



Royal Netherlands
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*Ministry of Infrastructure and the
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JOINT COOPERATION PROGRAMME

Component D2:

Flood Early Warning System

Document D2.6 Manual Telemetry

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J-FEWS connection with BBWS Telemetry

Introduction

J-FEWS collects measurements from automatic water level and precipitation gauges. BBWS has two telemetry systems: the system for the current Jakarta water system and a new one for BKT, this latest one is referred to as SEBA.

The current telemetry system has 18 stations of which 10 are operational at the time of writing. Data is collected by a radio operated system and stored at a telemetry server. For every station a datafile is stored in C:\telemetry\data
This datafile is plain ASCII and is appended every time new data is collected by the system.

The new system has 8 stations. Every hour it collects data from the stations using SMS. After data collection, it exports measurement in export files.

Description of extraction program Current Telemetry

A small program was made that, when run, for every station compares the current data file with the data file which was stored in the previous run. The program is installed on the J-FEWS server in the Posko room in the folder D:\DataCollect\BBWS\BBWSData. The datafiles are stored in: D:\DataCollect\BBWS\datastore

On the telemetry PC (name [\\TELEMETRY](#)), the folder with the datafiles should be shared. The extraction program reads the datafiles over the network. If a difference is found, the difference is parsed and written as a PI-XML file. This file is compressed and stored in the export folder:

D:\DataCollect\BBWS\output

The previous datafile is then being overwritten by the current data file.

After all files have been compared, the program continues to convert SEBA files. The export folder now contains exportfiles for locations which had new data.

The program was made in VB.NET and can be found on...

Description of conversion program SEBA

The export folder on the SEBA server should be shared for the conversion program to be able to read the files. The program goes through all the export files and converts them to PI XML format.

Next, it tries to delete the SEBA export file. If this does not succeed, for example because the file sharing does not allow it, the program will just continue. To register what files have been processed, file names are written down in a register file: UploadedFiles.txt. For

every file it finds in the export folder of SEBA, it will check if it already has been processed.

After all files have been processed, the new PI XML file is zipped and stored in the output folder.

Settings

The following settings can be changed:

```
<?xml version="1.0" encoding="utf-8"?>
<config xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <DataStoreFolder>d:\seba\data</DataStoreFolder><!--the folder where the local
versions of the datastore file are stored-->
  <ReadFolder>d:\seba\input</ReadFolder><!--the path to the shared folder on the
telemetry server where the datastore files can be found-->
  <WriteFolder>d:\seba\output</WriteFolder><!--pi xml files are stored here-->
  <SEBAFolder>d:\seba\input</SEBAFolder><!--The path to the shared folder on the
SEBA PC where the export files are stored-->
</config>
```

Description of FTP program

A separate FTP program is installed in D:\DataCollect\BBWS\SimpleFTPTransfer
When this program is started, it sends data from the local folder to the remote FTP server.
Files that were send successfully will be deleted. The settings are in
D:\DataCollect\BBWS\SimpleFTPTransfer\config.xml

```
<config xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <FileStreams>
    <FileStream>
      <Type>upload</Type>
      <Host>bfews.pusair-pu.go.id</Host> //the FTP server to which files are send
      <LocalFolder>D:\DataCollect\BBWS\Output</LocalFolder> // the local folder
containing the export files
      <RemoteFolder></RemoteFolder> //in case of a folder on the FTP server, not in this
situation
      <Username>fews_bbws</Username> //username to log in
      <PassWord>KC3C%dx</PassWord> // password
      <DeleteFiles>true</DeleteFiles> // files that were send successfully will be deleted
      <DownloadOnlyNewFiles>true</DownloadOnlyNewFiles> // not used when uploading
      <RegisterFile>Seba.txt</RegisterFile> //not used when uploading
    </FileStream>
  </FileStreams>
</config>
```

Settings Windows Task Scheduler

A batch file referring to above two programmes was made: D:\DataCollect
\start_export_telemetry.bat

Windows Task Scheduler was set-up to run this batchfile every hour, at X.30.

Internet connection

There is no internet connection at the telemetry computer. To receive actual telemetry data in J-FEWS, a UTMS modem was installed at the J-FEWS computer. This modem will be active during the project period. During this period BBWS should set-up an internet connection for the telemetry connection, but also for the J-FEWS client.

In case the data connection fails, new export files will be kept in the exportfolder until they can be send to the FTP folder. It is possible that the modem should be reconnected manually by the telemetry operators. Therefore they have to open the program Studio 9.

What to do if no new data in FEWS

- 1) Check if there is new data in the telemetry system (newer then in FEWS).
 - a. No: there is a problem with the telemetry system.
 - b. Yes: then go to next step
- 2) Check if there are exportfiles in the output folder: D:\DataCollect\BBWS\output
 - a. No: there is a problem with the export function. Check if BBWWdata.exe is still scheduled in Windows Task Scheduler to run hourly..
 - b. Yes: The datafiles could not be send to FEWS FTP, go to next step
- 3) Check if the SimpleFTPTransfer is still scheduled in Windows Task Scheduler: it should run every hour.
 - a. It is disabled or disappeared: schedule again.
 - b. It is running well: there is a problem with FTP connection, go to next step
- 4) Try to make an FTP connection with FEWS, using credentials in D:\DataCollect\BBWS\SimpleFTPTransfer\config.xml. Probably it will not work. Try the following:
 - a. Is there an internet connection? If not, repair it.
 - b. Maybe the credentials have changed: contact the FEWS system administrator.

Appendix A Example Telemetry datastore file

151,209,2005,43,1315,2,12,1.301,1.301,100.68,0

151,209,2005,43,1330,2,12,1.302,1.302,100.85,0

151,209,2005,43,1345,2,12,1.302,1.302,100.85,0

151,209,2005,43,1400,2,12,1.302,1.302,100.85,0
151,209,2005,43,1415,2,12,1.302,1.302,100.85,0
151,209,2005,43,1430,2,12,1.302,1.302,100.85,0
151,209,2005,43,1445,2,12,1.302,1.302,100.85,0
151,209,2005,43,1500,2,12,1.301,1.301,100.68,0
151,209,2005,43,1515,2,12,1.298,1.298,100.16,0
151,209,2005,43,1530,2,12,1.294,1.294,99.483,0
151,209,2005,43,1545,2,12,1.292,1.292,99.143,0
151,209,2005,43,1600,2,12,1.292,1.292,99.143,0
151,209,2005,43,1615,2,12,1.292,1.292,99.143,0
151,209,2005,43,1630,2,12,1.292,1.292,99.143,0
151,209,2005,43,1645,2,12,1.292,1.292,99.143,0
151,209,2005,43,1700,2,12,1.292,1.292,99.143,0

Appendix B Example SEBA export file

Station name: PLL01664 1
Serial number: PLL01664
Channel number: 1

01.01.2011 00:00:00 23,115 cm
01.01.2011 00:15:00 23,096 cm
01.01.2011 00:30:00 22,159 cm
01.01.2011 00:45:00 22,549 cm
01.01.2011 01:00:00 22,178 cm
01.01.2011 01:15:00 22,510 cm
01.01.2011 01:30:00 21,963 cm
01.01.2011 01:45:00 21,827 cm
01.01.2011 02:00:00 21,827 cm
01.01.2011 02:15:00 21,456 cm
01.01.2011 02:30:00 21,495 cm
01.01.2011 02:45:00 21,690 cm
01.01.2011 03:00:00 21,221 cm
01.01.2011 03:15:00 21,319 cm
01.01.2011 03:30:00 21,339 cm
01.01.2011 03:45:00 21,358 cm
01.01.2011 04:00:00 20,616 cm
01.01.2011 04:15:00 21,475 cm

J-FEWS connection with PusAir Telemetry

Introduction

J-FEWS collects measurements from automatic water level and precipitation gauges. PusAir has 5 stations in Jabodetabekof which x are operational at the time of writing. Data is collected automatically and stored in the Tech4Water database, which can be accessed from internet.

Description of extraction program

The developer of the Tech4Water database has made a small programme that every hour collects the most recent data from selected stations and puts it in an export folder:

C:\fews_dataexport\data.

The format of the datafile is CSV (FEWS format).

Description of FTP program

A separate FTP program is installed in C:\telemetry\fews\SimpleFTPTransfer

When this program is started, it sends data from the localfolder to the remote FTP server.

Files that were send successfully will be deleted. The settings are in

C:\fews_dataexport\SimpleFTPTransfer\config.xml

```
<config xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <FileStreams>
    <FileStream>
      <Type>upload</Type>
      <Host>bfews.pusair-pu.go.id</Host> //the FTP server to which files are send
      <LocalFolder> C:\fews_dataexport\data </LocalFolder> // the local folder containing the
export files
      <RemoteFolder></RemoteFolder> //in case of a folder on the FTP server, not in this
situation
      <Username>fews_pusair</Username> //username to log in
      <PassWord> Hi^rdu@a</PassWord> // password
      <DeleteFiles>true</DeleteFiles> // files that were send successfully will be deleted
      <DownloadOnlyNewFiles>true</DownloadOnlyNewFiles> // not used when uploading
      <RegisterFile>Seba.txt</RegisterFile> //not used when uploading
    </FileStream>
  </FileStreams>
</config>
```

In case there is no internet connection, exportfiles will be kept in the exportfolder until SimpleFTPTransfer can send them successfully.

Settings Windows Task Scheduler

SimpleFTPTransfer is scheduled in Windows Task Scheduler to run once per hour at X.05.

What to do if no new data in FEWS

- 5) Check if there is new data in the telemetry system (newer then in FEWS).
 - a. No: there is a problem with the telemetry system.
 - b. Yes: then go to next step
- 6) Check if there are exportfiles in the output folder: C:\fews_dataexport\data
 - a. No: there is a problem with the export function. Contact Pak Yoyo.
 - b. Yes: The datafiles could not be send to FEWS FTP, go to next step
- 7) Check if the SimpleFTPTransfer is still scheduled in Windows Task Scheduler: it should run every hour.
 - a. It is disabled or disappeared: schedule again.
 - b. It is running well: there is a problem with FTP connection, go to next step
- 8) Try to make an FTP connection with FEWS, using credentials in C:\telemetry\fews\SimpleFTPTransfer\config.xml. Probably it will not work. Try the following:
 - a. Is there an internet connection? If not, repair it.
 - b. Maybe the credentials have changed: contact the FEWS system administrator.