

Introduction

This report provides explanation on how the Automated Enhancement Points have been counted for a snapshot of the application.

The measure is done in Automated Enhancement Points (AEP) as defined by OMG in www.omg.org/spec/AEP/1.0. It represents the volume of changes that have been delivered in the version.

Reference

Application: **MEUDON**

Snapshot: **MEUDON_V1_201904041254**

Calculation Date: **2019-04-04 12:54:00.0**

Enhancement in Functional Part

Impacted Transactional Functions

Definitions and formulas

AEFP for Transactional Functions = $\text{sum}(\text{round}(\text{CF} \times \text{AFP}))$ (*)

- Added Transactional Functions: CF = 1
- Deleted Transactional Functions: CF = 0.4
- Modified Transactional Functions: CF = see below

CF is defined by the following matrix if less than 50% of the modified Artifacts are shared components:

	EC Variation			
Evolved EC	$\leq 1/3 \times 100$	$\leq 2/3 \times 100$	$\leq 100\%$	$> 100\%$
$\leq 1/3 \times 100$	0.25	0.50	0.75	1.00
$\leq 2/3 \times 100$	0.50	0.75	1.00	1.25
$\leq 100\%$	0.75	1.00	1.25	1.50
$> 100\%$	1.00	1.25	1.50	1.75

CF values for transactions that did contain shared Artifacts that were changed are determined as follows:

- If 100% of the modified Artifacts are shared , CF = 0.25
- If $> 75\%$ of the modified Artifacts are shared , CF is capped at 0.50
- If $> 50\%$ of the modified Artifacts are shared , CF is capped at 0.75

Calculation

AFP sub-total for TF 20.0
Total nb TF 5.0

Nb TF Added 5.0
AFP Added 20.0
AEFP Added 20.0

CF distribution ADDED: 5.0 TF with CF = 1.00

Nb TF Deleted	0.0
AFP Deleted	0.0
AEFP Deleted	0.0

Nb TF Modified	0.0
AFP Modified	0.0
AEFP Modified	0.0

AEFP Transactional Functions = 20.0

Impacted Data Functions

Definitions and formulas

AEFP for Data Functions = $\text{sum}(\text{round}(\text{CF} \times \text{AFP}))$ (*)

- Added Data Functions : CF = 1
- Deleted Data Functions : CF = 0.4
- Merged Data Functions : CF = 0.4
- Split Data Functions : CF = 0.4
- Changed type Data Functions : CF = 0.4
- Modified Data Functions : CF = see below

Modified DET	CF
<= 33%	0.25
<= 66%	0.5
<= 100%	0.75
> 100%	1

Calculation

AFP sub-total for DF	67.0
Total nb DF	11.0
Nb DF Added	67.0
AFP Added	67.0
AEFP Added	67.0

CF distribution ADDED: 11.0 DF with CF = 1.00

Nb TF Deleted	0.0
AFP Deleted	0.0
AEFP Deleted	0.0

Nb TF Modified	0.0
AFP Modified	0.0
AEFP Modified	0.0

AEFP Data Functions = 67.0

Total AEP for Functional Part

AEFP for Data Functions = $\text{sum}(\text{round}(\text{CF} \times \text{AFP}))$ (*)

- EC total (IPAFP) = EC added + EC modified+ EC deleted + EC unchanged
- IP AEFP = EC of All Functional application Artifacts enhanced
- AEFP = AEFP Transactional Functions + AEFP Data Functions

Calculation

EC	2.55 (previous: 0.0)
EC Added	2.55 (previous: 0.0)
EC Deleted	0.0 (previous: 0.0)
EC Updated	0.0 (previous: 0.0)
EC Unchanged	0.0 (previous: 0.0)
IP AEFP	2.55

AEFP = 87.0

Enhancement in Technical Part

Definitions and formulas

- $EC\ total = EC\ added + EC\ modified + EC\ deleted + EC\ unchanged$
- $IP\ AETP = EC\ of\ All\ Technical\ Artifacts\ enhanced\ of\ the\ application$
- $ER\ (Equivalence\ Ratio) = AFP / IPAFP$
- $AETP = (ER \times IP\ AETP)$

Calculation

EC	10.1 (previous: 0.0)
EC Added	10.1 (previous: 0.0)
EC Deleted	0.0 (previous: 0.0)
EC Updated	0.0 (previous: 0.0)
EC Unchanged	0.0 (previous: 0.0)
AFP	87.0
IPAFP	2.55
ER	34.12
IP AETP	10.1

$AETP = 345.0$

Total Count of Enhancement

Definitions and formulas

$$\text{AEP} = (\text{AEFP} + \text{AETP})$$

Calculation

EC	12.65 (previous: 0.0)
EC Added	12.65 (previous: 0.0)
EC Deleted	0.0 (previous: 0.0)
EC Updated	0.0 (previous: 0.0)
EC Unchanged	0.0 (previous: 0.0)

$\text{AEP} = 432.0$

Notes and Abbreviations

(*) (CF X AFP) is computed per transaction and rounded up

$$\text{sum}(\text{round}(\text{CF} \times \text{AFP})) \neq \text{round}(\text{CF} \times \text{Sum}(\text{AFP}))$$

(n) :	current snapshot
(n - 1) :	previous snapshot
EC :	Effort Complexity
CF :	Complexity Factor
ER :	Equivalence Ratio
AFP :	Automated Function Points
AEP :	Automated Enhancement Points
AEFP :	Automated Enhancement Functional Points
AETP :	Automated Enhancement Technical Points