Crosswind Learning

Crosswind Success Series:
PMP® Exam Bootcamp Manual

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11.5.15. Summary Schedule

The summary schedule shows an aggregate or rolled up view of the various activities at a summary level. It gives senior management, the project management team, and team members a picture of how long the summary level work packages will take, and in what sequence they will occur.

Know the characteristics of a summary schedule.
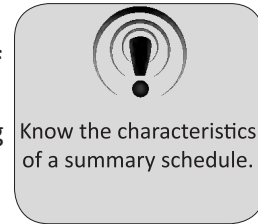
WBS #	Activity (Task)	Days	Jan	Feb	Mar	Apr	May
					Timeline		
1.1	CRM Application Development Starts	100					
1.1.1	Module A	40					
1.1.2	Module B	40					
1.1.3	Module C	40					
1.2	Deployment	20					
1.2.1	Production Cut Over	20					

Figure 11-28: Summary Schedule Sample

The source for the above figure is the Project Management Institute, *A Guide to the Project Management Body of Knowledge*, (*PMBOK® Guide*) – Sixth Edition, Project Management Institute Inc., 2017, Figure 6-21, Page 219

11.5.16. Hammock Activity

A hammock activity is a summary activity that encompasses all of the tasks or activities underneath it. The summary or hammock activity starts at the earliest start date of the activities encompassed and finishes at the latest finish date of the activities encompassed. For example, in Figure 11-28, Summary Schedule Sample, Module A, Module B, and Module C are part of the hammock activity CRM Application Development Starts. The hammock activity is scheduled to start in January and end before May.
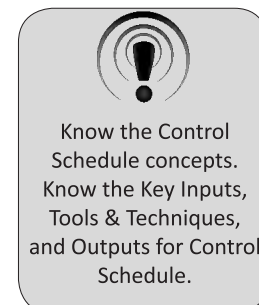
11.5.17. Agile Release Planning

The coach/facilitator facilitates the release planning meeting. The team and the product owner/customer attend this meeting. The team selects the user stories/requirements to be included in the release based primarily on product owner/customer prioritization. The team typically places the user stories/requirements, listed on sticky notes, on a white board. The team then divides the release, or designated unit of calendar time, into iterations. It is very important that all team members, even those that are not co-located, participate in this meeting.

The source for the above text is the Project Management Institute, *A Guide to the Project Management Body of Knowledge*, (*PMBOK® Guide*) – Sixth Edition, Project Management Institute Inc., 2017, Pages 205-221

11.6. Control Schedule (Monitoring and Controlling Process Group)

During the Control Schedule process, changes to the schedule are managed and controlled.
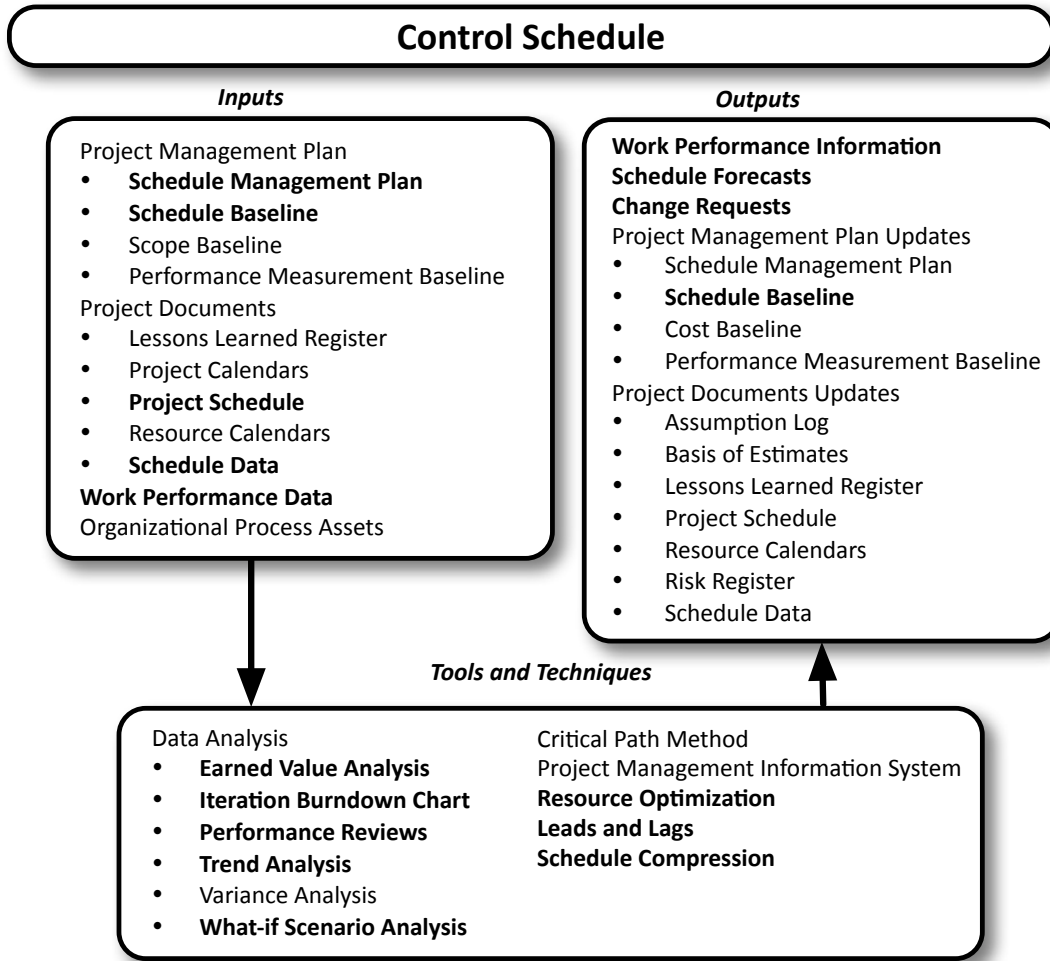
Know the Control Schedule concepts. Know the Key Inputs, Tools & Techniques, and Outputs for Control Schedule.

Control Schedule

Inputs

Project Management Plan
- **Schedule Management Plan**
- **Schedule Baseline**
- Scope Baseline
- Performance Measurement Baseline

Project Documents
- Lessons Learned Register
- Project Calendars
- **Project Schedule**
- Resource Calendars
- **Schedule Data**

Work Performance Data

Organizational Process Assets

Outputs

Work Performance Information
Schedule Forecasts
Change Requests

Project Management Plan Updates
- Schedule Management Plan
- **Schedule Baseline**
- Cost Baseline
- Performance Measurement Baseline

Project Documents Updates
- Assumption Log
- Basis of Estimates
- Lessons Learned Register
- Project Schedule
- Resource Calendars
- Risk Register
- Schedule Data

Tools and Techniques

Data Analysis
- **Earned Value Analysis**
- **Iteration Burndown Chart**
- **Performance Reviews**
- **Trend Analysis**
- Variance Analysis
- **What-if Scenario Analysis**

Critical Path Method
Project Management Information System
Resource Optimization
Leads and Lags
Schedule Compression

Figure 11-29: Control Schedule Data Flow Diagram

The source for the above figure is the Project Management Institute, *A Guide to the Project Management Body of Knowledge*, (*PMBOK® Guide*) – Sixth Edition, Project Management Institute Inc., 2017, Figure 6-22, Page 222

Control Schedule (Monitoring and Controlling)		
Key Inputs	Schedule Management Plan	The schedule management plan is a component of the project management plan that details the delineation, evolution, monitoring, and control of the schedule. It delineates the manner in which reserves are to be used and the schedule is to be controlled. The plan also establishes the frequency of updates to the schedule.
	Schedule Baseline	The schedule baseline is compared to actual results to discover any variances. The proper course of action is then determined based on those variances.

Control Schedule (Continued)		
Key Inputs	Project Schedule	The project schedule is the product of a schedule model containing linked activities and their planned dates, durations, milestones, and resources. The project schedule always refers to the most recent version of the schedule with documented updates, activities that have been completed, and activities that have started.
	Schedule Data	Schedule data is the information used to delineate and control the schedule. Milestones, activities, activity attributes, assumptions, and constraints are contained in the schedule data. Other information may include, but is not limited to, cash-flow projections, order and delivery schedules, and resource histograms. Supporting detail such as resource requirements by time period, alternative schedules, and applied schedule reserves may also be included. Schedule data is subject to review and update during this process.
	Work Performance Data	Work performance data represents the raw metrics and observations identified during the performance of project work activities. It includes activities that have started; the progression of those activities in terms of duration to date, remaining duration, and percentage complete; and activities that have been completed. The data is passed to controlling processes for analysis.
Key Tools & Techniques	Earned Value Analysis	Earned value analysis is used to compare the work done (BCWP) to the work that should have been done (BCWS), this provides the state of the schedule. Comparing the work done (BCWP) to the actual costs associated with work completed (ACWP), provides the state of the budget. The earned value analysis provides a numerical evaluation of the state of the project. Schedule performance measurements, such as schedule variance (SV) and schedule performance index (SPI), are used to determine the significance of variance from the original schedule baseline. Cost performance measurements, such as cost variance (CV) and cost performance index (CPI), are used to determine the performance efficiency and variance of the budget.

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Control Schedule (Continued)		
Key Tools & Techniques (Cont.)	Iteration Burndown Chart	The iteration burndown chart depicts remaining work from the iteration backlog. An ideal burndown (the burndown established during iteration planning) is used as the basis for comparison and analysis. Using a forecast trend line, the variance at iteration completion can be determined so that the proper course of action can be taken.
	Performance Reviews	Performance reviews compare, measure, and analyze schedule performance against the schedule baseline. Items considered include the remaining duration of work, the start and finish dates of an activity, and completion percentage.
	Trend Analysis	Trend analysis is used to project the future state of project performance based on the present state of project performance, in other words, to determine if performance is improving or declining. The analysis can be used to predict issues, such as slippages in time, to determine and effect corrective action.
	What-if Scenario Analysis	What-if scenario analysis is the assessment of scenarios so that their effect on project goals can be predicted. A schedule network analysis is performed utilizing the schedule to determine the consequence of a scenario. The result of the analysis is useful in evaluating project success under different conditions and to determine schedule reserves and response plans to address risk.
	Resource Optimization	Resource optimization techniques, such as resource leveling and resource smoothing, are used to adjust the schedule to accommodate resource availability. Resource leveling is accomplished by adjusting start and finish dates to offset resource demand with resource supply. Resource smoothing is accomplished by using an activity's float to offset resource demand with resource supply. These techniques can also be used to schedule a consistent level of hours (usually either daily or weekly) for project resources.
	Leads and Lags	A lead is the amount of time that a successor activity will be started before a predecessor activity is completed. A lag is the amount of time that a successor activity will be delayed after the predecessor activity is completed.

Control Schedule (Continued)		
Key Tools & Techniques (Cont.)	Schedule Compression	Schedule compression techniques are utilized to align activities that have slipped out of alignment with the plan. Techniques include crashing, decreasing the schedule duration by increasing resources for activities on the critical path, and fast tracking, decreasing the schedule duration by performing activities or phases at the same time, instead of in sequence for at least a part of their duration.
Key Outputs	Work Performance Information	Work performance information represents the raw metrics and observations identified during the performance of project work activities. It includes activities that have started; the progression of those activities in terms of duration to date, remaining duration, and percentage complete; and activities that have been completed. The information is analyzed against the schedule baseline. Start date, finish date, and duration variances can be determined at the work package or control account level. If earned value management is applied to the information, the schedule variance (SV) and schedule performance index (SPI) are documented in work performance reporting.
	Schedule Forecasts	Schedule forecasts are utilized to predict the occurrence of future events or contingencies based on current knowledge. They are updated and reissued in accordance with work performance information during project execution.
	Change Requests	Change requests are requests for modification that have not been formally approved through the change control process. Changes to the baseline, scope baseline, or other components of the project management plan may be requested as the result of schedule variance analysis, progress report scrutiny, enacted performance measures, and alterations to the project schedule or scope.
	Schedule Baseline	The schedule baseline is updated in response to approved change requests related to project scope, activity resources, or activity duration estimates. It is also updated to reflect changes that occurred due to the application of schedule compression techniques or performance issues.

11.6.1. Iteration Burndown Chart

The iteration burndown chart depicts remaining work from the iteration backlog. An ideal burndown (the burndown established during iteration planning) is used as the basis for comparison and analysis.
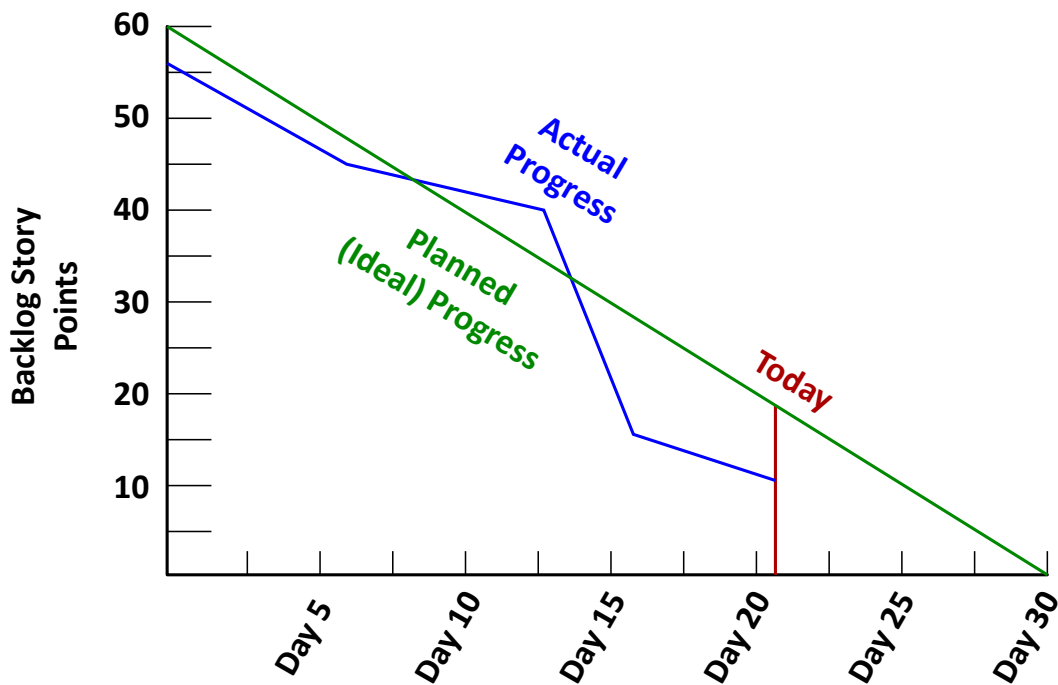

Figure 11-30: Iteration Burndown Chart

The source for the above figure is the Project Management Institute, *A Guide to the Project Management Body of Knowledge*, (*PMBOK® Guide*) – Sixth Edition, Project Management Institute Inc., 2017, Figure 6-24, Page 226

Using a forecast trend line, the variance at iteration completion can be determined so that the proper course of action can be taken.

The source for the above text is the Project Management Institute, *A Guide to the Project Management Body of Knowledge*, (*PMBOK® Guide*) – Sixth Edition, Project Management Institute Inc., 2017, Pages 222-230

Chapter 11
Schedule