Products...Target...Alignment Analysis

Table of contents

1. Alignment Analysis

1.1. Placing this Section in Context within the Target Architecture

This *Target Alignment Analysis Section* establishes a metric and then measures the alignment of the One-VA Enterprise Architecture with these three sets of key objectives. This metric should be thought of as a “Percentage-of-Alignment”. Its value will increase (toward a limit of 100%), as more and more IT projects within the portfolio adhere to the principals of the target architecture, over time. Incremental improvements will appear in the metric, over successive years, as non-adhering, legacy projects are retired from the portfolio and as new, EA-compliant projects are added to the portfolio.

This metric was first developed for EA V4.1 in FY-2006. At that time it was applied to the following two IT-Project populations:

- The *Percentage of Alignment* for the total “current development portfolio”; and
- The *Percentage of Alignment* for the aggrigate of the "current development portfolio" plus the "EA-recommended development projects".

Within the current EA this metric has been applied to three project populations:

- The *Percentage of Alignment* for "only new (Post EA-2.1) development projects" plus "EA-recommended development projects"; in addition to
- The *Percentage of Alignment* for the total “current development portfolio”; and
- The *Percentage of Alignment* for the aggrigate of the "current development portfolio" plus the "EA-recommended development projects".

1.2. Alignment Analysis Purpose

The purpose of the Target Alignment Analysis is to assign a quantitative measure to the degree to which the IT development portfolio is aligned with the objectives of the target architecture and the FEA. The measure employed here is uniquely contrived for this purpose. Its only value is to provide a consistent measure from year-to-year, as the portfolio evolves and the target architecture begins to be achieved. It should be interpreted as a percentage with a theoretical limit of 100%.

1.3. Alignment Metric Concept

Each IT project is assigned a numeric value that is derived from various project alignment

factors, each of which indicates support to, and achievement of, one aspect of a target architecture objective. The values of each project are then averaged to develop a value for the portfolio. As the target architecture has progressively more influence upon the portfolio, over time, this metric is expected to increase, approaching its maximum value. At the time that the portfolio reaches full alignment, then the target end-state should be achieved.

At the project level, a fully aligned project will be accorded a value of 100. For a business development application, this score can result from implementing a PMA solution or from implementing a component-based solution in conjunction with reusing or creating a shared data store. For an infrastructure-based project, this score can result from deploying or using an existing shared infrastructure resource, eliminating redundancy and/or establishing a "Patterned" technical solution.

A significant number of legacy IT development projects, are not expected to score highly by these criteria because these development projects were approved and initiated prior to the development of the current target architecture vision. These legacy projects conform to the architectural standards in place at the time of the project's conception, but they do not necessarily conform to the current standard. However, as these legacy projects are completed, the proportion of target-architecture compliant projects, within the portfolio will increase, and with it, so will the target alignment score.

1.4. Project Alignment Metric Construction

This analysis acknowledges the following IT project factors:

- Reuse of an existing, complete system solution: (PMA e-Gov, PMA-LOB or COTS solution): Alignment Value = 100;
- Application development involving creation (or reuse) of a component-based solution: Alignment Value = 33;
- Application development involving creation (or reuse) of non-redundant sharable data: Alignment Value = 33;
- Application development which retires existing, obsolete legacy applications or eliminates redundant applications: Alignment Value = 34;
- Infrastructure augmentation projects which employs an existing (or creates a new) non-redundant sharable infrastructure resource: Alignment Value = 34;
- Infrastructure projects which develop a VA-wide "Pattern" technical solution: Alignment Value = 34.

For the purpose of the alignment metric computation, the use of an existing PMA solution is

considered mutually exclusive with the creation or use of a component based solution and with the reuse of sharable data, therefore only a maximum score of 100 can be attributed to any project. When a project scores in several areas, so that a total project total score greater than 100 would result, the scores are reduced to create a project score of 100.

1.5. Portfolio Alignment Metric Construction

The Portfolio score is the simple average of the project scores. However two factors will independently skew (but jointly correct) this portfolio score value. The "*portfolio-average"* will include legacy projects that preceded the initial publication of the target architecture guidance, thereby lowering the score. However, the "*portfolio-plus-recommended-project*" average will also include EA-recommended projects, which have had the benefit of target architecture direction, and can be expected to improve the portfolio score.

1.6. Project and Portfolio Metric Computation

The project population measurements are developed in a spreadsheet, accessible by the following link.

Reference(s):

- VA Target Architecture Alignment Analysis.xls

1.7. Interpretation of the Alignment Score

The portfolio alignment score is expected to improve form year-to-year as un-aligned legacy projects are retired and new, aligned projects continue to populate the portfolio. At a certain point, the portfolio score should asymptotically approach a value of 100, if the target architecture is being properly enforced.

The referenced Excel spreadsheet tables compute the following for the Portfolio in BY-2007 and BY-2008:

Comparative Architecture Alignment Metric				
Row	**Measurement Category**	**BY-2007 Value**	**BY-2008 Value**	**Percentage Improvement**
1	Total Portfolio Score	64%	74%	10%

2	Total Portfolio plus EA-Recommendation	68%	75%	7%
3	EA-Contemporary Portfolio plus EA-Recommendation	Not Available	76%	N/A

The increase in the Portfolio Percentage Improvement (Row-1), from BY-2007 to BY-2008 clearly demonstrates that VA's portfolio is improving in its alignment to the PMA, as legacy projects retire and as new, EA-compliant projects are adopted. This value clearly indicates that the EA-proposed projects will also significantly improve the alignment between VA and the direction prescribed in the Federal Architecture.

The BY-2008 measurement is subject to skewing from two factors, as follows:

- The BY-2007 and BY-2008 Pass-back created budget cuts which resulted in cutting necessary, legacy projects from the portfolio - this impacted the alignment metric by (1) artificially increasing the "*Portfolio*" value for BY-2008 as less compliant legacy projects are dropped and (2) creating an exaggerated variance in the Portfolio-value between BY-2007 and BY-2008 (Row-1).
- The fact that the eliminated-projects are still needed by VA, forces the current EA to re-introduce these legacy projects into the EA-Recommendations for BY-2008. Introducing less-compliant legacy projects into the EA-Recommendations dilutes the delta between the "*Portfolio-Value*" and the "*Portfolio-Plus-Recommendations*" value for BY-2008 (Row-2 and Row-3).