AN-104: Using Custom Reports

Tehama Daily Report Generator

A feature of the Tehama Wireless system is the ability to send out a daily report files with information about the meter reads, optional sensor values, and RF network health statistics. The report files can be delivered via email or directly to your FTP site. Tehama provides four standard report options which are described here. If you want to use FTP/SFTP please contact Tehama to set that up for you. Generator scripts are selected from our CIT or Web application from a list that includes our standard generators plus any customized generators Tehama has created for you.

Tehama also publishes an API you can use to pull your data rather than use the Tehama system to push the data to you. Refer to the API App Note for details.

This document covers the format and installation of the Tehama ReportGen system.

Report Formats

Tehama supports two standard formats named Tehama Standard and Tehama Standard-ALL, both available in an end-of-day version (one reading per meter per day) and an interval data version which includes ALL readings received in the prior 24 hours (usually 24 readings per meter). The report files are formatted and sent as a Comma Separated Values file (CSV), which is easily imported into Excel or other spreadsheet programs, or can be parsed automatically by your back-end data processing center.

The Tehama Standard is formatted as shown in Table 1. Most of the columns are what you would see in our CIT or Web app, combining readings data with some of the troubleshooting data. The Reading column is usually a 2 decimal float. The RSSI and LQ (Link Quality) columns are integer values normalized between 0 to 100. Battery Voltage is a 1 decimal float value. The Link Partner is the Repeater or DCAP that device is directly communicating with.

RadioID-Dec	RadioID-Hex	Status	Addr	Building	Apt	Reading	Units	Read_time	RSSI-Avg	LQ-Avg	Battery Voltage	Link Partner
2164261252	81000184	OK	654A Natoma	1	22	27473.00	KWatt_Hours	2013-01-22 23:01	100	94	3.4	EA00027E
2164261265	81000191	OK	654A Natoma	1	27	82358.00	KWatt_Hours	2013-01-22 23:01	93	92	2.7	EA000260
2164265368	81001198	OK	654A Natoma	1	28	66.67	Fahrenheit	24_hour Average	82	96	2.9	E0000117
2164265368	81001198	OK	654A Natoma	1	28	2349.00	Minute	2013-01-22 23:00				
2164265372	8100119C	OK	654A Natoma	1	29	34984.00	Gallons	2013-01-22 22:59	88	95	3	EA0004DB
2164266420	810015B4	OK	654A Natoma	1	30	69.68	Fahrenheit	2023-01-22 22:52	83	85	3	E0000108
2164266420	810015B4	OK	654A Natoma	1	30	39.19	Rh%	2013-01-22 22:52				
2181038346	8200010A	OK	654A Natoma	1	31	45125.00	Minutes	2013-01-22 23:00	92	94	3.3	E8200100

Table 1: Tehama Standard Columns

The Tehama Standard-ALL version includes ALL the data associated with a meter point. Starting with the Standard set of columns, it adds NodeID, SensorID, MeterSN, MeterStyle, MeterType, MeterNote, Count Factor, and IMR (Initial Meter Read). An example is shown in Table 2. All these extra columns except the SensorID represents data entered by installers to further describe the utility being monitored. Having some of this data in the daily report can minimize confusion, most importantly the count factor. The SensorID is used to identify the type of data, for example 81 is the primary pulse input while 82 would be the second Pulse input of a dual Pulse MDT. The full list of SensorIDs are available on our website.

RadioID-Dec	RadioID-Hex	Status	Node ID	Addr	Building	Apt	City	Loc Note	Reading	Units	Read_Time	Sensor ID	Meter SN	Meter Style	Meter Type	Meter Note	CF	IMR	RSSI-Avg	LQ-Avg	Batt Volt	LP
2211455038	83D0203E	OK			1	1			167.10		2024/02/12 09:25	81		O	E	GG	0.1	0	95	89	2.8	E30007EE
2176940875	81C17B4B	I			1	2													34	80	3.7	F5100100
2176850735	81C01B2F	OK			1	2			358.00		2024/02/12 09:27	83		O	W		1	0	100	100	2.8	F000050A
2176848057	81C010B9	OK			1	4			159.18		2024/02/12 09:25	81		O	E	GG	0.5	1368	90	100	2.4	F4000015
2176844111	81C0014F	OK			1	5			610.26		2024/02/12 09:23	81		O	E	GG	0.5	5867	48	97	2.9	F4000015

Table 2: The Standard-ALL columns

Email or FTP

The daily report can be sent by email or sent to your private FTP server. For those using FTP you have the option of sending the CSV file to both if you want or sending just the CSV file via FTP but a summary report to your email, or no email at all.

The email summary contains four parts:

- List of units that have not reported in over the last 24 hours
- List of Alerts that are active
- Information about the DCAP including version information that Tehama Support might need
- The definitions of the status codes that appear in the CSV file.

The following is a sample status summary:

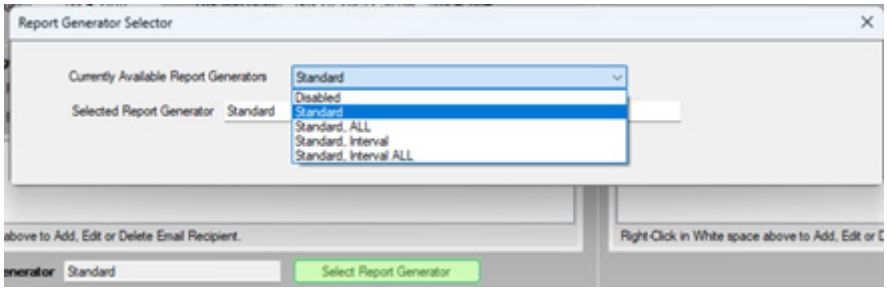
```
Daily Report from CloudGen version Standard

*** MDT(s) silent over the last 24 hours:
RadioID    Building    Apartment    Location Note
83D1CB66    1           6298        Water Heater

***The following Alerts are active:
RadioID    Building  Apartment  Monitor Point    Sensor Type    Alert Type          Value
81C01CDA    2          5555          3        MDT_Battery    Min_Threshold_Alert  2.146 Volts

*** DCAP Information:
10470904154
WAMLogger2.02b    6557    f4000515    Base_Main207K    2010    81
PST8PDT7

***Status Code Definitions
OK - Indicates the transmitter or Repeater is operating correctly.
I - Indicates the MDT/Repeater has not been heard from in the last 24 hrs.

Special Reads Values:
-1 => Indicates an Encoded or modbus meter that is Disconnected.
-2 => Indicates an ECO - Encoded meter that is malfunctioning.
```

Report Generator Selection

After working with Tehama Wireless on a custom generator for your company, we will install in on one of your Sites for testing. This will then make it available to every Site in your Site List, assuming you have claimed the site or otherwise have permission to access it such as with a Grant.

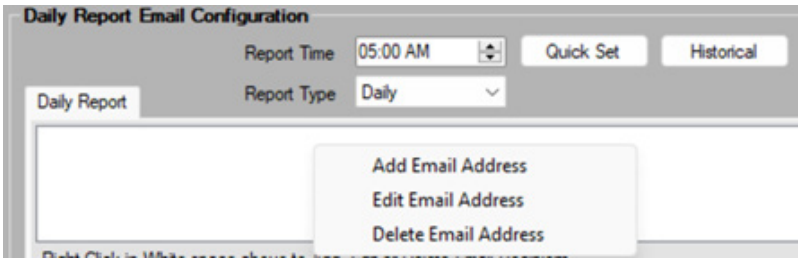
Using the CIT

After connecting to a Site, the initial view is the Site Configuration area. In the Daily Report Configuration area, click on the Select Report Generator button to bring up the Selector window. Click on the drop down for Currently Available Report Generators to get a list. Choose one.



Then click the "Save Report Generator to Site" button.

If you want to add/edit/delete an email address, right click in the white space and select the option you want.



You can also select the time of day the report is sent to you.

You can verify the report is working by selecting the "Send Report Now" button. This will send the Email and/or CSV file to the expected location. Make sure you have an email address entered in the Daily Report Email Configuration space if you expect the report to be sent by email.

The Historical button brings up a calendar window from which you can select a range of dates to generate multiple CSV and/or email with the historical data. Make sure your selected report generator is working as expected before issuing a lot of historical reports.

Using the Web App

After connecting to a Site you will be in the Site Overview tab. In the Lower left is the daily report configuration. Click Edit to update report time, email recipients, and the generator used, selected from a drop-down list. You can also select Send Now and Historical from here.