



## StarBeat – First Level Support Manual

star beat\*

Global Digital Solutions

29 08 2019

# StarBeat

## First Level Support Manual

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### AMENDMENT REGISTER

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## 1. Scope

The purpose of this document is to provide a useful guide for the Star Beat Administrators and advanced Operators.

The document will support a first level analysis of issues, problems that will been before analyzed, and only after, reported them to the second level support group [Starbeat\\_support@enel.com](mailto:Starbeat_support@enel.com) ; so the document, is as part of the Starbeat System, aims to describe step by step the checks that an operator (first level) can perform before engaging second level support.

The ENEL areas affected by the actions are the tele\_reading and measurement area.

## 2. Applicability

The document provides the information for the product support and assistance.

The document provides some indications or suggestion to perform a first level analysis on Starbeat communication or reading problem, both from the Front-end point of view ( through the GUI ), both through the checking of the Log files, and also, through data querying.

## 3. Reference Documents

This chapter identifies the list of the reference documents for the activities described in the document. Below are reported the numbers and titles, of the reference documents.

Please see in Confluence the paragraph:

<http://confluence.enelint.global/display/STARBEAT/Product+Catalogue++STAR+BEAT>



## 4. Acronyms and Abbreviations

It defines those words, phrases, terms, acronyms and abbreviations that apply specifically to the document. Please see in Confluence the [Acronyms and Abbreviations - STAR BEAT](#) paragraph.

## 5. Analysis and Problems Resolution

The operator, based on the frequency and type of error found, can decide to examine the problem according to these two approaches:

- **Punctual:** used for example in the event that an error occurs only on a specific meter/communication/Activity\_type, the operator performs a targeted analysis on the single meter, starting from the manufacturer S/N. (See chapter 5.1.1)
- **Massive:** used for example in the event that an error is present on more than one meter. The operator, starting from the macro categories of errors, begins to analyze the cause that determines this error common to several meters. (See chapter 5.2.1)

### 5.1. Detailed analysis by Error/Activity Type

The system has **Registers** reading errors, and, **Load Curves** reading problem. These activities fuel the Billing process, so the meters with problem can't be metered;

In the event that one of the two activities (Load Curves – Billing Registers) generates an anomaly, the operator will analyze the causes of these errors, and if the system:

- A) The system cannot read the load curves (activity identified with the codes):

- LPH = Load Curves Hourly
- LPQ = Load Curves Quarter Quarter Hourly
- LPT = Load Curves Quarter Quarter Ten Minutes Freq

The following errors may occur:

- 2304 Error happens during Load Profile Readings
- 2100 Problems in GPRS APN Connection ( in some case )

- B) The system cannot read the Billing Registers (activity identified with the codes):

- REG = Register

The following errors may occur:

- 2404 Error happens during Registers Readings
- 1000 Generic error

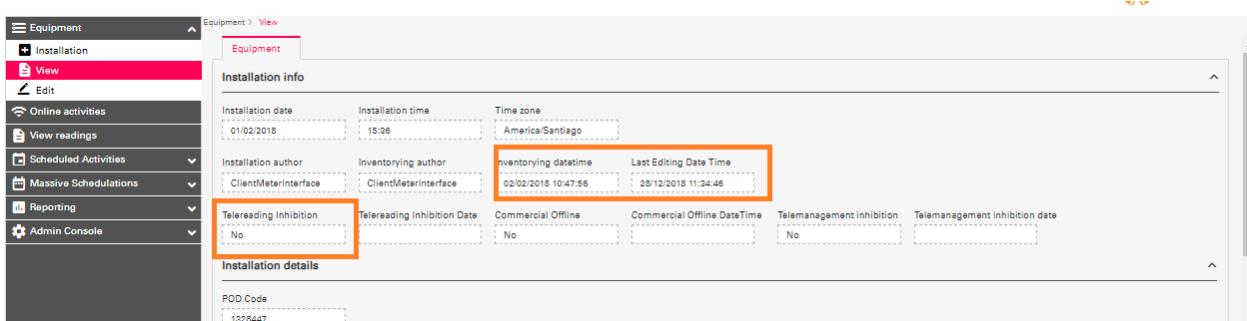
## 5.1.1. Procedure to be used when load curves cannot be read

- In StarBEat via Graphical User Interface through the Equipment Views features, the operator performs a search, for example, by serial number = Manuf. S / N 30048309 (e.g. on the Chilean installation)

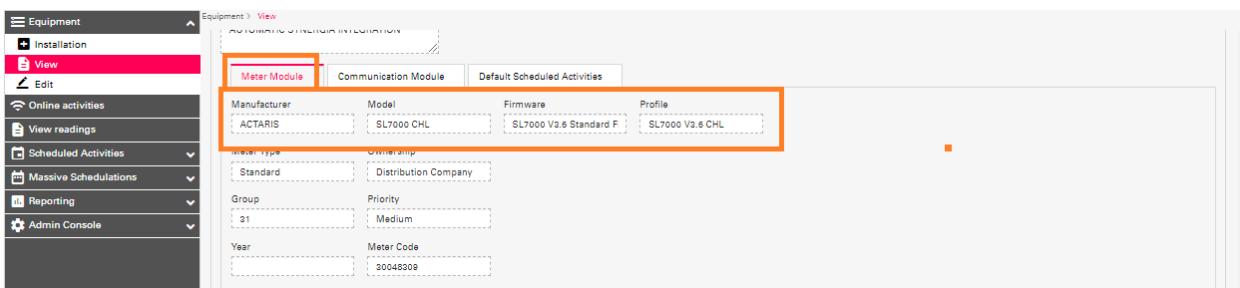
Eq. Id	POD Code	Manufacturer S/N	Software Meter ID	Zone	Group	Inst. datetime	Comm. type
2722	1228447	30048309	30048309	REGION METROPOLITANA	SF31	01/02/2018 15:36:19	GPRS

- Through the following icon the operator can view the detail of the extracted and selected meter record.

- Once the data has been extracted in the Installation info section, you will find:
  - When it was installed
  - Last Editing master data time, so the data in which an operator or an external system has changed the master data of the equipment (to check the history of changes happened on the meter master data it is necessary to display the historical data of the meter using the "equipment report" button).
  - Telereading Inhibition = YES indicates that: It is enabled for remote activities (E.g. telereading)

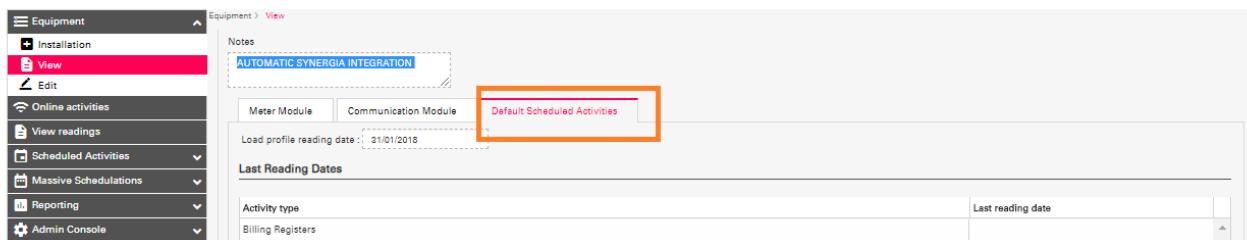


- 4) in the Meter Module Tab the operator can find the "meter family", in the above case is equal to ACTARIS CHL\_SL7000



- 5) The operator at this point has the opportunity to understand if, the meter has ever been read, and, if so, the date on which the last reading is made, to this scope in the Tab "Default Scheduled Activities" are visible the below information:

- Has the meter been read at least once?
- Which planned activities are or are not performed?
- When was the last activity performed?



- 6) Looking at the Last Reading Dates section we note that in the Last Readings Dates columns:

- The meter in analysis had never been read.
- A successful reading has never been done.



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Equipment > View

Notes  
AUTOMATIC SYNERGIA INTEGRATION

Meter Module Communication Module Default Scheduled Activities

Last profile reading date: 31/01/2018

Last Reading Dates

Activity type	Frequency	Day	From (HH)	To (HH)
Load Curves quarters hours	Daily			
Billing Registers	Monthly	1		

Configuration

Last configuration reading date: - Default configuration

BACK TEST VIEW SCHEDULE REPORT EQUIPMENT

- 7) At this point, the operator, tries to perform simple TESTS (using the appropriate button); the operator can proceed with the following logic, or apply its own logic.
- as a first action the operator performs a test on instantaneous Registers, or, Billing registers
  - and then a Read Configuration test,
  - at the end of each test the operator checks if the data is traced Last Reading Dates

Equipment > View

Last profile reading date: 31/01/2018

Last Reading Dates

Activity type	Frequency	Day	From (HH)	To (HH)
Load Curves quarters hours	Daily			
Billing Registers	Monthly	1		

Configuration

Last configuration reading date: - Default configuration

Type	Standard channel	Meter channel	Internal K	Unit Measurement K
LP	Positive active Energy A+	1	1	0.00025
LP	Negative active Energy A-	2	1	0.00025
LP	Reactive energy Q1	3	1	0.00025
LP	Reactive energy Q2	4	1	0.00025

BACK TEST VIEW SCHEDULE REPORT EQUIPMENT

- 8) the operator then tries to run a test on the **Load Curves quarters hours**

- In the test result (see below), through the automatic filling of the two fields:
  - Expected S/N 30048309
  - Received S/N 30048309
- The operator can deduce that the system has communicated, the activity is in error



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Execution date: 17/04/2019 17:54:47 Creation date: 17/04/2019 17:54:37

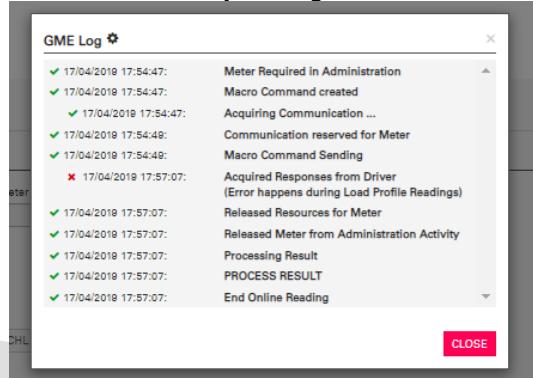
Read outcome: Error Sync outcome: Not requested

Expected S/N: 20048309 Received S/N: 30048309

Micro error: 2304 Macro error: C004

BACK GME LOG DATA DETAILS RUN

- 9) The GME LOG button can be selected to verify the log communication steps.



- 10) At this point the operator can check the 'Default Scheduled Activities' Tab, so the operator returns to the Last Reading Date section to check the results of the performed tests, as you can see in the Last Reading Date column:

- the date of the instantaneous Registers is shown,
- the date of the Read Configuration is shown,
- but the Load Curves date is missing, so the system does not read the Load Curves

Activity type	Frequency	Day	From (HH)	To (HH)
Load Curves quarters hours	Daily Monthly	1		

- 11) the operator will ask an internal question What is the history of the performed activities ? Through the "View Readings" interface, for example, the operator can search via Manuf. S / N 30048309 the historical task execution. The load curves are read already one time.

Eq. Id	POD Code	Manufacturer S/N	Software Meter ID	Zone	Group	Inst. datetime	Comm. type
2722	1228447	30048309	30048309	REGIÓN METROPOLIT...	SF31	01/02/2018 15:36:19	GPRS

- 12) Once the data has been extracted, the detail is accessed via the following icon , and in the View Readings section there are the various Filters that allows to query the system to try to understand the situation and the various occurred errors

For example through the Status combo, it shows the various states:

- Executed
- Warning
- Retry
- Fail

Creation date	Status change date	Equipment ID	Call ID	Activity Type	Status	Macro Error	Micro Error	Source	Lot Id
17/04/2019 11:48:51	17/04/2019 11:51:12	2722	201904000000...	Load Curves qua...	✗	C004 - Error acquiri...	2304 - Error happen...	O	
17/04/2019 07:50:27	17/04/2019 07:52:55	2722	201904000000...	Load Curves qua...	✗	C004 - Error acquiri...	2304 - Error happen...	O	
17/04/2019 07:40:57	17/04/2019 07:41:57	2722	201904000000...	Registers instant...	▲			O	
17/04/2019 07:16:46	17/04/2019 07:17:34	2722	201904000000...	Read Configuration	✓			O	
16/04/2019 18:00:39	17/04/2019 00:57:29	2722	201904000000...	Load Curves qua...	✗	C004 - Error acquiri...	2304 - Error happen...	S	
16/04/2019 07:52:35	16/04/2019 07:54:54	2722	201904000000...	Load Curves qua...	✗	C004 - Error acquiri...	2304 - Error happen...	O	
15/04/2019 18:00:39	16/04/2019 00:56:42	2722	201904000000...	Load Curves qua...	✗	C004 - Error acquiri...	2304 - Error happen...	S	
14/04/2019 18:00:39	15/04/2019 00:58:57	2722	201904000000...	Load Curves qua...	✗	C004 - Error acquiri...	2304 - Error happen...	S	
13/04/2019 18:00:35	14/04/2019 00:58:35	2722	201904000000...	Load Curves qua...	✗	C004 - Error acquiri...	2304 - Error happen...	S	
12/04/2019 18:00:39	13/04/2019 01:05:02	2722	201904000000...	Load Curves qua...	✗	C004 - Error acquiri...	2304 - Error happen...	S	
11/04/2019 18:00:40	12/04/2019 00:58:03	2722	201904000000...	Load Curves qua...	✗	C004 - Error acquiri...	2304 - Error happen...	S	

- 13) From the data extracted through the search just performed, the operator can see and start analyzing:

- the Activities done previously
- what types of errors are present



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- 14) Subsequently the operator can use the Reporting functions, that is, the GUI Error Details, so as to see, if the error found 2304 (take over on the meter with the Manuf. S/N = 30048309) is common to the other meters. For example, the operator sets the date range of a day, and performs the search, so as to see how many and which meters have found the same error. The operator sets, for example, in the filter parameters, the type of error ( 2304 ), and, the of dates range related to the same day (17/04/2019), then, performs the search, so as to see how many and which meters have found the same error same day that happened for the meter with the Manuf. S / N 30048309.

The screenshot shows the 'Equipment' menu on the left with 'Reporting' selected. Under 'Reporting', 'Error Details' is highlighted. The main area is titled 'Report 1: Error' and contains a 'Reports - Error Details' tab. A 'Search Filters' panel is open, showing various search criteria like Manufacturer, Meter Model, Voltage Lev., Ownership, Dist. company, Geographic area, Geographic zone, Geogr. Level 4, Geogr. Level 5, Telereading inhibit, Type of readings, Group, Communication Channel, Date From (17/04/2019), Date To (17/04/2019), Error code (2304), Delay (Enable/Disable), and Delay (in minutes). At the bottom are 'RESET' and 'SEARCH' buttons, and download links for EXCEL, CSV, and PDF.

- 15) For example, the system extracts the following data. From the result shows that 105 activities generated the same error, in the same day.

The screenshot shows the same reporting interface as above, but the results table is populated with data. The columns are: Date, Time, Error Code, Error description, Activity Type, Com. channel, Manufacture, S/N, POD, Dist. company, and Geographic area. The table contains 105 rows of data, each representing an activity. The 'SEARCH' button is visible at the top right of the search panel.

Date	Time	Error Code	Error description	Activity Type	Com. channel	Manufacture	S/N	POD	Dist. company	Geographic area
17/04/2019	01:04:46	2304	Error happens during Lo...	Load Curves quart...	GPRS	30040317	1322588	ENEL DISTRIBUCIÓN CHILE	ZONA CONCESIÓN	
17/04/2019	01:06:46	2304	Error happens during Lo...	Load Curves quart...	GPRS	30108857	1632262	ENEL DISTRIBUCIÓN CHILE	ZONA CONCESIÓN	
17/04/2019	01:06:30	2304	Error happens during Lo...	Load Curves quart...	GPRS	30048660	317614	ENEL DISTRIBUCIÓN CHILE	ZONA CONCESIÓN	
17/04/2019	01:05:56	2304	Error happens during Lo...	Load Curves quart...	GPRS	30108858	2506931	ENEL DISTRIBUCIÓN CHILE	ZONA CONCESIÓN	
17/04/2019	01:05:29	2304	Error happens during Lo...	Load Curves quart...	GPRS	30040322	716718	ENEL DISTRIBUCIÓN CHILE	ZONA CONCESIÓN	
17/04/2019	01:05:04	2304	Error happens during Lo...	Load Curves quart...	GPRS	30048304	1678472	ENEL DISTRIBUCIÓN CHILE	ZONA CONCESIÓN	
17/04/2019	01:04:50	2304	Error happens during Lo...	Load Curves quart...	GPRS	30040354	1279961	ENEL DISTRIBUCIÓN CHILE	ZONA CONCESIÓN	
17/04/2019	01:04:11	2304	Error happens during Lo...	Load Curves quart...	GPRS	30048320	2821462	ENEL DISTRIBUCIÓN CHILE	ZONA CONCESIÓN	

- 16) In the aforementioned GUI the system provides the possibility to download the Excel with the extracted data, and, to verify that for example:

- If the extracted meters are all different, and that they are not double *this to ascertain that there are no specific meter with a problem of double or misplaced activities*
- the data extracted to compare them with those present in the Jira reports, so as to ascertain whether the same Type of error is generalized, and therefore common to several meters, but above all if the problem has already been reported in Jira. Naturally, if the error has not been reported in Jira, it will be necessary to deepen the analysis and indicate that it will emerge.

17) To deepen the analysis it is possible to perform the same extraction (made for error 2304) on different days:

- from 04/16/2019 to 04/16/2018 = 106 Items
- from 04/17/2019 to 04/17/2018 = 105 Items
- from 04/18/2019 to 04/18/2018 = 104 Items

18) From the result, it appears that the error occurs at the same frequency every day, so it is possible to proceed to verify whether in all three days extracted:

- In the extracted lists the same meters of the same families always trace the same error, or, they are meters of different families? (
- etc.

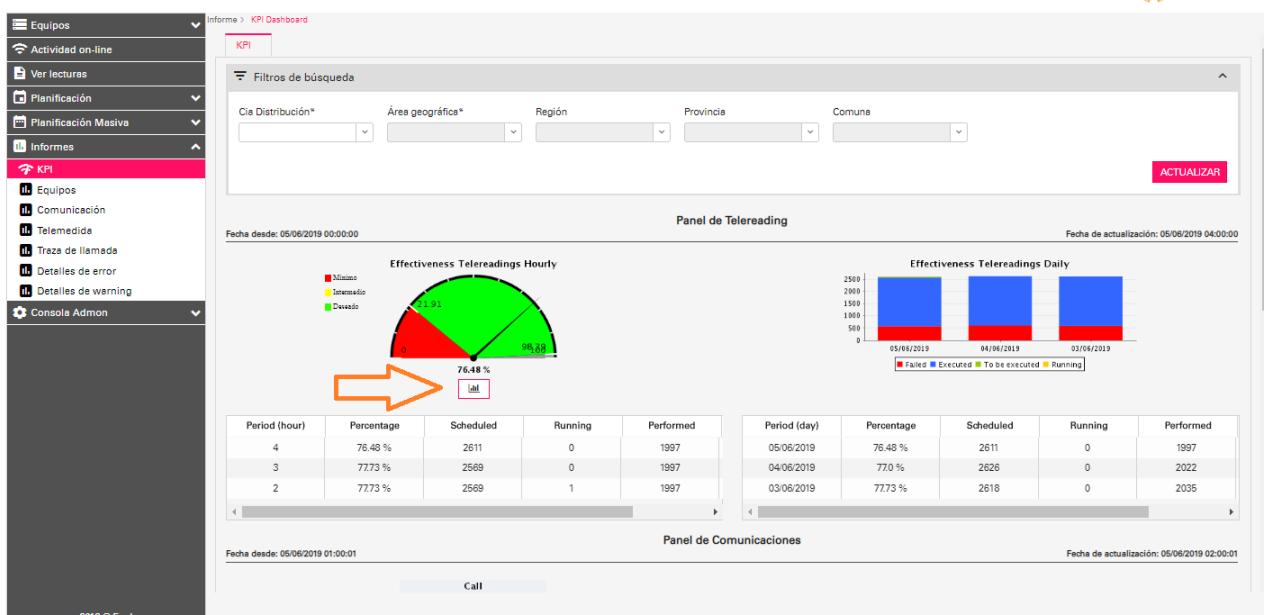
19) If the operator finds that there are communication problems with the meter, as in the example above, the operator can proceed with a direct check of the Sync/Driver and pulse/groove logs. This procedure is described later in paragraph 5.5.1 .

## 5.2. Massive Analysis

The objective of this analysis, in addition to what has been described above, can also be to improve the reading performance of the contactors, so if the BSN finds low performance, it can proceed according to the following steps:

### 5.2.1. Massive error analysis starting from the KPI.

Through KPI reports, it can identify the macro categories of errors generated during the reading process





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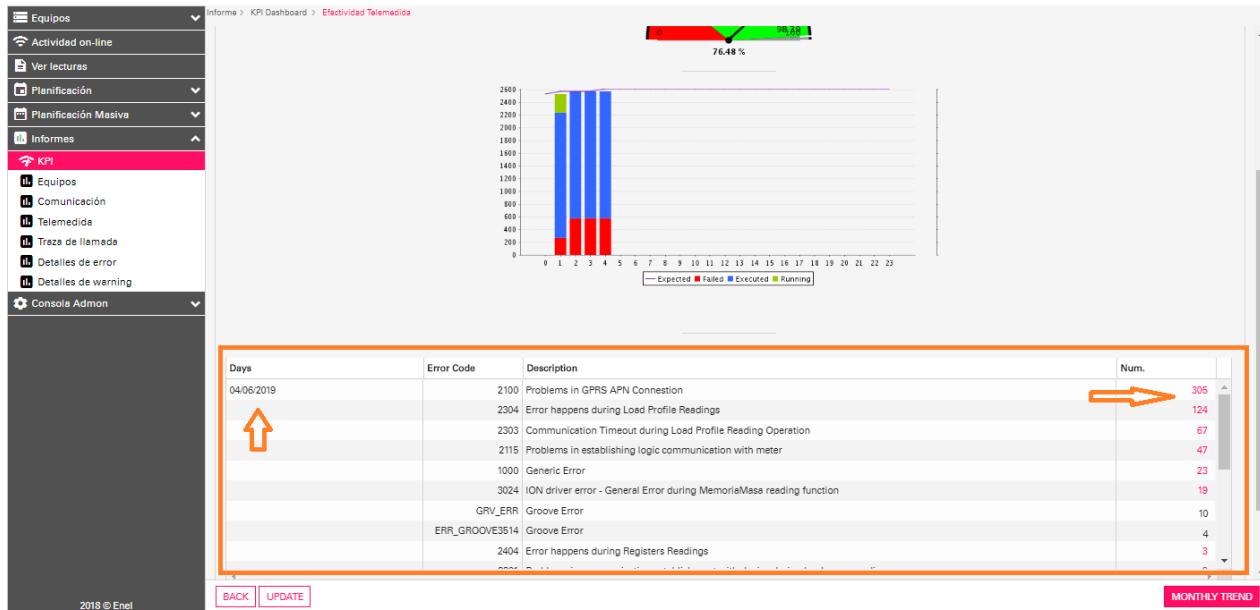
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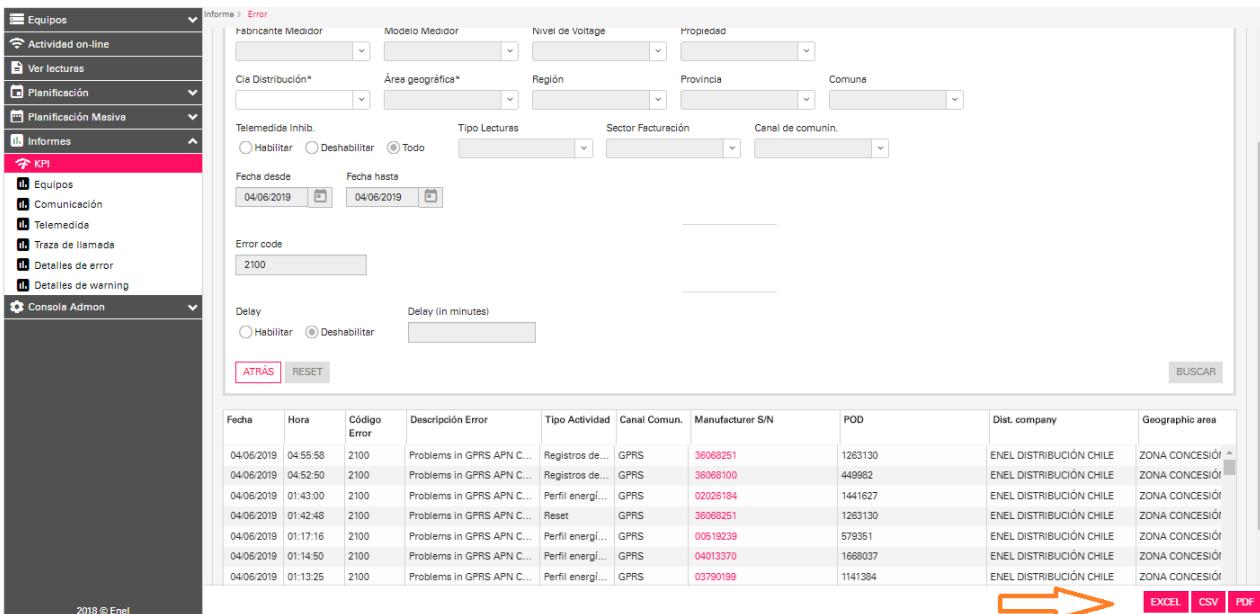
From the GUI, the operator, by selecting the Graphic icon  , accesses to the telereading Report, which shows:

- Through the graph the status of the activities: Running, Executed, and Failed
- Through a Grid, the errors found grouped in Macro error categories



The operator clicking on the row / column containing the error totals (pink numbers) accesses the list of Meters that presented the macro error relating to the selected row.

The system will show the list of Meters that have found the selected error, using the appropriate gray (see below). The operator through the buttons: Excel, CSV, PDF, can extract the list of records in a more analyzable format.



The exported file can be used by the operator to perform more precise checks on the extracted data.

## 5.2.2. Learn more about the errors present in the KPIs

From the KPI report (taking, for example, the readings performed for Chile on 04/06/2019) it emerges that:

- there is a high number of errors (305) of connection problems with error code 2100 Problems in GPRS APN Connection (e.g. Manufacturer S / N 36068170). The BSN can proceed to analyze the errors according to the following steps:

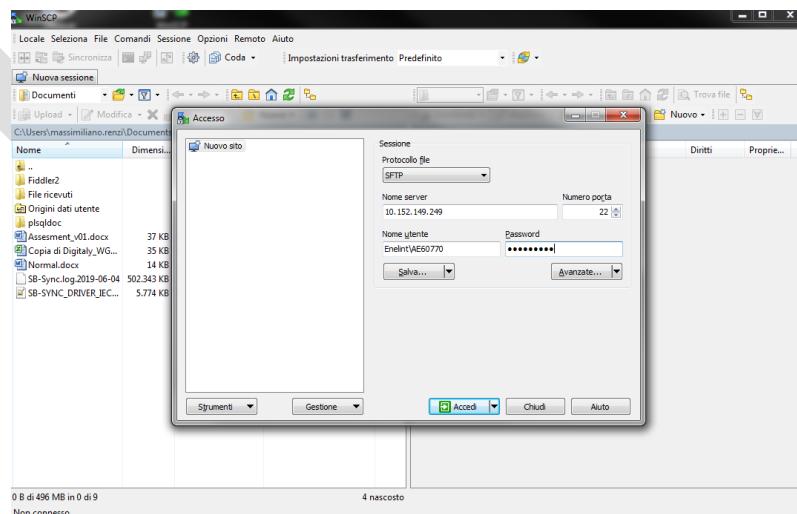
- 1) Through the use of a special Tool (available here / wls001 / beadata / wls11 / dwestbchcom / ipTelnetUtil), the operator can contact the low level meters. This will give you two results:
  - Unreachable meters must be inhibited from the automatic planning process, and then removed from the automatic acquisition process until they are reachable. At the same time the Operator will have to control them from an infrastructural point of view and investigate, sending a person to the territory to verify the reason for the lack of connection or reachability. Only when the problem is solved by the Operator, will these Meters be re-enabled to the Starbeat reading process.
  - The meters can be reached via low-level software. In this case the operator will have to investigate why these meters were not previously read.
- 2) For these latter meters (Reached only through the Tool) try to carry out appropriate checks:
  - From StarBeat GUI obtaining information from reports as described above in paragraph 5.1.1
  - From WLS Server through the LOG Files, to deepen the analysis from the point of view of the COMMUNICATION see next paragraph.

### 5.3. File Log Analysis on WLS Server

In the event that the meter is not read, or returns an error, the operator can access the WLS Server to check LOG File. For example, through the WinSCP (open source graphical client, for Windows, whose main function is to safely copy files between a local and a remote computer) the operator can connect using the following 4 addresses to the two instances of WLS PULSE and WLS SYNC reported below in the table. The routes are published in Confluence for example for Chile at the following link: <http://confluence.enelint.global/display/STARBEAT/PROD+CHILE>

Type	Hostname	IP
WLS PULSE 1	10.152.149.249	10.152.149.100
WLS PULSE 2	10.152.149.250	10.152.149.101
WLS SYNC 1	10.152.149.249	10.152.149.102
WLS SYNC 2	10.152.149.250	10.152.149.103

1. Starting WinSCP logging in with the following 4 WLS PULSE and WLS SYNC addresses:
  - Pulse / Groove: composing the registry and scheduling / normalization
  - Sync: component that manages the actual communication.





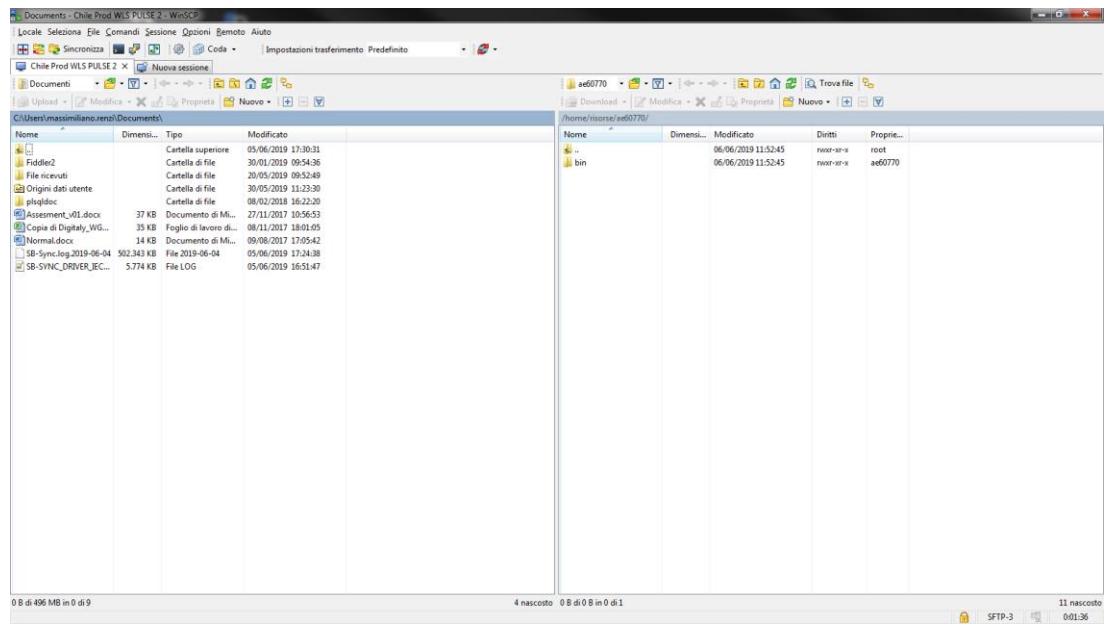
# **StarBeat – First Level Support Manual**



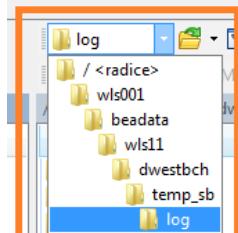
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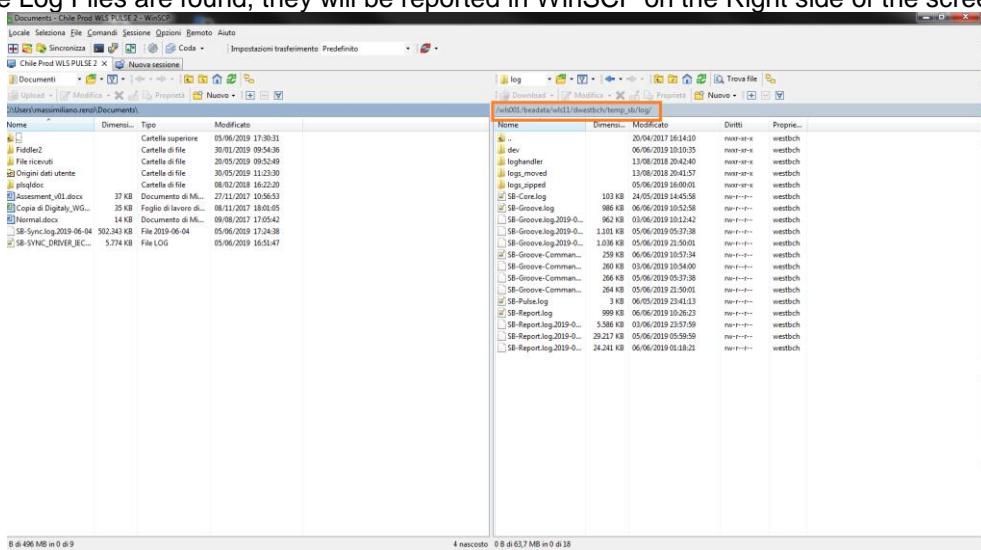
2. After indicating the IP Server Name, the Port, User, Password, through the Login button, you access the WLS Server



3. From WinSCP, the following files are searched for LOG Files.



4. Once the Log Files are found, they will be reported in WinSCP on the Right side of the screen

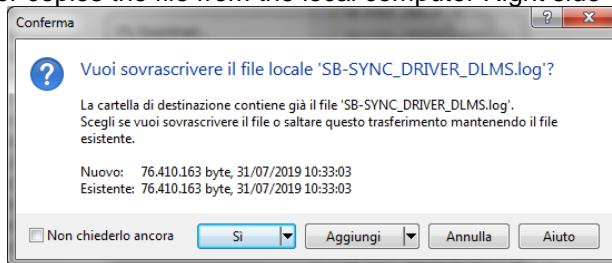


5. After opening the WLS Server with the 4 LOG Files, the operator runs an Online Activity from StarBeat to check if the interest meter (searched through the Software meter ID), has errors, or has not been read.
  6. Subsequently from WinSCP, the operator performs an update of the 4 LOG Files in PULSE and in SYNC that should have traced the error in the Logs.

## 7. Identified the files of interest

Nome	Dimensione	Modificato	Diritti	Proprie...
..		22/05/2018 15:57:11	rwxr-xr-x	westbc...
log_output		31/07/2019 11:03:26	rwxr-xr-x	westbc...
logs_zipped		30/07/2019 21:00:01	rwxr-xr-x	westbc...
loghandler		13/08/2018 20:52:09	rwxr-xr-x	westbc...
logs_moved		13/08/2018 20:51:44	rwxr-xr-x	westbc...
SB-Sync-dev.log	139.632 KB	31/07/2019 11:03:26	rw-r--r--	westbc...
SB-Sync.log.2019-07-30	326.167 KB	31/07/2019 11:03:26	rw-r--r--	westbc...
SB-SYNC_DRIVER_IEC.log	5.212 KB	31/07/2019 11:01:48	rw-r--r--	westbc...
<b>SB-SYNC_DRIVER_DLMS.log</b>	74.620 KB	31/07/2019 10:33:03	rw-r--r--	westbc...
SB-Sync.log	54 KB	31/07/2019 07:59:43	rw-r--r--	westbc...
SB-SYNC_DRIVER_JON.log	11.536 KB	31/07/2019 06:46:25	rw-r--r--	westbc...

## 8. From WinSCP the operator copies the file from the local computer Right side of to a remote Left side.



## 9. We are looking for the error found within the Files.

Nome	Dimensione	Tipo	Modificato
..		Cartella superiore	31/07/2019 11:04:43
File ricevuti		Cartella di file	20/06/2019 15:56:03
Origini dati utente		Cartella di file	30/05/2019 11:23:30
Fiddler2		Cartella di file	30/01/2019 09:54:36
plsqlde		Cartella di file	08/02/2018 16:22:20
Doc per supporto di primo livello.d...	2.189 KB	Documento di Mi...	31/07/2019 11:02:11
SB-Sync.log.2019-07-30	288.177 KB	File 2019-07-30	31/07/2019 10:57:15
SB-Sync-dev.log	118.396 KB	File LOG	31/07/2019 10:36:48
SB-SYNC_DRIVER_IEC.log	5.219 KB	File LOG	31/07/2019 10:36:48
<b>SB-SYNC_DRIVER_DLMS.log</b>	74.620 KB	File LOG	31/07/2019 10:33:03
SB-Sync.log	88 KB	File LOG	19/07/2019 11:34:47
OLD SB-SYNC_DRIVER_DLMS.log	105.954 KB	File LOG	10/07/2019 16:02:32
SB-Sync.log.2019-07-09	428.280 KB	File 2019-07-09	10/07/2019 15:44:10

Nome	Dimensione	Modificato	Diritti	Proprie...
..		22/05/2018 15:57:11	rwxr-xr-x	westbc...
log_output		31/07/2019 11:03:26	rwxr-xr-x	westbc...
logs_zipped		30/07/2019 21:00:01	rwxr-xr-x	westbc...
loghandler		13/08/2018 20:52:09	rwxr-xr-x	westbc...
logs_moved		13/08/2018 20:51:44	rwxr-xr-x	westbc...
SB-Sync-dev.log	139.632 KB	31/07/2019 11:03:26	rw-r--r--	westbc...
SB-Sync.log.2019-07-30	326.167 KB	31/07/2019 11:03:26	rw-r--r--	westbc...
SB-SYNC_DRIVER_IEC.log	5.212 KB	31/07/2019 11:01:48	rw-r--r--	westbc...
<b>SB-SYNC_DRIVER_DLMS.log</b>	74.620 KB	31/07/2019 10:33:03	rw-r--r--	westbc...
SB-Sync.log	54 KB	31/07/2019 07:59:43	rw-r--r--	westbc...
SB-SYNC_DRIVER_JON.log	11.536 KB	31/07/2019 06:46:25	rw-r--r--	westbc...
SB-Sync-dev.log.2019-07-30	128.029 KB	30/07/2019 18:47:28	rw-r--r--	westbc...
SB-SYNC_DRIVER_IEC.log.2019-07-30	5.109 KB	30/07/2019 18:37:18	rw-r--r--	westbc...

## 5.4. Checking for task execution and errors on Database

The following is the sequence of automatic system filling tables present in the DB during the scheduling process:::

- 1) Tramite le Tabelle: **scheduling\_task**; **scheduling\_def**; vengono **definiti** (anagraficamente) i parametri della schedulazione per quel meter.
- 2) Il sistema avvia il processo/ciclo di schedulazione (control-M)
- 3) Tramite la tabella: **scheduled\_task**; **scheduled\_job**; viene **eseguito** il lavoro, riportandone anche lo stato di esecuzione.
- 4) Tramite **Log\_sync** visibile da **Winscp** viene **tracciata** l'attività eseguita. **Log\_sync** comunicherà:
  - alla Tabella **schedule\_job**, l'esito (positivo o negativo) del lavoro



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- alla Tabelle **dirty\_response** i dati Grezzi letti dal misuratore

5) Nella Tabella: **dirty\_response**; vengono memorizzati i dati Grezzi

6) Una volta terminato il processo di Schedulazione, vengono riportati nelle rispettive tabelle i dati Normalizzati:  

- **Load\_profile\_reading**, per le Curve di carico
- **Register\_reading**, per i Registri
- **Generic\_task**, tutti i task generici, che non sono Curve o Registri

Per esempio di interrogazione a DB, vedere il paragrafo **5.5.2**

## 5.5. Esempi di possibili errori

Successivamente a titolo di esempio vengono riportati alcune analisi effettuate su errori riscontrati.

### 5.5.1. Analisi tramite File di LOG dell'errore: 2404 Error happens during Registers Readings

In questo caso è stata verificata la lettura di un contatore di produzione che ci è stato indicato funzionare correttamente, e che presentava tutti i dati, comprese le password, ma che da Starbeat ha restituito l'errore: 2404 Error happens during Registers Readings

Dalle GUI di Starbeat è stato provato ad effettuare un **Test** di lettura dei Registri:

- in data 29/07/2019;
- ore 10.30;
- Manufacter Serial Number = **30108866**;

**Test** di lettura registri ore 10.30

Vedendo il dettaglio del test, il sistema restituisce: **2404 - Error happens during Registers Readings**

Tramite WinSCP si ricerca il **File di LOG**, che dovrebbe contenere l'errore.



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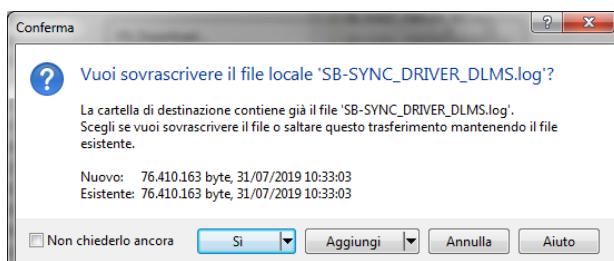
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Nome	Dimensione	Modificato	Diritti	Proprie...
..		22/05/2018 15:57:11	rwxr-xr-x	westbc...
log_output		31/07/2019 11:03:26	rwxr-xr-x	westbc...
logs_zipped		30/07/2019 21:00:01	rwxr-xr-x	westbc...
loghandler		13/08/2018 20:52:09	rwxr-xr-x	westbc...
logs_moved		13/08/2018 20:51:44	rwxr-xr-x	westbc...
SB-Sync-dev.log	139.632 KB	31/07/2019 11:03:26	rw-r--r--	westbc...
SB-Sync.log.2019-07-30	326.167 KB	31/07/2019 11:03:26	rw-r--r--	westbc...
SB-SYNC_DRIVER_IEC.log	5.212 KB	31/07/2019 11:01:48	rw-r--r--	westbc...
SB-SYNC_DRIVER_DLMS.log	74.620 KB	31/07/2019 10:33:03	rw-r--r--	westbc...
SB-Sync.log	54 KB	31/07/2019 07:59:43	rw-r--r--	westbc...
SB-SYNC_DRIVER_ION.log	11.536 KB	31/07/2019 06:46:25	rw-r--r--	westbc...

Viene copiato il file dal computer locale e uno remoto



Nome	Dimensione	Tipo	Modificato	Diritti	Proprie...
..		Cartella superiore	31/07/2019 11:04:43	rwxr-xr-x	westbc...
File ricevuti		Cartella di file	20/06/2019 15:56:03	rwxr-xr-x	westbc...
Origini dati utente		Cartella di file	30/05/2019 11:23:30	rwxr-xr-x	westbc...
Fiddler2		Cartella di file	30/01/2019 09:54:36	rwxr-xr-x	westbc...
plsqlde		Cartella di file	08/02/2018 16:22:20	rwxr-xr-x	westbc...
Doc per supporto di primo livello.d...	2.189 KB	Documento di Mi...	31/07/2019 11:03:11	rw-r--r--	westbc...
SB-Sync.log.2019-07-30	288.177 KB	File LOG	31/07/2019 10:57:15	rw-r--r--	westbc...
SB-Sync-dev.log	118.398 KB	File LOG	31/07/2019 10:36:48	rw-r--r--	westbc...
SB-SYNC_DRIVER_IEC.log	5.219 KB	File LOG	31/07/2019 10:36:48	rw-r--r--	westbc...
SB-SYNC_DRIVER_DLMS.log	74.620 KB	File LOG	31/07/2019 10:33:03	rw-r--r--	westbc...
SB-Sync.log	88 KB	File LOG	19/07/2019 11:34:47	rw-r--r--	westbc...
OLD SB-SYNC_DRIVER_DLMS.log	105.954 KB	File LOG	10/07/2019 16:02:32	rw-r--r--	westbc...
SB-Sync.log.2019-07-09	428.280 KB	File LOG	10/07/2019 10:44:10	rw-r--r--	westbc...

Si apre il file presente sul lato SX, ricercando il meter **30108866** (Manufacturer Serial Number), per individuare l'errore all'interno del file.

La tracciatura del file inizia alle ore **04:30:33 Chilene**, che corrispondono alle ore **10:30 Italiane** di inizio del test di Lettura Registri tramite Starbeat



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```
SB-SYNC_DRIVER_DLMSlog [x] |
924487 2019-07-31 04:24:39 TRACE_ID_ACTIVITY: 30048329 **** Response ottenuta con successo!
924488 2019-07-31 04:24:39 TRACE_ID_ACTIVITY: 30048329 Response in HEX da convertire in XML: C701720000
924489 2019-07-31 04:24:39 TRACE_ID_ACTIVITY: 30048329 Response inviata dal Meter:
924490 <ActionResponse>
924491   <ActionResponseNormal>
924492     <InvokeIdAndPriority Value="72" />
924493     <Result Value="Success" />
924494   </ActionResponseNormal>
924495 </ActionResponse>
924496
924497 2019-07-31 04:24:39 TRACE_ID_ACTIVITY: 30048329 Il tipo di SetResponse ottenuta dal Meter è: 'ActionResponseNormal'
924498 2019-07-31 04:24:39 TRACE_ID_ACTIVITY: 30048329 Iniziata costruzione della ActionResponse di tipo 'ActionResponseNormal'...
924499 2019-07-31 04:24:39 TRACE_ID_ACTIVITY: 30048329 **** Action-Result: Success
924500 2019-07-31 04:24:39 TRACE_ID_ACTIVITY: NOT_SETTED **** 'closeGMEProtocolCommunication' - chiusura della connessione con l'apparato remoto!
924501 2019-07-31 04:24:39 TRACE_ID_ACTIVITY: 30048329 Property file path: /wls001/beadata/wls11/dwestbchcom/dlms_driver/config/DriverConfiguration.xml
924502 2019-07-31 04:24:39 TRACE_ID_ACTIVITY: 30048329 Property file path: /wls001/beadata/wls11/dwestbchcom/dlms_driver/config/DriverConfiguration.xml
924503 2019-07-31 04:24:39 TRACE_ID_ACTIVITY: 30048329 Terminazione della comunicazione per mezzo del protocollo HDLC...
924504 2019-07-31 04:24:39 TRACE_ID_ACTIVITY: 30048329 CB_Sent: 7EA00A000200230753F7C07E
924505 2019-07-31 04:24:39 TRACE_ID_ACTIVITY: 30048329 Property file path: /wls001/beadata/wls11/dwestbchcom/dlms_driver/config/DriverConfiguration.xml
924506 2019-07-31 04:30:33 TRACE_ID_ACTIVITY: 30108866 *** Analisi in corso delle informazioni relative al tipo di driver...
924507 2019-07-31 04:30:33 TRACE_ID_ACTIVITY: 30108866 **** DriverType = actaris
924508 2019-07-31 04:30:33 TRACE_ID_ACTIVITY: 30108866 **** ModelType = ACTARIS
924509 2019-07-31 04:30:33 TRACE_ID_ACTIVITY: 30108866 Property file path: /wls001/beadata/wls11/dwestbchcom/dlms_driver/config/DriverConfiguration.xml
924510 2019-07-31 04:30:33 TRACE_ID_ACTIVITY: 30108866 **** 'establishAssociation' - invio richiesta di associazione!
924511 2019-07-31 04:30:33 TRACE_ID_ACTIVITY: 30108866 Property file path: /wls001/beadata/wls11/dwestbchcom/dlms_driver/config/DriverConfiguration.xml
924512 2019-07-31 04:30:33 TRACE_ID_ACTIVITY: 30108866 Property file path: /wls001/beadata/wls11/dwestbchcom/dlms_driver/config/DriverConfiguration.xml
924513 2019-07-31 04:30:33 TRACE_ID_ACTIVITY: 30108866 ** Configurazione di sicurezza per la PDU: Authenticated = 'false'; Encrypted = 'false';
924514 2019-07-31 04:30:33 TRACE_ID_ACTIVITY: 30108866 **** UserType = superAdministrator
924515 2019-07-31 04:30:33 TRACE_ID_ACTIVITY: 30108866 **** Tipo di autenticazione per l'associazione in corso = LOW SECURITY
924516 2019-07-31 04:30:33 TRACE_ID_ACTIVITY: 30108866 *** Controllo dei parametri di connessione che rappresentano il client e il server AP...
924517 2019-07-31 04:30:33 TRACE_ID_ACTIVITY: 30108866 Property file path: /wls001/beadata/wls11/dwestbchcom/dlms_driver/config/DriverConfiguration.xml
924518 2019-07-31 04:30:33 TRACE_ID_ACTIVITY: 30108866 Property file path: /wls001/beadata/wls11/dwestbchcom/dlms_driver/config/DriverConfiguration.xml
924519 2019-07-31 04:30:33 TRACE_ID_ACTIVITY: 30108866 commProtocolType.name()=HDLC
924520 2019-07-31 04:30:33 TRACE_ID_ACTIVITY: 30108866 isWRAPPERProtocolSupported=false
924521 2019-07-31 04:30:33 TRACE_ID_ACTIVITY: 30108866 isHDLCPacketSupported=true
924522 2019-07-31 04:30:33 TRACE_ID_ACTIVITY: 30108866 Inizializzazione della comunicazione per mezzo del protocollo HDLC...
924523 2019-07-31 04:30:33 TRACE_ID_ACTIVITY: 30108866 Inizializzazione dei parametri di default di connessione per l'HDLC...
924524 2019-07-31 04:30:33 TRACE_ID_ACTIVITY: 30108866 Property file path: /wls001/beadata/wls11/dwestbchcom/dlms_driver/config/DriverConfiguration.xml
924525 2019-07-31 04:30:33 TRACE_ID_ACTIVITY: 30108866 ClientMACAddress: 3; ServerUpperMACAddress: 1; ServerLowerMACAddress: 17; ServerAddressSize: 4; Driver Ty...
```

In allegato è riportato il file di SYNK contenete l'errore



SB-SYNC\_DRIVER\_DLMS.log

## 5.5.2. Analisi tramite tabelle a DB dell'errore: 2404 Error happens during Registers Readings

Viene utilizzata la seguente procedura per analizzare il meter **30108866** (Manufacter Serial Number) nelle tabelle a DB.

Viene verificato il caso di schedulazione eseguita manualmente in data 28/07/2019 - 29/07/2019 che riporta l'errore: **2404 Error happens during Registers Readings**

Online activities										
View readings										
Scheduled Activities										
Massive Schedulings										
Reporting										
Admin Console										
Activity Type										
Lot Id										
Creation date										
Status change date										
Equipment ID										
Call ID										
Activity Type										
Status										
Macro Error										
Micro Error										
Source										
Lot Id										
SEARCH										

Dalle maschera di Starbeat il meter **30108866** riporta:

Equipment ID: **2337**

Call id: **2019070000001775932**

Lot id: **175**

L'operatore accedendo al DB, analizzerà il meter **30108866** secondo la sequenza di popolamento delle varie tabelle.

- Nelle Tabelle **scheduling\_task**; **scheduling\_def**; vengono riportati i parametri della schedulazione per quel meter '30108866'



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```
select * from pulse.scheduling_def  
where lot_id = 175  
and meter_id = '30108866'  
and equipment_id = '2337'
```

Name	value
id	23003
end_reading_date	2019-07-29
meter_id	30108866
multidrop_id	2337
priority	1
schedule_group_id	22368
template_group_id	
sorting_key	001.0000000000002337.--M
start_reading_date	2019-07-29
origin	M
equipment_id	2337
ext_request_id	
lot_id	175
last_change_date	2019-07-27 17:23:54
meter_group_id	SF21
external_system_source	

```
select * from pulse.scheduling_task  
where scheduling_def_id = '23003'
```

Name	value
id	35044
command_code	3
day	29
end_hour	6
frequency	M
lp_measure_list	
lp_sample_frequency	
priority	1
start_hour	4
scheduling_def_id	23003
unsupported	0

- 2) Nelle Tabelle scheduled\_task, schedule\_job viene tracciato il lavoro, riportandone anche lo stato di esecuzione

```
SELECT * FROM pulse.scheduled_task  
where meter_id = '30108866'  
order by scheduled_execution_date desc
```



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Name	value
id	2019070000001842169
command_code	3
command_type	1
creation_date	2019-07-28 18:00:57
error_code	GRVE034
expiration_date	2019-08-03 05:59:59
lp_measure_list	
lp_sample_frequency	
meter_id	30108866
priority	1
scheduled_execution_date	2019-07-29 04:00:00
start_reading_date	2019-07-29 00:00:00
state	FAIL
state_change_date	2019-07-29 04:57:07
scheduled_job_id	2019070000001775932
ext_request_id	
equipment_id	2337
origin	M
lot_id	175
input_json	
operation_id	
suboperation_id	
operation_order	
suboperation_order	
no_order	
starbeatlocal_id	
meter_serial_n2	30108866
meter_serial_n3	30108866
meter_group_id	SF21
external_system_source	
reading_type	COMPL
frequency	M

```
select * from pulse.scheduled_job
where multidrop_id = '2337'
and id = '2019070000001775932'
```

Name	value
id	20190700000001775932
creation_date	2019-07-28 18:00:57
execution_date	2019-07-29 04:00:00
error_code	
multidrop_id	2337
priority	1
comm_module_in_use	1
primary_retry	5
secondary_retry	0
state	EXE
state_change_date	2019-07-29 04:57:07
scheduled_execution_date	2019-07-29 04:00:00
work_order_request	
work_order_id	
work_order_origin	
primary_retry_backup	0
secondary_retry_backup	0
retry_backup_in_use	0
telco_prov_primary_backup	
telco_prov_secondary_backup	
work_order_max_retry	

3) Nella tabella: dirty\_response; vengono riportati i dati grezzi

```
SELECT * FROM pulse.dirty_response x
where meter_id = '30108866'
and job_id = '2019070000001775932'
```

Name	value
task_id	2019070000000200984
id	5788360
command_id	3
command_type	1
data	
days	
error_code	2404
error_type	1
execution_date	2019-07-29 04:57:07
job_id	2019070000001775932
read_serial_number	30108866
send_date	2019-07-29 04:54:04
serial_number	30108866
timezone	America/Santiago
meter_id	30108866
meter_clock	2019-07-29 04:55:47
meter_timezone_id	America/Santiago
server_clock	2019-07-29 04:56:15
server_timezone_id	America/Santiago

In questo caso la tabella **dirty\_response** espone il codice errore: **2404 Error happens during Registers Readings** impedendo così:

- che vengano riportati i dati Grezzi. **???? dove ???**
- che venga effettuato il processo di Normalizzazione. Infatti anche interrogando la tabella **register\_reading**, non verranno trovati dati per il metter in oggetto 30108866

### 5.5.3. Approfondimenti sulle varie Tabelle del DB

In fase di analisi di un problema, è buona norma controllare anche le informazioni che una tabella restituisce, come ad esempio è stato fatto qui sotto per la tabella pulse.dirty\_response.

Analizzando la tabella pulse.dirty\_response, è emerso che alcune informazioni erano presenti nel Data Base, e non venivano riportate a Front-end

Eseguendo la query, dal DB di Star Beat Prod Italia

```
SELECT * FROM pulse.dirty_response as x
WHERE x.command_id != 3 and x."data" notnull and x.error_type = 1
ORDER BY x.execution_date DES
```

È stato riscontrato che: i seguenti 10 record esponevano il Task\_id = 999

task_id	id	command_id	command_type	data	days	error_code	error_type	execution_date	job_id	read_serial_number	send_date	serial_number	timezone	meter_id
999	90086361	99	99 Data unreadable: command type is not known		1100		1	04/07/2019 11:30	SN_NOT_READ	04/07/2019 11:31	MISSING_SN		16G262A7076305493	
999	89863056	99	99 Data unreadable: command type is not known		1100		1	03/07/2019 12:30	SN_NOT_READ	03/07/2019 12:31	MISSING_SN		11G102A2156301984	
999	88860740	99	99 Data unreadable: command type is not known		1100		1	30/06/2019 10:00	SN_NOT_READ	30/06/2019 10:01	MISSING_SN		00G10289396126164	
999	87904167	99	99 Data unreadable: command type is not known		1100		1	26/06/2019 11:30	SN_NOT_READ	26/06/2019 11:31	MISSING_SN		00G1457207003992	
999	80556924	99	99 Data unreadable: command type is not known		1100		1	28/05/2019 12:30	SN_NOT_READ	28/05/2019 12:31	MISSING_SN		00G102567796004613	
999	78687630	99	99 Data unreadable: command type is not known		1100		1	20/05/2019 17:23	SN_NOT_READ	20/05/2019 17:24	MISSING_SN		11G102A4246204322	
999	75978799	99	99 Data unreadable: command type is not known		1100		1	09/05/2019 12:37	SN_NOT_READ	09/05/2019 12:38	MISSING_SN		00G10289396133054	
999	75964536	99	99 Data unreadable: command type is not known		1100		1	09/05/2019 10:07	SN_NOT_READ	09/05/2019 10:08	MISSING_SN		05G10269596202142	
999	75964541	99	99 Data unreadable: command type is not known		1100		1	09/05/2019 10:07	SN_NOT_READ	09/05/2019 10:08	MISSING_SN		06G10269596207937	
999	75964540	99	99 Data unreadable: command type is not known		1100		1	09/05/2019 10:07	SN_NOT_READ	09/05/2019 10:08	MISSING_SN		05G10269596202423	

Ricercando a FE meter con i relativi Task\_id = 999, è emerso che correttamente questi dati non venivano esposti, perché erano errori di processo / normalizzazione di Starbeat Local

### 5.5.4. Analisi Tramite maschere di Front-end dell'errore: 1000 Generic error (problema nella normalizzazione di alcune letture cilene)

In questo caso è stato riscontrato che, nella GUI di **View Readings**, alcune letture segnate come Stato FAIL (1000 Generic error), presentano:

- sia dati grezzi
- che dati normalizzati (anche se in parte sbagliati )

L'operatore quindi inizia ad analizzare questa situazione non corretta tramite i seguenti passi

- 1) Dalla GUI **Error Details** (di StarBeat) filtrando per il **06/06/2019**, estrae i misuratori che per quel giorno hanno restituito errore. Dalla lista emerge che sono presenti 80 task su comando di reset in con Error Code 1000.



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Date	Time	Error Code	Error description	Activity Type	Com. channel	Manufacturer S/N	POD	Dist. company	Geographic area
06/06/2019	01:38:17	1000	Generic Error	Reset registers	GPRS	86045884	362653	ENEL DISTRIBUCIÓN CHILE	ZONA CONCESIÓN
06/06/2019	01:35:32	1000	Generic Error	Reset registers	GPRS	62063259	579341	ENEL DISTRIBUCIÓN CHILE	ZONA CONCESIÓN
06/06/2019	01:35:28	1000	Generic Error	Reset registers	GPRS	86045333	623730	ENEL DISTRIBUCIÓN CHILE	ZONA CONCESIÓN
06/06/2019	01:35:24	1000	Generic Error	Reset registers	GPRS	86045339	222196	ENEL DISTRIBUCIÓN CHILE	ZONA CONCESIÓN
06/06/2019	01:35:22	1000	Generic Error	Reset registers	GPRS	46047101	1174825	ENEL DISTRIBUCIÓN CHILE	ZONA CONCESIÓN
06/06/2019	01:35:15	1000	Generic Error	Reset registers	GPRS	36004304	813060	ENEL DISTRIBUCIÓN CHILE	ZONA CONCESIÓN
06/06/2019	01:35:02	1000	Generic Error	Reset registers	GPRS	30048242	450030	ENEL DISTRIBUCIÓN CHILE	ZONA CONCESIÓN
06/06/2019	01:34:47	1000	Generic Error	Reset registers	GPRS	26004298	2645862	ENEL DISTRIBUCIÓN CHILE	ZONA CONCESIÓN

- 2) Dalla lista degli 80 record, viene preso a campione un meter per essere analizzato, ad esempio il Manufacturer S/N **00934548** e viene ricercato tramite la GUI View Readings.

Equipment Id	Pod Code	Meter Id1	Meter Serial N2	Geographic Zone	Meter Group	Installation Date TZ	Primary Communication Type
801	854054	00934548	00934548	REGIÓN METROPOLITANA	SF23	25/09/2017 12:01:24	GPRS

Il sistema estrae un record, e l'operatore tramite apposita icona accede al dettaglio  
La maschera di dettaglio, (vedi sotto) riporta due record. La lettura richiesta è quella del 05/06/2019.

di questo.



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Readings > View

Load curves internal constant	Registers internal constant
1000.0	1.0
Load curves internal constant unit	Registers internal constant unit
KWH	KWH

---

**View readings**

Status Change Date From      Status Change Date To

05/06/2019

Status      Show all equipment ID

Yes  No

Activity Type      Lot Id

	Creation date	Status change date	Equipment ID	Call ID	Activity Type	Status	Macro Error	Micro Error	Source	Lot Id	
	05/06/2019 17:02:18	05/06/2019 01:29:17	801	201906000000...	Load Curves qua...		R001 - Application E...	1000 - Generic Error	\$		
	04/06/2019 17:02:19	05/06/2019 01:02:41	801	201906000000...	Load Curves qua...		R001 - Application E...	1000 - Generic Error	\$		

Si accede al dettaglio (del record desiderato), e la maschera espone alcuni dati errati; in particolare, nel Tab dei Dati Grezzi, la data di lettura risale addirittura ad un mese prima 06/05/2019 rispetto alla data di esecuzione 06/06/2019



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Inoltre l'operatore verificando anche il Tab dei Dati Nominalizzati, riscontra anche qui che i dati Normalizzati sono sfalsati di un mese rispetto alla data di esecuzione. In questo modo il task viene marchiato con errore di processo.

The screenshot shows a software interface for managing meter data. On the left is a vertical navigation menu with options: Equipment, Online activities (highlighted in red), View readings, Scheduled Activities, Massive Schedulings, Reporting, and Admin Console. The main area displays task details:

- Load curves internal constant: 1000.0
- Registers internal constant: 1.0
- Load curves internal constant unit: KWH
- Registers internal constant unit: KWH
- Load Curves quarters hours:
  - Execution date: 06/06/2019 01:11:58
  - Status: Fail
  - Expected SwMeterID: 00834548
  - Received SwMeterID: SwMeterID not read
  - Meter Clock: [empty]
  - Meter Ti: [empty]
- Data from: 16/05/2019
- Date to: 16/05/2019
- A table of data:

Date	Start Time	Stop Time	Status word	A+
17/05/2019	00:00:00	00:15:00		3.000000
17/05/2019	00:15:00	00:30:00		3.000000
17/05/2019	00:30:00	00:45:00		2.000000
17/05/2019	00:45:00	01:00:00		3.000000
17/05/2019	01:00:00	01:15:00		3.000000
17/05/2019	01:15:00	01:30:00		3.000000
- Buttons at the bottom: BACK and EXCEL