

REAL-TIME PERFORMANCE MANAGEMENT FOR THE ENTERPRISE

RtPM



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RtPM



Earle Taylor

Automation Specialist, Firmenich
&

Patrick Richard ing.

Senior Applications Engineer, Global Automation Partners



Firmenich Batch Reporting Spreadsheet System

Firmenich

150 Firmenich Way

Port Newark, NJ 07114

Firmenich

- Flavor & Fragrance
- Company foundation: 1895 In Geneva, Switzerland
- Private and family owned
- Turnover: 1.9 billion Swiss Francs in 2002
- Average growth per year since 1989: 8.7%
- Position in the market: number 3
- 26 production & manufacturing sites worldwide
- 31 awards and distinctions received for achievements in R&D since 1939, including Nobel Prize awarded to our director of R&D
- Clients: the world's number one multinational manufacturers of beauty, household and fabric care products, as well as pharmaceuticals, food & drinks.



Newark Plant

- Chemical manufacturing facility in Newark, NJ
- Processing Units
 - Continuous and Batch
 - Multipurpose and Dedicated



Data Historian Business Drivers

Acquire/manage data to:

- Drive Continuous Improvement and Operational Excellence
- Support troubleshooting
- Produce Batch Records for Reporting and Costing
- Reduce time operators spend filling out spreadsheets with batch and lab data
- Improve reporting accuracy

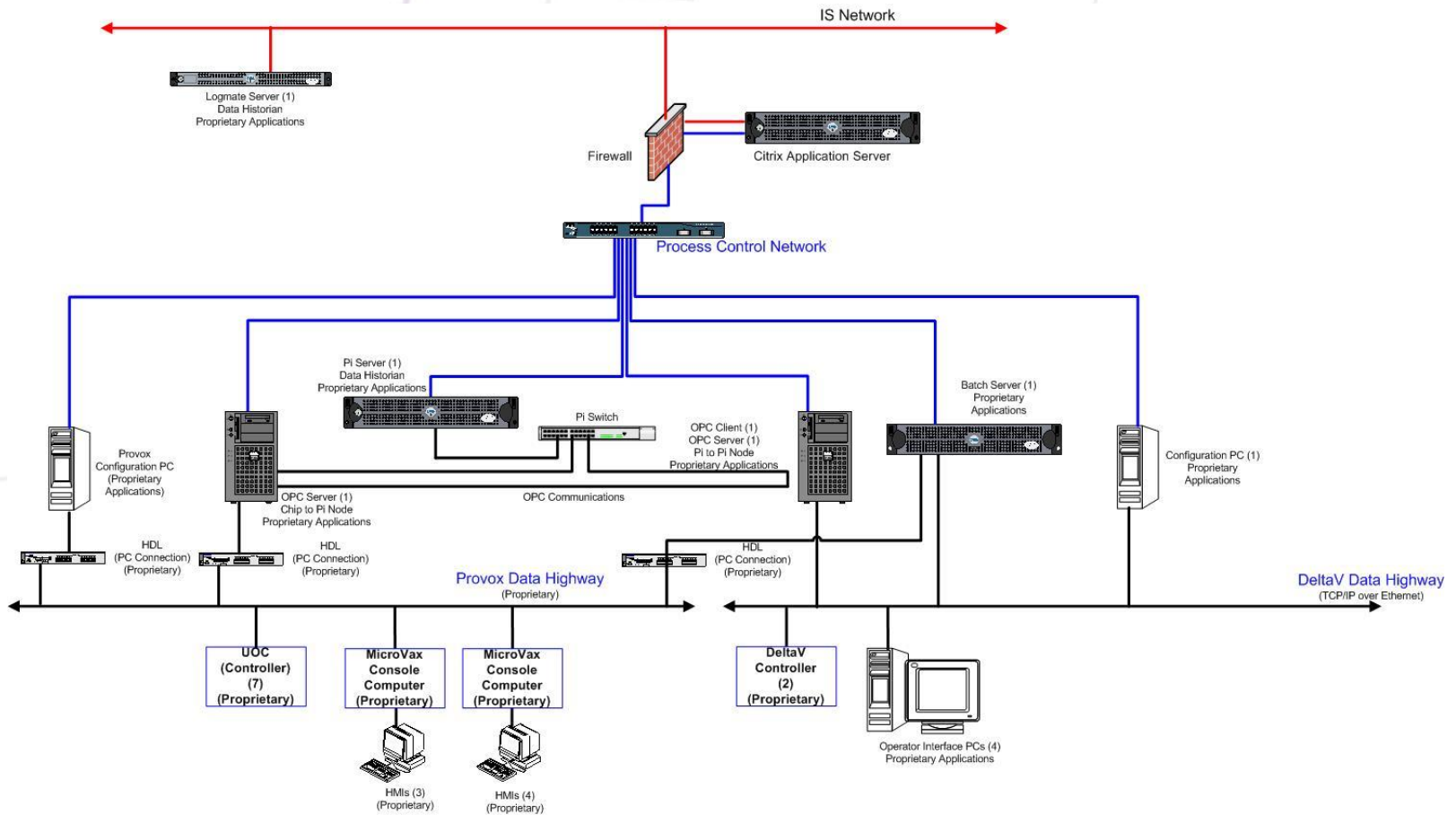


OSI-PI at Firmenich

- Selected as the Data Historian of choice
- Interfaced with 2 Distributed Control Systems:
 - Fisher-Provox via Fisher-Rosemount CHIP Interface
 - Emerson DeltaV via PI to PI Interface
 - Acquiring real-time data since 12/2003
- Batch contexts provided by:
 - PI Batch Generator V2.0 Interface for batches running on Fisher-Provox
 - PI Batch Event File Monitor Interface for batches running on Emerson DeltaV
 - Acquiring batch contexts since May 2004
- Batch Reporting is the first data consuming application at Firmenich



System Architecture Overview



Firchem Process Control System Schematic

Project Requirements

- Reports must be Excel based
- Reports must be compatible with Batch Generator V2.0 and Batch Event File Monitor batch contexts
- Provide entry capability for lab data
- Partner necessary due to existing support and development duties of staff



Batch Reports Requirements

- 2 types of reports:
 - Monthly production report
 - Single-batch report
- Multiple types of data items:
 - Material movements; In/Out, Quantity, Identity
 - Batch Start and End Times, Duration
 - Phase Start and End Times, Duration
 - Batch properties at specific times
 - Analytical (lab) data



Methodology

- Technical discussion with GAP and targeted users
 - Review of business needs
 - Identification of potential technical solutions
 - Identification of risks and constraints
- Preparation of URS
- Divided Project in 3 Phases with clear deliverables



Project Tasks and Roles

- Roll out PI Batch Generator V2.0 Interface; Firmenich with support from GAP
- Roll out PI Batch Event File Monitor Interface; Firmenich with support from GAP
- Modify existing reports for OSI-PI using VBA code; GAP, remotely from Montreal offices, with support from Firmenich
- Roll out individual reports; Firmenich with support from GAP



Project Timeline

- Kick-off: April 2004
- Roll out PI Batch Generator V2.0 and PI Batch Event File Monitor interfaces; May-June 2004
- Design custom code, modify existing reports; May-August 2004
- Roll out individual reports; September 2004, ongoing.



PI Batch Generator V2.0 and Batch Event File Monitor Roll Out

- PI Batch Generator V2.0 Interface
 - Configuration of existing Provox unit operations for batch active points and some data registers (Unit Variables)
 - Creation of PE points to provide accurate triggers
 - Installation/configuration of PI Batch Generator V2.0 on existing PI system for Provox batch contexts
- PI Batch Event File Monitor Interface
 - Installation/configuration of PI Batch Event File Monitor for DeltaV batch contexts
 - Event logging to tags was configured for selected events.



Custom Code Development

- GAP designed and implemented an SDK and Module db-based VBA module to extract batch contexts
- Functions provided to:
 - Login on to a PI server
 - Extract Batch-level data
 - Extract UnitBatch-level data
 - Retrieve the start or end of a batch
 - Retrieve the start or end of an operation
 - Retrieve the start or end of a phase
- No limits other than those imposed by Excel
- Supports mixing PI Batch Generator V2.0 and PI Batch Event File Monitor interface batch contexts in the same report through the “Insert Linked Module” functionality of the Module db Editor.



Batch Report User Interface

- Report users interact with Excel only
- Reports look very similar to the manual versions
- Reports update automatically when workbook opens
- Login is handled transparently
- Report appears to the user as a single page Excel workbook
- Production Reports:
 - Users can specify a different time frame
 - Users can specify a range of batches
- Single-batch Reports:
 - Users can specify a specific batch



Production Report

PRODUCTION REPORT

Starting dd-mmm-yyyy hh:mm:ss	Ending dd-mmm-yyyy hh:mm:ss
01-Feb-2005 00:00:00	22-Mar-2005 12:50:15

Starting Batch	Ending Batch
516661	516662

BATCH #	DATE	TIME	WEIGHT	WEIGHT	TOTAL	AMOUNT	REACTOR	REACTOR	AMOUNT	AMOUNT
	STARTED	STARTED			AMOUNT	D	WEIGHT	WEIGHT	F	G
	570	570	A	B	C	CHARGED	AFTER	AFTER	SOLUTION	SOLUTION
							D	E	ADDED	ADDED
							ADDITION	ADDITION		
517839	3/20/2005	8:26 AM	120	7,000	981	21	4,254		1,857	1,043
517835	3/19/2005	9:02 PM	120	7,000	981	21	4,169		1,854	1,043
517830	3/19/2005	3:45 AM	120	7,000	981	21	4,169		1,854	1,044
517828	3/18/2005	4:40 PM	120	7,000	981	21	4,224		1,856	1,043
517822	3/18/2005	1:29 AM	120	7,000	981	21	4,196		1,857	1,044
517818	3/17/2005	1:28 PM	120	7,000	981	21	4,191		1,855	1,043
517816	3/17/2005	12:07 AM	120	7,000	981	21	4,191		1,857	1,045
517808	3/16/2005	7:44 AM	120	7,000	980	21	4,111		1,856	1,043
517804	3/15/2005	10:19 AM	120	7,000	981	21	4,223		1,856	1,045
517800	3/14/2005	11:05 PM	120	7,000	981	21	4,257		1,854	1,043
517795	3/14/2005	11:05 AM	120	7,000	981	21	4,201		1,855	1,043
517792	3/13/2005	6:50 PM	120	7,000	981	21	4,201		1,856	1,043
517786	3/13/2005	8:00 AM	120	7,000	981	21	4,264		1,859	1,044
517784	3/12/2005	8:56 PM	120	7,000	981	21	4,278		1,855	1,044
517782	3/12/2005	9:47 AM	120	7,000	981	21	4,238		1,856	1,044
517779	3/11/2005	5:51 PM	120	7,000	980	21	6,618		1,857	1,043
517777	3/11/2005	5:33 AM	120	7,000	981	21	4,253		1,854	1,044
517773	3/10/2005	6:25 PM	120	7,000	980	21	4,189		1,855	1,042
517768	3/10/2005	5:59 AM	120	7,000	981	21	4,255		1,855	1,044



Single Batch Report

The screenshot displays an Excel spreadsheet titled "Microsoft Excel - PMI_CR_REPORT_2_GAP_test.XLS". The spreadsheet is divided into several sections for data entry and calculation.

Batch End Report - evt Interface

Starting
dd-mm-yyyy hh:mm:ss
01-Jul-2004 00:00:00

Ending
dd-mm-yyyy hh:mm:ss
14-Mar-2005 09:29:55

Batch
516995

Ross# 517085

Raw Materials:

Ted Code	Raw material	Amount	Initials
Code Number	Raw Material A	IF(\$H\$10<>"",PICompDat(\$K\$12,getphasestart("Unit1UnitBatchData", 'PIBatch Data'\$A\$3, M12,N12,O12),getp	
Code Number	Raw Material B	IF(\$H\$10<>"",PICompDat(\$K\$14,getphasestart("Unit1UnitBatchData", 'PIBatch Data'\$A\$3, M14,N14,O14),getp	
Code Number	Raw Material C	IF(\$H\$10<>"",PINCompDat(\$K\$16,getphaseend("Unit1UnitBatchData", 'PIBatch Data'\$A\$3, M16,N16,O16), 1	
Code Number	Raw Material D	IF(\$H\$10<>"",PINCompDat(\$K\$18,getphasestart("Unit2UnitBatchData", 'PIBatch Data'\$A\$3, M18,N18,O18), 1	
Code Number	Raw Material E	IF(\$H\$10<>"",PINCompDat(\$K\$20,getphaseend("Unit1UnitBatchData", 'PIBatch Data'\$A\$3, M20,N20,O20), 1	
Code Number	Raw Material F	IF(\$H\$10<>"",PINCompDat(\$K\$22,getphaseend("Unit2UnitBatchData", 'PIBatch Data'\$A\$3, M22,N22,O22), -1	

Chemical Produced:

Code Number	Chemical Produced
Code Number	RECOVERED MATERIAL

REACTOR ID

TOTAL REACTOR TIME

The spreadsheet includes a Formula Bar and a status bar at the bottom showing "Ready" and "NUM".

Batch Report Configuration

The configuration resides:

- In rows and columns hidden on the report main page
- On a page hidden from the user. This page contains:
 - Login information
 - Module db path information
 - Unit, recipe, product information. This named range can be expanded as needed
 - Destination path for saved reports
 - A username for scheduled report generation



Batch Report - Config

Microsoft Excel - Example.xls

File Edit View Insert Format Tools Data Window PI PI-SMT Help

A1 =

	A	B	C	D	E	F	G	H	I	J	K
1											
2											
3		Candidate Server	Username	Password							
4		default									
5											
6		Server									
7		172.31.0.6									
8											
9		Module Database path									
10		\\FIRCHEM\PAD5\									
11											
12		Units and Recipes									
13		Units	Recipes	Products							
14		UN-V570	Recipes	Products							
15		UN-V580	Recipes	Products							
16											
17											
18											
19											
20		Working Start Time	Working End Time								
21		01-Feb-2005 00:00:00	14-Mar-2005 08:05:24								
22											
23		Batch Prefix	Batch Suffix								
24											
25											
26		Report Filing Path									
27		C:\									
28											
29		Batch User Name									
30		SRVAT									
31											
32											
33											
34											

Main Config PIBatch Data PIUnitBatchData PIBatch Data2

Ready NUM



Batch Context Extraction

Batch context information is extracted in named ranges

- One page contains named ranges that receive Batch-level data
- One page contains named ranges that receive UnitBatch-level data
- The number of units can be expanded by adding named ranges to these two pages
- The pages that contain Batch and UnitBatch data can be revealed to assist in debugging



Batch Report – Batch Data

Microsoft Excel - Example.xls

File Edit View Insert Format Tools Data Window PI PI-SMT Help

A1 Unit1 PIBatch Data

Unit1 PIBatch Data			Unit2 PIBatch Data			Unit3 PIBatch Data			Unit4 PIBatch Data		
BatchID	Start time	End Time	BatchID	Start time	End Time	BatchID	Start time	End Time	BatchID	Start time	End Time
517786	13-Mar-2005 08:00:05	13-Mar-2005 18:50:47	517782	12-Mar-2005 20:25:10	13-Mar-2005 18:05:53						
517784	12-Mar-2005 20:58:53	13-Mar-2005 07:59:57	517777	12-Mar-2005 02:00:58	12-Mar-2005 20:22:56						
517702	12-Mar-2005 09:47:34	12-Mar-2005 20:58:37	517773	11-Mar-2005 16:40:58	12-Mar-2005 02:00:57						
517779	11-Mar-2005 17:51:32	12-Mar-2005 09:47:25	517768	11-Mar-2005 04:28:30	11-Mar-2005 16:38:43						
517777	11-Mar-2005 05:33:15	11-Mar-2005 17:51:23	517762	10-Mar-2005 17:18:23	11-Mar-2005 04:27:10						
517773	10-Mar-2005 18:25:49	11-Mar-2005 05:33:07	517761	10-Mar-2005 03:31:03	10-Mar-2005 17:17:13						
517768	10-Mar-2005 05:59:07	10-Mar-2005 18:25:41	517757	09-Mar-2005 13:41:59	10-Mar-2005 02:24:15						
517762	09-Mar-2005 17:01:32	10-Mar-2005 05:58:50	517745	09-Mar-2005 21:33:45	09-Mar-2005 13:39:45						
517761	09-Mar-2005 00:55:51	09-Mar-2005 17:01:23	517742	06-Mar-2005 08:45:53	06-Mar-2005 21:19:44						
517757	08-Mar-2005 11:28:56	09-Mar-2005 00:55:42	517740	05-Mar-2005 21:14:51	06-Mar-2005 08:43:34						
517745	05-Mar-2005 22:42:57	08-Mar-2005 11:28:48	517737	05-Mar-2005 09:37:01	05-Mar-2005 21:12:37						
517742	05-Mar-2005 10:46:48	05-Mar-2005 22:42:49	517734	04-Mar-2005 11:50:48	05-Mar-2005 09:34:40						
517740	04-Mar-2005 23:40:40	05-Mar-2005 10:46:31	517726	04-Mar-2005 00:26:08	04-Mar-2005 11:48:28						
517737	04-Mar-2005 12:31:07	04-Mar-2005 23:40:31	517721	03-Mar-2005 13:04:32	04-Mar-2005 00:17:53						
517734	04-Mar-2005 01:32:18	04-Mar-2005 12:30:59	517717	03-Mar-2005 00:05:38	03-Mar-2005 13:02:18						
517730	03-Mar-2005 13:56:09	04-Mar-2005 01:32:10	517711	02-Mar-2005 10:11:56	02-Mar-2005 22:06:40						
517726	03-Mar-2005 02:59:00	03-Mar-2005 13:56:01	517710	02-Mar-2005 10:11:56	02-Mar-2005 22:06:40						
517721	02-Mar-2005 11:35:28	03-Mar-2005 02:58:52	517709	01-Mar-2005 11:10:30	02-Mar-2005 10:09:36						
517721	02-Mar-2005 11:35:28	03-Mar-2005 02:58:52	517701	28-Feb-2005 12:43:02	01-Mar-2005 11:09:16						
517717	02-Mar-2005 00:02:50	02-Mar-2005 11:35:12	517695	27-Feb-2005 22:50:48	28-Feb-2005 12:40:48						
517711	01-Mar-2005 12:09:52	02-Mar-2005 00:02:32	517694	27-Feb-2005 09:16:40	27-Feb-2005 21:14:04						
517709	01-Mar-2005 00:58:08	01-Mar-2005 12:09:36	517692	26-Feb-2005 21:57:28	27-Feb-2005 09:14:28						
517704	26-Feb-2005 14:05:20	01-Mar-2005 00:58:00	517687	26-Feb-2005 10:10:20	26-Feb-2005 21:55:16						
517701	26-Feb-2005 01:21:22	26-Feb-2005 14:05:12	517686	25-Feb-2005 22:45:06	26-Feb-2005 10:09:09						
517699	27-Feb-2005 10:25:11	28-Feb-2005 01:21:14	517679	25-Feb-2005 08:54:48	25-Feb-2005 22:42:50						
517695	26-Feb-2005 23:13:32	27-Feb-2005 10:25:06	517677	24-Feb-2005 21:23:52	25-Feb-2005 08:52:28						
517694	26-Feb-2005 11:37:52	26-Feb-2005 23:13:24	517683	24-Feb-2005 10:10:42	24-Feb-2005 21:21:40						
517692	25-Feb-2005 23:49:50	26-Feb-2005 11:37:42	517662	23-Feb-2005 11:18:24	24-Feb-2005 09:59:20						
517687	25-Feb-2005 11:23:32	25-Feb-2005 23:49:32	517656	23-Feb-2005 10:43:26	23-Feb-2005 11:18:06						
517679	24-Feb-2005 11:33:48	25-Feb-2005 11:23:24	517654	22-Feb-2005 23:09:20	23-Feb-2005 10:41:14						
517677	24-Feb-2005 00:23:08	24-Feb-2005 11:33:40	517638	22-Feb-2005 11:49:30	22-Feb-2005 23:07:06						
517663	23-Feb-2005 11:49:00	24-Feb-2005 00:23:00	517637	21-Feb-2005 23:14:36	22-Feb-2005 11:47:10						
517662	23-Feb-2005 00:14:39	23-Feb-2005 11:48:52	517634	21-Feb-2005 02:59:22	21-Feb-2005 17:20:44						
517656	22-Feb-2005 12:58:54	23-Feb-2005 00:14:22	517633	20-Feb-2005 15:48:54	21-Feb-2005 02:57:00						
517654	22-Feb-2005 02:05:28	22-Feb-2005 12:58:46	517629	20-Feb-2005 04:06:40	20-Feb-2005 15:48:34						
517636	21-Feb-2005 03:57:58	22-Feb-2005 02:05:08	517625	19-Feb-2005 16:59:48	20-Feb-2005 04:04:26						
517637	20-Feb-2005 17:07:16	21-Feb-2005 03:57:48	517617	19-Feb-2005 04:17:56	19-Feb-2005 16:57:26						
517634	20-Feb-2005 05:30:00	20-Feb-2005 17:07:08	517611	18-Feb-2005 15:28:18	19-Feb-2005 04:15:36						
517633	19-Feb-2005 18:36:28	20-Feb-2005 05:29:52	517496	02-Feb-2005 03:25:03	02-Feb-2005 15:41:55						
517629	19-Feb-2005 06:12:52	19-Feb-2005 18:36:20	517493	01-Feb-2005 14:54:05	02-Feb-2005 03:22:51						
517625	19-Feb-2005 19:00:22	19-Feb-2005 06:12:44	517496	01-Feb-2005 02:20:16	01-Feb-2005 14:51:44						
517591	02-Feb-2005 04:42:54	02-Feb-2005 17:16:55	517482	31-Jan-2005 14:15:43	01-Feb-2005 02:18:03						
517500	01-Feb-2005 16:47:04	02-Feb-2005 04:42:46									
517496	01-Feb-2005 03:34:15	01-Feb-2005 16:46:55									
517493	31-Jan-2005 15:10:37	01-Feb-2005 03:34:06									
	02-Feb-2005 17:17:03	18-Feb-2005 19:00:12									

Main / Config / PIBatch Data / PIUnitBatchData / PIBatch Data2

Ready NUM



Batch Report – UnitBatch Data

Microsoft Excel - Example.xls

File Edit View Insert Format Tools Data Window PI PI-SMT Help

Unit1 PIUnitBatch Data

1	Unit1 PIUnitBatch Data							Unit2 PIUnitBatch Data					
2	BatchID	UnitBatch	Operation	Phase	Start time	End Time		BatchID	UnitBatch	Operation	Phase	Start time	
3	517786	517786	2		13-Mar-2005 08:00:05	13-Mar-2005 18:50:47		517782	517782	3		13-Mar-2005 07:09:30	
4	517786	517786	1		13-Mar-2005 18:50:42	13-Mar-2005 18:50:47		517782	517782	16		13-Mar-2005 17:48:00	
5	517786	517786	21		13-Mar-2005 18:50:06	13-Mar-2005 18:50:30		517782	517782	15		13-Mar-2005 15:41:15	
6	517786	517786	18		13-Mar-2005 18:09:54	13-Mar-2005 18:50:06		517782	517782	14		13-Mar-2005 15:40:00	
7	517786	517786	17		13-Mar-2005 18:03:42	13-Mar-2005 18:09:54		517782	517782	13		13-Mar-2005 12:58:30	
8	517786	517786	1		13-Mar-2005 18:03:27	13-Mar-2005 18:03:42		517782	517782	12		13-Mar-2005 12:55:30	
9	517786	517786	22		13-Mar-2005 18:01:00	13-Mar-2005 18:03:09		517782	517782	11		13-Mar-2005 12:51:45	
10	517786	517786	20		13-Mar-2005 18:00:48	13-Mar-2005 18:01:00		517782	517782	10		13-Mar-2005 12:47:45	
11	517786	517786	17		13-Mar-2005 17:55:51	13-Mar-2005 18:00:48		517782	517782	9		13-Mar-2005 12:45:30	
12	517786	517786	16		13-Mar-2005 16:17:18	13-Mar-2005 17:55:51		517782	517782	19		13-Mar-2005 12:45:30	
13	517786	517786	15		13-Mar-2005 16:59:39	13-Mar-2005 16:17:18		517782	517782	8		13-Mar-2005 12:17:30	
14	517786	517786	14		13-Mar-2005 16:02:24	13-Mar-2005 16:59:39		517782	517782	7		13-Mar-2005 11:44:15	
15	517786	517786	13		13-Mar-2005 14:54:42	13-Mar-2005 16:02:24		517782	517782	6		13-Mar-2005 11:44:15	
16	517786	517786	12		13-Mar-2005 14:35:24	13-Mar-2005 14:54:42		517782	517782	5		13-Mar-2005 11:43:30	
17	517786	517786	11		13-Mar-2005 10:50:03	13-Mar-2005 14:35:24		517782	517782	4		13-Mar-2005 10:18:30	
18	517786	517786	10		13-Mar-2005 10:30:33	13-Mar-2005 10:50:03		517782	517782	3		13-Mar-2005 10:17:30	
19	517786	517786	9		13-Mar-2005 10:11:15	13-Mar-2005 10:30:33		517782	517782	2		13-Mar-2005 07:34:15	
20	517786	517786	8		13-Mar-2005 08:25:00	13-Mar-2005 10:11:15		517782	517782	1		13-Mar-2005 07:32:00	
21	517786	517786	7		13-Mar-2005 09:16:30	13-Mar-2005 08:25:00		517782	517782	19		13-Mar-2005 07:29:30	
22	517786	517786	6		13-Mar-2005 08:14:06	13-Mar-2005 09:16:30		517782	517782	18		13-Mar-2005 07:24:30	
23	517786	517786	5		13-Mar-2005 08:08:57	13-Mar-2005 08:14:06		517782	517782	17		13-Mar-2005 07:24:30	
24	517786	517786	3		13-Mar-2005 08:00:18	13-Mar-2005 08:08:57		517782	517782	16		13-Mar-2005 07:22:30	
25	517786	517786	2		13-Mar-2005 08:00:06	13-Mar-2005 08:00:18		517782	517782	15		13-Mar-2005 07:09:45	
26	517784	517784	2		12-Mar-2005 20:56:53	13-Mar-2005 07:59:57		517782	517782	14		13-Mar-2005 07:09:45	
27	517784	517784	1		13-Mar-2005 07:59:48	13-Mar-2005 07:59:57		517782	517782	13		13-Mar-2005 06:58:30	
28	517784	517784	21		13-Mar-2005 07:56:33	13-Mar-2005 07:59:48		517782	517782	12		13-Mar-2005 06:58:30	
29	517784	517784	19		13-Mar-2005 07:55:21	13-Mar-2005 07:56:33		517782	517782	11		13-Mar-2005 06:58:30	
30	517784	517784	18		13-Mar-2005 07:16:00	13-Mar-2005 07:55:21		517782	517782	10		13-Mar-2005 06:58:30	
31	517784	517784	17		13-Mar-2005 07:09:45	13-Mar-2005 07:16:00		517782	517782	9		13-Mar-2005 06:58:30	
32	517784	517784	1		13-Mar-2005 07:09:30	13-Mar-2005 07:09:45		517782	517782	8		13-Mar-2005 06:58:30	
33	517784	517784	22		13-Mar-2005 07:04:36	13-Mar-2005 07:09:30		517782	517782	7		13-Mar-2005 06:58:30	
34	517784	517784	20		13-Mar-2005 07:04:24	13-Mar-2005 07:04:36		517782	517782	6		13-Mar-2005 06:58:30	
35	517784	517784	17		13-Mar-2005 06:59:15	13-Mar-2005 07:04:24		517782	517782	5		13-Mar-2005 06:58:30	
36	517784	517784	16		13-Mar-2005 05:29:03	13-Mar-2005 06:59:15		517782	517782	4		13-Mar-2005 06:58:30	
37	517784	517784	15		13-Mar-2005 05:03:48	13-Mar-2005 05:29:03		517782	517782	3		13-Mar-2005 06:58:30	
38	517784	517784	14		13-Mar-2005 04:06:36	13-Mar-2005 05:03:48		517782	517782	2		13-Mar-2005 06:58:30	
39	517784	517784	13		13-Mar-2005 03:58:18	13-Mar-2005 04:06:36		517782	517782	1		13-Mar-2005 06:58:30	
40	517784	517784	12		13-Mar-2005 03:39:18	13-Mar-2005 03:58:18		517782	517782	19		13-Mar-2005 06:58:30	
41	517784	517784	11		12-Mar-2005 23:38:42	13-Mar-2005 03:39:18		517782	517782	18		13-Mar-2005 06:58:30	
42	517784	517784	10		12-Mar-2005 23:27:03	12-Mar-2005 23:38:42		517782	517782	17		13-Mar-2005 06:58:30	
43	517784	517784	9		12-Mar-2005 23:15:18	12-Mar-2005 23:27:03		517782	517782	16		13-Mar-2005 06:58:30	
44	517784	517784	8		12-Mar-2005 22:29:15	12-Mar-2005 23:15:18		517782	517782	15		13-Mar-2005 06:58:30	
45	517784	517784	7		12-Mar-2005 22:20:45	12-Mar-2005 22:29:15		517782	517782	14		13-Mar-2005 06:58:30	
46	517784	517784	6		12-Mar-2005 21:10:51	12-Mar-2005 22:20:45		517782	517782	13		13-Mar-2005 06:58:30	

Main / Config / PIBatch Data / PIUnitBatchData / PIBatch Data2

Ready



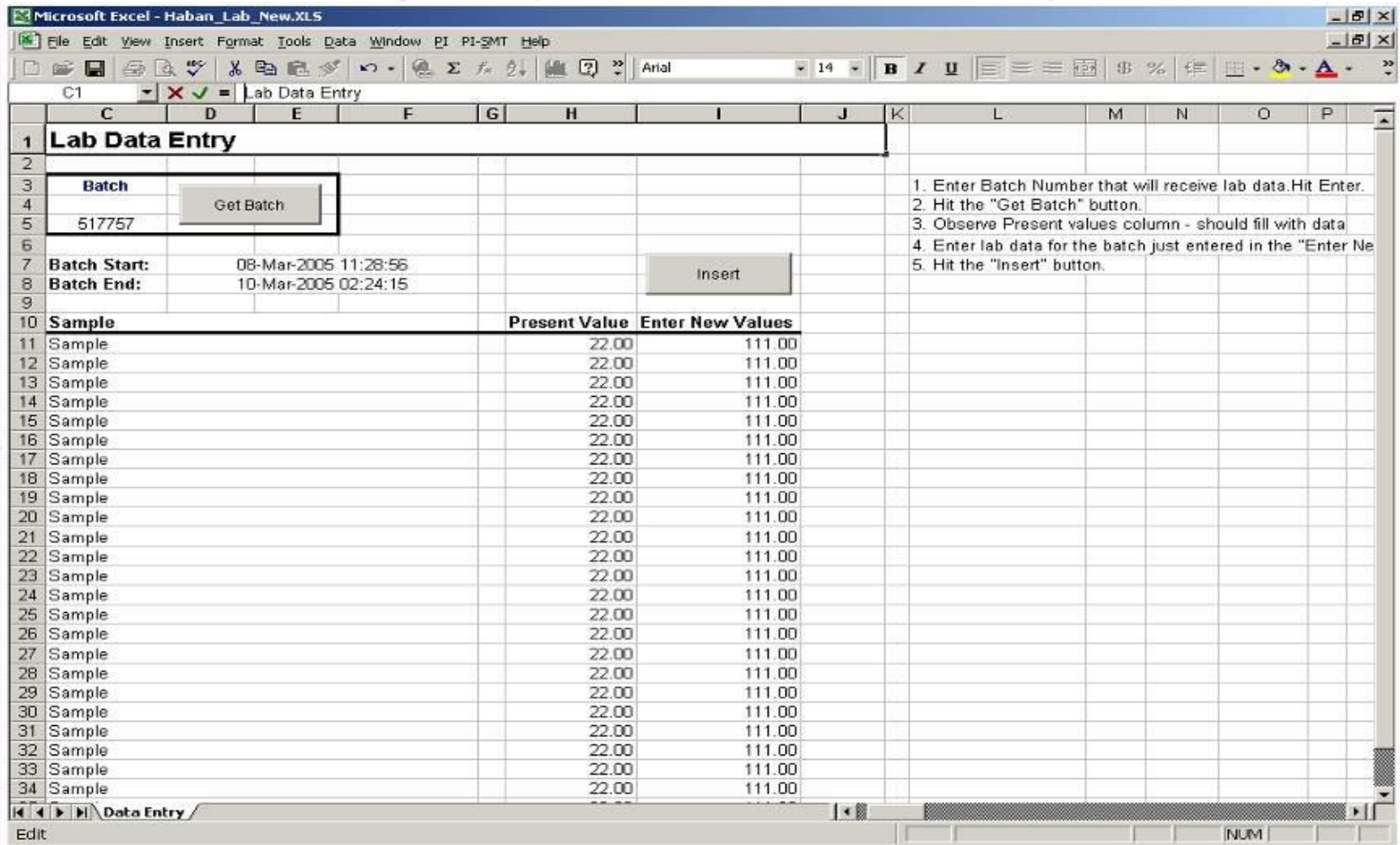
Lab Entry Worksheet

GAP designed and implemented an SDK and Module db-based VBA module to enter or modify lab entry data

- Functions provided to:
 - Insert data into insert/update data into the PI archives
- The code developed for batch context extraction is leveraged by the lab entry worksheet in tying the data entered to a particular batch



Lab entry worksheet



Partners

- Firmenich partners to develop custom code and template batch reporting spreadsheets.
- <http://www.gap5.com>
- Global Automation Partners is an engineering consultant firm specialized in automation and manufacturing IT.
- Its mission is to provide the FDA regulated industry effective, up to current standards, processes and solutions to improve productivity and meet regulatory compliance.



Project Evaluation

- Basically successful; moving to place in normal use.
- Problems included the SDK and Pi-Batch interface, which held up development.
- Remaining problems are really only with DCS (flags, etc).
- Format of existing reports is easily adaptable to new reports.



What's Next?

- Finish up present spreadsheets; place into regular use.
- More reports will be requested.

