ABB

TOTALFLOW
Technical Bulletin 102

Multiple Log Periods without the Contract Day Incrementing

Totalflow Technical Bulletin

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ABB Inc.

1. **Purpose**

   To describe a potential data logging problem with 6400 and 6700 Flow Computer units.

2. **Description**

   A problem has been reported that pertains to a small number of 6400 and 6700 Flow Computers. The primary symptom when collecting DB2 data is too many log records in one daily record or when collecting DB1 data the daily and log period total daily volumes will not match. In both database collections a common symptom will be missing days in the archive record. See DB2 example below:

Date	DP	SP	Tf	Volume (MCF)
12/04/2002	28.961	27.896	36.296	144.641
12/05/2002	28.809	28.657	38.662	140.758
12/06/2002	26.810	30.641	42.247	139.569
12/07/2002	30.739	27.267	45.309	144.470
12/08/2002	28.170	27.786	45.531	141.768
12/09/2002	29.077	28.132	44.623	135.566
12/10/2002	30.337	34.631	45.774	131.026
12/11/2002	40.332	31.536	44.870	121.315
12/12/2002	31.642	29.138	47.093	137.469
12/13/2002	27.279	30.209	45.778	144.153
12/14/2002	28.634	28.823	46.276	143.044
12/15/2002	26.704	30.439	49.345	143.321
12/16/2002	26.011	30.828	51.798	141.634
12/17/2002	21.002	36.695	54.347	144.148
12/18/2002	25.680	30.706	55.914	141.361
12/19/2002	28.605	27.860	41.627	5052.543
1/28/2003	0.000	18.425	54.656	0.000
1/28/2003	112.488	28.481	44.980	345.266
1/31/2003	64.898	30.339	50.225	168.368
2/01/2003	45.035	27.101	51.389	184.319
2/02/2003	32.831	27.373	60.041	167.614
2/03/2003	28.794	25.537	49.425	162.562
2/04/2003	30.677	25.552	40.950	147.072
2/05/2003	35.523	25.113	38.954	90.837

   In the above daily archive records there are two days (1/29 and 1/30) missing. These logs are actually located in the 1/28/2003 day (see log record example below).

Daily Flow Data	Log Period Data	Events	Characteristics	Daily Flow Detail	Log Period

Time	DP	SP	Tf	Volume (MCF)
11:59 to 12:59	0.000	18.869	62.086	0.000
12:59 to 13:59	213.598	35.835	64.874	4.424
13:59 to 14:59	113.993	35.836	59.737	23.095
14:59 to 15:59	0.261	39.721	70.514	0.000
15:59 to 16:59	0.000	43.953	79.589	0.000
16:59 to 17:59	0.000	43.169	82.204	0.000
17:59 to 18:59	0.000	40.677	76.132	0.000
18:59 to 19:59	94.811	37.465	54.951	15.070
19:59 to 20:59	58.744	37.479	50.784	7.912
20:59 to 21:59	0.000	29.662	52.650	0.000
21:59 to 22:59	0.000	28.100	53.690	0.000
22:59 to 23:59	0.000	27.342	49.389	0.000
23:59 to 00:59	201.935	26.602	43.463	4.717
00:59 to 01:59	133.768	25.899	43.804	22.109
01:59 to 02:59	0.000	24.398	41.704	0.000
02:59 to 03:59	0.000	23.631	40.540	0.000
03:59 to 04:59	0.000	25.047	41.406	0.000
04:59 to 05:59	0.000	23.960	41.180	0.000
05:59 to 06:59	160.193	25.761	42.536	26.758
06:59 to 07:59	112.168	25.959	43.338	1.869
07:59 to 08:59	0.000	24.051	38.928	0.000
08:59 to 09:59	0.000	24.934	38.894	0.000
09:59 to 10:59	0.000	24.371	39.826	0.000
10:59 to 11:59	152.603	27.399	43.704	23.343
11:59 to 12:59	103.462	27.912	45.282	5.153
12:59 to 13:59	0.000	26.935	45.405	0.000
13:59 to 14:59	0.000	26.515	45.598	0.000

| Daily Flow Data | Log Period Data | Events | Characteristics | Daily Flow Detail | Log Period |

Time	DP	SP	Tf	Volume (MCF)
14:59 to 15:59	0.000	25.264	47.371	0.000
15:59 to 16:59	99.135	26.746	49.537	19.191
16:59 to 17:59	72.166	25.351	49.501	3.715
17:59 to 18:59	0.000	24.322	51.482	0.000
18:59 to 19:59	0.000	25.005	42.334	0.000
19:59 to 20:59	0.000	24.155	37.104	0.000
20:59 to 21:59	142.562	25.369	40.579	28.117
21:59 to 22:59	91.285	26.216	41.732	0.484
22:59 to 23:59	0.000	24.413	31.285	0.000
23:59 to 00:59	0.000	24.805	28.727	0.000
00:59 to 01:59	166.990	25.385	32.433	9.886
01:59 to 02:59	108.224	25.426	39.331	17.549
02:59 to 03:59	0.000	24.112	29.337	0.000
03:59 to 04:59	0.000	23.659	23.701	0.000
04:59 to 05:59	0.000	23.752	23.328	0.000
05:59 to 06:59	135.261	25.941	34.565	22.509
06:59 to 07:59	90.283	25.907	40.635	5.575
07:59 to 08:59	0.000	23.716	28.787	0.000
08:59 to 09:59	0.000	23.638	27.496	0.000
09:59 to 10:59	154.300	26.563	36.641	12.940
10:59 to 11:59	94.176	27.647	43.009	15.181
11:59 to 12:59	0.000	31.025	42.315	0.000
12:59 to 13:58	0.000	30.371	51.127	0.000
14:00 to 15:00	143.436	30.617	51.924	6.520
15:00 to 16:00	55.097	34.468	53.358	17.279
16:00 to 17:00	0.000	34.979	59.169	0.000
17;00 to 18:00	0.000	32.944	61.289	0.000

The 28th, 29th and 30th log records are all located in the 28th day. A similar DB1 collection would only show 24 records.

This problem only occurs on a small number of Flow Computers and can be identified by looking for missing daily records using WinCCU, PCCU32 or some other accounting missing data report.

3. **Workaround**

A reset volume or setting the FCU's date and time will correct this problem.

4. **Conclusion**

This database problem will only occur in a very small number of devices. We do not think this problem is wide spread due to the limited number of phone calls and that this particular problem could not be reproduced by ABB. Customers can identify Flow Computers with this issue by running a missing data report and looking for missing daily records. Once located, verify on DB1 collections that the daily and log record volumes do not match. On DB2 collections verify the log records preceding

the missing daily logs have more than 24 records logged. If either of these symptoms are confirmed then this particular meter has the clock sync problem and you will either need to perform one of the workarounds mentioned above or replace the EPROM.

The following EPROMs corrected this log daily period time sync issue:
6400 (2015189-00x) EPROM = 2015272-016 or later, Two digit revision code "DS" or later. 6400 (2015333-00x) EPROM = 2015494-010 or later, Two digit revision code "EJ" or later
6700 w/o Expanded I/O (2015382-00x) EPROM = 2015489-011 or later, Two digit revision code "DJ" or later
6700 w/Expanded I/O(2015382-00x) EPROM = 2015490-013 or later, Two digit revision code "VM" or later

Note: The two digit revision code is displayed when polling units using WinCCU and DB1 database.

To assist our technical staff please refer to this particular problem using this internally recognized phrase:

"Self Sync Problem where end of contract day out of sync with log periods"

ABB will update any EPROMs that exhibit the symptoms described above at no charge. Please call our technical service staff at (800) 442-3097 option 1,2 for upgrade information.