

# SQA Metric Items From FPA Spreadsheet - March 2018

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## Abstract

Evaluation of various potential metrics, performance indicators from the Excel workbook that Software Quality Assurance collected called First Pass Acceptance. This will only be run for the month of January 2018. <sup>1</sup>

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<sup>1</sup>Date Ran: Tuesday 1<sup>st</sup> May, 2018 at 08:24

# 1 Introduction

The data is processed using R<sup>2</sup>, Version 3.4.4 named “Some to Lean On”. The only extension (package or library) utilized is lubridate (version 1.7.1) 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 L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> a typesetting program to produce a PDF file. L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> is implmented in MiT<sub>E</sub>X. L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> is utilizing the folowing packages to control style and formating:

- datetime and
- multtoc

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 implmented graphs of the trends will also be added.

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<sup>2</sup>RStudio is utilized as an IDE

## 4 Quantity Metrics

### 4.1 Application supported

This is a list of all application support this period.

**Note:** Alphabetize the list

[1]	"Assay File Database"	"EDMS"	"IRIS"
[4]	"Power BI"	"GS Reports"	"SAS"
[7]	"TrendReader"	"Pulse"	"PEAR"
[10]	"CMSNext"	"AMM"	"Knowledge Management"
[13]	"TestComplete"	"DFCS"	"GDSN/GS1"
[16]	"Print on Demand"	"EP Evaluator"	

### 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 period.

[1] 42

### 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] 163

### 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 certain items having no way to discriminate between such as multiple executions of the same test script or results from an IIVP run on different computers within the same project.

[1] 125

### 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] 15

## 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] 12

## 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
4		1
Design Documentation		Design Verification
0		4
ERES		FRS
1		7
IDP		IIVP
1		5
IIVP results		ISSD
6		1
Maintenance Plan		Move to Production
5		10
Other		Project Plan
0		10
Release Notes		Risk Assessment
0		1
Software Change Request	Software Compliance Assessment	
12		5
System Certification Summary		Test Protocol
4		29
Test Protocol Results		Traceability
9		4
URS		URS/FRS
3		1
User Acceptance Protocol	User Acceptance Protocol results	
0		0
Validation Plan		
2		

## 4.8 Number of Deliverable by Application

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

	Abbott Transfusion Medicine	
0		0
AFMS	Alinity Source Verifier	
0		0
AMM	Apollo/PHM	
1		0
Assay File Database	BioCommand Batch Control Plus	
3		0
CMSNext	DARA Filler DHM and RU	
1		0
DaVinci	DFCS	
0		14
DPW	EDMS	
0		7
eNovator	EP Evaluator	
0		1
GDSN/GS1	Groninger	
4		0
GS Reports	ideaPoint	
19		0
IRIS	Knowledge Management	
39		15
Metrics Library	Navigator	
0		0
PCN/SCN	PEAR	
0		1
Power BI	Print on Demand	
1		1
Pulse	QIMS	
13		0
Reliasoft Xfmea	SAS	
0		3
TestComplete	TODS	
1		0
TrendReader	WWLIMS	
1		0

## 4.9 Number of Approvals, Disapprovals, and First Pass Approvals

	A	A-FP	D
0	40	76	47

#### 4.10 Table of Deliverables by Application

	Cancellation	CII	Decommissioning	Report
	0	0	0	0
Abbott Transfusion Medicine	0	0	0	0
AFMS	0	0	0	0
Alinity Source Verifier	0	0	0	0
AMM	0	0	0	1
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
DARA Filler DHM and RU	0	0	0	0
DaVinci	0	0	0	0
DFCS	0	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	2	0
Knowledge Management	0	0	1	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	0	1	0
QIMS	0	0	0	0
Reliasoft Xfmea	0	0	0	0
SAS	0	0	0	0
TestComplete	0	0	0	0
TODS	0	0	0	0
TrendReader	0	0	0	0
WVLIMS	0	0	0	0
	Design Documentation	Design Verification	ERES	
		0	0	0
Abbott Transfusion Medicine		0	0	0
AFMS		0	0	0
Alinity Source Verifier		0	0	0
AMM		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
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	3	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	1	0
QIMS	0	0	0
Reliasoft Xfmea	0	0	0
SAS	0	0	0
TestComplete	0	0	0
TODS	0	0	0
TrendReader	0	0	0
WVLIMS	0	0	0

	FRS	IDP	IIVP	IIVP	results	ISSD	Maintenance Plan
	0	0	0		0	0	0
Abbott Transfusion Medicine	0	0	0		0	0	0
AFMS	0	0	0		0	0	0
Alinity Source Verifier	0	0	0		0	0	0
AMM	0	0	0		0	0	0
Apollo/PHM	0	0	0		0	0	0
Assay File Database	0	0	0		0	0	1
BioCommand Batch Control Plus	0	0	0		0	0	0
CMSNext	0	0	0		0	0	0
DARA Filler DHM and RU	0	0	0		0	0	0
DaVinci	0	0	0		0	0	0
DFCS	1	1	0		0	0	1
DPW	0	0	0		0	0	0

EDMS	0	0	1	2	0	0
eNovator	0	0	0	0	0	0
EP Evaluator	0	0	0	0	0	0
GDSN/GS1	0	0	0	0	0	0
Groninger	0	0	0	0	0	0
GS Reports	0	0	0	0	0	0
ideaPoint	0	0	0	0	0	0
IRIS	3	0	2	2	1	2
Knowledge Management	2	0	1	0	0	0
Metrics Library	0	0	0	0	0	0
Navigator	0	0	0	0	0	0
PCN/SCN	0	0	0	0	0	0
PEAR	0	0	0	1	0	0
Power BI	0	0	0	0	0	0
Print on Demand	0	0	0	1	0	0
Pulse	1	0	1	0	0	1
QIMS	0	0	0	0	0	0
Reliasoft Xfmea	0	0	0	0	0	0
SAS	0	0	0	0	0	0
TestComplete	0	0	0	0	0	0
TODS	0	0	0	0	0	0
TrendReader	0	0	0	0	0	0
WWLIMS	0	0	0	0	0	0

	Move to Production	Other Project Plan	
	0	0	0
Abbott Transfusion Medicine	0	0	0
AFMS	0	0	0
Alinity Source Verifier	0	0	0
AMM	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
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	10	0	9
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
SAS	0	0	0
TestComplete	0	0	0
TODS	0	0	0
TrendReader	0	0	0
WVLIMS	0	0	0

	Release Notes	Risk Assessment
	0	0
Abbott Transfusion Medicine	0	0
AFMS	0	0
Alinity Source Verifier	0	0
AMM	0	0
Apollo/PHM	0	0
Assay File Database	0	0
BioCommand Batch Control Plus	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	0
ideaPoint	0	0
IRIS	0	1
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
SAS	0	0
TestComplete	0	0
TODS	0	0
TrendReader	0	0
WVLIMS	0	0

#### Software Change Request

	0
Abbott Transfusion Medicine	0
AFMS	0
Alinity Source Verifier	0
AMM	0
Apollo/PHM	0
Assay File Database	0
BioCommand Batch Control Plus	0
CMSNext	1
DARA Filler DHM and RU	0
DaVinci	0
DFCS	3
DPW	0
EDMS	0
eNovator	0
EP Evaluator	1
GDSN/GS1	1
Groninger	0
GS Reports	0
ideaPoint	0
IRIS	2
Knowledge Management	1
Metrics Library	0
Navigator	0
PCN/SCN	0
PEAR	0
Power BI	0
Print on Demand	0
Pulse	1
QIMS	0
Reliasoft Xfmea	0
SAS	2
TestComplete	0
TODS	0
TrendReader	0
WVLIMS	0

Software Compliance Assessment	
Abbott Transfusion Medicine	0
AFMS	0
Alinity Source Verifier	0
AMM	0
Apollo/PHM	0
Assay File Database	0
BioCommand Batch Control Plus	0
CMSNext	0
DARA Filler DHM and RU	0
DaVinci	0
DFCS	1
DPW	0
EDMS	0
eNovator	0
EP Evaluator	0
GDSN/GS1	3
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
SAS	0
TestComplete	1
TODS	0
TrendReader	0
WVLIMS	0

System Certification Summary Test Protocol		
Abbott Transfusion Medicine	0	0
AFMS	0	0
Alinity Source Verifier	0	0
AMM	0	0
Apollo/PHM	0	0
Assay File Database	1	0

BioCommand Batch Control Plus	0	0
CMSNext	0	0
DARA Filler DHM and RU	0	0
DaVinci	0	0
DFCS	0	0
DPW	0	0
EDMS	1	1
eNovator	0	0
EP Evaluator	0	0
GDSN/GS1	0	0
Groninger	0	0
GS Reports	0	0
ideaPoint	0	0
IRIS	1	14
Knowledge Management	0	9
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	5
QIMS	0	0
Reliasoft Xfmea	0	0
SAS	1	0
TestComplete	0	0
TODS	0	0
TrendReader	0	0
WVLIMS	0	0

	Test Protocol Results	Traceability	URS	URS/FRS
	0	0	0	0
Abbott Transfusion Medicine	0	0	0	0
AFMS	0	0	0	0
Alinity Source Verifier	0	0	0	0
AMM	0	0	0	0
Apollo/PHM	0	0	0	0
Assay File Database	0	1	0	0
BioCommand Batch Control Plus	0	0	0	0
CMSNext	0	0	0	0
DARA Filler DHM and RU	0	0	0	0
DaVinci	0	0	0	0
DFCS	0	1	2	0
DPW	0	0	0	0
EDMS	2	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	5	0	0	1
Knowledge Management	0	0	1	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	1	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
SAS	0	0	0	0
TestComplete	0	0	0	0
TODS	0	0	0	0
TrendReader	1	0	0	0
WVLIMS	0	0	0	0

#### User Acceptance Protocol

	0
Abbott Transfusion Medicine	0
AFMS	0
Alinity Source Verifier	0
AMM	0
Apollo/PHM	0
Assay File Database	0
BioCommand Batch Control Plus	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
SAS	0
TestComplete	0
TODS	0
TrendReader	0
WVLIMS	0

User Acceptance Protocol results

	0
Abbott Transfusion Medicine	0
AFMS	0
Alinity Source Verifier	0
AMM	0
Apollo/PHM	0
Assay File Database	0
BioCommand Batch Control Plus	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

SAS	0
TestComplete	0
TODS	0
TrendReader	0
WVLIMS	0

	Validation Plan
	0
Abbott Transfusion Medicine	0
AFMS	0
Alinity Source Verifier	0
AMM	0
Apollo/PHM	0
Assay File Database	0
BioCommand Batch Control Plus	0
CMSNext	0
DARA Filler DHM and RU	0
DaVinci	0
DFCS	2
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
SAS	0
TestComplete	0
TODS	0
TrendReader	0
WVLIMS	0

#### 4.11 Table of Rejection Reasons

Inaccurate information	36	Incorrect scope	0
Insufficient testing	0	Insufficient traceability	0
N/A	2	Not compliant with procedure	3
Not following document version control	2	Not using template	0
Other	2	Requirement deficiency	0

#### 4.12 Defects Verses Application

	Inaccurate information	Incorrect scope	
Assay File Database	2	0	
CMSNext	2	0	
DFCS	10	0	
EP Evaluator	1	0	
GDSN/GS1	1	0	
IRIS	13	0	
Knowledge Management	1	0	
Pulse	4	0	
SAS	1	0	
TestComplete	1	0	
	Insufficient testing	Insufficient traceability	N/A
Assay File Database	0	0	0
CMSNext	0	0	1
DFCS	0	0	0
EP Evaluator	0	0	0
GDSN/GS1	0	0	0
IRIS	0	0	0
Knowledge Management	0	0	1
Pulse	0	0	0
SAS	0	0	0
TestComplete	0	0	0
	Not compliant with procedure		
Assay File Database	0		
CMSNext	0		
DFCS	0		
EP Evaluator	0		
GDSN/GS1	0		
IRIS	3		



Knowledge Management	0
Pulse	0
SAS	0
TestComplete	0

Not following document version control	
Assay File Database	0
CMSNext	0
DFCS	0
EP Evaluator	0
GDSN/GS1	0
IRIS	0
Knowledge Management	2
Pulse	0
SAS	0
TestComplete	0

Not using template Other Requirement deficiency			
Assay File Database	0	0	0
CMSNext	0	0	0
DFCS	0	0	0
EP Evaluator	0	0	0
GDSN/GS1	0	1	0
IRIS	0	0	0
Knowledge Management	0	1	0
Pulse	0	0	0
SAS	0	0	0
TestComplete	0	0	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	0	0
FRS	3	0
IDP	1	0
Maintenance Plan	4	0
Project Plan	1	0
Software Change Request	11	0
Software Compliance Assessment	2	0
System Certification Summary	1	0
Test Protocol	9	0
Test Protocol Results	1	0
URS	0	0

Validation Plan	3	0
	Insufficient testing	Insufficient traceability
Design Verification	0	0
FRS	0	0
IDP	0	0
Maintenance Plan	0	0
Project Plan	0	0
Software Change Request	0	0
Software Compliance Assessment	0	0
System Certification Summary	0	0
Test Protocol	0	0
Test Protocol Results	0	0
URS	0	0
Validation Plan	0	0
	N/A	Not compliant with procedure
Design Verification	0	3
FRS	1	0
IDP	0	0
Maintenance Plan	0	0
Project Plan	0	0
Software Change Request	1	0
Software Compliance Assessment	0	0
System Certification Summary	0	0
Test Protocol	0	0
Test Protocol Results	0	0
URS	0	0
Validation Plan	0	0
	Not following document version control	
Design Verification		0
FRS		1
IDP		0
Maintenance Plan		0
Project Plan		0
Software Change Request		0
Software Compliance Assessment		0
System Certification Summary		0
Test Protocol		0
Test Protocol Results		0
URS		1
Validation Plan		0
	Not using template	Other
Design Verification	0	0

FRS	0	0
IDP	0	0
Maintenance Plan	0	0
Project Plan	0	0
Software Change Request	0	2
Software Compliance Assessment	0	0
System Certification Summary	0	0
Test Protocol	0	0
Test Protocol Results	0	0
URS	0	0
Validation Plan	0	0

	Requirement deficiency	
Design Verification	0	
FRS	0	
IDP	0	
Maintenance Plan	0	
Project Plan	0	
Software Change Request	0	
Software Compliance Assessment	0	
System Certification Summary	0	
Test Protocol	0	
Test Protocol Results	0	
URS	0	
Validation Plan	0	

#### 4.14 Rejection Reason by Deliverable

Design Verification	FRS
3	5
IDP	Maintenance Plan
1	4
Project Plan	Software Change Request
1	14
Software Compliance Assessment	System Certification Summary
2	1
Test Protocol	Test Protocol Results
11	1
URS	Validation Plan
1	3

#### 4.15 Number of Rejections by Project

Assay File Database	CMSNext	DFCS
2	3	10
EP Evaluator	GDSN/GS1	IRIS

	1	2	16
Knowledge Management		Pulse	SAS
	7	4	1
TestComplete			
	1		

## 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 divided that by the total number of reviews.

[1] 0.7055215

### 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 divided by the number of reviews.

[1] 0.4662577