Crosswind Learning

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Project Management Professional (PMP)® Exam

Crosswind Success Series: PMP® Exam Bootcamp Manual

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Version 6.1 aligned with the Project Management Institute, *A Guide to the Project Management Body of Knowledge, (PMBOK® Guide)* - Sixth Edition, Project Management Institute Inc., 2017

11.5.9. Network Diagram Analysis

The Network Diagram (Figure 11-21: Network Diagram Analysis) contains the arrows and formulas necessary for the calculation of duration or slack (float). The relevant formulas are listed in the diagram and the diagram arrows point in the starting direction. Note that if an activity is on the critical path, the slack (float) is zero.

Instructions for Using the Alternative Method to Calculate the Slack (Float) of an Activity

Use the formula LF - EF (late finish - early finish) or LS - ES (late start - early start) to calculate the slack (float) of an activity by using the date provided in the exercise. If the difference is zero, the activity is on the critical path. If the value is negative, the activity has negative slack (float); if the value is positive, the activity has positive slack (float).

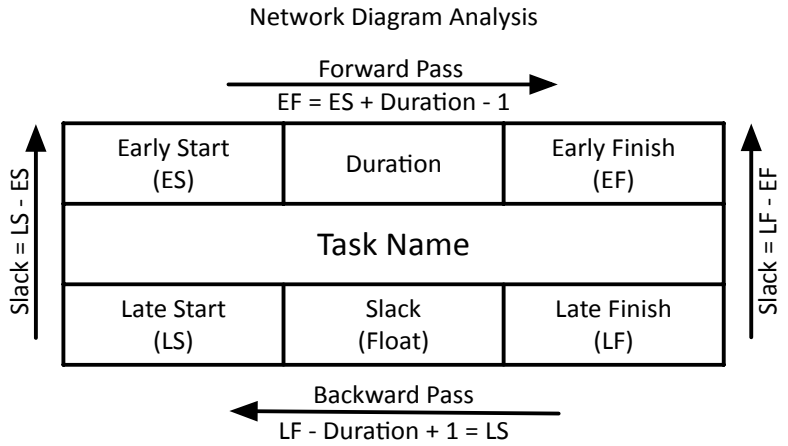

Figure 11-21: Network Diagram Analysis

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 6-16, Page 211

11.5.10. Schedule Compression Techniques

If it is necessary to compress the schedule (usually to achieve a more aggressive time goal), the two main techniques are **crashing** and **fast tracking**. Schedule compression may employ either or both techniques.

Crashing is the application of additional resources (human) to the critical path items, excluding any resequencing activities.

Fast tracking is the analysis of the network diagram and activity sequencing to determine the sequencing adjustments that will accelerate the completion of work. Fast tracking does include the risk exposure associated with the resequencing.

Instructions for Fast Tracking

Figure 11-22: Network Diagram Pre-fast Tracking has two paths: the first path is A, B, D, E, F with a total duration of 13 and the second path is A, C, D, E, F with a total duration of 12. Path A, B, D, E, F is the critical path because it is the longer of the two paths.