Communication between SIMATIC WinCC Industrial Data Bridge and SIMATIC S7

SIMATIC WinCC Industrial Data Bridge / V13

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Table of contents

1 Introduction .................................................................................................... 3
2 Step by step configuration............................................................................... 4
1 Introduction

Send/Receive is a provider and also a consumer in WinCC IDB. This module helps to transfer data to PLC from any IDB provider or from PLC to any IDB consumer. To use Send/Receive as a provider or consumer user need to prepare three different components.

- Step 7 Project
- IDB Configuration
- IDB Runtime

Environment used in this document

- Win 7 64bit
- Step 7 TIA V13 SP1
- IDB 7.3
- SIMATIC S7 300 PLC
2 Step by step configuration

1. Create a new project in STEP 7 with proper hardware configuration.
2. Add Connect, Disconnect, Send and Receive module system blocks and corresponding logic for that in function block. Configure data blocks accordingly.
3. Configure IP addresses and subnet.
   a. Give IP (PLC IP) in decimal form (For example – 172.17.1.30) in hardware configuration.

Figure 2-1
b. Give IP (IDB Machine IP) in hexadecimal form in function block.

Figure 2-2
c. Give IP (IDB Machine IP) in hexadecimal form in data block.

Figure 2-3

d. Give IP (IDB Machine IP) in hexadecimal form.

Figure 2-4
4. Compile the project and check if any error is coming.

Figure 2-5
5. Download the project if there are no error(s) in time of compilation

Figure 2-6
6. Make the project Online.

Figure 2-7

7. Open watch table_1 and make it online to monitor to view the status of configured data.

Figure 2-8
8. After making step 7 online create an IDB configuration or import an existing configuration xml with Send/Receive as a consumer and Send/Receive as provider in two different links. Example – MS Access to Send/Receive and Send/Receive to MS Access.

Figure 2-9

9. Provide Database path and other fields for Access DB as provider.

Figure 2-10
10. Provide the IP address and other fields for Send/Receive as consumer.  
Figure 2-11

11. Provide the Database path and other fields for the Access DB as consumer.  
Figure 2-12
12. Give the IP address and other fields for Send/Receive as provider

Figure 2-13

13. Export the configuration XML.

14. Load the configuration XML in runtime, click connect and start data transfer.

Figure 2-14
15. To check the data transfer open REC_DATA[DataBlock] and SEND_DATA[DataBlock] in Step 7 and make it run. Data from MS Access (provider) will come in the tables.

Figure 2-15

Figure 2-16
2 Step by step configuration

Note
In IDB v7.3 configuration project file, where the two links (DBMSAccess_SR, SR_DBMSAccess) are for writing data from DB to Send/Receive and Send/Receive to DB using S7 300 PLC.
The use of the link (DBMSAccess_SR) is to make sure that some data will be present in Send/Receive (in PLC). Then second link (SR_DBMSAccess) will transfer the same data to DB consumer.
1.