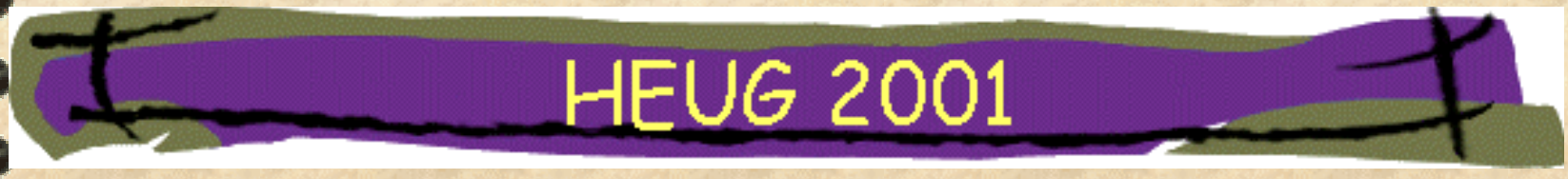

Data Validation
The Quick and Thorough Way

Session # 1009

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Things we test on a regular basis:

- tax updates
- UW built programs
- salary increase program

Generic Test Plan

- Provides Consistent Approach
- Ensures thorough testing
- Leaves Documentation for future reference

Tax Upgrade Test Plan 01A

	Tasks	Detail Team	Complete	Comments
1	**Read Tax Update Notes**			
2	Document New/Changed Functionality (including upgraded SQRs and panels)	HR,AT		
3	Review the Master Resolution list for the Tax Upgrade to find any patches/fixes which need to be applied	HR,AT		
4	Determine Scope of Upgrade, Timing and Resources (Project Plan)	HR,AT		
5	Apply Tax Update to HRQA	App DBA		
6	Compile Test Data Set, including Plant Ops Import , Alumni Import, New Hires and E.E.s to test	HR,AT		Did not test the import files
7	Upgrade SQRs	AT		
8	Submit SQRs for QA			
9	Upgrade Cognos Catalogue & Affected Reports	AT Dec Supp Spec		
10	Complete Setup for New/Changed Functionality	HR,AT		
11	Test Setup for New/Changed Functionality	HR		
12	Set up Incident Log Spreadsheet			Incidents are recorded on this sheet
13	Log/Track Problems in Incident Log			
14	Submit request (to project leader) for security changes (e.g. PBA's require correction on specified panels, or need new panels added)	HR		
15	Make security changes	AT		
16	Check all tax tables to ensure amounts are correct, and update where necessary	HR	AP	
17	Add Row to Tax form definition table and update amounts etc.	HR	AP,CW	
18	Test RTB (Retro BW earnings) not being added to T4 earnings - box 14	HR	AP,CW	Added RTB to tax form definition table and reran T4 load
19	Run a T4 load and test printing of the new T4's	HR		
20	Test New Hire Process - Student and regular process	HR	SH	
21	**Run Monthly Payroll - 101 Compare HRQA and HRPR**	HR		
22	Validate Earnings, Deductions, Taxes during calcs (compare HRQA and HRPR)			
23	Validate Balances after confirm			
24	Test cheque and advice print			
25	Sign off on payrun			

Validating the Data

Original Approach:

- Time consuming
- Not very accurate
- Could not identify trends
- Could not see scope of data errors

We decided to try a fresh approach:

- Run one report in the production instance
- Run another report in the test instance (where the update was applied)
- Compare the data to find differences or errors

Using this approach we can:

- Find individual errors
- Identify trends
- Ensure data integrity

Example # 1

Testing a tax update

Step 1

Develop a test plan,
based on the release notes

Step 2

Run reports from both the production and test instances.

Choose paycheque data:

- gross pay
- total tax
- total deductions
- net pay

Production Data

ID	Co	Group	End Date	Production gross	Production taxes	Production deduct	Production net
113685	UW	FAC	2001-01-31	475.00	17.45	0.00	457.55
108031	UW	STF	2001-01-31	300.00	7.11	0.00	292.89
107396	UW	STF	2001-01-31	1,062.50	141.75	0.00	920.75
109747	UW	STF	2001-01-31	4,339.79	1,570.17	0.00	2,769.62
108432	UW	FAC	2001-01-31	2,163.36	1,448.72	0.00	714.64
110135	UW	STF	2001-01-31	2,488.56	517.83	135.66	1,835.07
106946	UW	STF	2001-01-31	1,093.60	153.91	25.39	914.30
126536	UW	STF	2001-01-31	494.62	19.86	24.15	450.61
107001	UW	STF	2001-01-31	2,140.10	430.03	123.73	1,586.34
106794	UW	STF	2001-01-31	929.60	112.06	386.23	431.31
106234	UW	STF	2001-01-31	575.63	25.16	55.57	494.90
106243	UW	FAC	2001-01-31	500.00	114.71	0.00	385.29
122497	UW	FAC	2001-01-31	200.00	81.39	0.00	118.61
107862	UW	STF	2001-01-31	1,939.98	372.26	83.43	1,484.29
123855	UW	FAC	2001-01-31	1,500.00	389.05	0.00	1,110.95
110693	UW	FAC	2001-01-31	7,182.87	2,481.44	281.01	4,420.42
110569	UW	FAC	2001-01-31	7,008.34	2,395.81	275.35	4,337.18
108204	UW	FAC	2001-01-31	6,965.40	1,368.72	393.47	5,203.21
117192	UW	STF	2001-01-31	489.90	103.36	0.00	386.54
111749	UW	STF	2001-01-31	2,400.00	497.18	103.58	1,799.24

Test Data

ID	Co	Group	End Date	Test Gross	Test Taxes	Test deducts	Test Net
113685	UW	FAC	2001-01-31	8,504.42	3,146.49	250.35	5,107.58
108031	UW	STF	2001-01-31	5,462.11	1,646.63	167.80	3,647.68
107396	UW	STF	2001-01-31	5,529.80	1,687.41	131.10	3,711.29
109747	UW	STF	2001-01-31	8,679.59	1,929.03	251.64	6,498.92
108432	UW	FAC	2001-01-31	6,490.06	2,137.62	248.43	4,104.01
110135	UW	STF	2001-01-31	4,977.11	1,440.65	135.66	3,400.80
106946	UW	STF	2001-01-31	3,384.96	853.69	49.54	2,481.73
126536	UW	STF	2001-01-31	2,679.19	591.52	24.15	2,063.52
107001	UW	STF	2001-01-31	4,280.19	1,175.13	113.73	2,991.33
106794	UW	STF	2001-01-31	2,877.33	681.71	386.23	1,809.39
106234	UW	STF	2001-01-31	2,494.39	428.09	50.57	2,015.73
106243	UW	FAC	2001-01-31	2,412.28	505.42	45.52	1,861.34
122497	UW	FAC	2001-01-31	2,083.33	310.80	39.32	1,733.21
107862	UW	STF	2001-01-31	3,821.18	1,004.01	83.43	2,733.74
123855	UW	FAC	2001-01-31	3,333.34	834.18	0.00	2,499.16
110693	UW	FAC	2001-01-31	8,978.58	3,394.03	281.01	5,303.54
110569	UW	FAC	2001-01-31	8,760.42	3,280.15	275.35	5,204.92
108204	UW	FAC	2001-01-31	8,706.75	3,252.12	383.47	5,071.16
117192	UW	STF	2001-01-31	2,123.00	432.54	0.00	1,690.46

Step 3

Merge the data using Excel VLOOKUP and compare the results.

Production & Test Compare

ID	Pay Group	End Date	Test Gross	Production Gross	DIFF Gross	Test Taxes	Production taxes	DIFF Taxes	Comments
108783	FAC	2001-01-31	8,657.50	8,657.50	0.00	3,226.41	2,793.57	-432.84	Special letter in HRPR
107205	TEM	2001-01-31	1,892.80	1,892.80	0.00	369.71	147.17	-222.54	Special letter in HRPR
107433	FAC	2001-01-31	6,104.37	6,104.37	0.00	2,312.92	2,112.92	-200.00	Higher extra withholding in Test
108182	STF	2001-01-31	2,736.43	2,736.43	0.00	605.90	605.81	-0.09	
118304	STF	2001-01-31	2,372.51	2,372.51	0.00	494.72	494.66	-0.06	
107945	STF	2001-01-31	2,410.57	2,410.57	0.00	505.01	504.95	-0.06	
117062	STF	2001-01-31	892.40	892.40	0.00	81.91	81.87	-0.04	
106399	STF	2001-01-31	2,754.50	2,754.50	0.00	662.31	662.30	-0.01	
112621	RET	2001-01-31	37.80	37.80	0.00	4.71	4.71	0.00	
121478	STF	2001-01-31	38.86	38.86	0.00	0.00	0.00	0.00	
109407	RET	2001-01-31	125.00	125.00	0.00	2.81	2.81	0.00	
126301	TEM	2001-01-31	153.00	153.00	0.00	3.44	3.44	0.00	
116347	TEM	2001-01-31	153.00	153.00	0.00	3.44	3.44	0.00	
115385	TEM	2001-01-31	153.00	153.00	0.00	3.44	3.44	0.00	
118184	TEM	2001-01-31	174.72	174.72	0.00	3.93	3.93	0.00	

Spreadsheet Advantages:

- Validate all the data
- Differences are quickly identified
- Trends become visible

Example # 2
Salary Increase Program

Step 1 :

Write up the test plan

Step 2

Run reports in the test and production instances:

Report on job data:

- monthly or hourly rates
- base benefit rates
- paygroups

Step 3

Merge the data in Excel

Write some extra formulas to analyze the results

Prod & Test Salary Differences

EMPLID	Old Salary Production	New Salary Test	Percent difference	Comments/Job actions
100028	**54,516.00**	28,817.16	-47.14%	**Partial leave**
100033	**55,400.00**	36,807.76	-33.56%	**Reduced load**
100010	**47,451.00**	33,998.64	-28.35%	**Partial leave**
100048	59,578.00	61,270.02	2.84%	
100037	56,840.00	58,738.46	3.34%	
100043	58,063.00	60,013.92	3.36%	
100038	57,000.00	58,920.90	3.37%	
100032	55,335.00	57,205.32	3.38%	
100049	59,689.00	61,730.36	3.42%	
100031	55,000.00	56,892.00	3.44%	
100012	50,000.00	51,730.00	3.46%	
100001	33,663.00	34,831.11	3.47%	
100025	54,014.00	56,450.03	4.51%	
100004	45,000.00	47,052.00	4.56%	
100015	51,546.00	54,107.84	4.97%	
100019	53,048.00	55,785.28	5.16%	
100018	53,000.00	55,761.30	5.21%	
100024	53,963.00	56,850.02	5.35%	
100021	53,152.00	56,123.20	5.59%	

Example # 3
Ensuring data integrity

- The faculty association membership voted for mandatory fees.
- We ran a program to update all faculty with the new (general) deduction.
- We want to ensure all active faculty now have the deduction

Step 1

Run a report to display all active faculty

Step 2

Run another report to display all those people with the deduction for Faculty Association dues.

Step 3

VLOOKUP to find the hidden ‘blanks’.

Faculty Association Dues

EMPLID	PAYGROUP	DEDCD	Amount
100001	FAC	FA1	50.00
100002	FAC	FA1	50.00
100003	FAC	FA1	50.00
100004	FAC	FA1	50.00
100005	FAC	FA1	50.00
100006	FAC	FA1	50.00
100007	FAC	FA1	50.00
100008	FAC	FA1	50.00
100009	FAC	FA1	50.00
100010	FAC	FA1	50.00
100011	FAC	FA1	50.00
100012	FAC	FA1	50.00
100013	FAC	FA1	50.00
100014	FAC	FA1	50.00
100015	FAC	FA1	50.00
100016	FAC	FA1	50.00
111003	FAC		
111004	FAC		
111005	FAC		
111006	FAC		

Wrap up

We have used this approach for a number of applications:

- Compare job data
- Compare pay data
- Other data validations and comparisons

Questions?

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