APPLICATION PORTFOLIO MANAGEMENT USER'S GUIDE

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UMT Portfolio Manager™ 3.3 User Manual – Builder Module

UMT Portfolio Manager™ 3.3 User Manual – Optimizer Module

UMT Portfolio Manager™ 3.3 User Manual – Planner Module

UMT Portfolio Manager™ 3.3 User Manual – Dashboard Module

Welcome

This document is a high-level resource for all users of the application management features of Portfolio Manager. It is written to support users whose agencies have implemented all, or some of the four perspectives of application management: Inventory, Assessments, Financial, or Alignment.

Users who have been trained on a given perspective may refer to the User Manuals (from links in the Portfolio Manager Modules section) for detailed instructions on using the system.

IF YOU HAVE NOT BEEN FORMALLY TRAINED ON THE INVENTORY OR OTHER UMT Portfolio Manager™ PERSPECTIVES, CONTACT THE PORTFOLIO ADMINISTRATION GROUP AT: OITIGDPortfolio.AdminGroup@exchange.state.oh.us TO SCHEDULE TRAINING.

If a user has received an ID through the 08/09 Planning process and not from the Application Management project, only the Inventory perspective is relevant. The Inventory Perspective section below describes the relevant maintenance responsibilities. The data requirements for implementing the Inventory perspective of the Application Management project are enforced by the software. When a user updates, adds or edits application data, the system will require that all 14 required fields are completed before saving changes or additions. The following attributes are required:

- Application Name
- Application Status
- Application Purpose
- Analysis Start Date (7/1/5)
- Initial Production Year
- Est. Life Span (months)
- Contact Name
- Contact Phone Number
- Support FTE
- Internal Users
- External Users
- Application Layer
- Mode
- Design Paradigm

For the purposes of 08/09 Planning, an application has been defined as follows:

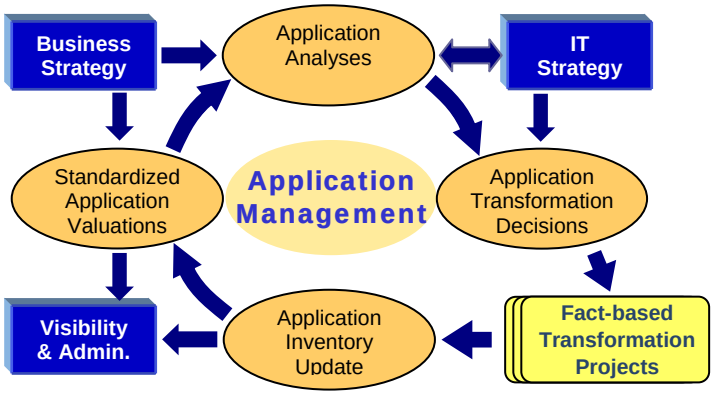
> ***An application is a software entity, running in production, which is managed as a unit throughout its lifecycle, is versionable and provides specific functionality that contributes directly to an agency's users or processes. The application is supported by IT and incurs costs (budgeted costs) that are managed by the agency owning the application.***

Agencies that participated in the Application Management project developed a broader definition of applications; one that better suits the goals, and exploits the features, described below. Refer to the AM Configuration Specifications document (see Reference Material, below) for a detailed description of all attribute fields and the Application Management project definition of "application" and supporting guidelines.

APM Cycle Overview

Goals

The primary goal of the Application Portfolio Management (APM) cycle is to generate application **transformation decisions** (project proposals) that are based on the best practices and highest priorities of the agency's application portfolio. The central application repository also supports application investment **visibility**, statewide survey automation, and fact-based IT **strategy analysis**.



An agency can use the alignment tools in Portfolio Manager to explicitly define the value of applications in terms of the agency's core business drivers. The output features provide tools to quantify and organize other APM concepts like application risk and architectural fit. This transparency fosters better communication between IT and business stakeholders.

When the statewide inventory is completed and data quality and completeness matures, the repository will be the first resource for statewide surveys of application data.

The repository provides a portfolio-level view of applications that can show correlations among application characteristics and their costs and benefits. These correlations can help identify, in a fact-based way, best (and worst) practices. This portfolio perspective can influence agency-level IT strategy.

Application Management Cycle

Application Inventory

In order to begin the APM cycle, each agency must create an application inventory. The first step is to agree upon the definition of an application; where the application begins and ends and the treatment of infrastructure, services and desktop tools. Each application should be described in a standardized way, to create a common language for APM and to promote comparisons. This step corresponds to the Inventory perspective described below, and to the following features of Portfolio Manager:

- Application Information tab, including associations to organizations, other applications and custom portfolios
- Custom Portfolios
- Organization Hierarchy (AM Administrator function)
- Scorecard view

Standardized Valuations

The applications in the Inventory should be evaluated using tools that provide a consistent basis for rating each application. These valuations are the foundation for correlation analysis and can also be used for output filtering. This step corresponds to the Financial, Assessments and Alignment perspectives of APM, described below. Portfolio Manager provides standardized frameworks for evaluating Business Importance, Architectural Fit, Application Cost, Application Risk, Application Performance and Functional Redundancy. The relevant software features in Portfolio Manager are:

- The UMT Portfolio Optimizer™ including two- and three- step models and both Core Business Driver and Architecture Driver alignment functions

- Strategic Alignment tab (two-tier models)
- Budget Cost tab
- Architectural Fit tab
- Process Impact tab
- Risk Assessment tab
- Operational Performance tab
- Application Functional Overlap and Application Process Integration reports

Analysis

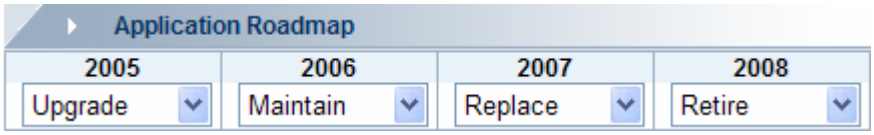
The charting and reporting features of Portfolio Manager provide tools for identifying opportunities for improvements and best practices in agency application portfolios and statewide. The detailed data that is accessible through the Builder and Dashboard modules can be used for "drill-down" investigation of opportunities. The document management feature helps centralize support documentation for research and analysis.

Together, the features of Portfolio Manager provide an analysis platform. The practical value-added will come from the insight and creativity of the AM Analysts when they interpret the information.

See the Application Analysis and Output Tools sections below for more details.

Transformation Decisions

Portfolio analysis provides insight into how to improve applications; generally, through IT strategy; and specifically, through application development/enhancement project ideas. The long term strategy of each application should be summarized in the Application Roadmap. Specific application project ideas can be logged as Enhancement requests from a link on the Application Information tab until the project planning cycle begins. At that time Enhancement requests should be reviewed and consolidated into project proposals, consistent with the agency's project initiation procedures.



Application Management Participation

Implementation of Application Management is organized into four perspectives: Inventory, Assessment, Financial and Alignment. The Inventory perspective is the same as the Inventory step in the Application Management Cycle, the other three perspectives complete the Standardized Valuations step.

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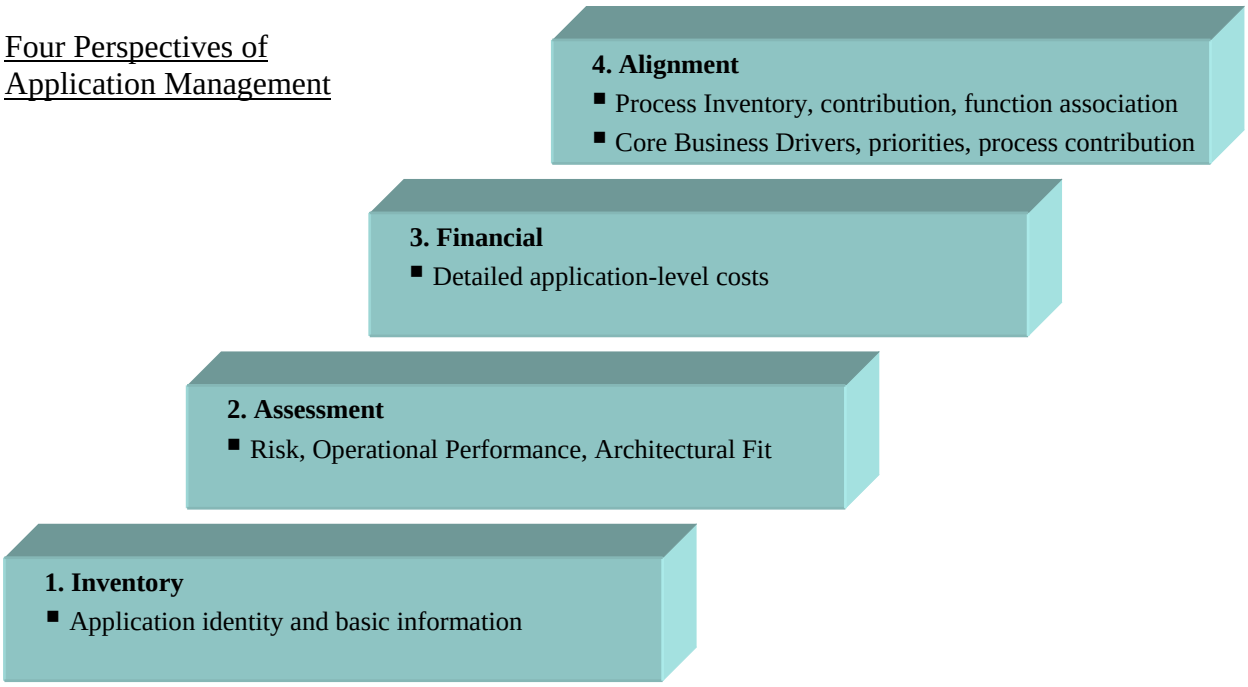
Each perspective enriches the type of analysis that can be completed. All implementations must include the Inventory perspective. Participation in the Statewide Application Inventory initiative (to support 08/09 Planning) completes almost all of the Inventory perspective for an agency.

The maintenance responsibilities of an agency depend on the depth of their Application Management implementation; which perspectives they implement. In the Application Management Processes section below, maintenance processes are organized by these four perspectives.

Four Perspectives of Application Management



Application Management Roles

AM Administrator – The AM Administrator has exclusive rights to support system functions that affect all agencies or require advanced training. This role is centralized to promote control and leverage training and experience in the system.

AM Analyst – The AM Analyst is responsible for conducting analyses on the agency portfolio and recommending process or technological improvements to the portfolio. He or she must also maintain the agency's analysis model and application data (ideally in real time) to support analysis and visibility. The AM Analyst can act as the agency's point of contact for the APM Group. AM Analysts differ from an Inventory Users, the former have formally implemented some or all of the APM Perspectives and have completed the associated training. Inventory Users do not have access to report creation or the analysis tools in the Optimizer.

Inventory User – The Inventory User maintains the application data for his/her agency. They can create portfolios and export data via list reports. They do not have visibility of other agencies portfolios.

AM SME – The Application Management Subject Matter Expert leads the statewide APM practice; they report to OIT. They have analyst-level rights on the entire account. They chair the APM Group and determine best practices for application portfolio analysis. The AM SME designs statewide analyses and summary reporting on all agencies' portfolios. The AM SME is the primary source of implementation advice when an agency chooses to implement a new APM perspective (especially Alignment) or for complex analysis techniques.

APM Group – The APM Group is a set of APM practitioners (usually AM Analysts) chaired by the AM SME. The APM Group is the on-going policy-making body concerning tool configuration and will recommend statewide best practices for APM. The Group can meet quarterly, or more frequently on an ad hoc basis, to discuss best practices and statewide collaboration on APM initiatives like an application redundancy analysis, leveraging vendor agreements or recommending architecture best practices.

Portfolio Manager Structure

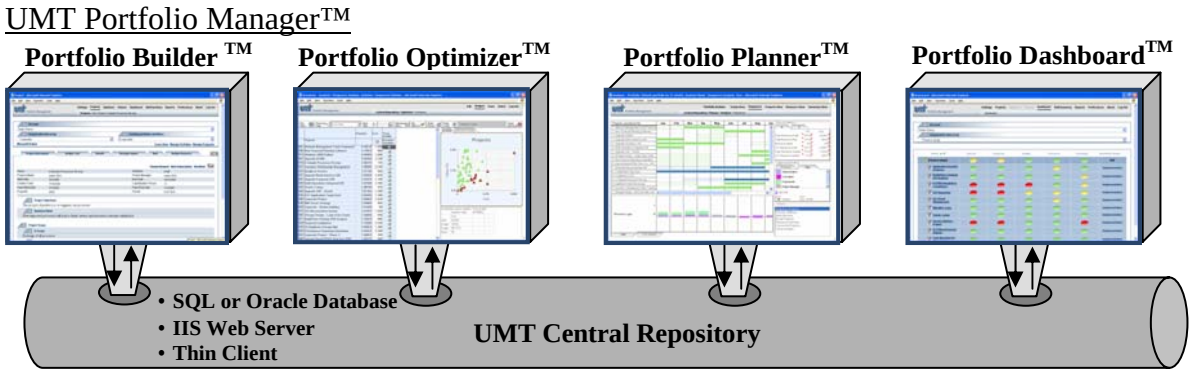
The Portfolio Manager application is designed to support both Application Portfolio Management (APM) and Project Portfolio Management (PPM). The application has modules and features that are common to both portfolios and some that are exclusive to the project portfolio. The application is organized into four modules: Builder,

Optimizer Planner and Dashboard; all of which share an integrated repository. There is a user manual for each module of the application; the Reference Material links at the end of this document.

Scorecards, Organization structures, User Groups and Users, and Custom Portfolios are common to both application and project portfolios. A single node of the project cost structure can be copied as a read-only node in the application cost structure.

Portfolio Manager Modules

The Builder module is the data management and configuration tool. It supports both projects and applications. The Optimizer module is the analytical engine. It supports the Business and Architecture Alignment processes, enables charting and matrix data editing, and (for project or program portfolios) supports Portfolio Selection and sensitivity analysis. The Planner module supports portfolio-level project and program scheduling. It is not relevant to applications. The Dashboard module provides read-only versions of the Scorecard view and entity detail tabs. It has links to the Builder module's Settings, Preferences and Reports features.



Detailed User Manuals can be accessed via links in the next four paragraph headings.

Portfolio Builder™

UMT Portfolio Builder is a web-enabled module that allows organizations to build Portfolio Inventories for varying investment entities (i.e. project, program, application etc.). The Portfolio Builders configurable data entry forms allow organizations to quickly standardize data collection for all entities (i.e. Business Case forms for projects). Administrators can define multiple workflows to control the investment throughout its lifecycle and ensure the investment is subjected to the appropriate governance controls. The module can also interface with the client's email system to generate event-driven notifications, for example when a step in the workflow has been completed and additional input is required. The Portfolio Builder captures the relationships between Investment Portfolio's (i.e. projects that support applications) and its flexible interface allows users to quickly slice and dice the investments from varying perspectives (i.e. by Organization, by Program, by Portfolio, by Attribute, etc).

Portfolio Optimizer™

UMT Portfolio Optimizer is a web-enabled analytical module that allows organizations to prioritize, optimize and select investments that best align with the strategic objectives. The module uses sophisticated algorithms to generate a variety of "what-if" scenarios that allow decision makers to select a portfolio and optimize it against multiple cost, resource and risk constraints. The module's unique Efficient Frontier and sensitivity analysis techniques provide a top-down portfolio view that ensures continuous business alignment and support of the corporate or divisional strategy. Portfolio Manager ensures a Rational rather than Emotional approach to investment prioritization and selection.

Portfolio Planner™

UMT Portfolio Planner is a web-enabled analytical module that allows organizations to proactively manage resources. The module helps Analysts quickly gain visibility, insight and control over resource availability (i.e. supply) and resource requirements (i.e. demand). UMT Portfolio Planner uses sophisticated algorithms to optimize

its resource utilization across defined planning horizons by evaluating implementation and benefit delivery scenarios, taking into account priorities, resource availability and requirements, dependencies and critical milestones

Portfolio Dashboard™

UMT Portfolio Dashboard is a web-enabled module that ensures organizations gain control and transparency across their investment portfolios. The module allows Managers (i.e. Application Managers, Project Managers, Program Managers, Portfolio Managers, etc) to complete periodic Snapshot reports (i.e. Budget vs. Actual vs. Forecast) for each of their investments and automatically publish the data to the Portfolio Tracking Scorecard. Executives can view aggregated indicators and metrics in the Portfolio Tracking Scorecard and automatically drill down to the individual investment and generate a detailed status report. The Scorecard's flexible interface allows users to create varied views to slice and dice the investment portfolios (i.e. show me all projects by program or group all projects by application).

Output Tools

Portfolio Manager has three output features: charts, reports and the Scorecard. Application attributes and cost details can also be exported directly to spreadsheets in support of external analyses. Charts (in the Optimizer module), reports and exports (in the Builder module) facilitate off-line communication. The Scorecard and its "drill-down" approach are only available on-line.

Output Data

The output tools are populated with data from four sources: the Application Information tab, Budgeted Cost figures (for 2006 – 2009), Optimizer variables and Assessment scores. Optimizer variables are created as the result of an analyst-specified alignment scenario. Business Importance and Architectural Fit Score are two standard scenarios that are stored as Optimizer variables. Assessment scores are the product of the Application Risk and Operational Performance questionnaires. Note that Optimizer variables must be re-set before an analysis if their underlying assessments (from the Process Impact, Strategic Impact, Architectural Fit tabs, or Assessment Matrices in the Optimizer) have been updated.

The Application Information tab has 3 basic types of attributes: numeric, list and text. For charting purposes, numeric attributes, like System Age and Internal Users, are essential (for plotting charts). Cost figures from all levels are also numeric attributes. List type attributes are used for grouping, classification, and filtering in charts and List reports. Text fields are best for "drill-down" analysis; they can be cumbersome in reports and are not meaningful for charts.

Output Features

Portfolio Manager provides several types of charts and reports for applications, and the Scorecard view is customizable for each stakeholder viewpoint. The scope of the data in these output tools can be defined by the choice of Organization, Portfolio, and Entities, subject to filters. The output features, especially charts, combine to support correlation analysis and portfolio visibility in general.

Reports

There are five report templates defined for applications (each application is one line in a report for an entire Organization or Portfolio); there are 13 for projects. There are also two reports (Detail Project Report and Business Case Financials Report) defined for one project at a time. The application reports are:

- **Application Functional Overlap** - The *Application Functional Overlap* report in the Reporting Framework identifies functional redundancies (based on associations entered in the Process Impact tab) and appends selected application attributes.
- **Application Functional Overlap (matrix view)** – The matrix view of this report quantifies the extent of overlap between any two applications in an extensive matrix. Overlap is quantified as follows: count of the processes supported by both applications, divided by the count of unique processes supported by either of the applications. For example: application A supports processes 1, 2, and 3 and application B supports processes 2, 3, and 4; their overlap is 50% (they both support 2 processes, 1 & 2, out of the 4, numbers 1 – 4, unique

processes they support). If the Business Function filter is chosen, two applications are not deemed to support the same process unless they provide the same Function in the same process.

- **Application Process Integration** - The *Application Process Integration* report in the Reporting Framework identifies functional redundancies (based on associations entered in the Process Impact tab) and appends selected application attributes.
- **Application Redundancy Heat map (matrix)** - The *Application Redundancy Heat Map* is exactly the same (when used with the Business Process filter) as the Business Processes – Applications matrix in the third step of a Three-step Business Alignment. When the Business Function filter is chosen, the report creates separate columns for each Function associated to each Process, creating a refined view of Process automation.
- **Application List / Grouping** – This is a reporting framework where every line item is an application. It is the basis of most customized reports. The scope can be managed by selecting an Organization (with or without specified children) or Custom Portfolio. The columns can be attributes, cost values, or indicators.

Custom reports can be saved as Public or Private, the default is Private. A Public report will appear in the Existing Reports menu for all users with access to the Reports feature. Private reports appear only in the Existing Reports menu of the creator.

Charts

The Portfolio Optimizer™ module has a charting feature (accessed from the Optimizer toolbar) to create four chart types using the Output Data described above. It enables analysts to create several chart types:

- **Trend** – Track the change in a "snapshot attribute", like total actual cost, over time. The available attributes are limited to snapshot data and require that the portfolio performance (like actual cost) is tracked in periodic snapshots. This chart type is most relevant for reporting on project, not application, portfolios.
- **Aggregated** – Portray aggregated statistics for numeric attributes grouped by the choices of one of the list-type attributes (like Application Type, or Presentation Tier). This can illuminate differences among different classes of applications. Available chart types are: Pie, Bar, Line and Spider. Any number of numeric attributes can be selected, subject to the same aggregation function (choices below).

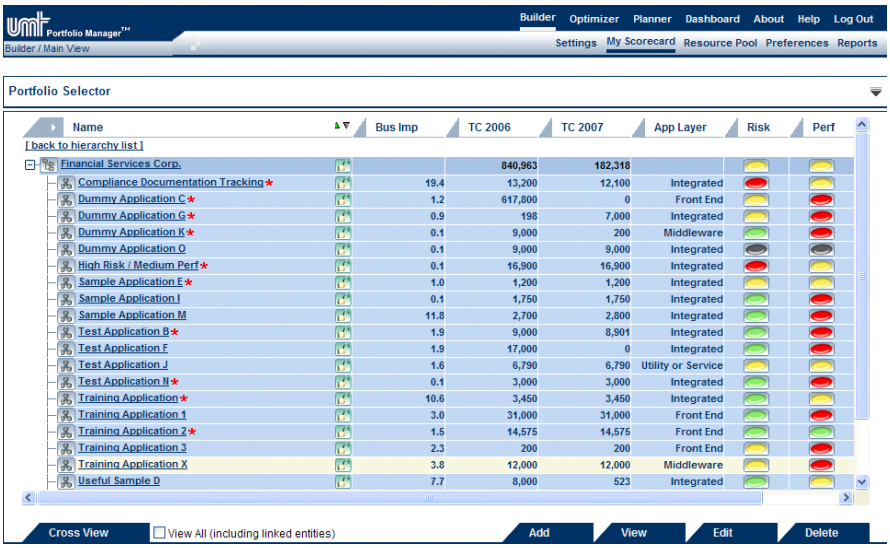
Sum	Variance
Average	Count
Maximum	Product
Minimum	
Standard Deviation	

- **Divergence of Opinion** – Portray a comparison among multiple alignment scenarios generated in the Optimizer module. The "priorities" calculated by each alignment analysis can be stored in *ad hoc* variables called optimizer attributes. This bar chart displays one scenario's output next to others.
- **Generic Chart Wizard** – Build a custom chart to portray application data in the most useful format. This is the primary analysis tool for Application Portfolio Analysis, see the Application Analysis section below. An analyst can create a chart in one of six standard formats (below).

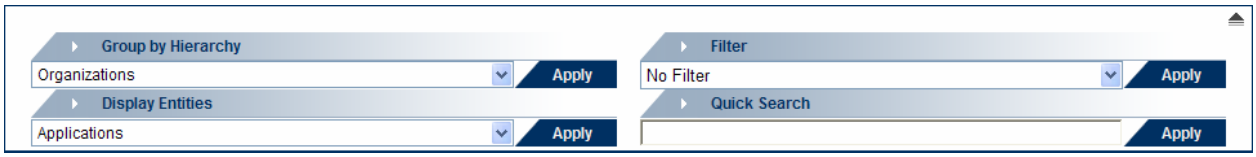
- **Existing Charts** – Save completed charts, with comments, for future reference. A saved chart is a data snapshot, subsequent changes to the data don't affect the saved chart. To update a saved chart's data, open it, go back to the chart type selection step, then move forward to the finish step. The updated chart can be saved as a new snapshot (maybe before and after views) or overwriting the existing saved chart.

My Scorecard

The Scorecard view can include data for organizations, portfolios, applications, and projects. My Scorecard is the opening screen in both the Builder (editing) and Dashboard (read only) modules. It is the first screen you see when you log in. My Scorecard is the focal point for "drill down" investigations to explain details about applications or other entities. The columns in My Scorecard are customizable for every user, using the Preferences feature on the toolbar. A user may want to contact the AM Administrator for help configuring his or her own Scorecard view.



In addition to customizing which columns are shown in My Scorecard, users can use the Portfolio Selector and Linked Entities features to control which applications, projects and programs appear in their default view. The Portfolio Selector (normally minimized) can be expanded to allow user selection of the hierarchy, entities, and filters or search criteria to apply to the users My Scorecard view.



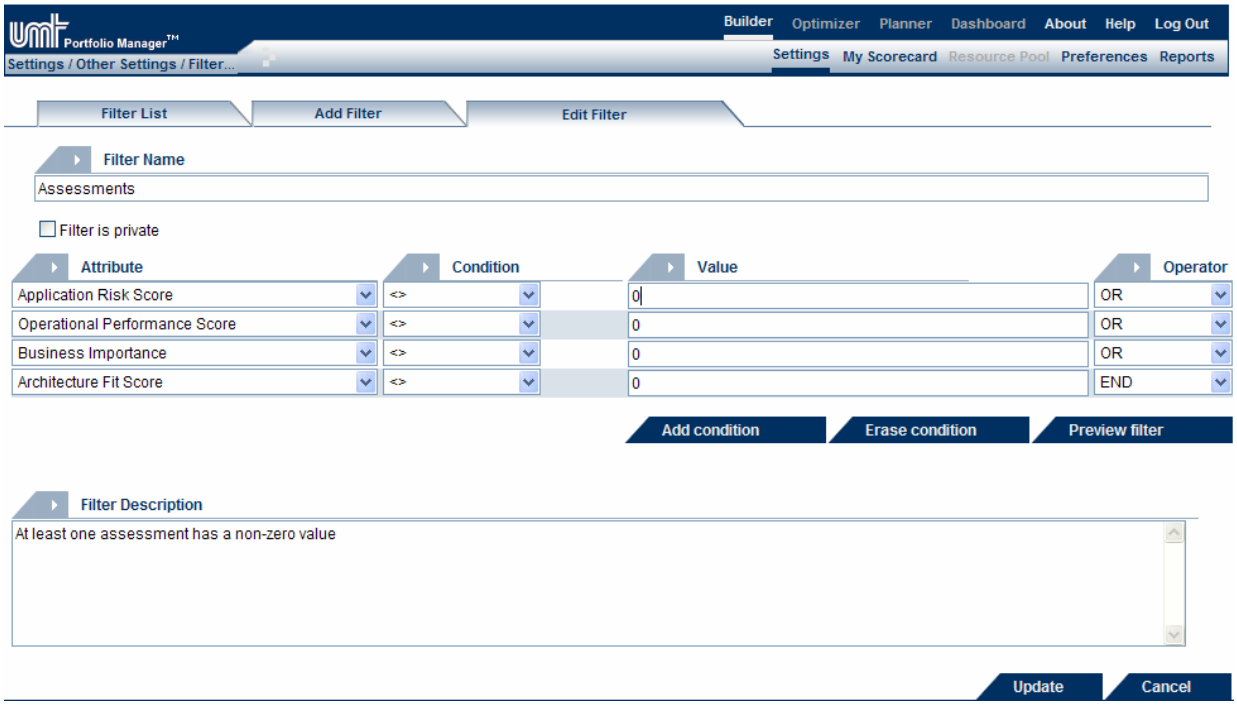
- Hierarchy – Choose whether to structure the view by Organization, Custom Portfolios, Programs (for projects) or logical combinations; or to use no hierarchy structure. The choice of hierarchy will constrain the available logical choices of Display Entities. Note that projects can be children of all other entities, including applications.
- Display Entities – Select the "line item" entries for the My Scorecard view. Line items choices are: Programs, Projects, Applications, and both Projects and Applications.
- Filter – Using filters will restrict the number of entries based on an explicit set of names or attribute values. Structural Attribute Filters can use a combination of tests to refine the My Scorecard view.
- Quick Search – Enter a string of letters and numbers that must be contained in the names of all Applications, Programs, and Projects shown in the view. This is a quick way to find a specific application.

Scope Controls

Portfolio Manager has three tools for controlling the scope of reports, Scorecards and analyses; they are Filters, Custom Portfolios and the Organization hierarchy. Analysts can create Filters and Custom Portfolios, only the AM Administrator can create new entries in the Organization hierarchy.

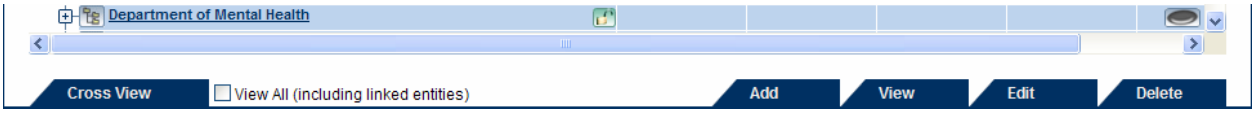
- Filters – Filters can be defined for any of the entities. The Filter Management feature is found on the Settings tab in the Builder module, under Other Settings. There are two type of filters for applications, Applications

Filters (a list of specific application names) and Structural Attribute Filters (based on a combination of rules with respect to attribute values). Filters can be Private or Public, the default is Private. Public Filters can be seen, used and edited by all users and should be avoided. Below is an example of a Structural Attribute Filter.



- Custom Portfolios – Custom Portfolios are entities that describe a specific set of applications (as well as Programs and Projects) that are organized together for a shared purpose. A Custom Portfolio has Name, Organization Notes and Action Items (single text field) attributes. Any application in the account can be linked to any Custom Portfolio, the Custom Portfolio can cross all Organization boundaries. Applications are linked to Custom Portfolios from the Application Associations link on the Application Info tab. This means that Custom Portfolios are built one application at a time. A typical Custom Portfolio may be "Call Center Applications" or "Accounting Applications". All Custom Portfolios are public.
- Organization – An Organization is a node in the account's Organization Hierarchy. Each Organization has only one parent. One key use of the Organization hierarchy is to roll up (application and project) costs. Application costs can be allocated among any number of Organizations (in the Associated Organizations tab, from the Application Associations link on the Application Info tab), but an application can belong to only one Organization.

  Using the "View all linked entities" feature at the bottom of the Scorecard will display applications and projects in every organization to which they are linked. Total application costs will be shown on every line, but only the allocated costs (if any) will be included in the cost columns for the Organization.



Scope Control Tools Summary

	Filter	Custom Portfolio	Organization
Strengths	• Allows systematic analysis on standard attributes • Can identify application names from a central page	• Can include Applications, Projects, and Programs • Definable (configurable) attributes • Can be used in project selection scenario analysis • Provides un-allocated cost totals	• Enables roll-up of cost allocations • Supports a hierarchical structure
Weaknesses	• Does not affect cost roll-up • Limited to one entity type	• Not structured based on attribute values	• Not all application data can be moved from one Organization to another without re-typing
Intended Uses	• Limit chart and report scope to logical subsets (based on attribute values) of the application portfolio	• Flexible organization of applications, projects and programs, with configurable descriptive attributes.	• Define governance boundaries for entities. • Create a standardized framework for the account.
Tips	• Establish naming conventions • Always complete comments • Limit scope to your agency (avoid Public filters)	• Coordinate CP definitions with other agencies, re-use common definitions • Always define the CP on the Portfolio Info tab	• Limit use to frequently used cost roll-ups. • Enter all applications in one Organization in the agency, associate them to any others

Export

The Application Data Export feature is found under the Data Transfer link on the Settings tab of the Builder module. It enables users to export application attributes and accumulated cost tracking data to spreadsheets. It is usually preferable to use the Application List / Grouping report to better format spreadsheet output.

Application Management Processes

Introduction of a Portfolio Manager into the Ohio environment entails several administrative processes along with data maintenance responsibilities. The principle work effort is in the initial implementation of each of the Application Management Participation Perspectives describe above. Subsequent maintenance of the data and assessments is a smaller effort that should be integrated with documentation steps in the existing project life cycle and budget/planning cycle.

OIT Responsibilities:

The State of Ohio is using a centralized administration model for APM. Most User Groups do not have access to many of the administrator features on the Settings tab of the Portfolio Builder™ module. Four administrative features (the Account Management set) are restricted to the Super User Group to avoid inadvertent changes to account settings and data.

There are two reasons for centralization of access to system administrative functions and the associated responsibilities. Application management does not require frequent changes for model and user administration; so the workload need not be distributed. Second, infrequent use of administrative skills (if each agency administered their own portfolio) would make it difficult to maintain familiarity with the administrative functions.

The AM Analyst is permitted to create and delete Custom Portfolios and Filters from the Settings tab. The Administrator Group has sole access to all other features on the Settings tab. Contact the Portfolio Manager AM Administrator for the following services:

- Account Management – create new database and application instances
- Organization Management – adding and removing Ohio agencies and sub-organizations
- Program Management (for Project Portfolio Management) – creation of new program hierarchies for projects
- User Management – add and delete users, manage user rights
- Financial Management – manage cost structures
- Workflow Management (for Project Portfolio Management) – create and edit project workflows
- Survey Management – add, edit, remove questions and categories to the Operational Performance and Risk Assessment questionnaires
- Driver Management – manage the Core Business Driver and Architecture Driver libraries
- Business Process Management - manage the Business Process library
- Attribute and Indicator Management – define and associate application attributes and indicators
- Resource Management (for Project Portfolio Management) – define project human resource types and limits
- Project Server Gateway (for Project Portfolio Management) – define linkages to MS Project Server
- Document Management Settings – centralized folder definition and document distribution
- Data Transfer – batch uploads and edits of attributes or cost data for applications, projects or programs

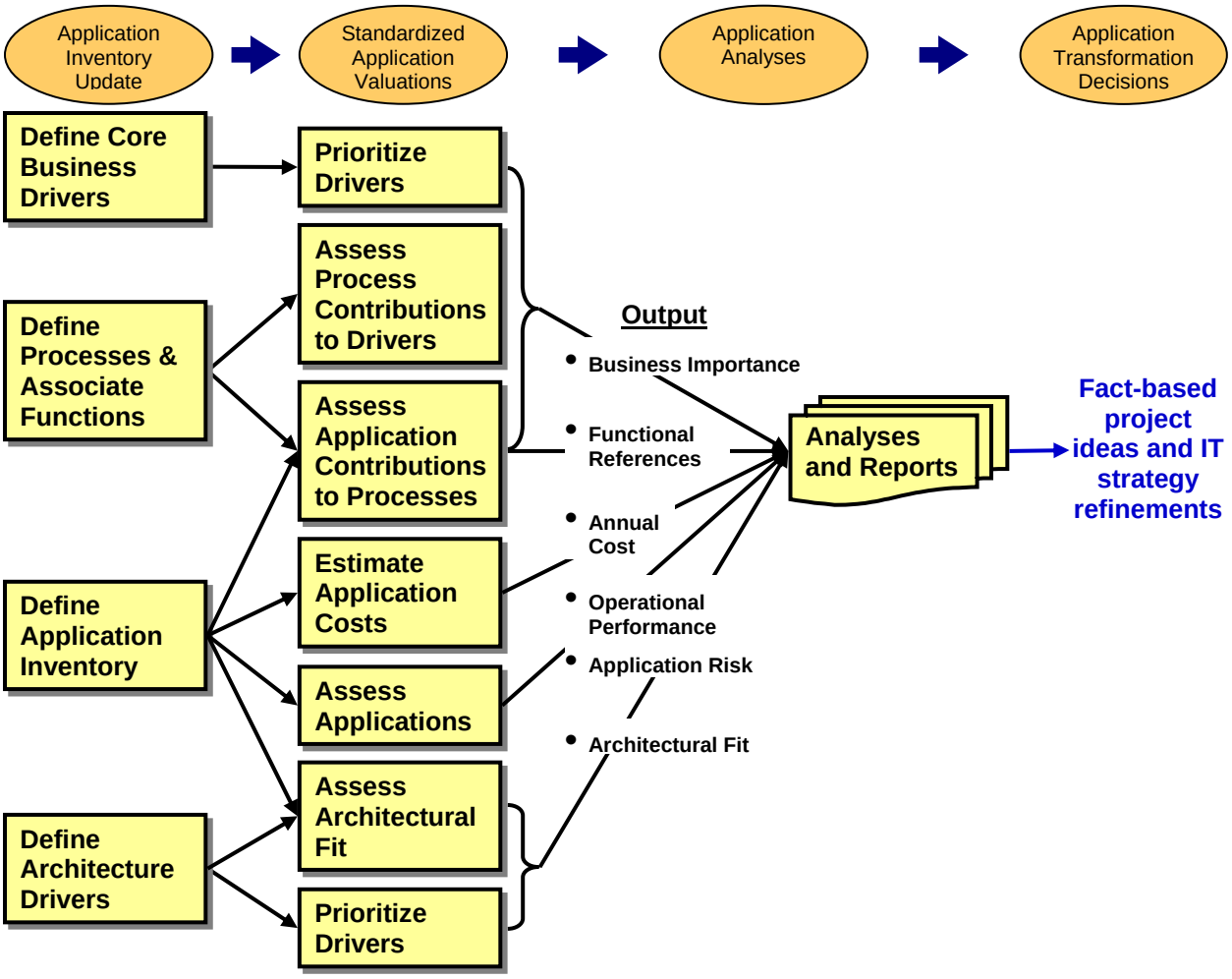
Agencies' Responsibilities:

Agencies are responsible for maintaining application attributes, budgets, assessments and alignment model consistent with the perspectives of participation they have chosen. All participating agencies must maintain the Inventory perspective in support of the Biennial Planning process. Ideally, this data is updated "real-time", whenever changes happen.

The agency processes described below are organized by the four implementation perspectives: Inventory, Assessments, Financial and Alignment. If an agency has implemented the perspective, they should incorporate its processes into their existing cycles. The initial implementation of any perspective should be managed as a one-time project, with different tools and approaches than on-going APM processes described below.

The APM Process Map on the next page illustrates all of the activities to implement and maintain a valid application repository and APM Analysis framework.

APM Process Map



Inventory Perspective

Agencies will be responsible for maintaining the application data. This consists of replacing existing data when applications are enhanced, migrated, retired, etc. Maintenance of the application attributes should be done at the end of the agency's SDLC, when the application is migrated to the production environment.

Delaying model maintenance adds the risk that precise details about the changes, or the changes themselves, will be forgotten. Batch updates (wholesale review of the model) on a periodic basis is wasteful because only a few elements will change on an annual basis and it is simple to identify them. A batch maintenance review would touch all model elements when fewer than 10% will require updates.

The Inventory Perspective can be maintained from the Application Information tab. When an application has been modified or replaced, the application information must be edited or deleted. New applications must be added using the Add button at the bottom of the Builder Scorecard.

- Updating application information
  1. From the Scorecard view in the Builder, select the application to be modified by clicking on the space to the right of its name. Click the Edit button at the bottom of the screen. *Do not click on the name itself because this will default you to view-only mode.*
  2. Update the information tab data.

a. Version number in application name, if applicable
b. Application Purpose, if any new functionality or data descriptions are appropriate
c. Latest release date
d. Initial production year if the application architecture or primary functionality is updated
e. Release notes
f. Update any other attributes that have changed in order to accurately describe the application. Refer to the AM Configuration Specifications document for detailed descriptions of the application attributes.

03. If the application's linkages to other applications (automated or manual), projects, organizations or portfolios have changed, update these associations using the **Application Associations** link on the Application Info tab.
04. Press the Update button at the bottom of the Application Info tab to save changes.
05. Delete any Change Requests that are resolved by the new application release by using the **Enhancement Requests** link on the Application Info tab.
06. If the other APM perspectives have been implemented at the agency, update the associated application tabs. Remember to always press the Update button at the bottom of a tab to save changes.
    a. Financial – Update Budget Cost tab for future periods of the application if maintenance costs have changed. If costs are being tracked in the agency, update the Forecast Cost in the Cost Tracking tab instead.
    b. Assessments – Review the responses to the Risk Assessment and Operational Performance survey questionnaires and the Architectural Fit assessment.
        i. Update the responses based on changes to the application.
        ii. If Architectural Fit responses have changed, re-run the Architecture Fit procedure in the Optimizer module and save the new Architecture Fit scores.
    c. Alignment – If the agency is using a three-tier model, update the Process Impact tab, update the Strategic Impact tab if a two-tier model is being used. Re-run the Business Alignment procedure in the Optimizer module to save the updated Business Importance scores.

- Creating a new application
  01. Click the Add button at the bottom of the Builder Scorecard.
  02. Select the owning Organization.
  03. Select a portfolio from the "Existing portfolios and programs" list only if the application belongs in a Custom Portfolio.
  04. Choose "application" from the "Select entity" list, click the Add Entity button.
  05. A blank Applications Info tab will appear, complete all known attribute fields. Note that required fields are marked with an asterisk and must be completed in order to save the new application.
  06. If the application is associated to any Custom Portfolios or other Applications use the **Application Associations** link to record those associations. Always click the Update Association button after editing.
  07. Click the Add button at the bottom of the tab.

- Retiring an application – There is no separate archive for application data. Some agencies may wish to keep retired applications in the portfolio as a basis for reference. If the application is not needed for reference, it can be deleted instead of retired, see below.
  01. Select the application to be retired from the Scorecard view and click the Edit button at the bottom of the screen.
  02. If the Financial perspective has been implemented, delete future costs from the Budget Cost and Cost Tracking (Cost Forecast Table) tabs.
  03. On the Application Info tab:
      a. Change Application Status to Retired
      b. Set the Retirement Date appropriately

c. Remove all application dependencies through the **Application Associations** link; press the Update button, then the Go Back button. Other associations can be kept for analysis purposes and controlling cost allocations for past periods.

d. Update the Application Roadmap choice in the current fiscal year to the appropriate value (probably "Retire", but possibly "Replace" or "Consolidate").

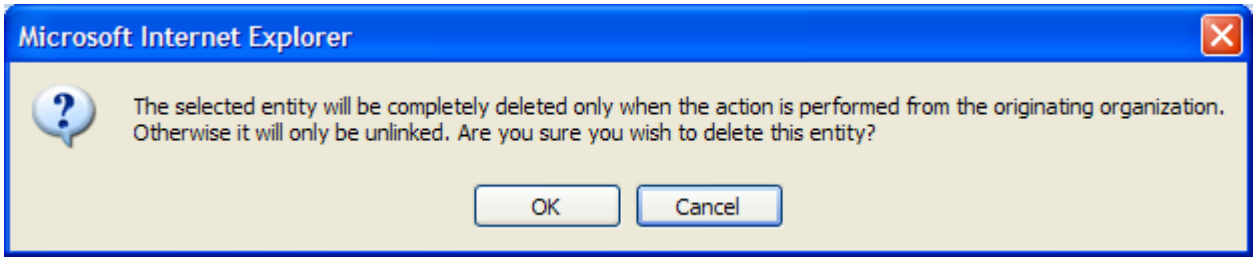
e. Update the Comment field if desired.

f. Click the Update button.

❖ Deleting an application

01. Select the application to be retired from the Scorecard view and click the Delete button at the bottom of the screen.

02. The warning below will appear. It is the last opportunity to retain all application data. If the user is certain the application should be permanently removed, press OK.



Moving an application from one organization structure to another is done by exporting and re-importing the application data accessible through the Data Transfer feature. It is not currently possible to export and import questionnaire data or assessments against Architecture Drivers, Core Business Drivers or Processes. That data must be archived using Optimizer functions and re-loaded manually. *Contact the AM Administrator for support when moving applications*.

Refer to the Applications chapter in the Portfolio Manager Builder User Manual for details on the Application Information tab.

Assessment Perspective

The relationship between applications and Business Processes and the Operational Performance rating are subject to changes in the business environment, not just changes to applications. Both analyses are optional, and strongly encouraged, at the agency level. If the agency uses Business Process analysis, the contribution of applications should be reassessed annually or bi-annually. The same is true for the Operational Performance Questionnaire.

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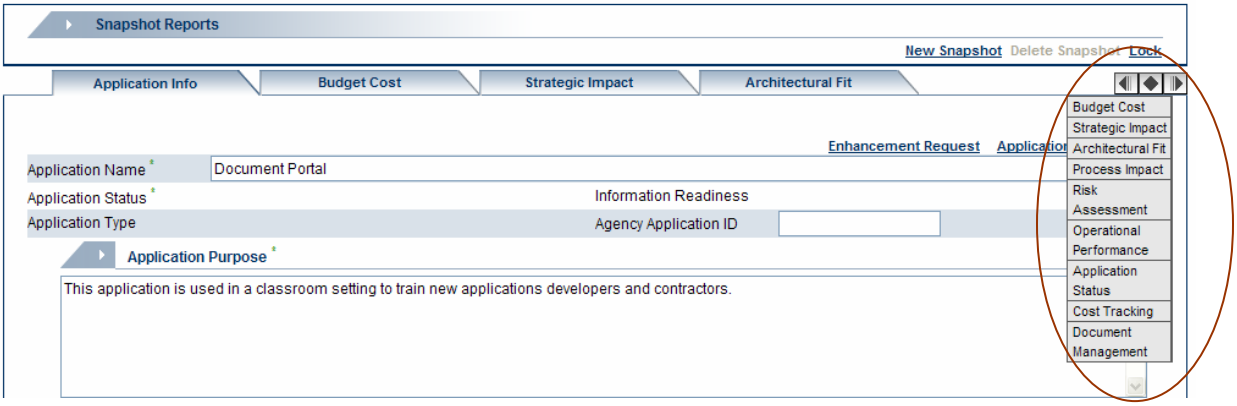
The definition and prioritization of statewide Architecture Drivers should be done annually by a subcommittee of architecture SME's, nominated by the MAC.

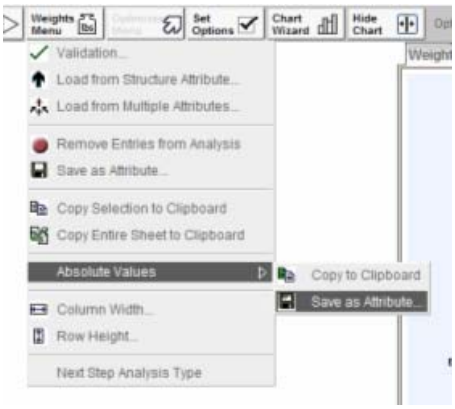
The Operational Performance and Risk Assessment questionnaires must be completed one application at a time. Use the tab navigation menu (shown below) to move to the questionnaire tabs.



- Update Questionnaires and Indicators after an application enhancement – Questionnaire responses should be updated at the end of any application enhancement. Ideally, an application user representative could update the Operational Performance questionnaire after using the enhanced application in production.
  01. Select the application to be updated from the Scorecard view and click the Edit button at the bottom of the screen.
  02. Select the Risk Assessment tab from the navigation menu. Complete the questionnaire fully and click the Update button at the bottom of the tab.
  03. Select the Operational Performance tab from the navigation menu. Complete the questionnaire fully and click the Update button at the bottom of the tab.
  04. Select the Application Status tab from the navigation menu. This updates the Risk and Performance indicators based on the updated questionnaires.
  05. Manually update the Overall indicator and add notes if appropriate. Click the Update button to save this indicator change and comment.
  06. Click the Cancel button to return to the Scorecard.
  07. Process Changes - If the agency changes any of the processes the application supports, the Operational Performance questionnaire responses should be reviewed for continued accuracy. Process changes also affect the Business Alignment model assessments; see the Click the Cancel button to return to the Scorecard.
- Alignment Perspective section below. If only a few processes have changed, follow the process below to identify which applications need to have their Operational Performance questionnaire reviewed. If most processes have changes, almost all Operational Performance questionnaires need to be reviewed.

  01. Select the Organization (agency) under which a process has changed.
  02. Go to the Optimizer module and select “Applications” from the Entity pull-down list. Click Analyze from the navigation bar.
  03. Put a check in the box for “Use three step prioritization”
  04. Select “Business Processes – Applications Matrix” from the list box at the bottom right corner of the page and click the Go To button.
  05. Identify which applications contribute to the changed process (processes are listed in the column headings. It may be useful to export the entire matrix to a spreadsheet using the File Menu\Matrix\Save As commands shown at right.
  06. Repeat the Update Questionnaires process above for every application that contributes to the changed process.
- Update Architecture Fit Assessments
  01. Select the application to be updated from the Scorecard view and click the Edit button at the bottom of the screen.
  02. Select the Architectural Fit tab from the navigation menu. Complete the assessment fully and click the Update button at the bottom of the tab.

03. Click the Cancel button to return to the Scorecard.
04. Select the application's parent Organization from the Scorecard.
05. Go to the Optimizer module and select "Applications" from the Entity pull-down list. Click Analyze from the navigation bar.
06. Select "Prioritize Architecture Drivers" from the Select Action pull-down list in Step 1.
07. Select "Applications Priorities" from the list box at the bottom right corner of the page and click the Go To button.
08. Use the Weights Menu to save the updated architectural fit priorities "Absolute Values" as the Architecture Fit Score Attribute. See image at right. Take care not to select the wrong attribute, because the overwritten values can not be retrieved.
09. Click the Close Optimizer (red X) to return to the Optimizer home page.



Financial Perspective

The statewide standard definition of cost elements is governed by agencies through the Cost Structure Configuration Group and the MAC Application Management Workgroup. Portfolio Manager supports an option to track actual costs against budgets. Budget, Forecast and Actual costs can all be uploaded (using the Application Upload template), in batch, from spreadsheets, by the AM Administrator. Special controls apply to Forecast and Actual costs. The processes described below are for managing costs application-by-application.

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- Update application maintenance budget
  01. Select the application to be updated from the Scorecard view and click the Edit button at the bottom of the screen.
  02. If the Application Status is "Production", change it to "Budgeting" and click the Update button at the bottom of the page.
  03. Select the Budget Cost tab and use the "Drill down" pull-down list to select the level of detail for entering budget cost data.
  04. Edit each field by clicking on the icon, entering data, then pressing the enter key or moving to another field. Click the Update button at the bottom of the page to save the changes.
  05. If the Application Status was originally "Production" and it was changed to "Budgeting", change it back to "Production" and click the Update button at the bottom of the page. The new annual budgets will be divided equally among periods for use as Forecast Costs in the Cost Tracking tab.
  06. Click the Cancel button to return to the Scorecard.
- Track application maintenance costs (optional) – Applications whose Application Status field is set to "Production" will show a Cost Tracking tab in the tab navigation menu. Forecast and Actual costs for the current period can be edited in a new snapshot. The periodic snapshots are stored sequentially and can not be skipped. The next sequential snapshot period will always be populated, even if cost data is loaded in batch.
  01. Select the application to be updated from the Scorecard view and click the Edit button at the bottom of the screen.

02. Select the Cost Tracking tab from the tab navigation menu. If this option does not appear, the application is not in Production status. Use the "Drill down" pull-down list to select the level of detail for entering budget cost data.

    The latest snapshot period will be editable in the Cost Tracking Table view, the current snapshot period and all future periods will be editable in the Forecast Cost Table view. Change views by using the pull-down menu at the top of the tab.

03. If the latest snapshot is already updated, create a new snapshot by clicking on the **New Snapshot** link in the Snapshot feature at the top of the page. If the feature shown below is not visible, the application is not in Production status and costs can not be tracked.

04. Edit each Actual Cost field by clicking on the icon, entering data, then pressing the enter key or moving to another field. Click the Update button at the bottom of the page to save the changes.
05. If Forecasts costs have changed, switch to the Forecast Cost Table view and edit values appropriately. Click the Update button at the bottom of the page to save the changes.
06. Click the Cancel button to return to the Scorecard.

❖ Link to project costs (for future use) – Although projects can be linked to applications today for tracking purposes, no cost structure link has been created to transfer project costs to applications (in allocated percentages). To automatically link costs, a project cost structure must be carefully configured and the linkage node chosen and configured.

01. Select the application to be associated from the Scorecard view, click the Edit button at the bottom of the screen.
02. Click on the **Application Associations** link on the Application Info tab, select the Supporting Projects tab.
03. Click [Add] in the right column.
04. Select the associated project name and project type.
05. Enter the percentage of the total project cost attributable to the selected application, the percentage can be zero.
06. Repeat steps 4 – 6 for each associated project.
07. Click the Update button at the bottom of the page.
08. Click the Cancel button to return to the Scorecard.

Alignment Perspective

Periodically, usually semi-annually or annually, an agency's Business Drivers should be reviewed, modified if appropriate, and re-prioritized. Each Agency will govern who defines Business Drivers for their agency. All Business Driver updates will come from the agency CIO office to the OIT AM Administrator for data entry. We strongly recommend the Business Drivers be developed through a dialog with senior members of the Program Areas, including IT, in order to preserve the principle benefits of alignment.

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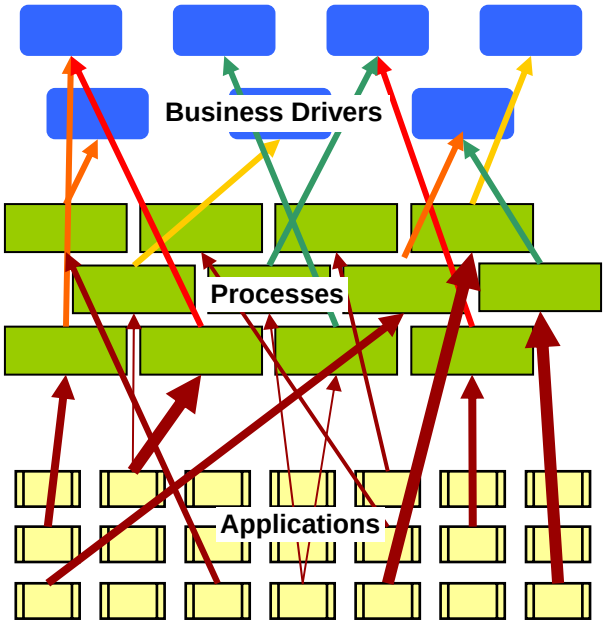
The Participants will be responsible for defining and prioritizing Business Drivers. A prioritized set of Business Drivers is the standard against which a "business importance" rating for each application is assessed. This rating provides insight when correlated to other application attributes, like business performance rating, cost, and platform type.

A Driver is a concise statement of an operating principle that guides attainment of enterprise goals. Drivers should be actionable (not simply nouns, must include a predicate) and the impact on them should be measurable. The set of drivers should be exhaustive and discreet, meaning that they cover all major strategic aspects and do not overlap. Drivers of a set should be written at the same basic level. "Penetrate East European market" and "Improve consumer product innovation" are at the same level; "Close Toledo branch." is at a much lower level.

Each agency will determine the specific participants in the Business Driver definition and prioritization process. In order to foster alignment with business strategy, program area leaders (not just IT leaders) should participate. Business Drivers should be reviewed at least annually and in light of any significant strategic shifts.

The recommended Business Alignment approach is a three step process: prioritize Business Drivers, assess process contributions to Business Drivers, and assess application contributions to processes. The three step process is supported by the three tier model shown to the left. The three step process makes the linkage from applications to Core Business Drivers more explicit, through a business process tier, than the alternative two step procedure, which is used for project Business Alignment and Architectural Fit assessments.

Three Tier Alignment Model



Three Step Alignment Process Summary

1. Prioritize Business Drivers using the pair-wise comparison process.
2. Rate Process contributions to Business Drivers using the following choices:
   - Extreme
   - Strong
   - Moderate
   - Low
   - None
3. Rate each applications current contribution to the business value created by each process. Use percentages as a rating scale.

The three tier model requires three inventories: a set of 6-10 Business Drivers, 15-40 processes, as well as the complete application inventory. Creation of the process inventory entails extra effort compared to the two tier model, but it provides important benefits. It is not always natural to assess the contribution of an application, like a data warehouse, directly to a Business Driver like "Provide low cost financial services". The linkage is made more obvious by using the process tier to link the two via a process like "Customer preference analysis".

Detailed Steps

- Business Alignment – This procedure is usually completed as a series of sessions attended by the chosen stakeholders or their representatives. Each numbered step is usually one session for initial implementation. Revisions to the Alignment Model can be done more quickly.
  01. Define/refine Core Business Drivers (CBD)
      a. Review the agency strategic planning documentation
      b. Review the Core Business concepts above, or from training documentation (see Reference Material)
      c. Write or refine existing CBD (and standardized impact statements if used), send any changes to the AM Administrator for standardized data entry. The AM Administrator must load the updates before an AM Analyst can conduct the Business Alignment procedure in Portfolio Manager.
  02. Pair-wise comparison of CBD – Representatives of Program Areas agree an a set of comparisons among all CBD that can be used to calculate their relative priorities.
      a. Select the Organization for which the CBD have been defined.

b. Go to the Optimizer module and select "Applications" from the Entity pull-down list. Click Analyze from the navigation bar.

c. Put a check in the box for "Use three step prioritization" and click the Go To button.

d. Based on a balanced discussion among the session participants, select the appropriate pair-wise comparison ratings for the entire matrix.

e. Save the matrix using the standard name ("Relative Priority") or a customized scenario name by clicking on the Save Matrix icon.

f. Press the Next Step icon to compute relative priorities for CBD.

g. If the Consistency Ratio at the top left of the next screen is above 30% or the relative priorities do not represent the agency's strategy, review the choices in the previous step for logical inconsistencies by pressing the Previous Step icon. Update the pair-wise choices and continue by pressing the Next Step icon.

03. Assess Process Contribution to Core Business Drivers

a. Complete the Business Processes – Business Drivers matrix by selecting the best fit rating of processes' current contribution to CDB. Ignore the relative importance ratings during the exercise, the primary goal is to give consistent ratings across the matrix.

You can use the Hide Chart and Zoom Out features on the tool bar to show a larger portion of the matrix while completing the assessments.

If Impact Definitions have been defined for the CBD, you can show them by clicking on the Impact Definitions tab. These reminders promote consistency among contribution ratings.

b. Save the matrix using the standard name ("Process Impact") or a customized scenario name by clicking on the Save Matrix icon.

c. Press the Next Step icon to compute the relative business importance of Processes.

d. If the relative priorities do not accurately quantify the relative importance of Processes, review the choices in the previous step for inconsistencies by pressing the Previous Step icon. Update the contribution assessments and continue by pressing the Next Step icon.

04. Assess Application Contribution to Processes

a. Complete the Business Processes – Applications matrix by selecting the best fit percentage rating of applications' current contribution to Processes. Ignore the relative importance ratings during the exercise. The primary goal is to give consistent ratings across the matrix.

You can use the Hide Chart and Zoom Out features on the tool bar to show a larger portion of the matrix while completing the assessments.

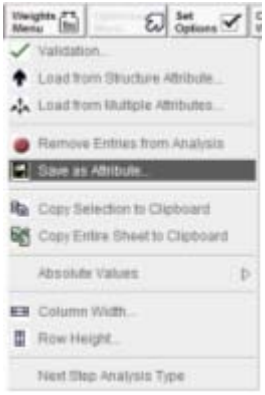
b. Save the matrix using the standard name ("Process Impact") or a customized scenario name by clicking on the Save Matrix icon.

c. Press the Next Step icon to compute the relative business importance of Processes.

d. If the relative priorities do not accurately quantify the relative importance of Processes, review the choices in the previous step for inconsistencies by pressing the Previous Step icon. Update the contribution assessments and continue by pressing the Next Step icon.

05. Save updated Business Importance attribute

06. Use the Weights Menu to save the updated business priorities as the Business Importance attribute. Alternative scenarios can be saved to "Optimizer Attributes" which are dynamically named here. See image at right. Take care not to select the wrong attribute, because the overwritten values can not be retrieved.



Alignment Scenarios

As mentioned in step 06 above, Analysts can save any number of alignment scenarios to dynamically generated "Optimizer Variables". Those variables can be used in reporting and charting analyses. Each Matrix, including

alternative assessments can and should be saved under different, usually dated, names. Even the relative priorities resulting from each interim step of the analysis can be saved, but there is little value to this because they can be regenerated from save matrices and there is little explicit need for them (unless the tool is used for Process Analysis).

WARNING: The AM Administrator is the only one who can remove Optimizer variables (it is a simple process) so take care not to clutter the charting and reporting frameworks with unimportant variables.

Application Analysis

The agencies are responsible for generating their own fact-based transformation project proposals based on the various analysis features of Portfolio Manager.

One of the principle value areas of the APM Practice is portfolio level analysis. There are two direct benefits, fact-based project ideas and IT strategy insight. The three output features of Portfolio Manager, charting, reporting and Scorecard, are used to complete APM analysis. Charts are an effective tool for illustrating (and discovering) correlations among application metrics. They also serve to identify portfolio-wide patterns that can influence future IT strategy. In addition to the pre-defined reports, the reporting framework can organize and list details about applications of interest. Finally, the Scorecard provides an at-a-glance view of the portfolio health, from tailored user perspectives, and is the focal point to "drill down" on applications of interest. The goal of the output features is to present facts in a useful way. The value-added from APM analysis comes from the insight of the analyst.

An APM practice should define a simple analysis format, like the sample described below, to guide APM analysis.

Suggested Analysis Format

- **Analysis Objective** - State what questions or hypotheses are being investigated.
- **Correlation Analysis**

  Expected Findings - State what patterns are expected in the chart.

  Chart - Define the chart(s) that will support the analysis. Available chart types are:

  Aggregated Chart – Displays aggregated real or integer values grouped by list-type variable choices

  Divergence of Opinion – Displays priority values of optimizer variables for various scenarios

  Chart Wizard – Creates correlation charts of various formats based on "information" metrics. Formats are: scatter, bubble, pie, bar, spider and line.

  Trend Chart – Displays snapshot data of entities over time. This is not especially relevant for applications.

  Initial Findings - List the actual observations from the chart, and any supporting information sources.

  Outlier Analysis - Identify outliers and explain their significance.

  Portfolio Analysis - Describe any patterns (or lack of patterns) observed in the chart and other data sources. State conclusions or define any needed follow-up investigation
- **Related Analyses and Findings** - Describe other supporting/follow-up analysis and conclusions.
- **Recommendations from Findings** - List recommended action items, expected benefits, priority/target date and owner.

Correlation Analysis

The charting feature in the UMT Portfolio Optimizer™ module supports correlation analysis. Correlation among metrics is indicative of, but not proof of, causation. Portraying quantitative metrics, like architectural fit and total annual cost, on a chart can support or refute a hypothesis about the application portfolio, like "poor architectural fit causes higher cost" (or poor performance, or higher risk). That simplistic (scatter) chart can be enriched by adding a third quantitative metric (point diameter) and a qualitative one (point color). The resulting chart displays six (potentially causal) direct relationships; and 16 combinatorial ones.

An analysis should start with an objective, which can be stated in the form of one or more questions. The metrics implied by the questions can be included in one or more charts. Portraying the metrics visually helps make two

portfolio attributes clear: outliers and patterns. An analyst can support visual findings by exporting a chart to excel and calculating statistical metrics like the correlation coefficient of two metrics.

Some analysis objective questions:

- Do our most important applications perform relatively well?
- Does application type (COTS, custom, etc.) explain low performance?
- Does platform choice explain high risk, or high cost?
- Is maintenance cost commensurate with business importance?
- Are older applications more expensive to maintain?
- Are maintenance costs and application risks proportional to application age?
- Is age a predictor of lower performance?
- Is the predominant platform changing over time, consistent with strategy?
- Does lower risk or better performance cost more?

Outlier Analysis

Outlier analysis is the explanation of applications that do not appear to follow the pattern or magnitude of most applications on the chart. Outliers can be best practices or opportunities for improvement at the portfolio level. Visually, outliers stand out from the cluster or pattern that represents the norm among the applications. Each outlier should be investigated using the detailed information tabs. Its difference should be explained, perhaps requiring further investigation. In the case of a best practice, promote repetition of the favorable aspects through policy or strategy. Ineffective outliers (enhancement opportunities) are candidates for project ideas for remediation, consolidation or retirement.

Portfolio Analysis

Portfolio analysis is the practice of seeking and analyzing patterns (or lack of expected patterns) in the application portfolio. To the extent that perceived correlations are instances of causation, application managers gain fact-based insight into how to create and maintain more effective applications. Often, a simple hypothesis, like "Applications' performance is inversely proportional to age." is disproved, leading to further investigation to understand "Why not?"

Portfolio patterns can also illustrate the consistency and magnitude of trade-offs. For example, a bubble chart may portray the trade-off: "Custom applications perform twice as well as COTS and have an appreciable improvement in overall risk, but they have a much higher implementation cost". This might be used to justify the high cost of the custom development approach for mission-critical systems to business stakeholders.

Reference Material

Found in State of Ohio doc management folder

- Training
  - Orientation
  - Inventory
  - Inventory Exercise
  - Inventory Solution
  - Assessments
  - Financial
  - Alignment
  - Analysis
  - Administration
- Manuals
  - Builder
  - Optimizer
  - Planner
  - Dashboard
- Procedures
  - APM Admin Processes
  - APM Cost Allocation
  - APM Upload Worksheet
  - Function Glossary
  - APM Analysis form
  - AM List Attributes Legend
- Other
  - Configuration
  - PC Settings