ICON Plc

CDMS FTE Computations in PRISM

**Design Document**

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# Revision History

|  |  |  |  |
| --- | --- | --- | --- |
| Date | Revision | Change | Authors |
| 19-Mar-2018 | 0 | Initial Version | Sathyamurthy / Patrick |
| 25-Apri-2018 | 1 | Corrections based on Shanmugam’s response | Sathyamurthy / Patrick |

# Scope:

The document describes the Computation Algorithm to be implemented in PRISM Application for the purpose CDMS FTE Computations.

**Required Reviewers**

1. Muthaiah, Shanmugam

# Computation Algorithms

The following pages describe the methods we wish to follow for implementing the Computation Algorithms described in the document CDMS FTE algorithm\_30Jan2018.docx provided by Shanmugam of ICON. The CDMS FTE algorithm\_30Jan2018.docx is reproduced in annexure – 1.

## Output:

The output can be obtained in Week or Month- wise Format, on Web Page and CSV File.

The inputs for the computation are:

1. Task Data described in section Input Data
2. User Inputs
   1. No of Set-Ups / Month
   2. No. of CPPCs / Month
   3. Show Output in Week or Month
3. Default Values:
   1. EditChecks = 650
   2. Unique Forms = 50

## Week-wise calculations:

Results are computed for 52 weeks, starting from current week. Current week computations start from the current date.

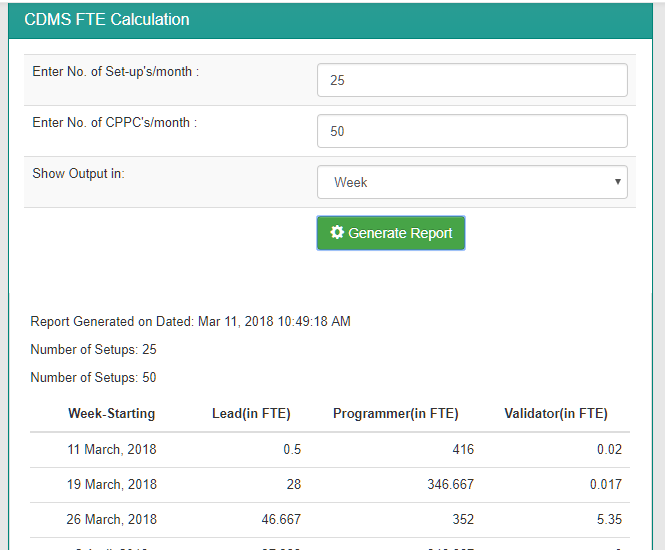
The day is referred as [Required-For-Date] in the Formulae.

Lead FTE for each week = Sum of each day’s Lead FTE, Monday to Friday. .

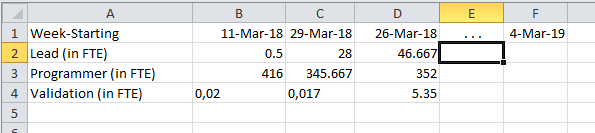
Programmer FTE for each week = Sum of each day’s Programmer FTE, Monday to Friday.

Validation FTE for each week = Sum of each day’s Validation FTE, Monday to Friday.

### Output on Web Application:



### Output in CSV Format:



## Month-wise calculations:

Results are computed for 12 months, starting from current month. Current month computations start from the current date.

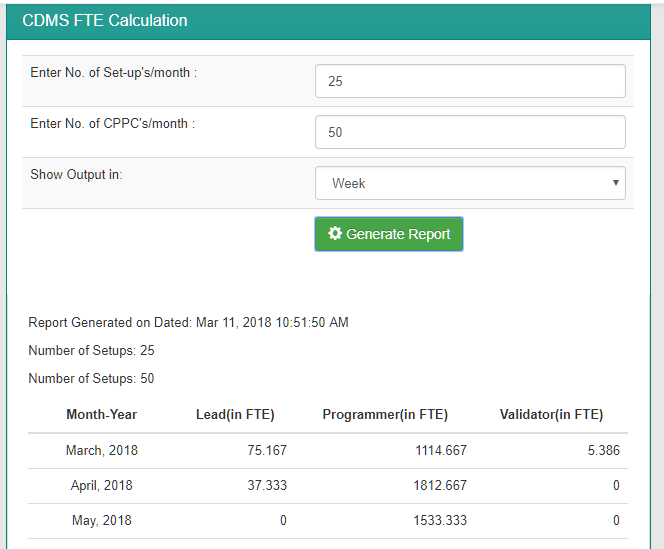
The day is referred as [Required-For-Date] in the Formulae.

Lead FTE for each month = Sum of each day’s Lead FTE, excluding Saturday and Sunday.

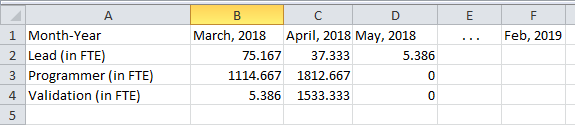
Programmer FTE for each month = Sum of each day’s Programmer FTE, excluding Saturday and Sunday.

Validation FTE for each month = Sum of each day’s Validation FTE, excluding Saturday and Sunday.

### Output on Web Application:



### Output in CSV Format:



## Input Data

### Exclusions

Cancelled or Completed tasks from CDMS Tracker are omitted.

Studies where CDMS Lead is marked “not required” on CDMS page are omitted

### Study Task Data

|  |  |  |  |
| --- | --- | --- | --- |
|  | Field Name | Data Type | Prism Application Form |
|  | ICON Number | Text |  |
|  | CPPC Number | Text |  |
|  | Is Setup | True/False |  |
|  | Actual Number of Unique CRFs | Number |  |
|  | Number of Edit Checks | Number |  |
|  | Number of Edit Checks Adjusted | Number | Computed Field |
|  | Total Unique Forms | Number |  |
|  | Time Protocol Approval Planned | Date |  |
|  | Task Started On | Date |  |
|  | Type Of Integration Used Is IxRS | True / False |  |
|  | Database Build Start Date | Date |  |
|  | Database Build Planned Completion Date |  |  |
|  | Go Live Planned Completion Date |  |  |
|  | DVS Review Start Date |  |  |
|  | DVS Review Planned Completion Date |  |  |
|  | Round1 Edit Check Programming Start Date |  |  |
|  | Round1 Edit Check Programming Planned Completion Date |  |  |
|  | Round1 Edit Check Programming Planned Completion Date |  |  |
|  | Round2 Edit Check Programming Start Date |  |  |
|  | Round2 Edit Check Programming Planned Completion Date |  |  |
|  | Internal UAT Planned Completion Date |  |  |
|  | External UAT Planned Completion Date |  |  |
|  | Test Script Date Writing Start Date |  |  |
|  | Edit Check Validation Start Date |  |  |
|  | Edit Check Validation Planned Completion Date |  |  |

### Computed Field

[Edit checks completed adjusted ]

If [Number of Edit Checks] > 0 Then [Edit checks completed adjusted] = [Number of Edit Checks]

If [Type Of Integration Used Is IxRS] in CDMS then add 35 to [Edit checks completed adjusted]

[Required-For-Date]

Types of Tasks

There are two types of Tasks, Setup and CPPC.

The Tasks used in FTE Comptations are of two types, Setup Tasks and CPPC Tasks. A study generally has one Setup Task and multiple CPPC Tasks. For the purpose of FTE Computations IsSetup field is True for Setup Tasks and False for CPPC Tasks.

## Lead FTEs

This section describes the algorithm used for computing ‘Lead FTE’ for a specific day referred in the formale as [Required For Date].

[Lead FTEs] in hours = ([Setup Effort] + [CPPC Effort] + [New Setups Effort] + [New CPPC Effort]) / 60 \* 6

Note:

Effort Calculations are in FTE

1 FTE = 6 hours.

### Setup Effort

Each Setup Task requires 1.5 Hrs for each day between the period [Start Date] and [End Date]

[SetupEffort] in minutes = 1.5 \* 60

#### Start Date

When [Task Started On] is available:

[Start Date] = [Task Started On].

When [Task Started On] is not available:

[Start Date] = [Time ProtocolApproval Planned] + 4 Business Days

#### End Date

When [Go Live Planned Completion Date] is available:

[End Date] = [Go Live Planned Completion Date]

When [Go Live Planned Completion Date] is not available:

[End Date] = [Start Date] + 60 Business Days

### CPPC Effort

Each CPPC Task requires 1.0 Hrs for each day between the period Start Date and End Date

[CPPCEffort in minutes] = 1.0 \* 60

#### Start Date

When [Task Started On] is available:

[Start Date] = [Task Started On].

When [Task Started On] is not available:

[Start Date] = [Time ProtocolApproval Planned] + 4 Business Days

#### End Date

When [Go Live Planned Completion Date] is available:

[End Date] = [Go Live Planned Completion Date]

When [Go Live Planned Completion Date] is not available:

[End Date] = [Start Date] + 60 Business Days

### New Setups Effort

[New Setups Effort] =

[No of Set-Ups / Month] \* 1.5 \* 60

Where

[Required For Date] is within the Start and End Date. The Start and End Date overlap between sets and therefore it is possible to get result of 0, 1 or 2.

[No of Set-Ups / Month] = User Input from the Application UI.

#### Start Date

[Start Date] = current date + 45 Business Days

#### End Date

[End Date] = [Start Date] + 60 Business Days

### New CPPC Effort

[New Setups Effort] =

[No.of CPPCs / Month] \* 1.0 \* 60

Where

[Required For Date] is within the Start and End Date.

[No.of CPPCs / Month] = User Input from the Application UI.

#### Start Date

[Start Date] = current date + 10 Business Days

#### End Date

[End Date] = [Start Date] + 15 Business Days

## Programmer FTEs

[Programmer FTEs] = ([Setup Effort] + [CPPC Effort] + [New Setups Effort] + [New CPPC Effort]) / 60 \* 6

[Setup Effort] =

(Setup\_DataBaseBuildEffort +

Setup\_DVSReviewEffort +

Setup\_Round1EditCheckProgrammingEffort +

Setup\_Round2EditCheckProgrammingEffort +

Setup\_InternalUATEffort +

Setup\_ExternalUATEffort)

[CPPC Effort] =

CPPC\_Round1EditCheckProgrammingEffort +

CPPC\_Round2EditCheckProgrammingEffort +

CPPC\_InternalUATEffort +

CPPC\_ExternalUATEffort )

[New Setups Effort] =

(New\_Setup\_DataBaseBuildEffort +

New\_Setup\_DVSReviewEffort +

New\_Setup\_Round1EditCheckProgrammingEffort +

New\_Setup\_Round2EditCheckProgrammingEffort +

New\_Setup\_InternalUATEffort +

New\_Setup\_ExternalUATEffort)

[New CPPCs Effort] = ( 8 \* 60 )

[New CPPCs Effort] is within the Start and End Date.

Where:

#### Start Date

[Start Date] = current date + 10 Business Days

#### End Date

[End Date] = [Start Date] + 15 Business Days

### Setup\_DataBaseBuildEffort

Your definition:

Get Actual Number of Unique CRFs from CDMS page = N or from Description -> Assumptions ( Total Unique Forms)

(N\*3 hours)/Number of days (From Database Build Start Date and Planned Completion Date)

[Setup\_DataBaseBuildEffort]= [Database Build Effort] in minutes

[Database Build Effort] for each day between the period [Start Date] and [End Date]

Where:

[Database Build Effort] =

(Actual\_Number\_of\_Unique\_CRFs \* 3 \* 60)

/ [Number of Business Days from Start Date to End Date]

#### Start Date

When [DatabaseBuild\_StartDate] is available:

[Start Date] = [DatabaseBuild\_StartDate].

When [DatabaseBuild\_StartDate] is not available:

[Start Date] = [Time ProtocolApproval Planned] + 4 Business Days

#### End Date

When [DatabaseBuild\_PlannedCompletionDate] is available:

[End Date] = [DatabaseBuild\_PlannedCompletionDate]

When [DatabaseBuild\_PlannedCompletionDate] is not available:

[End Date] = [Start Date] + 6 Business Days

### Setup\_DVSReviewEffort

Your definition:

Get Number of edit checks from CDMS Tracker = M or from Description -> Assumptions ( Total Unique Forms)

(M\*3.5 minutes)/ Duration of DVS review task (from DVS Review Start Date and DVS Review Planned Completion Date)

[Setup\_DVSReviewEffort]= [DVS Review Effort] in minutes

[DVS Review Effort] for each day between the period [Start Date] and [End Date]

Where:

[DVS Review Effort] in minutes =

(Edit\_checks\_completed \* 3.5)

/ [Number of Business Days from Start Date to End Date]

#### Start Date

When [DVSReview\_StartDate] is available:

[Start Date] = [DVSReview\_StartDate].

When [DVSReview\_StartDate] is not available:

[Start Date] = [Time ProtocolApproval Planned] + 23 Business Days

#### End Date

When [DVSReview\_PlannedCompletionDate] is available:

[End Date] = [DVSReview\_PlannedCompletionDate]

When [DVSReview\_PlannedCompletionDate] is not available:

[End Date] = [Start Date] + 3 Business Days

### Setup\_Round1EditCheckProgrammingEffort

Your definition:

Get Number of edit checks from CDMS Tracker = M or from Description -> Assumptions ( Total Unique Forms)

(M\*16 minutes)/Duration of “Round 1 Edit Check Programming”

[Setup\_Round1EditCheckProgrammingEffort] =

[Setup\_Round1EditCheckProgrammingEffort] in minutes

[Setup\_Round1EditCheckProgrammingEffort] for each day between the period [Start Date] and [End Date]

Where:

[Setup\_Round1EditCheckProgrammingEffort] in minutes =

(Edit\_checks\_completed \* 16)

/ [Number of Business Days from Start Date to End Date]

#### Start Date

When [Round1EditCheckProgramming\_StartDate] is available:

[Start Date] = [Round1EditCheckProgramming\_StartDate].

When [Round1EditCheckProgramming\_StartDate] is not available:

[Start Date] = [Time ProtocolApproval Planned] + 29 Business Days

#### End Date

When [Round1EditCheckPlannedCompletionDate] is available:

[Start Date] = [Round2EditCheckPlannedCompletionDate].

When [Round1EditCheckPlannedCompletionDate] is not available:

[Start Date] = [Start Date] + 6 Calendar Days

### Setup\_Round2EditCheckProgrammingEffort

Your definition:

Get Number of edit checks from CDMS Tracker = M or from Description -> Assumptions ( Total Unique Forms)

(M\*0.1\*16 minutes)/Duration of “Round 2 Edit Check Programming”

Setup\_Round2EditCheckProgrammingEffort = [Setup\_Round2EditCheckProgrammingEffort] in minutes

[Setup\_Round2EditCheckProgrammingEffort] for each day between the period [Start Date] and [End Date]

Where:

[Setup\_Round2EditCheckProgrammingEffort] in minutes =

(Edit\_checks\_completed \* 0.1 \* 16)

/ [Number of Business Days from Start Date to End Date]

#### Start Date

When [Round2EditCheckProgramming\_StartDate] is available:

[Start Date] = [Round2EditCheckProgramming\_StartDate].

When [Round2EditCheckProgramming\_StartDate] is not available:

[Start Date] = [Time ProtocolApproval Planned] + 39 Business Days

#### End Date

When [Round2EditCheckPlannedCompletionDate] is available:

[Start Date] = [Round2EditCheckPlannedCompletionDate]

When [Round2EditCheckPlannedCompletionDate] is not available:

[Start Date] = [Start Date] + 2 Calendar Days

### Setup\_InternalUATEffort

Your definition:

16 hours \* 2 days (starting Internal UAT Planned completion Date + 1 day)

Setup\_InternalUATEffort=

[Setup\_InternalUATEffort] in minutes

[Setup\_InternalUATEffort] for each day between the period [Start Date] + 1 day

Where:

[Setup\_InternalUATEffort] = (16 \* 60)/ 2 days (Start Date + 1 day)

#### Start Date

When [Internal UAT Planned completion Date] is available:

[Start Date] = [Internal UAT Planned completion Date] + 1 day.

When [Internal UAT Planned completion Date] is not available:

[Start Date] = [Time ProtocolApproval Planned] + 46 Business Days

### Setup\_ExternalUATEffort

Your definition:

16 hours \* 2 days (starting External UAT Planned completion Date + 1 day)

Setup\_ExternalUATEffort=

[Setup\_ExternalUATEffort] in minutes

[Setup\_ExternalUATEffort] for each day between the period [Start Date] + 1 day

Where:

[Setup\_ExternalUATEffort] = (16 \* 60)/ 2 days (Start Date + 1 day)

#### Start Date

When [External UAT Planned completion Date] is available:

[Start Date] = [Internal UAT Planned completion Date] + 1 day.

When [External UAT Planned completion Date] is not available:

[Start Date] = [Time ProtocolApproval Planned] + 51 Business Days

### CPPC\_Round1EditCheckProgrammingEffort

Your definition:

Get Number of edit checks from CDMS Tracker = M or from Description -> Assumptions ( Total Unique Forms)

(6 hours + M\*25 minutes)/Duration of “Round 1 Edit Check Programming”

[CPPC\_Round1EditCheckProgrammingEffort] =

[CPPC\_Round1EditCheckProgrammingEffort] in minutes

[CPPC\_Round1EditCheckProgrammingEffort] for each day between the period [Start Date] and [End Date]

Where:

[CPPC\_Round1EditCheckProgrammingEffort] in minutes =

(6 \* 60 + Edit\_checks\_completed \* 25)

/ [Number of Business Days from Start Date to End Date]

#### Start Date

When [Round1EditCheckProgramming\_StartDate] is available:

[Start Date] = [Round1EditCheckProgramming\_StartDate].

When [Round1EditCheckProgramming\_StartDate] is not available:

[Start Date] = [Time ProtocolApproval Planned] + 29 Business Days

#### End Date

When [Round2EditCheckPlannedCompletionDate] is available:

[Start Date] = [Round2EditCheckPlannedCompletionDate].

When [Round2EditCheckPlannedCompletionDate] is not available:

[Start Date] = [Start Date] + 6 Calendar Days

If M= 0 then M= 20 hours/[Number of Business Days from Start Date to End Date]

#### Start Date

When [DatabaseBuild\_StartDate] is available:

[Start Date] = [DatabaseBuild\_StartDate].

When [DatabaseBuild\_StartDate] is not available:

[Start Date] = [Time ProtocolApproval Planned] + 4 Business Days

#### End Date

When [DatabaseBuild\_PlannedCompletionDate] is available:

[End Date] = [DatabaseBuild\_PlannedCompletionDate]

When [DatabaseBuild\_PlannedCompletionDate] is not available:

[End Date] = [Start Date] + 6 Business Days

### CPPC\_Round2EditCheckProgrammingEffort

Your definition:

Get Number of edit checks from CDMS Tracker = M or from Description -> Assumptions ( Total Unique Forms)

(4 hours + M\*0.1\*25 minutes)Duration of “Round 2 Edit Check Programming”

CPPC\_Round2EditCheckProgrammingEffort= [CPPC\_Round2EditCheckProgrammingEffort] in minutes

[CPPC\_Round2EditCheckProgrammingEffort] for each day between the period [Start Date] and [End Date]

Where:

[CPPC\_Round2EditCheckProgrammingEffort] in minutes =

(4 \* 60 + Edit\_checks\_completed \* 0.1 \* 25)

/ [Number of Business Days from Start Date to End Date]

#### Start Date

When [Round2EditCheckProgramming\_StartDate] is available:

[Start Date] = [Round2EditCheckProgramming\_StartDate].

When [Round2EditCheckProgramming\_StartDate] is not available:

[Start Date] = [Time ProtocolApproval Planned] + 29 Business Days

#### End Date

When [Round2EditCheckPlannedCompletionDate] is available:

[Start Date] = [Round2EditCheckPlannedCompletionDate]

When [Round2EditCheckPlannedCompletionDate] is not available:

[Start Date] = [Start Date] + 2 Calendar Days

### CPPC\_InternalUATEffort

Your definition:

16 hours \* 2 days (starting Internal UAT Planned completion Date + 1 day)

CPPC\_InternalUATEffort=

[CPPC\_InternalUATEffort] in minutes

[CPPC\_InternalUATEffort] for each day between the period [Start Date] + 1 day

Where:

[CPPC\_InternalUATEffort] = (16 \* 60)/ 2 days (Start Date + 1 day)

#### Start Date

When [Internal UAT Planned completion Date] is available:

[Start Date] = [Internal UAT Planned completion Date].

When [Internal UAT Planned completion Date] is not available:

[Start Date] = [Time ProtocolApproval Planned] + 46 Business Days

### CPPC\_ExternalUATEffort

Your definition:

16 hours \* 2 days (starting External UAT Planned completion Date + 1 day)

CPPC\_ExternalUATEffort=

[CPPC\_ExternalUATEffort] in minutes

[CPPC\_ExternalUATEffort] for each day between the period [Start Date] + 1 day

Where:

[CPPC\_ExternalUATEffort] = (16 \* 60)/ 2 days (Start Date + 1 day)

#### Start Date

When [External UAT Planned completion Date] is available:

[Start Date] = [Internal UAT Planned completion Date].

When [External UAT Planned completion Date] is not available:

[Start Date] = [Time ProtocolApproval Planned] + 51 Business Days

### New\_Setup\_DataBaseBuildEffort

Your definition:

Get Actual Number of Unique CRFs from CDMS page = N = 50

(N\*3 hours)/Number of days (From Database Build Start Date and Planned Completion Date)

**[Time ProtocolApproval Planned] = current date + 41 days**

[New\_Setup\_DataBaseBuildEffort]= [Database Build Effort] in minutes

[New\_Setup\_DataBaseBuildEffort] for each day between the period [Start Date] and [End Date]

Where:

[Database Build Effort] =

(Actual\_Number\_of\_Unique\_CRFs \* 3 \* 60)

/ [Number of Business Days from Start Date to End Date]

#### Start Date

[Start Date] = [Time ProtocolApproval Planned] + 4 Business Days

#### End Date

[End Date] = [Start Date] + 6 Business Days

### New\_Setup\_DVSReviewEffort

Your definition:

Get Number of edit checks from CDMS Tracker = M =650

(M\*3.5 minutes)/ Duration of DVS review task (from DVS Review Start Date and DVS Review Planned Completion Date)

**[Time ProtocolApproval Planned] = current date + 41 days**

[New\_Setup\_DVSReviewEffort]= [DVS Review Effort] in minutes

[DVS Review Effort] for each day between the period [Start Date] and [End Date]

Where:

[DVS Review Effort] in minutes =

(Edit\_checks\_completed \* 3.5)

/ [Number of Business Days from Start Date to End Date]

#### Start Date

[Start Date] = [Time ProtocolApproval Planned] + 23 Business Days

#### End Date

[End Date] = [Start Date] + 3 Business Days

### New\_Setup\_Round1EditCheckProgrammingEffort

Your definition:

Get Number of edit checks from CDMS Tracker = M or from Description -> Assumptions ( Total Unique Forms)

(M\*16 minutes)/Duration of “Round 1 Edit Check Programming”

**[Time ProtocolApproval Planned] = current date + 41 days**

[New\_Setup\_Round1EditCheckProgrammingEffort] =

[New\_Setup\_Round1EditCheckProgrammingEffort] in minutes

[New\_Setup\_Round1EditCheckProgrammingEffort] for each day between the period [Start Date] and [End Date]

Where:

[New\_Setup\_Round1EditCheckProgrammingEffort] in minutes =

(Edit\_checks\_completed \* 16)

/ [Number of Business Days from Start Date to End Date]

#### Start Date

[Start Date] = [Time ProtocolApproval Planned] + 29 Business Days

#### End Date

[Start Date] = [Start Date] + 6 Calendar Days

### New\_Setup\_Round2EditCheckProgrammingEffort

Your definition:

Get Number of edit checks from CDMS Tracker = M or from Description -> Assumptions ( Total Unique Forms)

(M\*0.1\*16 minutes)/Duration of “Round 2 Edit Check Programming”

**[Time ProtocolApproval Planned] = current date + 41 days**

New\_Setup\_Round2EditCheckProgrammingEffort = [New\_Setup\_Round2EditCheckProgrammingEffort] in minutes

[New\_Setup\_Round2EditCheckProgrammingEffort] for each day between the period [Start Date] and [End Date]

Where:

[New\_Setup\_Round2EditCheckProgrammingEffort] in minutes =

(Edit\_checks\_completed \* 0.1 \* 16)

/ [Number of Business Days from Start Date to End Date]

#### Start Date

[Start Date] = [Time ProtocolApproval Planned] + 29 Business Days

#### End Date

[End Date] = [Start Date] + 2 Calendar Days

### New\_Setup\_InternalUATEffort

Your definition:

16 hours \* 2 days (starting Internal UAT Planned completion Date + 1 day)

**[Time ProtocolApproval Planned] = current date + 41 days**

New\_Setup\_InternalUATEffort = [New\_Setup\_InternalUATEffort] in minutes

[New\_Setup\_InternalUATEffort] for each day between the period [Start Date] + 1 day

Where:

[New\_Setup\_InternalUATEffort] = (16 \* 60)/ 2 days (Start Date + 1 day)

#### Start Date

[Start Date] = [Time ProtocolApproval Planned] + 46 Business Days

### New\_Setup\_ExternalUATEffort

Your definition:

16 hours \* 2 days (starting External UAT Planned completion Date + 1 day)

**[Time ProtocolApproval Planned] = current date + 41 days**

New\_Setup\_ExternalUATEffort= [New\_Setup\_ExternalUATEffort] in minutes

[New\_Setup\_ExternalUATEffort] for each day between the period [Start Date] + 1 day

Where:

[New\_Setup\_ExternalUATEffort] = (16 \* 60) / 2 days (Start Date + 1 day)

#### Start Date

[Start Date] = [Time ProtocolApproval Planned] + 51 Business Days

## Validation FTEs

[Validation FTEs] = ([Setup Validation Effort] + [CPPC Validation Effort] + [New Setups Validation Effort] + [New CPPC Validation Effort]) / 60 \* 6

[Setup Validation Effort] =

(Setup\_DVSReviewEffort +

Setup\_TestScriptDataWritingEffort +

Setup\_EditCheckValidationEffort +

Setup\_InternalUATEffort +

Setup\_ExternalUATEffort )

[CPPC Validation Effort] =

(CPPC\_TestScriptDataWritingEffort +

CPPC\_EditCheckValidationEffort +

CPPC\_InternalUATEffort +

CPPC\_ExternalUATEffort)

[New Setups Validation Effort] =

(New\_Setup\_DVSReviewEffort +

New\_Setup\_TestScriptDataWritingEffort +

New\_Setup\_EditCheckValidationEffort +

New\_Setup\_InternalUATEffort +

New\_Setup\_ExternalUATEffort)

[New CPPC Validation Effort] = 8 \* 60

[New CPPC Validation Effort] is within the Start and End Date.

Where:

#### Start Date

[Start Date] = current date + 10 Business Days

#### End Date

[End Date] = [Start Date] + 15 Business Days

### Setup\_DVSReviewEffort

TBD

### Setup\_TestScriptDataWritingEffort

TBD

### Setup\_EditCheckValidationEffort

TBD

### Setup\_InternalUATEffort

TBD

### Setup\_ExternalUATEffort

TBD

### CPPC\_TestScriptDataWritingEffort

TBD

### CPPC\_EditCheckValidationEffort

TBD

### CPPC\_InternalUATEffort

TBD

### CPPC\_ExternalUATEffort

TBD

## New Set-Up\_s Sets

10 Sets of Start-End Date pair are created, starting from Computation Start Date (Current Date) as shown in the below table.

The Number of Sets matching Criteria:

Where [Required-For-Date] is between [Start Date] and [End Date] of the Sets in the following table:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Rule** | | **Example** | | | | |
| Set No | Start Date | End Date | Compu-tation Start Date | Days from Computation Start | Start Date | Add Days | End Date |
| 1 | Computation Start Date 45 Business Days | Start Date + 60 Business Days | 1-Jan-18 | 45 | 5-Mar-18 | 60 | 28-May-18 |
| 2 | Computation Start Date + 65 Business Days | Start Date + 60 Business Days | 1-Jan-18 | 65 | 2-Apr-18 | 60 | 25-Jun-18 |
| 3 | Computation Start Date + 85 Business Days | Start Date + 60 Business Days | 1-Jan-18 | 85 | 30-Apr-18 | 60 | 23-Jul-18 |
| 4 | Computation Start Date + 105 Business Days | Start Date + 60 Business Days | 1-Jan-18 | 105 | 28-May-18 | 60 | 20-Aug-18 |
| 5 | Computation Start Date + 125 Business Days | Start Date + 60 Business Days | 1-Jan-18 | 125 | 25-Jun-18 | 60 | 17-Sep-18 |
| 6 | Computation Start Date + 145 Business Days | Start Date + 60 Business Days | 1-Jan-18 | 145 | 23-Jul-18 | 60 | 15-Oct-18 |
| 7 | Computation Start Date + 165 Business Days | Start Date + 60 Business Days | 1-Jan-18 | 165 | 20-Aug-18 | 60 | 12-Nov-18 |
| 8 | Computation Start Date + 185 Business Days | Start Date + 60 Business Days | 1-Jan-18 | 185 | 17-Sep-18 | 60 | 10-Dec-18 |
| 9 | Computation Start Date + 205 Business Days | Start Date + 60 Business Days | 1-Jan-18 | 205 | 15-Oct-18 | 60 | 7-Jan-19 |
| 10 | Computation Start Date + 225 Business Days | Start Date + 60 Business Days | 1-Jan-18 | 225 | 12-Nov-18 | 60 | 4-Feb-19 |

Example

|  |  |  |
| --- | --- | --- |
| Required-For-Date | No of Sets matching the criteria | Explanation |
| 8-February-2018 | 0 | The Required-For-Date is before the start of the first set. |
| 21-Mar-2018 | 1 | Set 1 (5-Mar-18 to 28 May-18) |
| 8-May-2018 | 2 | Set 1 (5-Mar-18 to 28 May-18) and Set 2(2-Apr-18 and 25-Jun-1\*) |

## New CPPC\_s Sets

11 Sets of Start-End Date pair are created, starting from Computation Start Date (Current Date) as shown in the below table.

The Number of Sets matching Criteria:

Where [Required-For-Date] is between [Start Date] and [End Date] of the Sets in the following table:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Rule** | | **Example** | | | | |
| Set No | Start Date | End Date | Compu-tation Start Date | Days from Compu-tation Start | Start Date | Add Days | End Date |
| 1 | Computation Start Date + 10 Business Days | Start Date + 15 Business Days | 1-Jan-18 | 10 | 15-Jan-18 | 15 | 5-Feb-18 |
| 2 | Computation Start Date + 30 Business Days | Start Date + 15 Business Days | 1-Jan-18 | 30 | 12-Feb-18 | 15 | 5-Mar-18 |
| 3 | Computation Start Date + 50 Business Days | Start Date + 15 Business Days | 1-Jan-18 | 50 | 12-Mar-18 | 15 | 2-Apr-18 |
| 4 | Computation Start Date + 70 Business Days | Start Date + 15 Business Days | 1-Jan-18 | 70 | 9-Apr-18 | 15 | 30-Apr-18 |
| 5 | Computation Start Date + 90 Business Days | Start Date + 15 Business Days | 1-Jan-18 | 90 | 7-May-18 | 15 | 28-May-18 |
| 6 | Computation Start Date + 110 Business Days | Start Date + 15 Business Days | 1-Jan-18 | 110 | 4-Jun-18 | 15 | 25-Jun-18 |
| 7 | Computation Start Date + 130 Business Days | Start Date + 15 Business Days | 1-Jan-18 | 130 | 2-Jul-18 | 15 | 23-Jul-18 |
| 8 | Computation Start Date + 150 Business Days | Start Date + 15 Business Days | 1-Jan-18 | 150 | 30-Jul-18 | 15 | 20-Aug-18 |
| 9 | Computation Start Date + 170 Business Days | Start Date + 15 Business Days | 1-Jan-18 | 170 | 27-Aug-18 | 15 | 17-Sep-18 |
| 10 | Computation Start Date + 190 Business Days | Start Date + 15 Business Days | 1-Jan-18 | 190 | 24-Sep-18 | 15 | 15-Oct-18 |
| 11 | Computation Start Date + 210 Business Days | Start Date + 15 Business Days | 1-Jan-18 | 210 | 22-Oct-18 | 15 | 12-Nov-18 |

Example

|  |  |  |
| --- | --- | --- |
| Required-For-Date | No of Sets matching the criteria | Explanation |
| 10-January-2018 | 0 | The Required-For-Date is before the start of the first set. |
| 21-Mar-2018 | 1 | Set 3 (12-Mar-18 to 2-Apr-18) |
| 8-May-2018 | 1 | Set 5 (7-May-18 to 28 May-18) |

Computation Start Date

Example Start Date : 1-Jan-2018

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Set | Start Date | Example Start Date | End Date | Example End Date |
| 1 | Computation Start Date  + 45 Business days | 1-March-2018 | Start Date + 60 Business days | 21-May-2018 |
| 2 |  |  |  |  |
|  |  |  |  |  |

(ToDate + 45 days) and ( ToDate + 105 days)

Jan = 23

Feb = 22

March = 22

April = 21

May = 23

June = 21

July =

Using number of new set-ups/month and CPPCs/month calculate effort using the algorithm provided/referred

These studies should not be added to the current month but should start at +45 business days for set ups and +10 days for CPPCs from current date and have to roll for the duration as provided below for set-up and CPPC

For set ups, start date = current date+ 45 Business days, current date + 65 business days, current date + 85 business days, current date + 105 business days so on….till start date + 225 business days

**Set-up**

Start date = current date + 45 Business days

Planned go live date = start date + 60 Business days

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Task Type | Criteria | Start Date | End Date | FET in minutes |
| Lead FTE | Setup | [Task Started On] and [Go Live Planned Completion Date] are available. | Task Started On | [GoLive Planned Completion Date] | 1.5 \* 60 |
| Lead FTE | Setup | [Task Started On] or [Go Live Planned Completion Date] or not available. | Time Protocol Approval Planned + 4 Business Days | Start Date + 60 Business Days | 1.5 \* 60 |
| Lead FTE | CPPC | [Task Started On] and [Go Live Planned Completion Date] are available. | Task Started On | [GoLive Planned Completion Date] | 1.0 \* 60 |
| Lead FTE | CPPC | [Task Started On] or [Go Live Planned Completion Date] or not available. | Today + 10 days | Start Date + 15 days  (Today + 25 days) | 1.0 \* 60 |
| Lead FTE | New Setup |  |  |  |  |
| Lead FTE | New CPPC |  |  |  |  |
|  |  |  |  |  |  |

When Task Data is not avaialble

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Task Type | Criteria | Start Date | End Date | FET in minutes |
| Lead FTE | Setup | [Task Started On] and [Go Live Planned Completion Date] are available. | Task Started On | [GoLive Planned Completion Date] | 1.5 \* 60 |
| Lead FTE | Setup | [Task Started On] or [Go Live Planned Completion Date] or not available. | Time Protocol Approval Planned + 4 Business Days | Start Date + 60 Business Days | 1.5 \* 60 |
| Lead FTE | CPPC | [Task Started On] and [Go Live Planned Completion Date] are available. | Task Started On | [GoLive Planned Completion Date] | 1.0 \* 60 |
| Lead FTE | CPPC | [Task Started On] or [Go Live Planned Completion Date] or not available. | Today + 10 days | Start Date + 15 days  (Today + 25 days) | 1.0 \* 60 |
| Lead FTE | New Setup |  |  |  |  |
| Lead FTE | New CPPC |  |  |  |  |
|  |  |  |  |  |  |

Programmer Effort Setup Effort

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Criteria | Start Date | End Date | FTE in minutes |
| Database Build | Database Build Start Date and Database Build Planned Completion Date are available | Database Build Start Date | Database Build Planned Completion Date | [Actual Number of Unique CRFs] \* 3 \* 60 / [No. Of Business Days Between Start Date and End Date] |
| Database Build | Database Build Start Date and Database Build Planned Completion Date are not available | Time Protocol Approval Planned + 4 Business Days | Start Date + 6 Business Days | ([Actual Number of Unique CRFs] \* 3 \* 60) / [No. Of Business Days Between Start Date and End Date] |
| DVS Review |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

If entity.Task\_StartedOn IsNot Nothing And entity.GoLivePlannedCompletionDate IsNot Nothing Then

startDate = entity.Task\_StartedOn

endDate = entity.GoLivePlannedCompletionDate

Else

If entity.Time\_ProtocolApproval\_Planned IsNot Nothing Then

startDate = entity.Time\_ProtocolApproval\_Planned.Value.AddBusinessDays(4)

endDate = startDate.AddBusinessDays(60)

Else

'defaults to min date value

End If

End If

If DateComputations.IsInBusinessDayDateRange(currentDate, startDate, endDate) Then

Return 1.5

Else

Return 0

End If

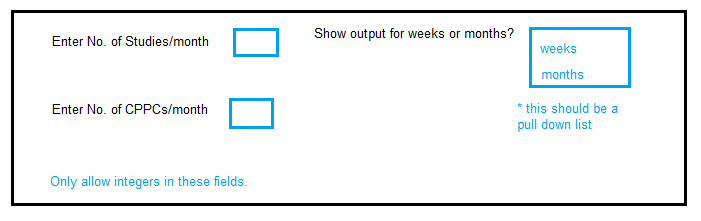
CPPCEffort

# Annexure 1

Requirement Document ‘CDMS FTE algorithm\_30Jan2018.docx’ provided by ICON is reproduced below:

**Report Name: CDMS FTE Calculation**

**Report Prompt:**



Enter No: of Studies/month to be updated as Enter No: of Set-ups/month

Add filter for CDMS Type - “All, InForm, Rave, OC-RDC, OC, Data Trak”

Add filter for Team – “All, CDMS Lead, CDMS Programmer, CDMS Validation”

**Assumptions:**

1. Only consider business days in the FTE calculation logic and weekends should be excluded.

2. The report output should be for the next 52 weeks or 12 months depending on the prompt selected prior to running the report. The “next” 52 weeks or 12 months should be from the current date.

3. Output should be in spreadsheet/CSV format and should also roll up to 52 weeks and 12 months (basically a total of all 52 weeks/12 months)

4. Cancelled or Completed tasks from CDMS Tracker should be omitted from the calculations. This is to ensure we only account for planned work (new, active, on-hold)

5. Output should be in FTEs (1 FTE = 6 hours)

6. Studies where CDMS Lead is marked “not required” on CDMS page should be excluded.

**Logic**

**When CDMS = InForm**

**Scenario 1**

**Studies where all information are available in PRISM ( CDMS tracker updated, no: of unique CRFs and No: of edit checks are available in PRISM)**

**For study set-up (from start date\* to planned go-live date)**

**CDMS Lead effort = 1.5 hour/day**

**CDMS Programmer effort:**

Get Actual Number of Unique CRFs from CDMS page = N or from Description -> Assumptions ( Total Unique Forms)

(N\*3 hours)/Number of days (From Database Build Start Date and Planned Completion Date)

Get Number of edit checks from CDMS Tracker = M or from Description -> Assumptions ( Total Unique Forms)

(M\*3.5 minutes)/ Duration of DVS review task (from DVS Review Start Date and DVS Review Planned Completion Date)

(M\*16 minutes)/Duration of “Round 1 Edit Check Programming”

(M\*0.1\*16 minutes)/Duration of “Round 2 Edit Check Programming”

16 hours \* 2 days (starting Internal UAT Planned completion Date + 1 day)

16 hours \* 2 days (starting External UAT Planned completion Date + 1 day)

**CDMS Validation Effort:**

Get Number of edit checks from CDMS Tracker = M or from Description -> Assumptions ( Total Unique Forms)

If Type of Integration Used = IxRS (on CDMS page) then **M = M + 35**

(M\*3.5 minutes)/ Duration of DVS review task (from DVS Review Start Date and DVS Review Planned Completion Date)

(M\*16 minutes)/Duration of “Test script/Data Writing”

(M\*20 minutes)/Duration of “Edit Check Validation”

16 hours \* 2 days (starting Internal UAT Planned completion Date + 1 day)

16 hours \* 2 days (starting External UAT Planned completion Date + 1 day)

**For CPPC (from start date\* to planned go-live date)**

**CDMS Lead: effort = 1 hour/day**

**CDMS Programmer Effort:**

Get Number of edit checks from CDMS Tracker = M

(6 hours + M\*25 minutes)/Duration of “Round 1 Edit Check Programming”

If M= 0 then 20 hours/Duration of Database Build

(4 hours + M\*0.1\*25 minutes)/Duration of “Round 2 Edit Check Programming”

16 hours \* 2 days (starting Internal UAT Planned completion Date + 1 day)

16 hours \* 2 days (starting External UAT Planned completion Date + 1 day)

**CDMS Validation Effort:**

Get Number of edit checks from CDMS Tracker = M

(M\*20 minutes)/Duration of “Test script/Data Writing”

(M\*25 minutes)/Duration of “Edit Check Validation”

16 hours \* 2 days (starting Internal UAT Planned completion Date + 1 day)

If M= 0 then 0 effort for UAT

16 hours \* 2 days (starting External UAT Planned completion Date + 1 day)

If M= 0 then 0 effort for UAT

**Scenario 2**

**Studies where partial information are available in PRISM ( CDMS tracker not updated, only no: of unique CRFs and No: of edit checks are available in PRISM)**

For study set-up (from start date\* to planned go-live date)

Start date = protocol approval planned date (Timelines tab) + 4 business days and

planned go-live date = start date + 60 business days

CDMS Lead effort = 1.5 hour/day

CDMS Programmer effort

Get Actual Number of Unique CRFs from CDMS page = N or from Description -> Assumptions ( Total Unique Forms)

N\*3 hours)/Number of days (From Database Build Start Date and Planned Completion Date)

Start date = protocol approval planned date (Timelines tab) + 4 business days

Planned Completion Date = start date + 6 days

Get Number of edit checks from CDMS Tracker = M or from Description -> Assumptions ( Total Unique Forms)

(M\*3.5 minutes)/ Duration of DVS review task (from DVS Review Start Date and

DVS Review Planned Completion Date)

start date = protocol approval planned date (Timelines tab) + 23 business days

Planned Completion Date = start date + 3 days

(M\*16 minutes)/Duration of “Round 1 Edit Check Programming”

start date = protocol approval planned date (Timelines tab) + 29 business days

Planned Completion Date = start date + 6 days

M\*0.1\*16 minutes)/Duration of “Round 2 Edit Check Programming”

Start date = protocol approval planned date (Timelines tab) + 39 business days

Planned Completion Date = start date + 2 days

16 hours \* 2 days (starting Internal UAT Planned completion Date + 1 day)

Start date = protocol approval planned date (Timelines tab) + 46 business days

16 hours \* 2 days (starting External UAT Planned completion Date + 1 day)

Start date = protocol approval planned date (Timelines tab) + 51 business days

**CDMS Validation Effort:**

Get Number of edit checks from CDMS Tracker = M or from Description -> Assumptions ( Total Unique Forms)

If Type of Integration Used = IxRS (on CDMS page) then **M = M + 35**

(M\*3.5 minutes)/ Duration of DVS review task (from DVS Review Start Date and DVS Review Planned Completion Date)

Start date = protocol approval planned date (Timelines tab) + 23 business days

Planned Completion Date = start date + 3 days

(M\*16 minutes)/Duration of “Write Edit Check Test Scripts”

Start date = protocol approval planned date (Timelines tab) + 29 business days

Planned Completion Date = start date + 6 days

(M\*20 minutes)/Duration of “Edit Check Validation”

Start date = protocol approval planned date (Timelines tab) + 35 business days

Planned Completion Date = start date + 7 days

16 hours \* 2 days (starting Internal UAT Planned completion Date + 1 day)

Start date = protocol approval planned date (Timelines tab) + 46 business days

16 hours \* 2 days (starting External UAT Planned completion Date + 1 day)

Start date = protocol approval planned date (Timelines tab) + 51 business days

**Scenario 3**

**No info available in PRISM - Calculate FTEs based on assumptions ( No: of Set-ups/ month and No: of CPPCs/month entered)**

Using number of new set-ups/month and CPPCs/month calculate effort using the algorithm provided/referred

These studies should not be added to the current month but should start at +45 business days for set ups and +10 days for CPPCs from current date and have to roll for the duration as provided below for set-up and CPPC

**Set-up**

Start date = current date + 45 Business days

Planned go live date = start date + 60 Business days

M = 650 edit checks (To be included as enterable field so that it is customizable)

N = 50 unique forms (To be included as enterable field so that it is customizable)

To calculate the Lead/Programmer and Validation efforts refer to the scenario 2 Algorithm

FTEs to be calculated for 10 sets

For set ups, start date = current date+ 45 Business days, current date + 65 business days, current date + 85 business days, current date + 105 business days so on….till start date + 225 business days

**For CPPCs,**

Start date = current date + 10 business days

Planned go live date – start date + 15 business days

CDMS Lead effort = 1 hour

CDMS Programmer effort = 8 hours

CDMS Validation effort = 8 hours

All the efforts should be customizable so please add it to a codelist where we can change it on need basis

FTEs to be calculated for 11 sets

Start date = current date + 10 business days, current date + 30 business days, current date + 50 business days, current date + 70 business days so on…till start date + 210 business days

**Maintenance/Closeout/Follow-up studies efforts**

**For studies in maintenance or closeout and no new/active/on hold tasks on Tracker**

            - CDMS lead effort = 0.125 hours/day                       (until Planned DBL Date)

This effort should be customizable so please add it to a codelist where we can change it on need basis

**For studies in Followup and no new/active/on hold tasks on Tracker**

            - CDMS lead effort = 0.1 hours/day                           (until Planned FollowUP DBL Date)

This effort should be customizable so please add it to a codelist where we can change it on need basis