



## **B2B – AS2 Adapter with On Application Acknowledgments**

Implementing Integration Scenarios Enabling MDN Response using PI Application Acknowledgments

## TABLE OF CONTENTS

<b>1</b>	<b>PREFACE</b> .....	<b>3</b>
<b>1.1</b>	<b>Constraints</b> .....	<b>3</b>
<b>1.2</b>	<b>Definition</b> .....	<b>3</b>
<b>1.3</b>	<b>Intended Audience</b> .....	<b>3</b>
<b>1.4</b>	<b>Structure</b> .....	<b>3</b>
<b>2</b>	<b>INTRODUCTION AND PREREQUISITES</b> .....	<b>3</b>
<b>2.1</b>	<b>Introduction</b> .....	<b>3</b>
2.1.1	B2B - AS2 Adapter .....	3
<b>2.2</b>	<b>Prerequisites</b> .....	<b>4</b>
2.2.1	System Setup .....	4
2.2.2	Setting up the Third party Tool Infrastructure (AS2 Connector) .....	4
<b>3</b>	<b>AS2 TO JIDOC</b> .....	<b>4</b>
<b>3.1</b>	<b>Overview</b> .....	<b>4</b>
3.1.1	AS2 Adapter with On Application Acknowledgment .....	4
<b>3.2</b>	<b>Test scenario</b> .....	<b>4</b>
<b>3.3</b>	<b>Configurations in PI</b> .....	<b>4</b>
3.3.1	Repository Objects .....	4
3.3.2	Configuration Objects .....	5
3.3.3	Configuration Overview .....	5
3.3.4	Integrated Configuration Objects in Integration Directory .....	5
<b>3.4</b>	<b>Executing the test case</b> .....	<b>9</b>
3.4.1	Steps to be followed: .....	9
3.4.2	Triggering Acknowledgment (ALEAUD) manually from ECC for testing purpose .....	10

# 1 PREFACE

## 1.1 Constraints

The texts, references, and graphics contained in this manual have been compiled with utmost care; nevertheless, it is impossible to guarantee that they are fully without error. SAP cannot assume any responsibility for the correctness or completeness of the following documentation; the user alone is responsible for verifying the information contained therein.

SAP will only assume liability for damage arising from the use of this documentation – irrespective of the pertinent legal basis – in the case of intentional or active negligence, under no other circumstances will a warranty be made.

## 1.2 Definition

This manual describes simple application cases developed in swing client for B2B and all the configuration steps that are necessary to execute the application cases on the basis of SAP NetWeaver 7.31

## 1.3 Intended Audience

This manual is intended to be used by both technology and application consultants.

## 1.4 Structure

The structure of this document follows the sequence of steps required to configure and run the use cases.

# 2 INTRODUCTION AND PREREQUISITES

## 2.1 Introduction

### 2.1.1 B2B - AS2 Adapter

The AS2 Adapter enables data transfer using the AS2 message protocol. AS2 (stands for Applicability Statement 2) is a protocol used to transport data securely and reliably over the Internet, based on HTTP and S/MIME.

The adapter generates a PI message upon successfully receiving an AS2 Message. The MDN is an acknowledgement that indicates the disposition status of an inbound AS2 message once it is received by the adapter. The MDN is delivered back to partner AS2 system. The MDN is either synchronous (sync) or asynchronous (async).

The disposition status is configured, by default, to indicate that the message has been delivered to PI. However if it is required that the disposition status indicates that the delivery has happened to the final destination of the PI message, then the On Application Ack option in the MDN processing has to be used. The final destination is typically the backend application. The feature is available only when the async MDN is requested by the partner. The MDN response message is delivered to the partner system once PI has delivered the message to the backend application. This information relay is enabled via the application acknowledgement feature of PI pipeline processing.

The B2B scenarios typically integrate the SAP ECC applications for the business documents like orders, invoices, delivery etc. These documents have IDOC interfaces and the IDOC Adapter in PI is used for communication within the PI Integration scenarios. The IDOC adapter supports PI application acknowledgments when the IDOC message is delivered to the application consuming the IDOC message. The positive and negative outcome of the IDOC processing is transferred to the MDN status.

In general, acknowledgments have to be requested explicitly by the sender. AS2 adapter supports only Application Acknowledgement or Application error acknowledgment.

IDocs only return acknowledgments if the receiver is configured for using ALE audit.

ALE audit is only possible for IDocs of type logical system (LS).

## 2.2 Prerequisites

### 2.2.1 System Setup

The scenario can be implemented on SAP PI 7.1/7.30/7.31 system only if SAP NW PI B2B Add on product is installed and the tester should have permission to log on to the PI test system

### 2.2.2 Setting up the Third party Tool Infrastructure (AS2 Connector)

In this document the scenario described is based on the third party tool called **AS2 Connector by /n Software**. This third party software has been used just as an example for configuration of trading partner for the purpose of sending the AS2 message payloads. Any third party software can be used to configure the scenario based on AS2 adapter. The scenarios described in this document are based on /n Software AS2 connector, therefore you need to configure the trading partners which will be used for the communication with the PI system on the variants described in this document.

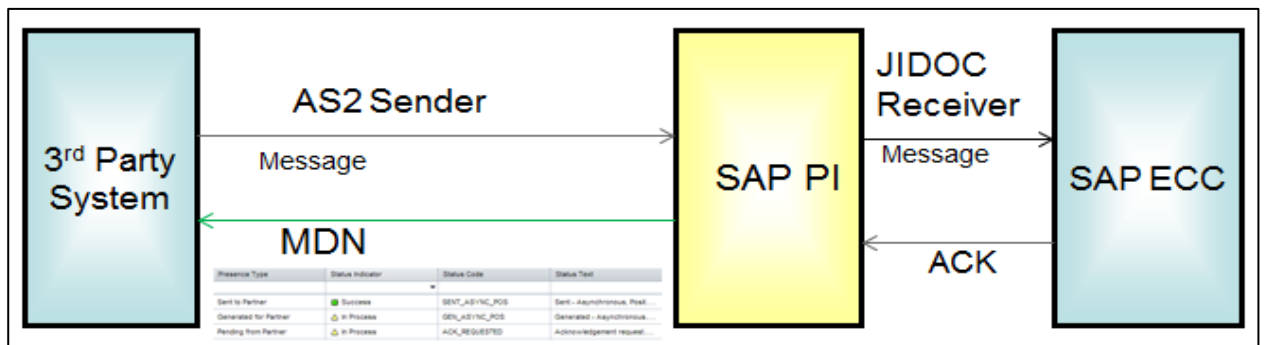
## 3 AS2 TO JIDOC

### 3.1 Overview

#### 3.1.1 AS2 Adapter with On Application Acknowledgment

This test case describes how to configure AS2 to JIDOC scenario with On Application Acknowledgment feature enabled in AS2 adapter (Sender).

Below is the Message Flow:



### 3.2 Test scenario

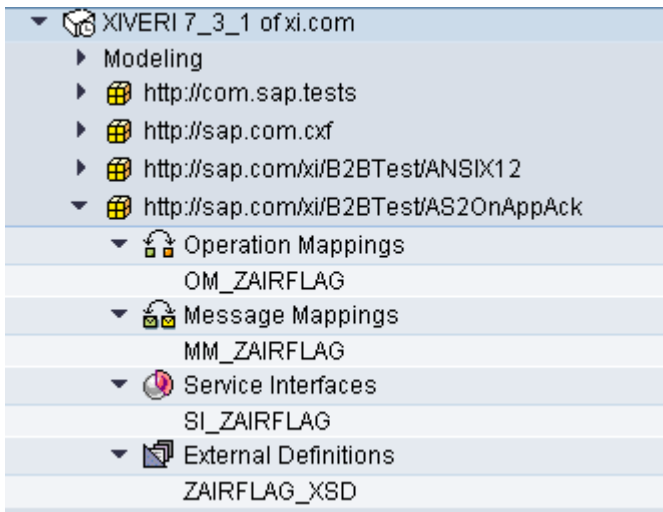
- Message/File is triggered from source (Partner) which is delivered to ECC system through PI system.
- Once the message is received in ECC, an ALEAUD IDoc is generated and sent back to SAP PI
- Once ACK is received from ECC to AS2 Sender, an MDN (Message Disposition Notification) is sent to the source (Partner) as per the configuration made in the sender channel

### 3.3 Configurations in PI

#### 3.3.1 Repository Objects

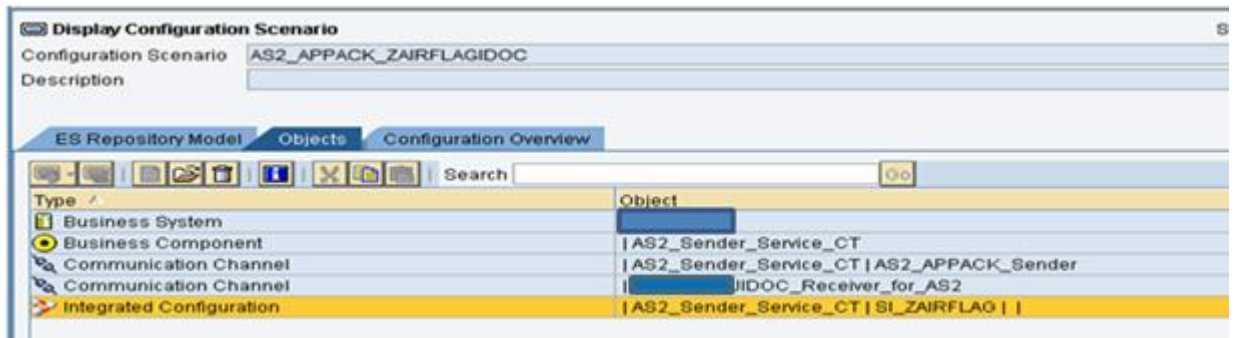
In the Enterprise Service Repository – on PI test system:

- We should have Idoc “ZAIRFLG\_MSG.ZAIRFLG”
- Below mentioned objects in screenshot should be created

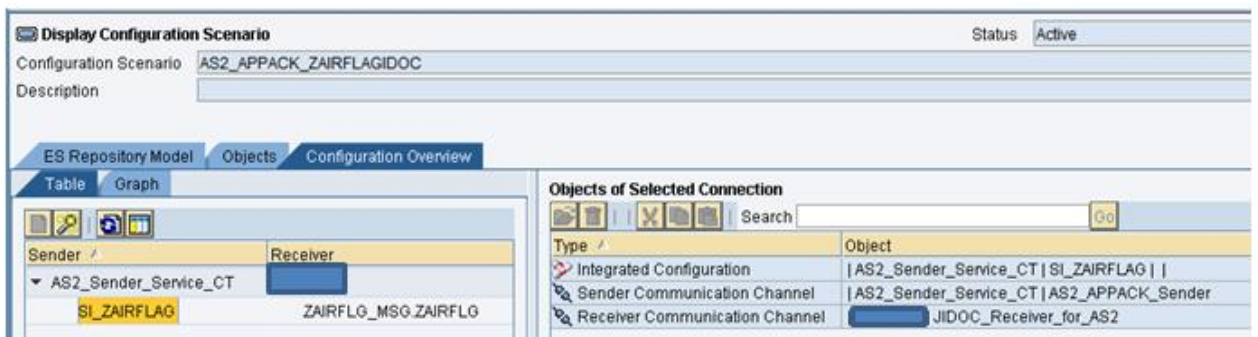


To do this – call the URL <http://<server>:<host>/dir> of the Process Integration system and open the link to the Enterprise Services Builder.

### 3.3.2 Configuration Objects



### 3.3.3 Configuration Overview



### 3.3.4 Integrated Configuration Objects in Integration Directory

In the Inbound Processing, the AS2 sender channel (*AS2\_APPACK\_Sender*) is specified.

**Display Integrated Configuration** Sta

**Sender**

Communication Party

Communication Component

Interface

Namespace

**Receiver**

Communication Party

Communication Component

Description

**Inbound Processing** | **Receiver** | Receiver Interfaces | Outbound Processing | Assigned Users | Advanced Settings

**Configuration for Interface SI\_ZAIRFLAG**

Communication Channel \*

Adapter Type

Adapter Engine

Software Component Version of Sender Interface

Virus Scan

Schema Validation  No Validation  Validation by Adapter

In MDN tab, choose Send Options as **On Application Acknowledgement**

**Display Communication Channel**

Communication Channel

Party

Communication Component

Description

**Parameters** | Identifiers | Module

Adapter Type \*

Sender  Receiver

Transport Protocol \*

Message Protocol \*

Adapter Engine \*

**General** | Signature and encryption | **MDN** | Advanced

**Trading Partner Management (TPM) Configuration**

Enable TPM

**Server**

Expected URL-Path \*

**Message**

Expected MessageID left \*

Expected MessageID right \*

Expected sender's AS2Name \*

Expected own AS2Name \*

Expected subject \*

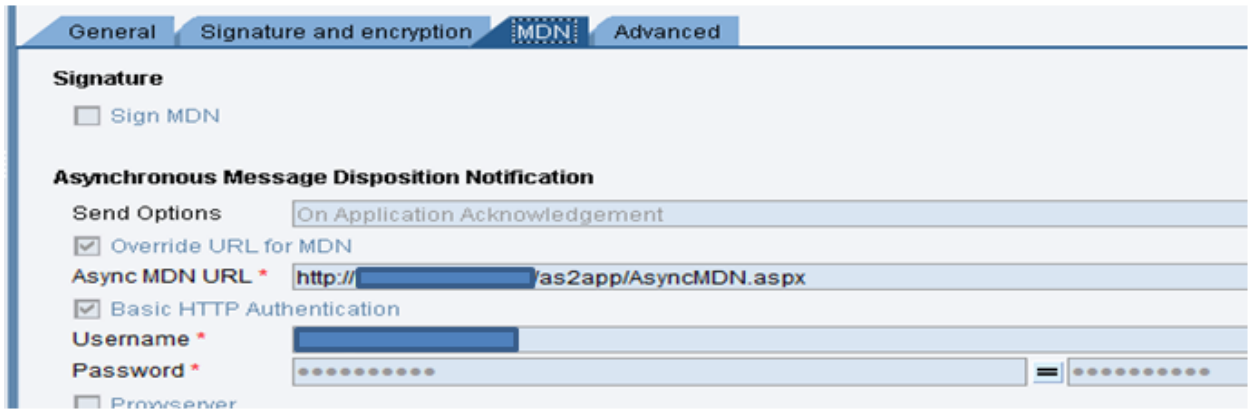
Send Negative MDN if FileName is not present

**Charset**

Charset conversion

**Ambivalent configuration**

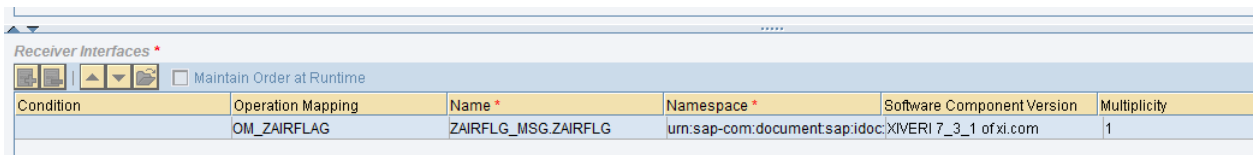
Alert on messages in channels with ambivalent configuration



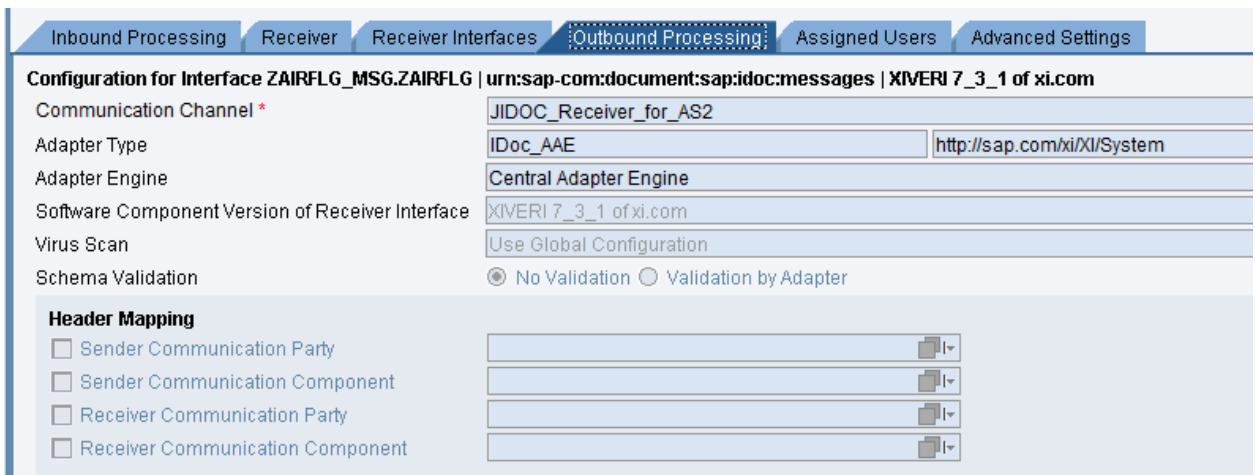
Under Signature and encryption tab, the options **Signature** and **Decryption** will be updated when certificates and keys are configured at partner. In this scenario, no certificates and keys were defined.

On tab *Receiver* of the ICO, the Receiver Business Component/Business system should be specified

On tab *Receiver Interfaces*, the corresponding OM should be set. Here OM\_ZAIRFLAG is set.



On tab *Outbound Processing*, the JIDOC receiver channel is specified.



For Acknowledgment to receive in the same receiver channel, Program ID (ALEAUD) is specified. The programID specified in the channel and the programID used in RFC destination creation at backend application should be the same. To trigger the ALEAUD idoc (Ack) the RFC destination will be used.

**Display Communication Channel**

Communication Channel: JIDOC\_Receiver\_for\_AS2  
Party:   
Communication Component:   
Description:   
Parameters Identifiers Module

Adapter Type \* IDoc\_AAE http://sap.com/xi/XI/System  
 Sender  Receiver  
Transport Protocol \* tRFC  
Message Protocol \* Idoc XML  
Adapter Engine \* Central Adapter Engine

RFC Parameters Optional Parameters Advanced

**RFC Parameters**

RFC Client Parameters \* Manual

**RFC Client Parameters**

SAP Client \* 800  
User Name \*   
Password \*   
 SNC Mode  
Language \* EN  
Server Name \*   
System Number \* 10  
Program ID (ALEAUD) JIDOC PID\_DEMO

**Release and Version Info**

Interface Version \* Interface Version 4.0 or above  
SAP Release \* 730  
 Packaging Required  
 Queue Processing

**Display Communication Channel**

Communication Channel: JIDOC\_Receiver\_for\_AS2  
Party:   
Communication Component:   
Description:   
Parameters Identifiers Module

Adapter Type \* IDoc\_AAE http://sap.com/xi/XI/System  
 Sender  Receiver  
Transport Protocol \* tRFC  
Message Protocol \* Idoc XML  
Adapter Engine \* Central Adapter Engine

RFC Parameters Optional Parameters Advanced

**Optional Metadata Parameters**

External Metadata Required



### 3.4 Executing the test case

Here the whole execution is described on the basis of third party /n software. In this variant the third party has been used for sending the message and receiving MDN

#### 3.4.1 Steps to be followed:

Perform the following steps to check that the use case is executed without errors:

1. Check whether both (Sender & Receiver) channels being used in this scenario are started. If not then start them via Channel Monitoring of NWA/RWB.
2. Go to the third party software and open the location where the file (SendFile.txt) is placed and click on the send button. A message will be displayed as **Transmission Successful - Pending Asynchronous MDN** as On Application Ack is configured in the Sender AS2 channel
3. Once the message is successfully received in PI the B2B Acknowledgment tab will be as below:

Time	Type	Namespace	Presence Type	Status Indicator	Status Code	Status Text	Xi Message ID	Correlation ID
8/22/2013 1:50:39.699 PM	MDN	http://sap.com/xi/XI/AS2	Pending from Partner	In Process	ACK_REQUESTED	Acknowledgement request...	10e96e8-0b21-11e3-9e7c...	

4. Once the message is delivered successfully to ECC and when ACK is received back to PI, the B2B Acknowledgment tab will be updated as below:

Time	Type	Namespace	Presence Type	Status Indicator	Status Code	Status Text	Xi Message ID	Correlation ID
8/22/2013 1:47:51.574 PM	MDN	http://sap.com/xi/XI/AS2	Sent to Partner	Success	SENT_ASYNC_POS	Sent - Asynchronous, Posit...	9b616dcf-0b20-11e3-b3fc...	
8/22/2013 1:47:51.449 PM	MDN	http://sap.com/xi/XI/AS2	Generated for Partner	In Process	GEN_ASYNC_POS	Generated - Asynchronous, Sent - Asynchronous, Positive MDN;		
8/22/2013 1:47:22.576 PM	MDN	http://sap.com/xi/XI/AS2	Pending from Partner	In Process	ACK_REQUESTED	Acknowledgement request...	9b616dcf-0b20-11e3-b3fc...	

5. To check the ACK received successfully, goto IDOC Monitoring in NWA and click on the IDOC sent from PI to ECC. The Acknowledgement received from ECC will be displayed in Acknowledgment tab as below:

DocNumber	DocType	MessageT	CreationTime	Direction	CMType	MarDT	Process	ReceiverPort	ReceiverP	ReceiverP	SenderPort	SenderPar	SenderPar	Party	Service	Messa	Chann	Status	Transa	AckSta
00000000	ZARFLG	ZARFLG	2013-08-23 10:19:03	Outbound				SAPR16	T90CLNT090	LS	SAPPJ2	PJ2CLNT000	LS		M16_800	886a2...	JDOC	0	XIVB	1

Doc Number	Xi Message Number	Reference to Doc No.	Acknowledgment T.	Acknowledgment St.	Acknowledgment Text	Time Created	Port	Partner Number	Partner Type	Update Time	Control Record
00000000000009229	abe8a44-26cc-11...	0000000000001756	AA	53	SUCCESS	2013-08-23 10:19:03	ALEAUGTEST	PJ2CLNT001	LS	2013-08-23 10:19:03.787	BANDT: 880 DOCNUM: 00000000... DOCTYP: ALEAUG01 CMTYP: ALEAUG01 MESTYP: ALEAUG01 SNDPOR: ALEAUG01 SNDPR1: LS SNDPR2: LS SNDPR3: LS SNDPR4: LS SNDPR5: LS SNDPR6: LS SNDPR7: LS SNDPR8: LS SNDPR9: LS SNDPR10: LS SNDPR11: LS SNDPR12: LS SNDPR13: LS SNDPR14: LS SNDPR15: LS SNDPR16: LS SNDPR17: LS SNDPR18: LS SNDPR19: LS SNDPR20: LS SNDPR21: LS SNDPR22: LS SNDPR23: LS SNDPR24: LS SNDPR25: LS SNDPR26: LS SNDPR27: LS SNDPR28: LS SNDPR29: LS SNDPR30: LS SNDPR31: LS SNDPR32: LS SNDPR33: LS SNDPR34: LS SNDPR35: LS SNDPR36: LS SNDPR37: LS SNDPR38: LS SNDPR39: LS SNDPR40: LS SNDPR41: LS SNDPR42: LS SNDPR43: LS SNDPR44: LS SNDPR45: LS SNDPR46: LS SNDPR47: LS SNDPR48: LS SNDPR49: LS SNDPR50: LS SNDPR51: LS SNDPR52: LS SNDPR53: LS SNDPR54: LS SNDPR55: LS SNDPR56: LS SNDPR57: LS SNDPR58: LS SNDPR59: LS SNDPR60: LS SNDPR61: LS SNDPR62: LS SNDPR63: LS SNDPR64: LS SNDPR65: LS SNDPR66: LS SNDPR67: LS SNDPR68: LS SNDPR69: LS SNDPR70: LS SNDPR71: LS SNDPR72: LS SNDPR73: LS SNDPR74: LS SNDPR75: LS SNDPR76: LS SNDPR77: LS SNDPR78: LS SNDPR79: LS SNDPR80: LS SNDPR81: LS SNDPR82: LS SNDPR83: LS SNDPR84: LS SNDPR85: LS SNDPR86: LS SNDPR87: LS SNDPR88: LS SNDPR89: LS SNDPR90: LS SNDPR91: LS SNDPR92: LS SNDPR93: LS SNDPR94: LS SNDPR95: LS SNDPR96: LS SNDPR97: LS SNDPR98: LS SNDPR99: LS SNDPR100: LS

6. Once the ACK is received in PI from ECC, an MDN should be sent to the partner. To check this open the Message Log in communication channel monitor

Message Details		
Time	Status	Description
8/23/2013 10:18:05.230 AM	Information	The message was successfully retrieved from the send queue
8/23/2013 10:18:05.247 AM	Information	Message status set to DLNG
8/23/2013 10:18:05.250 AM	Information	Executing Request Mapping "http://sap.com/xi/B2BTest/AS2OnAppAck/OM_ZAIRFLAG" (SWCV f7a554b0a08b11df9608c3ba0a42301e)
8/23/2013 10:18:05.276 AM	Information	MIC (qTyLzsZCuH+hyfA4m0Be9wdBUQE+) is calculated using SHA1 algorithm.
8/23/2013 10:18:05.401 AM	Information	Delivering to channel: JIDOC_Receiver_for_AS2
8/23/2013 10:18:05.410 AM	Information	MP: processing local module locale/jbs/DocOutboundModuleBean
8/23/2013 10:18:05.427 AM	Information	Xi message received for processing
8/23/2013 10:18:05.540 AM	Information	Sender Party: Sender Service:AS2_Sender_Service_CT Receiver Party: Receiver Service:M16_800 Communication Channel:JIDOC_Receiver_for_AS2
8/23/2013 10:18:05.586 AM	Information	IDOC metadata repository is M16
8/23/2013 10:18:05.601 AM	Information	Control record is not mandatory - control record will be added if not available
8/23/2013 10:18:06.187 AM	Information	XML Payload parsed to idoc document list with number of idocs: 1
8/23/2013 10:18:06.315 AM	Information	Sending idoc message to receiver R/3 system with TID XIYBiqGIC4UEmFm0008q8uW
8/23/2013 10:18:07.968 AM	Information	IDOC message sent to receiver R/3 system
8/23/2013 10:18:07.978 AM	Information	TID XIYBiqGIC4UEmFm0008q8uW confirmed
8/23/2013 10:18:08.001 AM	Information	Message was successfully transmitted to endpoint <local> using connection AS2_http://sap.com/xi/XI/AS2
8/23/2013 10:18:08.033 AM	Information	Message status set to DLVD
8/23/2013 10:19:03.716 AM	Information	Acknowledgement creation triggered for type: ApplicationAck
8/23/2013 10:19:03.784 AM	Information	Acknowledgement sent successfully for type: ApplicationAck
8/23/2013 10:19:03.853 AM	Information	Received XI Acknowledgement for processing.
8/23/2013 10:19:06.532 AM	Information	Asynchronous MDN sent.

**3.4.2 Triggering Acknowledgment (ALEAUD) manually from ECC for testing purpose**

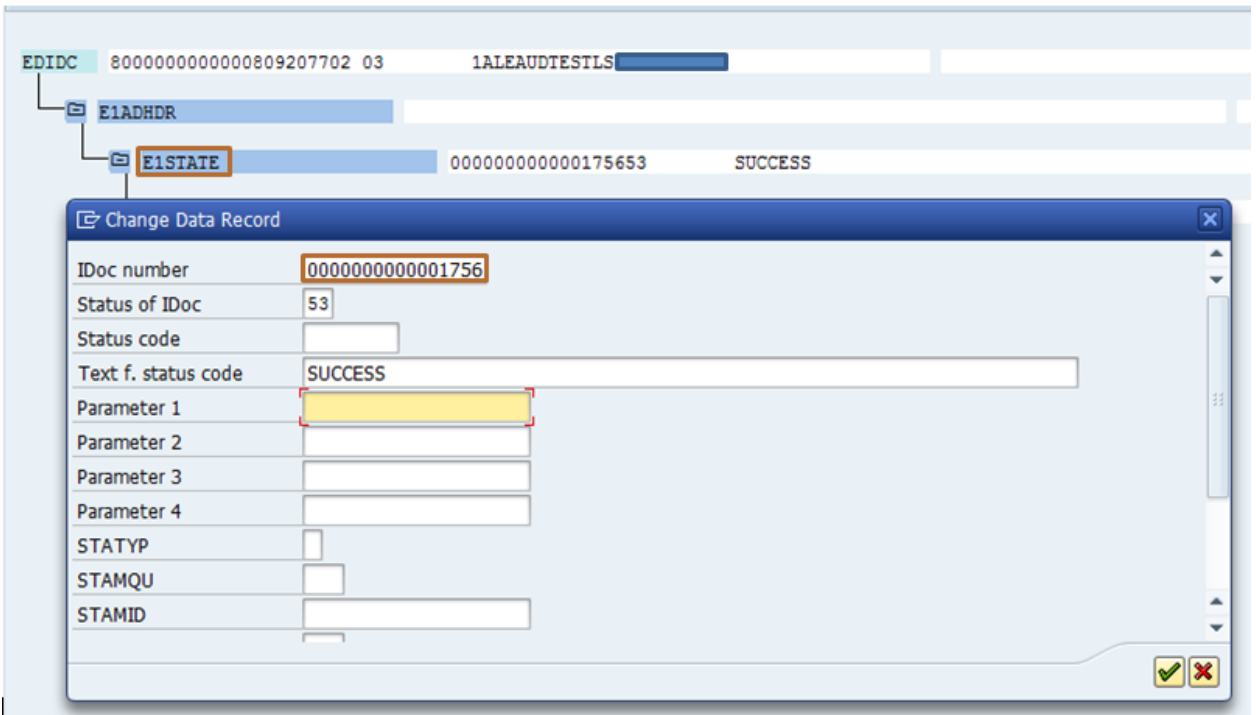
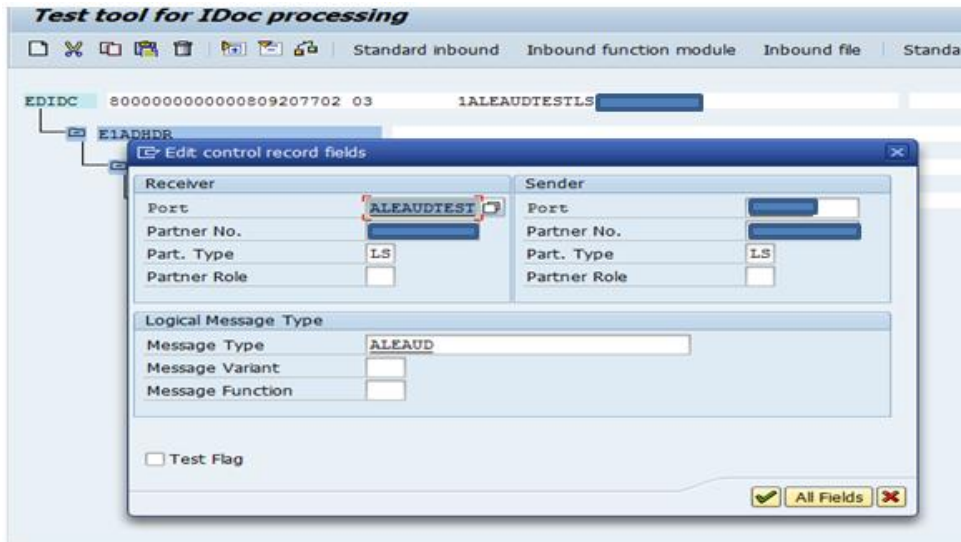
Here in this test case, the Ack (ALEAUD) from ECC is sent manually for testing purpose. Below steps can be followed to send the ALEAUD IDoc from ECC manually:

1. Get Idoc number from NWA – Idoc Monitoring  
Go to NWA. Click on Tab SOA and sub tab Monitoring. Then click on Link “Idoc Adapter Monitor”. On Message Monitor tab, Select Outbound from dropdown and press Go. You will get list of Idocs. Get Idoc number of the message. To select correct IDoc, Check for Message Number. It should be same as Msg. ID (MsgID can be taken from Communication Channel Monitoring)

DocNumber	DocType	MessageT...	CreationTime	Direction	ChIType	ManIDT	Proces...	ReceiverPort	ReceiverP...	ReceiverP...	SenderPort	SenderPar...	SenderPar...	Party	Service	Message...	Chann...	Status	Transa...	AckSta...
00000000	ZARFLG	ZARFLG...	2013-08-...	Outbound					LS		LS			M16_800	88a2	JIDOC...	0	XIYBk...	1	

Details For Idoc Number: 000000000001716

2. Go to transaction we19 in ECC system. Enter ALEAUD01 for Basic Type and Press Execute. Enter Control Record Field data for Sender and Receiver Information.



3. Press “Standard Outbound Processing” to send Acknowledgment.
4. Check Acknowledgement  
Goto NWA Idoc Monitoring, Acknowledgment Tab will have details.

**Note:** The section 3.4.2 is described here for the testing purpose of the configured scenario with the feature On Application Acknowledgment in AS2 adapter. In real time scenarios, the required configurations and code is to be done at the backend system to trigger ALEAUD (Ack) back to SAP PI

© 2012 SAP AG. All rights reserved.

SAP, R/3, SAP NetWeaver, Duet, PartnerEdge, ByDesign, SAP BusinessObjects Explorer, StreamWork, SAP HANA, and other SAP products and services mentioned herein as well as their respective logos are trademarks or registered trademarks of SAP AG in Germany and other countries.

Business Objects and the Business Objects logo, BusinessObjects, Crystal Reports, Crystal Decisions, Web Intelligence, Xcelsius, and other Business Objects products and services mentioned herein as well as their respective logos are trademarks or registered trademarks of Business Objects Software Ltd. Business Objects is an SAP company.

Sybase and Adaptive Server, iAnywhere, Sybase 365, SQL Anywhere, and other Sybase products and services mentioned herein as well as their respective logos are trademarks or registered trademarks of Sybase Inc. Sybase is an SAP company.

Crossgate, m@gic EDDY, B2B 360°, and B2B 360° Services are registered trademarks of Crossgate AG in Germany and other countries. Crossgate is an SAP company.

All other product and service names mentioned are the trademarks of their respective companies. Data contained in this document serves informational purposes only. National product specifications may vary.

These materials are subject to change without notice. These materials are provided by SAP AG and its affiliated companies ("SAP Group") for informational purposes only, without representation or warranty of any kind, and SAP Group shall not be liable for errors or omissions with respect to the materials. The only warranties for SAP Group products and services are those that are set forth in the express warranty statements accompanying such products and services, if any. Nothing herein should be construed as constituting an additional warranty.

