Section 8: *Weekly Analysis*

Overview

Project Managers must periodically analyze their projects in order to understand the impact of variances and assess whether a project in variance can get back on track, or if the project commitments should be renegotatiated and rebaselined. This analysis is the most powerful decision making tool available to *Project Managers*. *Clarity* provides the necessary information needed to make those decisions in a number of ways: through the project page, through reports, and through views in *Open Workbench.*

Through the *Clarity* application, the following metrics are collected initially:

1. Planned work effort versus actual effort.

2. Planned commitment versus actual delivery dates.

When analyzing and reporting these metrics we must consider the following:

1. These metrics are meant to measure estimating and how *Information Technology (IT)* keeps commitments. It has nothing to do with a resource's individual performance.

2. *Resource Managers* and *Project Managers* are encouraged to include team members in their estimating process.

3. The quality of the actuals tracked directly influence the quality of the metrics.

Much of the information necessary to perform project analysis can be found using *Open Workbench* views. The *Open Workbench* **View Library** is broken into a number of folders, based on the stages of the *Project Planning and Controlling* process. The **Weekly Analysis** folder contains the views for project analysis.

Other information useful for analysis, such as Gantt charts, are best viewed in *Clarity*. To view an interactive Gantt chart for a specific project in *Clarity:*

1. Launch the *Clarity* application

2. From the **Overview: General** page, under **My Projects**, click the appropriate **Projects** link

3. Select the **Tasks** tab, then select **Resource Utilization**

Use the drill-down to see phases, activities, and tasks. Gantt charts can also be viewed on the **Tasks, Gantt** page.

Different types of projects require different types of analysis. For example, *Team Plans* typically contain fixed and locked tasks and have a somewhat uniform usage over time. Analysis of *Team Plans* differs from *Enhancement Budgets*, where a budget is established at the beginning of the project and specific tasks are not added until later. Analysis of detailed project plans is even more complex. Detailed plans are composed of mostly variable tasks (the core work), but also contain fixed and locked tasks (such as *Status Meetings*) and budgeted tasks (such as *Scope Change Management*).

Team Plan Analysis

Team Plan usage should be reviewed at least monthly, using the appropriate **Usage Analysis Gantt** view in the **Weekly Analysis** folder for Non-Project, Team Management, Customer Support, and Systems Maintenance projects. Many of the tasks in *Team Plans* are fixed and locked to start and end based on the current fiscal year, as shown by the black horizontal line in the Gantt portion of the view. The light gray horizontal bar represents the actual percent expended on the activity.

Many activities in *Team Plans* will follow a uniform usage over time. A low usage to date (% expended bar ending to the left of today's date) may indicate a low original estimate. A high usage to date (% expended bar ending to the right of today's date) may indicate an activity which required a large amount of time early in the year. Those activities which show a usage within plus or minus 1 month from today's date likely have a good remaining Estimate to Complete (ETC). The remaining ETC should be reviewed for those activities that show a higher usage than planned or those activities that show a lower usage than planned.

The key here is "*reviewed*". More or less usage compared to a typical uniform usage may not necessarily require the ETC to be "*revised*". Cyclical or one-time support activities can cause the usage to appear to be greater than planned and should be accounted for. This Gantt chart helps to quickly and easily identify activities that "*may*" need ETC revision.

If the ETC is to be revised it should be for the hours the team expects will be necessary for the remainder of the fiscal year. The ***Resource Load*** view should be used in conjunction with this view to allow easy revision of the ETC for the resources involved with the specific activity in question.

Variance explanations are required at the activity level for all *Customer Support*, *Systems Maintenance*, and *Planned Maintenance and Upgrade* projects for all activities with a variance percentage of plus or minus 20% or greater. However, if the activity's original estimate (baseline) is less than 20 hours the variance is negligible and an explanation is not necessary. The **Variance Explanation** view in the **Weekly Tracking** folder can be used to enter variance explanations at the activity level.

> *S* *Variance Explanations are required at the Activity level in Team Plans for any activity that is plus or minus 20% variance. However, an explanation is only required if the original estimate is over 20 hours. If the original estimate was less than 20 hours the variance is negligible and an explanation is not necessary.*

Some activities, especially in *Planned System Maintenance and Upgrade* plans, may not follow a uniform usage over time. These activities should be reviewed weekly. Activities with a start date in the past that have a status of *Not Started* should be reviewed and modified if the activity was delayed. The remaining ETC should also be reviewed for activities that show no usage, higher usage, or lower usage than planned.

Work on certain tasks, especially tasks in *Non-Project Plans*, cannot be distributed amongst *Team Members*. Tasks of this nature must be reviewed at the task or resource level. Tasks such as *Time Off* and *Training* are very rarely found to follow a uniform usage. You should however make sure the remaining ETC accurately reflects the hours necessary for the remainder of the fiscal year. Other tasks, such as *Administration & Other*, normally do follow a uniform usage. Those *Team Members* whose usage is greater than planned (% expended bar on the Gantt ending to the right of today's date) may indicate a low original estimate or inaccurate tracking. If the original estimate was too low, the remaining estimate should likely be increased. Those *Team Members* whose usage is less than planned may indicate a high original estimate and the ETC should be lowered if appropriate.

The **Resource Load** view can be used to view assignments at the resource level. To filter on an individual resource, click on the **Resource Filter** in the *Open Workbench* toolbar and select the desired resource. ETC for tasks using the uniform load pattern (such as *Administration & Other*) can be modified by entering the new number in the **Estimate** column. The usage will be spread evenly throughout the remaining duration of the task. ETC for tasks using the fixed load pattern (such as *Time Off*) must be modified using the **Timescale** on the right-hand side of the view. For example, if the resource is planning on attending a 3-day training class in December 2007, enter "21" in the appropriate space on the **Timescale**. Usage for the 21 hours will be assigned only to that time period.

Budget Project Plan Analysis

The **Enhancement Budget Status** view in the **Enhancement Budget** folder displays activities for budgeted projects, such as *Enhancement Budget* and *Program Development* projects. This will allow *Resource Managers* and *Project Managers* to review the total estimated hours for the budget compared to the original approved hours for the budget.

The **Revised Total Estimate** total of the view should always match the **Original Estimate** total of the view. This would indicate that all planned enhancements to be developed as part of this budget will be within the planned budget. Once the budgeted project is approved by the *Leadership Group* and *IT Steering Committee*, it is baselined. This provides the record of the approved hours as shown in the **Original Estimate** column. As enhancements are requested, an *Enhancement Budget Request Form* must be completed and signed by the *Project Sponsor*. Next, a task is added to the *Enhancement Budget*, resources are assigned, *ETC* is entered, and the project is auto-scheduled. The *Enhancement Budget* task ETC is then decremented by the same number of hours as the added task, thus resulting in the **Original Estimate** for the activity equaling the **Revised Total Estimate** for the activity. Refer to *Section 12: Prepare and Manage Budgets* for more information regarding *Enhancement Budgets* and *Program Development Budgets*.

Detailed Project Plan Analysis

Detailed projects plans typically cannot be analyzed by looking at one view. Each specific component of the plan must be looked at individually before the project is reviewed as a whole. For example, most detailed project plans contain a budget for *Issues Management* and another budget for *Scope Change Management*. Some detailed project plans even contain unique budgets for specific tasks (*End-User Training* is one common example of this). Each of these budgets must be examined individually and kept in balance. Other aspects of the project, such as work distribution among resources, task scheduled end dates, and variance must also be reviewed. The level of detail to which each of these components is examined may differ depending on who is reviewing them: the *Project Manager,* the project's *Team Members*, *IT Management*, etc. There are several views in the **Weekly Analysis** folder which are useful for analyzing each of these components. Additional *Clarity* reports can also be of assistance when analyzing detailed project plans.

Issues Management Status

This view will allow you to review the total estimated hours for the project's *Issues* tasks compared to the original approved *Issues Management* budget for the project. It displays the *Issues Management Budget* and all tasks added to the plan with a category code of "I". The *Issues Management* task is a uniform loaded and locked task for the duration of the project. Other variable-duration tasks are added to the plan with a category code of "I" as specific project issues arise. Refer to *Appendix C: Task Category Field Standards* for more information regarding category codes.

The **Issues Management Status** view should be reviewed weekly. More or less usage compared to a typical uniform usage may not necessarily require the ETC to be "*revised*". One-time issue activity can cause the usage to appear to be greater than planned and should be accounted for. This analysis view is provided to quickly and easily identify whether the *Issues Management* task "*may*" need ETC revision. If the ETC is to be revised it should be for the hours the team expects will be necessary for the remainder of the project. The ETC can be revised by using the **Estimate** column of the view.

This view also displays *Issue* tasks added to the plan for the *Project Manager* to follow-up and monitor. Typically *Issues* that are unresolved are a detriment to the project. As *Issue* tasks are added to the plan, the *Issues Management* task should be decremented by the same number of hours. It may happen that the *Issues Management* budget is exceeded. If this is the case, the *Project Manager* should still continue to add *Issue* tasks, and the remaining ETC for the resources on the *Issue Management* task should be for anticipated hours for general involvement in *Issue* resolution. However, exceeding the *Issues Management* budget requires that the project's overall variance be monitored and perhaps the *Contingency* decremented. Refer to *Section 3: Issues Management* for more information regarding *Issues Management* and *Section 7: Weekly Tracking* for more information regarding project variance and *Contingency*.

Scope Change Management Status

This view will allow you to review the total estimated hours for the project's *Scope* changes compared to the original approved *Scope Change Management* budget for the project. It displays the *Scope Change Management* task, plus all unbaselined tasks added to a detail plan with a category code of anything other than "I" (*Issues*). Keep in mind that *Scope Change* tasks should always be added with a category code of "C" and *Unplanned* tasks should always be added with a *Category Code* of "U". It is recommended that any task on this view without a category code be assigned the appropriate one. Refer to *Appendix C: Task Category Field Standards* for more information regarding category codes.

The **Revised Total Estimate** total of the view should always match the **Original Estimate** total of the view. This would indicate that all planned *Scope* changes to the project are within the planned *Scope Change Management* budget for the project. *IT's Scope Management* policy demands that the budget not be exceeded without additional hours being approved by the *IT Steering Committee*.

The record of the approved hours is shown in the **Original Estimate** column. As *Scope Changes* are requested, an appropriate task is added to the project plan, resources assigned, ETC entered, auto-scheduled, and a signed *Project Scope Change Request* form is obtained from the *Project Sponsor*. The *Scope Change Management* task ETC is then decremented by the same number of hours as the added task, thus resulting in the **Original Estimate** for *Scope* changes equaling the **Revised Total Estimate** for *Scope* changes. Refer to *Section 4: Change Request Process* for more information on *Scope*.

De-Scope Change Management Status

This view provides a listing of all the tasks that have a category code of "D" and have been descoped from the project. This view is provided for reporting purposes to the *Customer* only and no analysis is necessary. Refer to *Section 4: Change Request Process* for more information on *Descope.*

Project Team Status Report Detail Plan

This view provides a listing of all tasks that are not completed and is used by *Project Managers* to validate that the plan reflects the team members current ETC and to review with them the schedule as planned.

This view should be used as the basis to discuss the following at regular team status meetings:

1. Are there tasks that can be completed?
2. Is the ETC of each task the correct amount needed to complete the remaining work?
3. Is the schedule as shown the same as the *Team Member's* understanding or the *Project Manager's* intentions?
4. What is the reason for new variance?

The discussion surrounding this report and the answers will help insure the information in *Open Workbench* reflects reality and can be relied upon for management and customer reporting.

Resource Load

This view provides both historical and planned hours by month for all resources and all tasks in a project plan. The hours in the **Task Detail** portion of the **Timescale** that are in the past show actual hours the resource tracked to the task. The hours in the **Timescale** for the future months show hours planned for that resource on that task. The hours in the **Resource Summary** portion of the **Timescale** that are in the past show the actual hours worked (usage) and the total hours worked over (negative number) or under (positive number) their daily availability.

This view can be used for a number of purposes, however its' greatest asset is the resource summary which allows a *Resource Manager* or *Project Manager* to quickly and easily see planned over or under commitment of a resource. If a resource is overcommitted (indicated by a negative available hours), the **Resource Filter** can be used to focus on that resource's assigned tasks and determine which resource those assignments can be moved to. If a resource is underutilized (indicated by a positive available hours) the *Project Manager* or *Resource Manager* can begin to determine additional assignments for that resource.

> *S* *IT does not permit Project Managers and Resource Managers to plan for over commitment beyond 10 hours per month per resource.*

Project Status Report – Detail Plans

This view provides a high level status of a detail plan to determine the overall "*health*" of the project. It is used as a starting point to determine whether or not there is significant variance in the project's total hours or delivery date.

The first "*health*" indicator is by comparing the **Original Estimate** hours as compared to the anticipated **Revised Total Estimate** for the project. This is indicated two ways, **Variance Hours** and **Variance Percent**. Due to the fact that all plans are based on estimates, some variance is to be expected. This however should be compared to the percent of the project completion. A project with 20% variance in hours that is only 40% complete may be in trouble in that this variance can grow considerably as the remaining 60% of the project is being completed. A project however that is 90% complete and the hours are within 20% variance is not likely to incur much more variance during the remaining 10% of the project.

The second "*health*" indicator is determined by the **End Variance Days**. A "*healthy*" project should be + or – 30 days. The same metric applies to the **End Variance Days** however and should be compared to the project % completion.

The reasons for the variance, either hours or days, can be identified by simply changing this view's level of analysis to phase, activity or task. This will allow the *Project Manager* to easily identify the phase, activity or task that is causing the variance, and take the appropriate steps to correct it. To change the level of analysis on a view in *Open Workbench,* select **Manage Libraries** from the View group on the toolbar. Select the **Description** tab and enter a new value for the **Level of Analysis.**

Remember, the goal of *IT* is to continue to improve our ability to deliver projects on time and on budget. Positive variance (hours or days) is not considered any better or worse than negative variance. A variance of plus or minus 20% will require an explanation at the project level. The **Variance Reporting** folder provides a number of other views that can be used for entering explanations. If the project is plus or minus 20% variance, *Project Management Office (PMO)* will include the project in the weekly variance report. The Project Manager may be asked to present an explanation to the *IT Steering Committee*.

S *Any project that is plus or minus 20% variance will require an explanation.*

S *Once a project exceeds plus or minus 20% variance, PMO will include the project on the weekly variance report. The Project Manager must provide a variance explanation to PMO, and may be requested to present that explanation to the IT Steering Committee at the next meeting. The Steering Committee may require the Project Manager to take action to correct the variance.*

To enter a *Variance Explanation* from the **Project Status Report – Detail Plans** view*,* select **Project Properties** from the **File** menu, then select the **Notes** tab. Enter the *Variance Explanation* in the dialog box and click the **Add** button.

Project Storyboard Report

This report provides an overall summary of the status of the project, including usage variance, schedule variance, issues, and scope change requests. Links on the report provide access to lower-level task information. Refer to *Section 10: Reporting and Portlets* for more information on running this report in *Clarity*.

The *Project Storyboard* report is another tool that can be used to monitor the factors that contribute to the overall *"health"* of a project. This report should be monitored weekly. It can be used to review project status with the *Customer,* project *Team Members,* and *IT Management.*

The report contains several *"flags"* that display in red, yellow, or green to indicate status. Green flags indicate that aspect of the project is *On Track,* yellow flags signify a *Warning,* and red flags indicate the status is *Critical.*

The **Finish Date Variance** and **Variance Pct** flags indicate how the project is progressing compared to the baseline finish date and baseline total usage, respectively. While a project may be *On Track* in one area, it may be *Critical* in another. For example, if the **Variance Pct** flag is green, the project appears to be *On Track.* However, a red flag in the **Finish Date Variance** indicates that while the project work is expected to be completed within the estimated amount, it will not be completed on time. Additional phase-level **Finish Date Variance** flags appear at the bottom of the report, in the **Status** column of the **Hours and Schedule** section. The phase-level

flags can be used to analyze schedule variance at a more refined level. The **Full Project Plan** link proves access to a task-level report for this project, which allows the *Project Manager* to identify and take action against specific problem areas.

The **Status** flag in the **Project Statistics** section of the report is based on information that is entered and controlled by the *Project Manager.* He or she can change the value of the flag on the **Project Properties** page in *Clarity.* Refer to *Section 7: Weekly Tracking* for more information about changing the **Status** flag.

The **Project Statistics** section of the report can be used to compare the project's **% Complete, % Contingency Used,** and **% Scope Used** (i.e., the *"burn rate"*). Projects with a high **% Contingency Used**, but with a much lower **% Complete** may indicate the contingency burn rate is too high. Even though the project may show little or no variance (a green flag) there may not be enough contingency left to accommodate the remaining work in the project. The same can be said for a high **% Scope Used** and a low **% Complete.** If this is the case, the *Project Manager* may want to consider a *Project Renegotiation* for the remainder of the project. Refer to *Section 5: Scheduling, Project Renegotiation Process* for more information. At minimum, the *Project Manager* should keep careful watch of the burn rates and the usage variance and continue to monitor these frequently.