take over the pack. As soon as the pack is placed at the handover position, the input feeder answers with an `InfeedInputPlacePackResponse`.

The ASRS adds the pack to its stock as soon as it has received the `InfeedInputPlacePackResponse` and sends an `InputMessage` to the PIS telling if it has been successful loaded.

The ASRS then tries to move the pack inside the robot. The input feeder is informed about the loading success by an `InfeedInputMessage` as soon as the pack is removed from the handover point.

If something happens while moving the pack away, it might be the case that the ASRS sends an `InputMessage` with state `Completed` while the final `InfeedInputMessage` has state "Aborted". This means that just the `InputMessage` should be used to update stock information but never the final `InfeedInputMessage`. If the pack has been already added to the stock but the ASRS cannot load it, it will send an `OutputMessage` after the error has been handled to inform the PIS that the pack has been removed from stock again.

Example of successful workflow

```
<WWKS Version="2.0" TimeStamp="2013-04-16T11:14:00Z">
  <InfeedInputRequest Id="1003" Source="100" Destination="999">
    <Details InfeedNumber="3"/>
    <Article>
      <Pack ScanCode="12345678" Depth="50" Width="50" Height="50"/>
    </Article>
  </InfeedInputRequest>
</WWKS>
```

```
<WWKS Version="2.0" TimeStamp="2021-04-16T11:14:00Z">
  <InfeedInputResponse Id="5000" Source="999" Destination="100">
    <Details InfeedNumber="3" Status="Accepted"/>
  </InfeedInputResponse>
</WWKS>
```

```
<WWKS Version="2.0" Timestamp="2021-04-16T11:14:00Z">
  <InputRequest Id="8788" Source="999" Destination="100">
    <Article>
      <Pack Index="0" ScanCode="12345678"/>
    </Article>
  </InputRequest>
</WWKS>
```

```
<WWKS Version="2.0" Timestamp="2021-04-16T11:14:00Z">
  <InputResponse Id="1002" Source="100" Destination="999">
    <Article Id="12345678" Name="Demo Article"
      DosageForm="LOE" PackagingUnit="1X2.5 ML">
      <Pack Index="0" BatchNumber="Omepra0004" ExternalId="PalH09051200001"
        ExpiryDate="2024-11-30">
        <Handling Input="Allowed" Text="Pack input allowed."/>
      </Pack>
    </Article>
  </InputResponse>
</WWKS>
```

```
<WWKS Version="2.0" Timestamp="2021-04-16T11:14:00Z">
  <InfeedInputPackPlaceRequest Id="5000" Source="999" Destination="100">
    <Details InfeedNumber="3"/>
  </InfeedInputPackPlaceRequest>
</WWKS>
```

```
<WWKS Version="2.0" Timestamp="2021-04-16T11:14:00Z">
  <InfeedInputPackPlacedResponse Id="5000" Source="100" Destination="999">
    <Details InfeedNumber="3" Status="Placed"/>
  </InfeedInputPackPlacedResponse >
</WWKS>
```

```
<WWKS Version="2.0" Timestamp="2021-04-16T11:14:00Z">
  <InputMessage Id="1002" Source="999" Destination="100">
    <Article Id="12345678" Name="Demo Article"
      DosageForm="LOE" PackagingUnit="1X2.5 ML">
      <Pack Index="0" Id="565362" BatchNumber="Omepra0004"
        ExternalId="PalH09051200001" ExpiryDate="2012-11-05"
        Depth="50" Width="50" Height="50" Shape="Cuboid"
        State="Available"
        GUID="936DA01F-9ABD-4D9D-80C7-02AF85C822A8">
        <Handling Input="Completed" Text="Pack input completed."/>
      </Pack>
    </Article>
  </InputMessage>
</WWKS>
```

```
</InputMessage>
</WWKS>
```

```
<WWKS Version="2.0" TimeStamp="2021-04-16T11:14:00Z">
  <InfeedInputMessage Id="1002" Source="999" Destination="100">
    <Details InfeedNumber="3" Status="Completed"/>
    <Article Id="12345678" Name="Demo Article"
      DosageForm="LOE" PackagingUnit="1X2.5 ML">
      <Pack Id="565362" BatchNumber="Omepra0004"
        ExternalId="PalH09051200001" ExpiryDate="2024-11-30"
        Depth="50" Width="50" Height="50" Shape="Cuboid"
        GUID="936DA01F-9ABD-4D9D-80C7-02AF85C822A8"
        State="Available"/>
      </Article>
    </InfeedInputMessage>
  </WWKS>
```

Request rejected by ASRS

In case the ASRS is not able to handle the `InfeedInputRequest`, it sends an `InfeedInputResponse` with `Details.Status="Rejected"`.

The workflow is terminated after a rejection, so that the ASRS will not send any further messages.

Possible reasons for rejection by the ASRS are:

- Malformed `InfeedInputRequest`
- Invalid or deactivated `InfeedNumber`
- `InfeedNumber` is still blocked by previous `InfeedInputRequest`
- Empty `ScanCode`
- Machine is currently not able to handle inputs
- Unsupported pack dimensions

```
<WWKS Version="2.0" TimeStamp="2013-04-16T11:14:00Z">
  <InfeedInputRequest Id="1003" Source="100" Destination="999">
    <Details InfeedNumber="3"/>
    <Article>
      <Pack ScanCode="12345678" Depth="50" Width="50" Height="50"/>
    </Article>
  </InfeedInputRequest>
</WWKS>
```

```
<WWKS Version="2.0" TimeStamp="2021-04-16T11:14:00Z">
  <InfeedInputResponse Id="5000" Source="999" Destination="100">
    <Details InfeedNumber="3" Status="Rejected">
```



```

    Reason="NoSpaceInMachine"/>
  </InfeedInputResponse>
</WWKS>

```

Request rejected by PIS or PIS not answering

If the PIS rejects the input request sent by the ASRS or does not answer it, the ASRS sends an InfeedInputMessage with Details.Status="Aborted".

```

<WWKS Version="2.0" TimeStamp="2013-04-16T11:14:00Z">
  <InfeedInputRequest Id="1003" Source="100" Destination="999">
    <Details InfeedNumber="3"/>
    <Article>
      <Pack ScanCode="12345678" Depth="50" Width="50" Height="50"/>
    </Article>
  </InfeedInputRequest>
</WWKS>

```

```

<WWKS Version="2.0" TimeStamp="2021-04-16T11:14:00Z">
  <InfeedInputResponse Id="5000" Source="999" Destination="100">
    <Details InfeedNumber="3" Status="Accepted"/>
  </InfeedInputResponse>
</WWKS>

```

```

<WWKS Version="2.0" TimeStamp="2021-04-16T11:14:00Z">
  <InputRequest Id="8788" Source="999" Destination="100">
    <Article>
      <Pack Index="0" ScanCode="12345678"/>
    </Article>
  </InputRequest>
</WWKS>

```

```

<WWKS Version="2.0" TimeStamp="2021-04-16T11:14:00Z">
  <InputResponse Id="1002" Source="100" Destination="999">
    <Article Id="12345678" Name="Demo Article"
      DosageForm="LOE" PackagingUnit="1X2.5 ML">
      <Pack Index="0" BatchNumber="Omepra0004" ExternalId="PalH09051200001"
        ExpiryDate="2024-11-30">
        <Handling Input="Rejected" Text="Unknown barcode"/>
      </Pack>
    </Article>
  </InputResponse>
</WWKS>

```

```
<WWKS Version="2.0" Timestamp="2021-04-16T11:14:00Z">
  <InputMessage Id="1002" Source="999" Destination="100">
    <Article Id="12345678" Name="Demo Article"
      DosageForm="LOE" PackagingUnit="1X2.5 ML">
      <Pack Index="0" Id="0">
        <Handling Input="Aborted" Text="Pack input aborted."/>
      </Pack>
    </Article>
  </InputMessage>
</WWKS>
```

```
<WWKS Version="2.0" Timestamp="2021-04-16T11:14:00Z">
  <InfeedInputMessage Id="1002" Source="999" Destination="100">
    <Details InfeedNumber="3" Status="Aborted" Reason="NotAllowed"
      Description="Unknown barcode"/>
  </InfeedInputMessage>
</WWKS>
```

Input feeder is not able to place pack

If the input feeder is not able to place a pack when requested, it returns an InfeedInputPlacePackResponse with Detail.Status="Aborted".

[...]

```
<WWKS Version="2.0" Timestamp="2021-04-16T11:14:00Z">
  <InfeedInputPackPlaceRequest Id="5000" Source="999" Destination="100">
    <Details InfeedNumber="3"/>
  </InfeedInputPackPlaceRequest>
</WWKS>
```

```
<WWKS Version="2.0" Timestamp="2021-04-16T11:14:00Z">
  <InfeedInputPackPlacedResponse Id="5000" Source="100" Destination="999">
    <Details InfeedNumber="3" Status="Aborted"/>
  </InfeedInputPackPlacedResponse >
</WWKS>
```

```
<WWKS Version="2.0" Timestamp="2021-04-16T11:14:00Z">
  <InputMessage Id="1002" Source="999" Destination="100">
    <Article Id="12345678" Name="Demo Article"
      DosageForm="LOE" PackagingUnit="1X2.5 ML">
      <Pack Index="0" Id="0">
        <Handling Input="Aborted" Text="Pack input aborted."/>
      </Pack>
    </Article>
  </InputMessage>
</WWKS>
```

```

</Article>
</InputMessage>
</WWKS>

```

```

<WWKS Version="2.0" TimeStamp="2021-04-16T11:14:00Z">
  <InfeedInputMessage Id="1002" Source="999" Destination="100">
    <Details InfeedNumber="3" Status="Aborted" Reason="NoPackPlaced"/>
  </InfeedInputMessage>
</WWKS>

```

ASRS is not able to input pack

If the ASRS is not able to take over a pack placed at the handover point, it sends an InfeedInputMessage with Details.Status="Aborted".

It is the responsibility of the input feeder to remove the pack from the handover point before sending another InfeedInputRequest. It should be prepared to handle the situation that the pack is actually no longer at this position, e.g. because it has fallen on the floor or it has been already been moved away from the handover point.

From ASRS point of view, the input workflow is finished as soon as it has cleared the handover point.

[...]

```

<WWKS Version="2.0" TimeStamp="2021-04-16T11:14:00Z">
  <InfeedInputPackPlacedResponse Id="5000" Source="100" Destination="999">
    <Details InfeedNumber="3" Status="Placed"/>
  </InfeedInputPackPlacedResponse >
</WWKS>

```

```

<WWKS Version="2.0" TimeStamp="2021-04-16T11:14:00Z">
  <InputMessage Id="1002" Source="999" Destination="100">
    <Article Id="12345678" Name="Demo Article"
      DosageForm="LOE" PackagingUnit="1X2.5 ML">
      <Pack Index="0" Id="0">
        <Handling Input="Aborted" Text="Pack input aborted."/>
      </Pack>
    </Article>
  </InputMessage>
</WWKS>

```

```

<WWKS Version="2.0" TimeStamp="2021-04-16T11:14:00Z">
  <InfeedInputMessage Id="1002" Source="999" Destination="100">
    <Details InfeedNumber="3" Status="Aborted"

```

```
Reason="PackAcknowledged"/>
</InfeedInputMessage>
</WWKS>
```

Input feeder cancels external input workflow (possible future extension)

This is a possible future extension that is currently not supported by the Rowa Vmax.

The input feeder may request cancellation of the external input workflow by sending a `TaskCancelInfeedInputRequest` referring to the `Id` of the `InfeedInputRequest` in the `Task.Id` element.

It depends on the current state of the workflow if the ASRS is able to cancel the workflow. It is always possible if the pack hasn't been placed at the handover position. After the pack has been placed a cancellation will usually not be successful.

The ASRS answers with a `TaskCancelInfeedInputResponse` that indicates if the cancellation has been successful or not.

The ASRS sends as well a final `InfeedInputMessage` with `Details.State="Aborted"` for the original workflow.

```
<WWKS Version="2.0" TimeStamp="2013-04-16T11:14:00Z">
  <InfeedInputRequest Id="1003" Source="100" Destination="999">
    <Details InfeedNumber="3"/>
    <Article>
      <Pack ScanCode="12345678" Depth="50" Width="50" Height="50"/>
    </Article>
  </InfeedInputRequest>
</WWKS>
```

```
<WWKS Version="2.0" TimeStamp="2021-04-16T11:14:00Z">
  <InfeedInputResponse Id="5000" Source="999" Destination="100">
    <Details InfeedNumber="3" Status="Accepted"/>
  </InfeedInputResponse>
</WWKS>
```

```
<WWKS Version="2.0" TimeStamp="2021-04-16T11:14:00Z">
  <TaskCancelInfeedInputRequest Id="5001" Source="100" Destination="999">
    <Task Id="5000" InfeedNumber="3"/>
  </TaskCancelInfeedInputRequest>
</WWKS>
```

```
<WWKS Version="2.0" TimeStamp="2021-04-16T11:14:00Z">
  <TaskCancelInfeedInputResponse Id="5001" Source="100"
Destination="999">
    <Task Id="5000" InfeedNumber="3" Status="Cancelled"/>
  </TaskCancelInfeedInputRequest>
</WWKS>
```

```
<WWKS Version="2.0" TimeStamp="2021-04-16T11:14:00Z">
  <InfeedInputMessage Id="1002" Source="999" Destination="100">
    <Details InfeedNumber="3" Status="Aborted" Reason="TaskCancelled"/>
  </InfeedInputMessage>
</WWKS>
```

Connection loss

In case of a connection loss, the ASRS will abort any open input feeding actions.

As the connection is terminated, no messages will be sent. The ASRS does not buffer any messages that cannot be sent due to a missing connection.

Maximum reaction times

Processing step	Maximum Duration	Reaction of other side if no message is sent in time
Receiving InfeedInputRequest until sending InfeedInputResponse	300s	Assume that request has been rejected.
Sending InfeedInputResponse until sending InfeedInputPackPlaceRequest	30s	Wait for InfeedInputPlacePackRequest or send TaskCancelInfeedInputRequest
Receiving InfeedInputPackPlacedRequest until sending InfeedInputPlacePackResponse	60s	ASRS aborts external input process and sends InfeedInputMessage with Details.State="Aborted"

4 Message reference

4.1 Stock input initiation

4.1.1 External input feeder

Device support

Device category	Rowa Device	Message support
ASRS	Rowa Vmax	Supported
ASRS	Rowa Select	Not supported
Digital OTC Shelf	Rowa Vmotion	Not supported
Pick-up Terminal	Rowa Vpoint Pick-up	Not supported
Self-checkout	Rowa Self-Checkout	Not supported

Lead elements

InfeedInputRequest

InfeedInputResponse

InfeedInputMessage

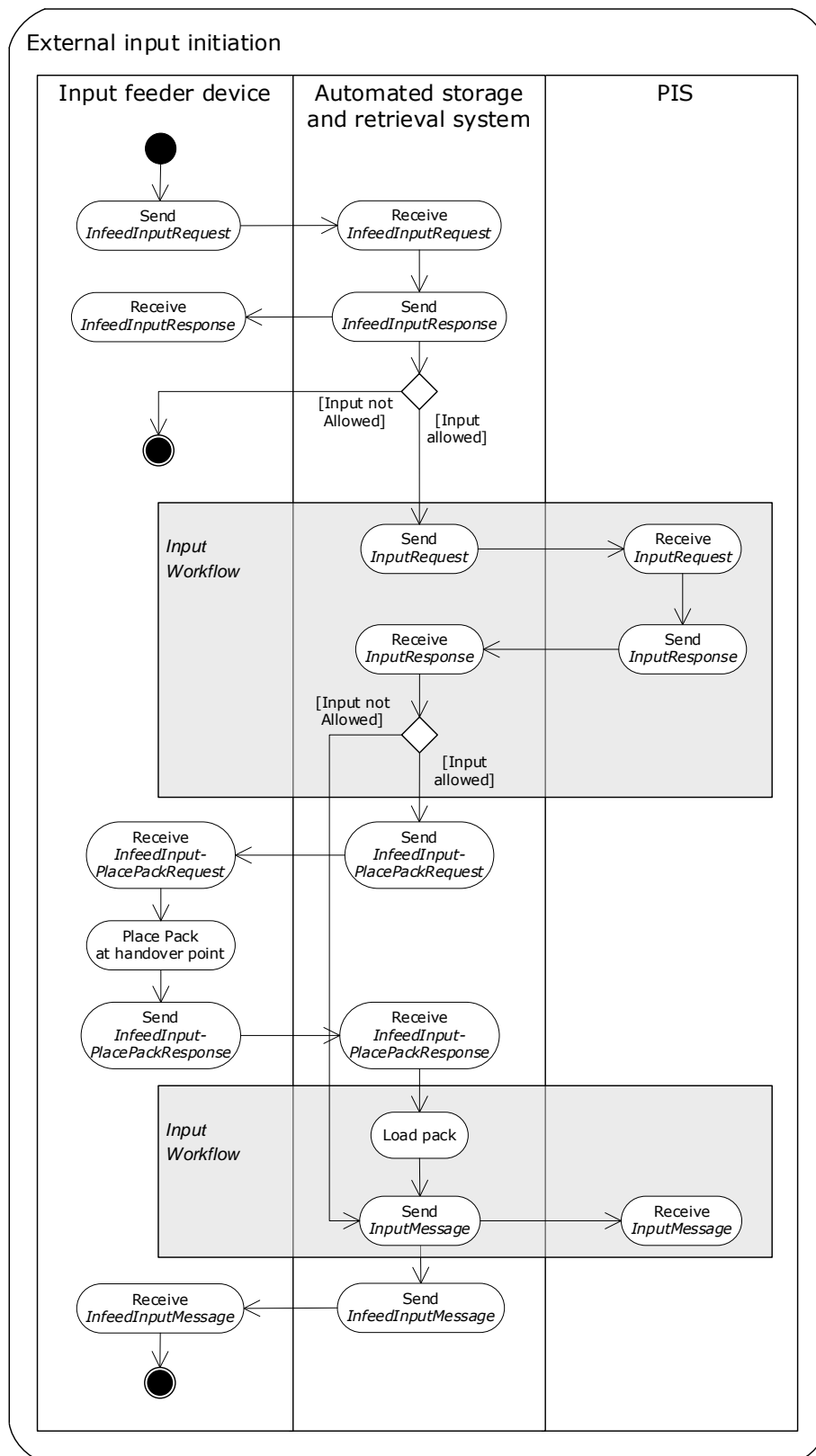
InfeedInputPackPlaceRequest

InfeedInputPackPlaceResponse

Usage

Instead of the user controlling the process of loading an item into an ASRS by scanning the pack barcode and entering any additional information required manually, an external device ("*input feeder*") may hand over the pack and provide all required information to handle the input.

Sequence



4.1.1.1 InfeedInputRequest**Device support**

Device category	Rowa Device	Message support
ASRS	Rowa Vmax	Supported
ASRS	Rowa Select	Not supported
Digital OTC Shelf	Rowa Vmotion	Not supported
Pick-up Terminal	Rowa Vpoint Pick-up	Not supported
Self-checkout	Rowa Self-Checkout	Not supported

Structure

```

<WWKS>
  <InfeedInputRequest>
    <Details/>
    <Article>
      <Pack/>
    </Article>
  </InfeedInputRequest>
</WWKS>

```

Elements

Element	M/O	Data type	Description
InfeedInputRequest	M	Tag	Message type
Attributes	M/O	Data type	Description and Values
Id	M	String	ID of the stock input initiation process. This ID is returned in the <i>InfeedInputResponse</i> and used in the corresponding <i>InfeedInputPackPlaceRequest/-Response</i> and <i>InfeedInputMessage</i> .
Source	M	Integer 32-bit >0	ID of the system sending <i>InfeedInputRequest</i>
Destination	M	Integer 32-bit >0	ID of the system intended to start the stock input.

			<p>Example: 999 = Rowa Vmax 1 998 = Rowa Vmax 2</p> <p>The values between 899 and 1000 are reserved for Rowa.</p>
IsNewDelivery	O	Boolean	<p>This flag specifies whether the triggered stock input is part of a new delivery.</p> <p>"True" means that a stock delivery is taking place. The attribute <i>DeliveryNumber</i> in the element <i>Pack</i> should then contain the stock delivery number. Blank stock delivery numbers (e.g. "") are possible in some customer-specific scenarios.</p> <p>"False" means that the triggered stock input relates to a stock return.</p> <p>The default value is "False".</p>
SetPickingIndicator	O	Boolean	<p>This flag forces definition of the article as capable of automated handling after the pharmacy IT system has initially rejected stock input with the reason "RejectedNoPickingIndicator". This case occurs primarily on initial stocking of the automated storage and retrieval system.</p> <p>The default value is "False".</p>

Element	M/O	Data type	Description
Details	M	Tag	Stock input information follows.
Attributes	M/O	Data type	Description and Values
InfeedNumber	M	Integer 32-bit	Identifies the handover point to the automated storage and retrieval system intended to be used for the stock input.

Element	M/O	Data type	Description
Article	M	Tag	Article information follows.

Element	M/O	Data type	Description
Pack	M	Tag	Pack information follows. This element can be used multiple times.
Attributes	M/O	Data type	Description and Values
Index	O	Integer 32-bit >=0	If the stock input request comprises multiple packs of an article, a pack index is sent here. <i>Currently not supported by Rowa Vmax.</i>
ScanCode	M	String	Barcode of the pack being placed into stock. This code is checked by the pharmacy IT system and compared against internal data. Based on the information contained in the code, the pharmacy IT system can decide whether the pack can be placed into stock. The ScanCode must not be empty.
DeliveryNumber	O	String	Stock delivery number for this pack. This information is only necessary when the attribute <i>IsNewDelivery</i> of the element <i>InfeedInputRequest</i> has the value "True".
BatchNumber	O	String	Batch number of the pack. This attribute is used when a batch number is to be sent along with the stock input request.
ExternalId	O	String	External ID. Additional identifying attribute. This attribute is used when an external ID is to be sent along with the input request.
SerialNumber	O	String	Serial number. This attribute is used when a serial number is to be sent along with the input request.
ExpiryDate	O	String	Expiration date of the pack in format YYYY-MM-DD. This attribute is used when an expiration date is to be sent along with the stock input request.
SubItemQuantity	O	Integer 32-bit >=0	Number of units (e.g. tablets or ampules) currently inside the pack. The value "0" means that the pack is full (not opened). This attribute is used for the stock input of opened packs.
Depth	M	Integer 32-bit >=0	Depth of the pack in mm

Width	M	Integer 32-bit >=0	Width of the pack in mm
Height	M	Integer 32-bit >=0	Height of the pack in mm
Shape	O	String	Form factor of the pack. The default value is "Cuboid". "Cylinder" is also supported.
StockLocationId	O	String	ID of the stock location in the automated storage and retrieval system that is intended to be used for storing the pack. Is only used when an automated storage and retrieval system is divided into several virtual stock locations.
MachineLocation	O	String	Identification of the requesting machine intended to be used for storing the pack. Only relevant if the automated storage and retrieval system consists of several physical stand-alone machines.

Example

```
<WWKS Version="2.0" TimeStamp="2013-04-16T11:14:00Z">
  <InfeedInputRequest Id="1003" Source="100" Destination="999">
    <Details InfeedNumber="3"/>
    <Article>
      <Pack ScanCode="12345678" Depth="50" Width="50" Height="50"/>
    </Article>
  </InfeedInputRequest>
</WWKS>
```

Library

Currently not supported

4.1.1.2 InfeedInputResponse**Device support**

Device category	Rowa Device	Message support
ASRS	Rowa Vmax	Supported
ASRS	Rowa Select	Not supported
Digital OTC Shelf	Rowa Vmotion	Not supported
Pick-up Terminal	Rowa Vpoint Pick-up	Not supported
Self-checkout	Rowa Self-Checkout	Not supported

Structure

```

<WWKS>
  <InfeedInputResponse>
    <Details/>
  </InfeedInputResponse>
</WWKS>

```

Elements

Element	M/O	Data type	Description
InfeedInputResponse	M	Tag	Message type
Attributes	M/O	Data type	Description and Values
Id	M	String	ID of the stock input initiation process
Source	M	Integer 32-bit >0	ID of the system sending <i>InfeedInputResponse</i>
Destination	M	Integer 32-bit >0	ID of the system that sent the original <i>InfeedInputRequest</i> .

Element	M/O	Data type	Description
Details	M	Tag	Stock input information follows.
Attributes	M/O	Data type	Description and Values

InfeedNumber	M	Integer 32-bit	Identifies the handover point to the automated storage and retrieval system intended to be used for the stock input.
Status	M	String	Status of the triggered stock input process. Within the <i>InfeedInputResponse</i> , only the values "Accepted" and "Rejected" are permitted. If the process was canceled with the "Rejected" status, the process is complete and no further messages will be sent.
Reason	O	String	Reason for the rejection of the request: Possible values: "": No reason given "UnknownPackDimensions": No valid pack dimensions defined in InfeedInputRequest. "InputBroken": Input currently not possible at this handover point. "NoSpaceInMachine": Pack cannot be loaded as there is no space available for the given pack size. "UnknownTenant": Tenant of WWKS2 connection not configured in ASRS "UnknownStockLocation": Stock location defined in request or in PIS InputResponse not known in ASRS "TaskCancelled": Workflow cancelled by input feeder "NoSpaceOnBelt": Input rejected due to missing space on input belt. Try again later. "SystemNotActive": The machine is not ready and currently unable to process the request. "InputProcessInProgress": Another infeed input process is still active at this infeed location. [...]
Description	O	String	Additional human readable details for the reason

Examples

```
<WWKS Version="2.0" TimeStamp="2021-04-16T11:14:00Z">
  <InfeedInputResponse Id="5000" Source="999" Destination="100">
    <Details InfeedNumber="3" Status="Accepted"/>
  </InfeedInputResponse>
</WWKS>
```

```

    </InfeedInputResponse>
  </WWKS>

  <WWKS Version="2.0" TimeStamp="2021-04-16T11:14:00Z">
    <InfeedInputResponse Id="5000" Source="999" Destination="100">
      <Details InfeedNumber="3" Status="Rejected" Reason="NoSpaceInMachine"/>
    </InfeedInputResponse>
  </WWKS>

```

Library

See *InfeedInputRequest*.

4.1.1.3 InfeedInputMessage

Device support

Device category	Rowa Device	Message support
ASRS	Rowa Vmax	Supported
ASRS	Rowa Select	Not supported
Digital OTC Shelf	Rowa Vmotion	Not supported
Pick-up Terminal	Rowa Vpoint Pick-up	Not supported
Self-checkout	Rowa Self-Checkout	Not supported

Structure

```

<WWKS>
  <InfeedInputMessage>
    <Details/>
    <Article>
      <Pack>
        <Error/>
      </Pack>
    </Article>
  </InfeedInputMessage>
</WWKS>

```

Elements

Element	M/O	Data type	Description
InfeedInputMessage	M	Tag	Message type

Attributes	M/O	Data type	Description and Values
Id	M	String	ID of the stock input initiation process. This ID was sent in the <i>InfeedInputRequest</i> .
Source	M	Integer 32-bit >0	ID of the system sending <i>InfeedInputMessage</i>
Destination	M	Integer 32-bit >0	ID of the system intended to receive the <i>InfeedInputMessage</i>

Element	M/O	Data type	Description
Details	M	Tag	Stock input information follows.
Attributes	M/O	Data type	Description and Values
InfeedNumber	M	Integer 32-bit >=0	Identifies the handover point to the automated storage and retrieval system used for the stock input.
Status	M	String	Final status of the triggered stock input process. Possible values: "Completed": Pack has been loaded successfully into the ASRS. "Aborted": Pack wasn't loaded.
Reason	O	String	Reason why a pack wasn't loaded. Possible values: "": No reason available "NotAllowed": Pack input denied by PIS "ExpiryDateRequired": PIS needs expiry date to allow pack input "InvalidExpiryDate": Expiry date provided by input feeder is invalid or before the date defined by Vmax parameter <i>Stock.ExpiryTime.Minimum</i> "StockLocationRequired": PIS needs stock location to allow pack input

			<p>"FridgeRequired": Article requires cooling but no fridge unit available in the ASRS</p> <p>"BatchNumberRequired": PIS needs batch number to allow pack input</p> <p>"MeasurementError": ASRS detected that actual pack dimension differ from values provided in the request</p> <p>"PackAcknowledged": Pack was removed before or while Vmax was inputting it (e.g. as part of an error handling action)</p> <p>"InputBroken": Input currently not possible at this handover point.</p> <p>"NoSpaceInMachine": Pack cannot be loaded as there is no space available for the given pack size.</p> <p>"NoPackPlaced": Input feeder rejected placement of pack.</p> <p>"TimeoutWaitingForPack": Timeout when waiting for handover of pack (no <i>InfeedInputPackPlacedResponse</i> received).</p> <p>"UnknownTenant": Tenant of WWKS2 connection not configured in ASRS</p> <p>"UnknownStockLocation": Stock location defined in request or in PIS InputResponse not known in ASRS</p> <p>"TaskCancelled": Workflow cancelled by input feeder</p> <p>"EmergencyStop": The machine had to perform an emergency stop and is not able to finish the request. If pack has been already placed, when emergency stop occurred, no abort will be reported, and the machine will process and finish the request when the emergency stop has been released.</p> <p>"InternalError": An unexpected error occurred. The machine is not able to finish the request.</p> <p>[...]</p>
Description	O	String	Additional human readable details for the reason

Element	M/O	Data type	Description
---------	-----	-----------	-------------

Article	O	Tag	Article information follows. This element may occur multiply. Only part of the message if <code>Details.Status="Finished"</code> .
Attributes	M/O	Data type	Description and Values
Id	M	String	Article ID of the pack that was initiated for stock input
Name	O	String	Name of the article for the pack that was initiated for stock input
DosageForm	O	String	Dosage form of the article for the pack that was initiated for stock input
PackagingUnit	O	String	Packaging unit of the article for the pack that was initiated for stock input
MaxSubItemQuantity	O	Integer 32-bit >=0	Maximum number of units (e.g. pills or ampules) which are contained in a full pack of the article. The value "0" means that the number of units is unknown.

Element	M/O	Data type	Description
Pack	M	Tag	Pack information follows. This element may occur multiply.
Attributes	M/O	Data type	Description and Values
Index	O	Integer 32-bit >=0	Index number of the pack. Used only if the <i>InfeedInputMessage</i> covers multiple packs. The index number corresponds to the one in the <i>InfeedInputRequest</i> . <i>Currently not supported by Rowa Vmax.</i>
Id	M	Integer 64-bit >=0	Internal pack ID in the automated storage and retrieval system. If the pack has not been placed into stock, the value is "0".
DeliveryNumber	O	String	Stock delivery number specified in the <i>InfeedInputRequest</i>
BatchNumber	O	String	Batch number saved for this pack

ExternalId	O	String	External ID stored for the pack.
SerialNumber	O	String	Serial number stored for the pack.
ExpiryDate	O	String	Expiration date in format YYYY-MM-DD
StockInDate	O	String	Input date in the format YYYY-MM-DD
ScanCode	O	String	Barcode of the input pack
SubItemQuantity	O	Integer 32-bit >=0	Number of units (e.g. tablets or ampules) currently inside the pack. The value "0" means that the pack is full (not opened).
Depth	O	Integer 32-bit >=0	Depth of the pack in mm
Width	O	Integer 32-bit >=0	Width of the pack in mm
Height	O	Integer 32-bit >=0	Height of the pack in mm
Shape	O	String	Form factor of the pack. The default value is "Cuboid". "Cylinder" is also supported.
State	O	String	Status of the pack. This data is required when multiple automatic storage machines are connected. The default value "Available" means that the pack is currently available for output. "NotAvailable" is also supported.
StockLocationId	O	String	ID of the stock location in the automated storage and retrieval system. Is only used when an automated storage and retrieval system is divided into several virtual stock locations.
MachineLocation	O	String	Identification of the machine used for storing the pack. Only relevant if the automated storage and retrieval system consists of several physical stand-alone machines.
GUID	O	String	Global unique id of a pack in stock of an ASRS.

Example of successful stock input

```
<WWKS Version="2.0" TimeStamp="2021-04-16T11:14:00Z">
  <InfeedInputMessage Id="1002" Source="999" Destination="100">
    <Details InfeedNumber="3" Status="Completed"/>
    <Article Id="12345678" Name="Demo Article"
      DosageForm="LOE" PackagingUnit="1X2.5 ML">
      <Pack Id="565362" BatchNumber="Omepra0004"
        ExternalId="PalH09051200001" ExpiryDate="2024-11-30"
        Depth="50" Width="50" Height="50" Shape="Cuboid"
        State="Available" GUID="936DA01F-9ABD-4D9D-80C7-02AF85C822A8"/>
      </Article>
    </InfeedInputMessage>
  </WWKS>
```

Example for an aborted stock input

```
<WWKS Version="2.0" TimeStamp="2013-04-16T11:14:00Z">
  <InfeedInputMessage Id="1003" Source="999" Destination="100">
    <Details InfeedNumber="3" Status="Aborted" Reason="NotAllowed"
      Description="Unknown barcode"/>
    </InfeedInputMessage>
  </WWKS>
```

Library

Currently not supported.

4.1.1.4 InfeedInputPackPlaceRequest**Device support**

Device category	Rowa Device	Message support
ASRS	Rowa Vmax	Supported
ASRS	Rowa Select	Not supported
Digital OTC Shelf	Rowa Vmotion	Not supported
Pick-up Terminal	Rowa Vpoint Pick-up	Not supported
Self-checkout	Rowa Self-Checkout	Not supported

Structure

```

<WWKS>
  <InfeedInputPackPlaceRequest>
    <Details/>
  </InfeedInputPackPlaceRequest>
</WWKS>

```

Elements

Element	M/O	Data type	Description
InfeedInputPackPlaceRequest	M	Tag	Message type
Attributes	M/O	Data type	Description and Values
Id	M	String	ID of the stock input initiation process as defined in the related <i>InfeedInputRequest</i> . This ID is returned in the <i>InfeedInputPackPlaceResponse</i> .
Source	M	Integer 32-bit >0	ID of the system sending <i>InfeedInputPackPlaceRequest</i>
Destination	M	Integer 32-bit >0	Source used in <i>InfeedInputRequest</i> .

Element	M/O	Data type	Description
---------	-----	-----------	-------------

Details	M	Tag	Stock input information follows.
Attributes	M/O	Data type	Description and Values
InfeedNumber	M	Integer 32-bit	Identifies the handover point to the automated storage and retrieval system intended to be used for the stock input.

Examples

```
<WWKS Version="2.0" TimeStamp="2021-04-16T11:14:00Z">
  <InfeedInputPackPlaceRequest Id="5000" Source="999" Destination="100">
    <Details InfeedNumber="3"/>
  </InfeedInputPackPlaceRequest>
</WWKS>
```

Library

Currently not supported.

4.1.1.5 InfeedInputPackPlaceResponse

Device support

Device category	Rowa Device	Message support
ASRS	Rowa Vmax	Supported
ASRS	Rowa Select	Not supported
Digital OTC Shelf	Rowa Vmotion	Not supported
Pick-up Terminal	Rowa Vpoint Pick-up	Not supported
Self-checkout	Rowa Self-Checkout	Not supported

Structure

```
<WWKS>
  <InfeedInputPackPlaceResponse>
    <Details/>
  </InfeedInputPackPlaceResponse>
</WWKS>
```

Elements

Element	M/O	Data type	Description
---------	-----	-----------	-------------

InfeedInputPackPlaceResponse	M	Tag	Message type
Attributes	M/O	Data type	Description and Values
Id	M	String	ID of the stock input initiation process as defined in the related <i>InfeedInputRequest</i> and used in the <i>InfeedInputPackPlaceRequest</i> .
Source	M	Integer 32-bit >0	ID of the system sending <i>InfeedInputPackPlaceResponse</i> .
Destination	M	Integer 32-bit >0	Source used in <i>InfeedInputPackPlaceRequest</i> .

Element	M/O	Data type	Description
Details	M	Tag	Pack placement input information follows.
Attributes	M/O	Data type	Description and Values
InfeedNumber	M	Integer 32-bit ≥0	Identifies the handover point to the automated storage and retrieval system used for the stock input.
Status	M	String	Result of the pack placement at the handover point. Possible values: "Placed": Pack has been placed successfully and ASRS may take over the pack. "Aborted": Pack hasn't been placed, process will be aborted. The ASRS will send a final <i>InfeedInputMessage</i> with <i>Details.State="Aborted"</i> to confirm the abortion.
Description	O	String	Additional human readable information why a pack could not be placed.

Examples

```
<WWKS Version="2.0" TimeStamp="2021-04-16T11:14:00Z">
  <InfeedInputPackPlacedResponse Id="5000" Source="100" Destination="999">
    <Details InfeedNumber="3" Status="Placed"/>
  </InfeedInputPackPlacedResponse>
</WWKS>
```

```

    </InfeedInputPackPlacedResponse >
  </WWKS>

  <WWKS Version="2.0" TimeStamp="2021-04-16T11:14:00Z">
    <InfeedInputPackPlacedResponse Id="5000" Source="100" Destination="999">
      <Details Status="Aborted" Description="User abort"/>
    </InfeedInputPackPlacedResponse >
  </WWKS>

```

Library

Currently not supported.

4.1.1.6 TaskCancelInfeedInputRequest

Device support

Device category	Rowa Device	Message support
ASRS	Rowa Vmax	Not supported
ASRS	Rowa Select	Not supported
Digital OTC Shelf	Rowa Vmotion	Not supported
Pick-up Terminal	Rowa Vpoint Pick-up	Not supported
Self-checkout	Rowa Self-Checkout	Not supported

Structure

```

<WWKS>
  <TaskCancelInfeedInputRequest>
    <Task/>
  </TaskCancelInfeedInputRequest>
</WWKS>

```

Elements

Element	M/O	Data type	Description
TaskCancelInfeedInputRequest	M	Tag	Message type
Attributes	M/O	Data type	Description and Values
Id	M	String	ID of the cancelation process. This ID is returned in the <i>TaskCancelInfeedInputResponse</i> .

Source	M	Integer 32-bit >0	ID of the system sending the <i>TaskCancelInfeedInputRequest</i>
Destination	M	Integer 32-bit >0	ID of the automated storage and retrieval system intended to receive the <i>TaskCancelInfeedInputRequest</i>

Element	M/O	Data type	Description
Task	M	Tag	Task information follows. This element can be used multiple times.
Attributes	M/O	Data type	Description and Values
Id	M	String	ID of the task to be canceled as used in the related <i>InfeedInputRequest</i> .
InfeedNumber	M	Integer 32-bit >=0	Identifies the handover point to the automated storage and retrieval system used for the stock input.

Example

```
<WWKS Version="2.0" TimeStamp="2021-04-16T11:14:00Z">
  <TaskCancelInfeedInputRequest Id="5001" Source="100" Destination="999">
    <Task Id="5000" InfeedNumber="3"/>
  </TaskCancelInfeedInputRequest>
</WWKS>
```

Library

Currently not supported.

4.1.1.7 TaskCancelInfeedInputResponse**Device support**

Device category	Rowa Device	Message support
ASRS	Rowa Vmax	Not supported
ASRS	Rowa Select	Not supported
Digital OTC Shelf	Rowa Vmotion	Not supported
Pick-up Terminal	Rowa Vpoint Pick-up	Not supported
Self-checkout	Rowa Self-Checkout	Not supported

Structure

```

<WWKS>
  <TaskCancelInfeedInputRequest>
    <Task/>
  </TaskCancelInfeedInputRequest>
</WWKS>

```

Elements

Element	M/O	Data type	Description
TaskCancelInfeedInputResponse	M	Tag	Message type
Attributes	M/O	Data type	Description and Values
Id	M	String	ID of the cancelation process. This ID was sent in the <i>TaskCancelInfeedInputRequest</i> .
Source	M	Integer 32-bit >0	ID of the system sending the <i>TaskCancelInfeedInputResponse</i>
Destination	M	Integer 32-bit >0	<i>Source</i> used in <i>TaskCancelInfeedInputRequest</i> .

Element	M/O	Data type	Description
Task	M	Tag	Task information follows. This element can be used multiple times.

Attributes	M/O	Data type	Description and Values
Id	M	String	ID of the task to be canceled as used in the related <i>InfeedInputRequest</i> .
InfeedNumber	M	Integer 32-bit >=0	Identifies the handover point to the automated storage and retrieval system used for the stock input.
Status	M	String	Status of the cancellation. Possible values: "Unknown" if the task is not known "Cancelled" if the task could be canceled "CancelError", if the cancellation failed

Example

```
<WWKS Version="2.0" TimeStamp="2021-04-16T11:14:00Z">  
  <TaskCancelInfeedInputResponse Id="5001" Source="100" Destination="999">  
    <Task Id="5000" InfeedNumber="3" Status="Cancelled"/>  
  </TaskCancelInfeedInputRequest>  
</WWKS>
```

Library

Currently not supported.