SQA Metric Items From FPA Spreadsheet - August 2018

Nick Lauerman

Abstract

Evaulation of various potential matrics, performance indicators from the Excel workbook that Software Quality Assurance collected called First Pass Acceptance. This will only be run for the month of August 2018. [1]

Contents

---

[1] Date Ran: Wednesday 5th September, 2018 at 14:12

1 Introduction

The data is processed using R[2], Version 3.5.1 named "Feather Spray". The only extension (package or library) utilized is lubridate (version 1.7.4) to provide key functionality in the processing of dates.

The data is read into R from a comma seperated value (csv) file which is derived (saved) from the spreadsheet without modification. Additional values are computed as needed.

This report is prepared in the R enviroment using a collection of packages know as Sweave that included knitr which in turn feeds the package into LaTeX 2_ε a typeseting program to produce a PDF file. LaTeX 2_ε in implented in MiTeX. LaTeX 2_ε is utilizing the folowing packages to control style and formating:

- datetime and

- multitoc

This will only show a point in time summary and no trends.

2 Data and Calculations

2.1 Data

A seperate data dictionary will be prepared to for both the source data and computed values stored in R.

2.2 Calculations

All calculations presented here have not been implemented in R as formulas.

3 Work Yet to be Completed

3.1 Formula

Some calculations would be better implemented as formulas. The calculations need to be evulated and the formulas developed where needed.

3.2 Trending

Eventually the "System" will be updated to select the data on a for a calander month. After processing the resulots will be stored in a seperate file. This will allow for longer term trending of this data.

3.2.1 Graphs

When "trending" is implented graphs of the trends will also be added.

---

[2]RStudio is utilized as an IDE

4 Quanity Metrics

4.1 Application supported

This is a list of all application support this period.

Note: Alphabatize the list

```
 [1] "Pulse"
 [2] "WWLIMS"
 [3] "DFCS"
 [4] "EDMS"
 [5] "DARA Filler DHM and RU"
 [6] "EP Evaluator"
 [7] "GS Reports"
 [8] "Apollo/PHM"
 [9] "RSLMS"
[10] "TrendReader"
[11] "ADD Shop Floor Paper (SFP) Report System"
```

4.2 Number of Projects

The total number of projects worked on in this period. This may differ from the application list because some applications may have more than one project in the periond.

```
[1] 19
```

4.3 Number of Reviews

This is the number of items reviewed, a document will be counted more than once if it is reviewed more than once.

```
[1] 110
```

4.4 Number of Items Reviewed

This is the number of unique items reviewed, each item is only counted once regardless of how many times it is reviewed.

Note: This is reporting low due to certian items having no way to descrimate between such as multiple executions of the same test script or results from an IIVP run on different computers within the same project.

```
[1] 81
```

4.5 Number of Projects Started

The point at which a project is started is when version 1 of the *Software Change Request* is approved.

Note: This now counts ML type projects (Metrics Library and GS Reports) using the Project Plan as the point that a project starts.

```
[1] 5
```

4.6 Projects Completed

The point at which a project is considered completed is when version 1 of the *System Certification Summary* is approved.

Note: now counts GS (Global Service) Reports Move to Production as the end of project.

```
[1] 8
```

4.7 Number Of Deliverables by Type

This is unique for each deliverable. It only counts each document once so a deliverable that is disapproved and then approved is only counted once.

		Cancellation
	0	0
CII		Decommissioning Report
	5	0
Design Documentation		Design Verification
	0	4
ERES		FRS
	1	2
IDP		IIVP
	1	3
IIVP results		IIVP Results
	16	0
ISSD		Maintenance Plan
	0	0
Move to Production		Other
	3	0
Project Plan		Release Notes
	4	1
Risk Assessment		Software Change Request
	0	4
Software Compliance Assessment		System Certification Summary
	4	5
Test Protocol		Test Protocol Results
	6	12

	Traceability		URS
	7		2
	URS/FRS	User Acceptance Protocol	
	0		0
User Acceptance Protocol results		Validation Plan	
	1		0

4.8 Number of Deliverable by Application

This is the number of unique deliverables that each application submitted. Itonly counts each document once, regardless of the status.

```
                                   0
          Abbott Transfusion Medicine
                                   0
ADD Shop Floor Paper (SFP) Report System
                                   2
                                AFMS
                                   0
          Alinity S Non-LIMS spreadsheets
                                   0
              Alinity Source Verifier
                                   0
                                 AMM
                                   0
                           AP 24 CIP
                                   0
                          Apollo/PHM
                                   4
                 Assay File Database
                                   0
         BioCommand Batch Control Plus
                                   0
                             CMSnext
                                   0
                             CMSNext
                                   0
              DARA Filler DHM and RU
                                   1
                              DaVinci
                                   0
                                DFCS
                                  13
                                 DPW
                                   0
                                EDMS
```

5

2

eNovator

0

EP Evaluator

1

GDSN/GS1

0

Groninger

0

GS Reports

7

ideaPoint

0

IRIS

0

Knowledge Management

0

Metrics Library

0

Navigator

0

PCN/SCN

0

PEAR

0

Power BI

0

Print on Demand

0

Pulse

8

QIMS

0

Reliasoft Xfmea

0

RSLMS

14

SAS

0

TestComplete

0

TODS

0

TrendReader

3

WWLIMS

4.9 Number of Approvals, Disapprovals, and First Pass Approvals

```
      A A-FP    D
 0   26   60   24
```

4.10 Table of Deliverables by Application

	Cancellation	CII	
	0	0	0
Abbott Transfusion Medicine	0	0	0
ADD Shop Floor Paper (SFP) Report System	0	0	0
AFMS	0	0	0
Alinity S Non-LIMS spreadsheets	0	0	0
Alinity Source Verifier	0	0	0
AMM	0	0	0
AP 24 CIP	0	0	0
Apollo/PHM	0	0	0
Assay File Database	0	0	0
BioCommand Batch Control Plus	0	0	0
CMSnext	0	0	0
CMSNext	0	0	0
DARA Filler DHM and RU	0	0	0
DaVinci	0	0	0
DFCS	0	0	1
DPW	0	0	0
EDMS	0	0	0
eNovator	0	0	0
EP Evaluator	0	0	0
GDSN/GS1	0	0	0
Groninger	0	0	0
GS Reports	0	0	0
ideaPoint	0	0	0
IRIS	0	0	0
Knowledge Management	0	0	0
Metrics Library	0	0	0
Navigator	0	0	0
PCN/SCN	0	0	0
PEAR	0	0	0
Power BI	0	0	0
Print on Demand	0	0	0
Pulse	0	0	1
QIMS	0	0	0
Reliasoft Xfmea	0	0	0

```
RSLMS                                           0           0   1
SAS                                             0           0   0
TestComplete                                    0           0   0
TODS                                            0           0   0
TrendReader                                     0           0   0
WWLIMS                                          0           0   2


                                     Decommissioning Report
                                                    0
Abbott Transfusion Medicine                         0
ADD Shop Floor Paper (SFP) Report System            0
AFMS                                                0
Alinity S Non-LIMS spreadsheets                     0
Alinity Source Verifier                             0
AMM                                                 0
AP 24 CIP                                           0
Apollo/PHM                                          0
Assay File Database                                 0
BioCommand Batch Control Plus                       0
CMSnext                                             0
CMSNext                                             0
DARA Filler DHM and RU                              0
DaVinci                                             0
DFCS                                                0
DPW                                                 0
EDMS                                                0
eNovator                                            0
EP Evaluator                                        0
GDSN/GS1                                            0
Groninger                                           0
GS Reports                                          0
ideaPoint                                           0
IRIS                                                0
Knowledge Management                                0
Metrics Library                                     0
Navigator                                           0
PCN/SCN                                             0
PEAR                                                0
Power BI                                            0
Print on Demand                                     0
Pulse                                               0
QIMS                                                0
Reliasoft Xfmea                                     0
RSLMS                                               0
SAS                                                 0
TestComplete                                        0
```

```
TODS                                                    0
TrendReader                                             0
WWLIMS                                                  0


                                   Design Documentation
                                                    0
Abbott Transfusion Medicine                            0
ADD Shop Floor Paper (SFP) Report System               0
AFMS                                                   0
Alinity S Non-LIMS spreadsheets                        0
Alinity Source Verifier                                0
AMM                                                    0
AP 24 CIP                                              0
Apollo/PHM                                             0
Assay File Database                                    0
BioCommand Batch Control Plus                          0
CMSnext                                                0
CMSNext                                                0
DARA Filler DHM and RU                                 0
DaVinci                                                0
DFCS                                                   0
DPW                                                    0
EDMS                                                   0
eNovator                                               0
EP Evaluator                                           0
GDSN/GS1                                               0
Groninger                                              0
GS Reports                                             0
ideaPoint                                              0
IRIS                                                   0
Knowledge Management                                   0
Metrics Library                                        0
Navigator                                              0
PCN/SCN                                                0
PEAR                                                   0
Power BI                                               0
Print on Demand                                        0
Pulse                                                  0
QIMS                                                   0
Reliasoft Xfmea                                        0
RSLMS                                                  0
SAS                                                    0
TestComplete                                           0
TODS                                                   0
TrendReader                                            0
WWLIMS                                                 0
```

	Design Verification	ERES	FRS	IDP
	0	0	0	0
Abbott Transfusion Medicine	0	0	0	0
ADD Shop Floor Paper (SFP) Report System	0	0	0	0
AFMS	0	0	0	0
Alinity S Non-LIMS spreadsheets	0	0	0	0
Alinity Source Verifier	0	0	0	0
AMM	0	0	0	0
AP 24 CIP	0	0	0	0
Apollo/PHM	0	0	1	0
Assay File Database	0	0	0	0
BioCommand Batch Control Plus	0	0	0	0
CMSnext	0	0	0	0
CMSNext	0	0	0	0
DARA Filler DHM and RU	0	0	0	0
DaVinci	0	0	0	0
DFCS	2	0	0	0
DPW	0	0	0	0
EDMS	0	0	0	0
eNovator	0	0	0	0
EP Evaluator	0	0	0	0
GDSN/GS1	0	0	0	0
Groninger	0	0	0	0
GS Reports	0	0	0	0
ideaPoint	0	0	0	0
IRIS	0	0	0	0
Knowledge Management	0	0	0	0
Metrics Library	0	0	0	0
Navigator	0	0	0	0
PCN/SCN	0	0	0	0
PEAR	0	0	0	0
Power BI	0	0	0	0
Print on Demand	0	0	0	0
Pulse	1	0	0	0
QIMS	0	0	0	0
Reliasoft Xfmea	0	0	0	0
RSLMS	1	0	1	0
SAS	0	0	0	0
TestComplete	0	0	0	0
TODS	0	0	0	0
TrendReader	0	0	0	0
WWLIMS	0	1	0	1

IIVP	IIVP results	IIVP Results	ISSD
0	0	0	0

Abbott Transfusion Medicine	0	0	0	0
ADD Shop Floor Paper (SFP) Report System	1	1	0	0
AFMS	0	0	0	0
Alinity S Non-LIMS spreadsheets	0	0	0	0
Alinity Source Verifier	0	0	0	0
AMM	0	0	0	0
AP 24 CIP	0	0	0	0
Apollo/PHM	0	0	0	0
Assay File Database	0	0	0	0
BioCommand Batch Control Plus	0	0	0	0
CMSnext	0	0	0	0
CMSNext	0	0	0	0
DARA Filler DHM and RU	0	1	0	0
DaVinci	0	0	0	0
DFCS	1	1	0	0
DPW	0	0	0	0
EDMS	0	0	0	0
eNovator	0	0	0	0
EP Evaluator	0	0	0	0
GDSN/GS1	0	0	0	0
Groninger	0	0	0	0
GS Reports	0	0	0	0
ideaPoint	0	0	0	0
IRIS	0	0	0	0
Knowledge Management	0	0	0	0
Metrics Library	0	0	0	0
Navigator	0	0	0	0
PCN/SCN	0	0	0	0
PEAR	0	0	0	0
Power BI	0	0	0	0
Print on Demand	0	0	0	0
Pulse	0	2	0	0
QIMS	0	0	0	0
Reliasoft Xfmea	0	0	0	0
RSLMS	1	1	0	0
SAS	0	0	0	0
TestComplete	0	0	0	0
TODS	0	0	0	0
TrendReader	0	0	0	0
WWLIMS	0	10	0	0

	Maintenance Plan	Move to Production
	0	0
Abbott Transfusion Medicine	0	0
ADD Shop Floor Paper (SFP) Report System	0	0
AFMS	0	0

Alinity S Non-LIMS spreadsheets	0	0
Alinity Source Verifier	0	0
AMM	0	0
AP 24 CIP	0	0
Apollo/PHM	0	0
Assay File Database	0	0
BioCommand Batch Control Plus	0	0
CMSnext	0	0
CMSNext	0	0
DARA Filler DHM and RU	0	0
DaVinci	0	0
DFCS	0	0
DPW	0	0
EDMS	0	0
eNovator	0	0
EP Evaluator	0	0
GDSN/GS1	0	0
Groninger	0	0
GS Reports	0	3
ideaPoint	0	0
IRIS	0	0
Knowledge Management	0	0
Metrics Library	0	0
Navigator	0	0
PCN/SCN	0	0
PEAR	0	0
Power BI	0	0
Print on Demand	0	0
Pulse	0	0
QIMS	0	0
Reliasoft Xfmea	0	0
RSLMS	0	0
SAS	0	0
TestComplete	0	0
TODS	0	0
TrendReader	0	0
WWLIMS	0	0

	Other	Project Plan	Release Notes
	0	0	0
Abbott Transfusion Medicine	0	0	0
ADD Shop Floor Paper (SFP) Report System	0	0	0
AFMS	0	0	0
Alinity S Non-LIMS spreadsheets	0	0	0
Alinity Source Verifier	0	0	0
AMM	0	0	0

AP 24 CIP	0	0	0
Apollo/PHM	0	0	0
Assay File Database	0	0	0
BioCommand Batch Control Plus	0	0	0
CMSnext	0	0	0
CMSNext	0	0	0
DARA Filler DHM and RU	0	0	0
DaVinci	0	0	0
DFCS	0	0	0
DPW	0	0	0
EDMS	0	0	0
eNovator	0	0	0
EP Evaluator	0	0	0
GDSN/GS1	0	0	0
Groninger	0	0	0
GS Reports	0	4	0
ideaPoint	0	0	0
IRIS	0	0	0
Knowledge Management	0	0	0
Metrics Library	0	0	0
Navigator	0	0	0
PCN/SCN	0	0	0
PEAR	0	0	0
Power BI	0	0	0
Print on Demand	0	0	0
Pulse	0	0	0
QIMS	0	0	0
Reliasoft Xfmea	0	0	0
RSLMS	0	0	0
SAS	0	0	0
TestComplete	0	0	0
TODS	0	0	0
TrendReader	0	0	1
WWLIMS	0	0	0

	Risk Assessment
	0
Abbott Transfusion Medicine	0
ADD Shop Floor Paper (SFP) Report System	0
AFMS	0
Alinity S Non-LIMS spreadsheets	0
Alinity Source Verifier	0
AMM	0
AP 24 CIP	0
Apollo/PHM	0
Assay File Database	0

BioCommand Batch Control Plus	0
CMSnext	0
CMSNext	0
DARA Filler DHM and RU	0
DaVinci	0
DFCS	0
DPW	0
EDMS	0
eNovator	0
EP Evaluator	0
GDSN/GS1	0
Groninger	0
GS Reports	0
ideaPoint	0
IRIS	0
Knowledge Management	0
Metrics Library	0
Navigator	0
PCN/SCN	0
PEAR	0
Power BI	0
Print on Demand	0
Pulse	0
QIMS	0
Reliasoft Xfmea	0
RSLMS	0
SAS	0
TestComplete	0
TODS	0
TrendReader	0
WWLIMS	0

	Software Change Request
	0
Abbott Transfusion Medicine	0
ADD Shop Floor Paper (SFP) Report System	0
AFMS	0
Alinity S Non-LIMS spreadsheets	0
Alinity Source Verifier	0
AMM	0
AP 24 CIP	0
Apollo/PHM	1
Assay File Database	0
BioCommand Batch Control Plus	0
CMSnext	0
CMSNext	0

DARA Filler DHM and RU	0
DaVinci	0
DFCS	0
DPW	0
EDMS	1
eNovator	0
EP Evaluator	0
GDSN/GS1	0
Groninger	0
GS Reports	0
ideaPoint	0
IRIS	0
Knowledge Management	0
Metrics Library	0
Navigator	0
PCN/SCN	0
PEAR	0
Power BI	0
Print on Demand	0
Pulse	0
QIMS	0
Reliasoft Xfmea	0
RSLMS	1
SAS	0
TestComplete	0
TODS	0
TrendReader	0
WWLIMS	1

	Software Compliance Assessment
	0
Abbott Transfusion Medicine	0
ADD Shop Floor Paper (SFP) Report System	0
AFMS	0
Alinity S Non-LIMS spreadsheets	0
Alinity Source Verifier	0
AMM	0
AP 24 CIP	0
Apollo/PHM	1
Assay File Database	0
BioCommand Batch Control Plus	0
CMSnext	0
CMSNext	0
DARA Filler DHM and RU	0
DaVinci	0
DFCS	1

DPW	0
EDMS	1
eNovator	0
EP Evaluator	0
GDSN/GS1	0
Groninger	0
GS Reports	0
ideaPoint	0
IRIS	0
Knowledge Management	0
Metrics Library	0
Navigator	0
PCN/SCN	0
PEAR	0
Power BI	0
Print on Demand	0
Pulse	1
QIMS	0
Reliasoft Xfmea	0
RSLMS	0
SAS	0
TestComplete	0
TODS	0
TrendReader	0
WWLIMS	0

	System Certification Summary
	0
Abbott Transfusion Medicine	0
ADD Shop Floor Paper (SFP) Report System	0
AFMS	0
Alinity S Non-LIMS spreadsheets	0
Alinity Source Verifier	0
AMM	0
AP 24 CIP	0
Apollo/PHM	0
Assay File Database	0
BioCommand Batch Control Plus	0
CMSnext	0
CMSNext	0
DARA Filler DHM and RU	0
DaVinci	0
DFCS	0
DPW	0
EDMS	0
eNovator	0

EP Evaluator	1
GDSN/GS1	0
Groninger	0
GS Reports	0
ideaPoint	0
IRIS	0
Knowledge Management	0
Metrics Library	0
Navigator	0
PCN/SCN	0
PEAR	0
Power BI	0
Print on Demand	0
Pulse	1
QIMS	0
Reliasoft Xfmea	0
RSLMS	1
SAS	0
TestComplete	0
TODS	0
TrendReader	1
WWLIMS	1

	Test Protocol	Test Protocol Results
	0	0
Abbott Transfusion Medicine	0	0
ADD Shop Floor Paper (SFP) Report System	0	0
AFMS	0	0
Alinity S Non-LIMS spreadsheets	0	0
Alinity Source Verifier	0	0
AMM	0	0
AP 24 CIP	0	0
Apollo/PHM	0	0
Assay File Database	0	0
BioCommand Batch Control Plus	0	0
CMSnext	0	0
CMSNext	0	0
DARA Filler DHM and RU	0	0
DaVinci	0	0
DFCS	4	3
DPW	0	0
EDMS	0	0
eNovator	0	0
EP Evaluator	0	0
GDSN/GS1	0	0
Groninger	0	0

GS Reports	0	0
ideaPoint	0	0
IRIS	0	0
Knowledge Management	0	0
Metrics Library	0	0
Navigator	0	0
PCN/SCN	0	0
PEAR	0	0
Power BI	0	0
Print on Demand	0	0
Pulse	0	1
QIMS	0	0
Reliasoft Xfmea	0	0
RSLMS	2	2
SAS	0	0
TestComplete	0	0
TODS	0	0
TrendReader	0	0
WWLIMS	0	6

	Traceability	URS	URS/FRS
	0	0	0
Abbott Transfusion Medicine	0	0	0
ADD Shop Floor Paper (SFP) Report System	0	0	0
AFMS	0	0	0
Alinity S Non-LIMS spreadsheets	0	0	0
Alinity Source Verifier	0	0	0
AMM	0	0	0
AP 24 CIP	0	0	0
Apollo/PHM	0	1	0
Assay File Database	0	0	0
BioCommand Batch Control Plus	0	0	0
CMSnext	0	0	0
CMSNext	0	0	0
DARA Filler DHM and RU	0	0	0
DaVinci	0	0	0
DFCS	0	0	0
DPW	0	0	0
EDMS	0	0	0
eNovator	0	0	0
EP Evaluator	0	0	0
GDSN/GS1	0	0	0
Groninger	0	0	0
GS Reports	0	0	0
ideaPoint	0	0	0
IRIS	0	0	0

Knowledge Management	0	0	0
Metrics Library	0	0	0
Navigator	0	0	0
PCN/SCN	0	0	0
PEAR	0	0	0
Power BI	0	0	0
Print on Demand	0	0	0
Pulse	1	0	0
QIMS	0	0	0
Reliasoft Xfmea	0	0	0
RSLMS	2	1	0
SAS	0	0	0
TestComplete	0	0	0
TODS	0	0	0
TrendReader	1	0	0
WWLIMS	3	0	0

	User Acceptance Protocol
	0
Abbott Transfusion Medicine	0
ADD Shop Floor Paper (SFP) Report System	0
AFMS	0
Alinity S Non-LIMS spreadsheets	0
Alinity Source Verifier	0
AMM	0
AP 24 CIP	0
Apollo/PHM	0
Assay File Database	0
BioCommand Batch Control Plus	0
CMSnext	0
CMSNext	0
DARA Filler DHM and RU	0
DaVinci	0
DFCS	0
DPW	0
EDMS	0
eNovator	0
EP Evaluator	0
GDSN/GS1	0
Groninger	0
GS Reports	0
ideaPoint	0
IRIS	0
Knowledge Management	0
Metrics Library	0
Navigator	0

PCN/SCN	0
PEAR	0
Power BI	0
Print on Demand	0
Pulse	0
QIMS	0
Reliasoft Xfmea	0
RSLMS	0
SAS	0
TestComplete	0
TODS	0
TrendReader	0
WWLIMS	0

	User Acceptance Protocol results
	0
Abbott Transfusion Medicine	0
ADD Shop Floor Paper (SFP) Report System	0
AFMS	0
Alinity S Non-LIMS spreadsheets	0
Alinity Source Verifier	0
AMM	0
AP 24 CIP	0
Apollo/PHM	0
Assay File Database	0
BioCommand Batch Control Plus	0
CMSnext	0
CMSNext	0
DARA Filler DHM and RU	0
DaVinci	0
DFCS	0
DPW	0
EDMS	0
eNovator	0
EP Evaluator	0
GDSN/GS1	0
Groninger	0
GS Reports	0
ideaPoint	0
IRIS	0
Knowledge Management	0
Metrics Library	0
Navigator	0
PCN/SCN	0
PEAR	0
Power BI	0

```
Print on Demand                                              0
Pulse                                                        0
QIMS                                                         0
Reliasoft Xfmea                                              0
RSLMS                                                        0
SAS                                                          0
TestComplete                                                 0
TODS                                                         0
TrendReader                                                  0
WWLIMS                                                       1
```

	Validation Plan
	0
Abbott Transfusion Medicine	0
ADD Shop Floor Paper (SFP) Report System	0
AFMS	0
Alinity S Non-LIMS spreadsheets	0
Alinity Source Verifier	0
AMM	0
AP 24 CIP	0
Apollo/PHM	0
Assay File Database	0
BioCommand Batch Control Plus	0
CMSnext	0
CMSNext	0
DARA Filler DHM and RU	0
DaVinci	0
DFCS	0
DPW	0
EDMS	0
eNovator	0
EP Evaluator	0
GDSN/GS1	0
Groninger	0
GS Reports	0
ideaPoint	0
IRIS	0
Knowledge Management	0
Metrics Library	0
Navigator	0
PCN/SCN	0
PEAR	0
Power BI	0
Print on Demand	0
Pulse	0
QIMS	0

```
   Reliasoft Xfmea                                          0
   RSLMS                                                    0
   SAS                                                      0
   TestComplete                                             0
   TODS                                                     0
   TrendReader                                              0
   WWLIMS                                                   0
```

4.11   Table of Rejection Reasons

```
                  Inaccurate information                        Incorrect scope
                                     23                                       0
                   Insufficient testing             Insufficient traceability
                                      0                                       0
                                    N/A         Not compliant with procedure
                                      0                                       0
Not following configuration management Not following document version control
                                      0                                       0
                     Not using template                                  Other
                                      0                                       1
                 Requirement deficiency
                                      0
```

4.12   Defects Verses Application

```
            Inaccurate information Incorrect scope Insufficient testing
Apollo/PHM                       8               0                    0
DFCS                             3               0                    0
Pulse                            3               0                    0
RSLMS                            5               0                    0
TrendReader                      0               0                    0
WWLIMS                           4               0                    0


            Insufficient traceability N/A Not compliant with procedure
Apollo/PHM                          0   0                            0
DFCS                                0   0                            0
Pulse                               0   0                            0
RSLMS                               0   0                            0
TrendReader                         0   0                            0
WWLIMS                              0   0                            0


            Not following configuration management
Apollo/PHM                                       0
DFCS                                             0
Pulse                                            0
RSLMS                                            0
```

```
TrendReader                                         0
WWLIMS                                              0

            Not following document version control Not using template Other
Apollo/PHM                                        0                  0     0
DFCS                                              0                  0     0
Pulse                                             0                  0     0
RSLMS                                             0                  0     0
TrendReader                                       0                  0     1
WWLIMS                                            0                  0     0

            Requirement deficiency
Apollo/PHM                       0
DFCS                             0
Pulse                            0
RSLMS                            0
TrendReader                      0
WWLIMS                           0
```

4.13 Defects Verses Deliverable

```
> table(as.character(subset(FPA, subset = (status == "D"))$deliverable),
+       subset(FPA, subset = (status == "D"))$reason)

                               Inaccurate information Incorrect scope
Design Verification                                 2               0
FRS                                                 1               0
IIVP results                                        2               0
Software Change Request                             3               0
Software Compliance Assessment                      1               0
System Certification Summary                        3               0
Test Protocol Results                               4               0
Traceability                                        4               0
URS                                                 3               0

                               Insufficient testing Insufficient traceability
Design Verification                               0                          0
FRS                                               0                          0
IIVP results                                      0                          0
Software Change Request                           0                          0
Software Compliance Assessment                    0                          0
System Certification Summary                      0                          0
Test Protocol Results                             0                          0
Traceability                                      0                          0
URS                                               0                          0
```

```
                                    N/A Not compliant with procedure
Design Verification                  0                              0
FRS                                  0                              0
IIVP results                         0                              0
Software Change Request              0                              0
Software Compliance Assessment       0                              0
System Certification Summary         0                              0
Test Protocol Results                0                              0
Traceability                         0                              0
URS                                  0                              0


                                    Not following configuration management
Design Verification                                                 0
FRS                                                                 0
IIVP results                                                        0
Software Change Request                                             0
Software Compliance Assessment                                      0
System Certification Summary                                        0
Test Protocol Results                                               0
Traceability                                                        0
URS                                                                 0


                                    Not following document version control
Design Verification                                                 0
FRS                                                                 0
IIVP results                                                        0
Software Change Request                                             0
Software Compliance Assessment                                      0
System Certification Summary                                        0
Test Protocol Results                                               0
Traceability                                                        0
URS                                                                 0


                                    Not using template Other
Design Verification                              0     0
FRS                                              0     0
IIVP results                                     0     0
Software Change Request                          0     0
Software Compliance Assessment                   0     0
System Certification Summary                     0     1
Test Protocol Results                            0     0
Traceability                                     0     0
URS                                              0     0


                                    Requirement deficiency
Design Verification                              0
```

```
FRS                               0
IIVP results                      0
Software Change Request           0
Software Compliance Assessment    0
System Certification Summary      0
Test Protocol Results             0
Traceability                      0
URS                               0
```

4.14   Rejection Reason by Deliverable

```
        Design Verification                           FRS
                          2                             1
               IIVP results      Software Change Request
                          2                             3
Software Compliance Assessment  System Certification Summary
                          1                             4
         Test Protocol Results                 Traceability
                          4                             4
                        URS
                          3
```

4.15   Number of Rejections by Project

Apollo/PHM	DFCS	Pulse	RSLMS	TrendReader	WWLIMS
8	3	3	5	1	4

5   Rate Metrics

5.1   Document Approval Rate

This is portion of documents that are approved upon review.

It is computed by counting the number of approvals devided that by the total number of reviews.

```
[1] 0.7818182
```

5.2   First Pass Acceptance

this is the portion of documents that are approved on the first review conducted by SQA.

It is computed by counting the number of first pass approvals devided by the number of reviews.

```
[1] 0.5454545
```