Appendix A
Glossary of Project Management Terms

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A

Activity

An element of work performed during the course of a project. An activity normally has an expected duration, an expected cost, and expected resource requirements. Activities are often subdivided into tasks.

Activity delay

The maximum amount of time that an activity can be delayed due to lack of resources.

Activity-on-arrow (AOA)

See *arrow diagramming method.*

Activity-on-node (AON)

See *precedence diagramming method.*

Activity priority

A priority value assigned to activities to provide an ordering for activities that are waiting for resources (during resource-constrained scheduling).

Activity splitting

Allowing activities to be split into segments during resource allocation. In some instances, preemption of activities may free a resource to be used by a more critical activity.

Actual Cost of Work Performed (ACWP)

Total costs incurred (direct and indirect) in accomplishing work during a given time period. See also *earned value.*

Actual Finish date (AF)

The calendar date work actually ended on an activity. It must be prior to the timenow date.

Actual Start date (AS)

The calendar date work actually began on an activity. It must be prior to the timenow date.

Aggregation

Using activity resource requirements to calculate total resource needs rather than to constrain the project schedule. Normally, resource requirements are used to perform resource-constrained scheduling.

once a baseline schedule is established, it does not change over the course of the
project.

Baseline Start date (BS)

The calendar date when work was scheduled to begin on an activity. This date is
usually estimated, or it can be derived from the early, late, or scheduled start dates.
Typically, once a baseline schedule is established, it does not change over the course
of the project.

Budget at Completion (BAC)

The estimated total cost of the project when done.

Budgeted Cost of Work Performed (BCWP)

The sum of the approved cost estimates (including any overhead allocation) for ac-
tivities (or portions of activities) completed during a given period (usually project-to-
date). See also *earned value*.

Budgeted Cost of Work Scheduled (BCWS)

The sum of the approved cost estimates (including any overhead allocation) for ac-
tivities (or portions of activities) scheduled to be performed during a given period
(usually project-to-date). See also *earned value*.

C

Calendar

A calendar identifies project work days, and it can be altered so that weekends, holi-
days, vacation, weather days, and so forth are not included.

Cost Performance Index (CPI)

The ratio of budgeted costs to actual costs (BCWP/ACWP). The CPI is often used to
predict the magnitude of a possible cost overrun using the following formula: original
cost estimate/CPI = projected cost at completion. See also *earned value*.

Cost variance (CV)

(1) Any difference between the estimated cost of an activity and the actual cost of an
activity.

(2) In earned value, BCWP less ACWP.

Critical activity

Any activity on the critical path.

Critical path

The series of activities of a project that determines the earliest completion of the
project. The critical path generally changes from time to time as activities are com-
pleted ahead of or behind schedule. The critical path is usually defined as those
activities with total float less than or equal to zero. See also *critical path method*.

Critical path method (CPM)

A network analysis technique used to predict project duration by analyzing which
sequence of activities (which path) has the least amount of scheduling flexibility
(the least amount of total float). Early dates are calculated by means of a forward

pass using a specified start date. Late dates are calculated by means of a backward pass starting from a specified completion date (usually the forward pass's calculated project early finish date).

Cycle

See *loop*.

D

Data date

See *timenow date*.

Dependency

See *logical relationship*.

Duration

The number of work periods (not including holidays or other nonworking periods) required to complete an activity or set of activities. All activity durations are specified with the same duration unit.

Duration unit

The duration unit specifies the unit of time for the duration of each activity in the project. The following choices are available:

- Second

- Minute

- Hour

- Day

- Weekday

- Week

- Month

- Qtr

- Year

E

Early Finish date (EF)

In the critical path method, the earliest possible point in time on which the uncompleted portions of an activity (or the project) can finish, based on the network logic and any schedule constraints. Early finish dates can change as the project progresses and changes are made to the project plan.

Early Start date (ES)

In the critical path method, the earliest possible point in time on which the uncompleted portions of an activity (or the project) can start, based on the network logic and

any schedule constraints. Early start dates can change as the project progresses and changes are made to the project plan.

Earned value (EV)

(1) A method for measuring project performance. It compares the amount of work that was planned with what was actually accomplished to determine if cost and schedule performance is as planned. See also *actual cost of work performed*, *budgeted cost of work performed*, *budgeted cost of work scheduled*, *cost variance*, *cost performance index*, *schedule variance*, and *schedule performance index*.

(2) The budgeted cost of work performed, for an activity or group of activities.

Earned value analysis

See definition (1) under *earned value*.

Effort

The number of labor units required to complete an activity or other project element. Usually expressed as staffhours, staffdays, or staffweeks. Should not be confused with duration.

Estimate at Completion (EAC)

The expected total cost of an activity, group of activities, or the project when the defined scope of work has been completed. Most techniques for forecasting EAC include some adjustment of the original cost estimate based on project performance to date. Also called "estimated at completion." Often shown as EAC = Actuals-to-date + ETC. See also *earned value* and *estimate to complete*.

Estimate to Complete (ETC)

The expected additional cost needed to complete an activity, a group of activities, or the project. Most techniques for forecasting ETC include some adjustment to the original cost estimate based on project performance to date. Also called "estimated to complete." See also *earned value* and *estimate at completion*.

F

Float

See *total float*.

Forward pass

The calculation of the early start and early finish dates for the uncompleted portions of all network activities. See also *backward pass*.

Free float (FF)

The amount of time an activity can be delayed without delaying the early start of any immediate successor activities. See also *total float*.

G

Gantt chart

A graphic representation of work activities shown by a time-scaled bar chart.

Graphical Evaluation and Review Technique (GERT)

A network analysis technique that allows for conditional and probabilistic treatment of logical relationships (that is, some activities may not be performed).

H

Holiday

A period of time within the project timeframe when work cannot be scheduled. Holidays can be assigned to one or more calendars.

L

Lag

A modification of a logical relationship that directs a delay of the successor task. For example, in a finish-to-start dependency with a 10-day lag, the successor activity can start 10 days after the predecessor has finished. See also *lead*.

Late Finish date (LF)

In critical path method, the latest possible point in time that an activity can be completed without delaying a specified milestone (usually the project finish date).

Late Start date (LS)

In critical path method, the latest possible point in time that an activity can begin without delaying a specified milestone (usually the project finish date).

Lead

A modification of a logical relationship that allows an acceleration of the successor task. For example, in a finish-to-start dependency with a 10-day lead, the successor activity can start 10 days before the predecessor has finished. See also *lag*.

Logic

The collection of activity dependencies that make up a project network diagram.

Logic diagram

See *network diagram*.

Logical relationship

A dependency between two project activities. The four possible types of logical relationships are

- Finish-to-start – the "from" activity must finish before the "to" activity can start.

- Finish-to-finish – the "from" activity must finish before the "to" activity can finish.

- Start-to-start – the "from" activity must start before the "to" activity can start.

- Start-to-finish – the "from" activity must start before the "to" activity can finish.

Finish-to-start is defined as the standard (or default) logical relationship.

Loop

A network path that passes the same node twice. Loops cannot be analyzed using traditional network analysis techniques such as CPM and PERT. Loops are allowed in GERT.

M

Maximum number of segments

This value specifies the maximum number of segments that an activity can be split into when activity splitting is allowed.

Milestone

A significant event in the project, usually completion of a major deliverable.

Minimum segment duration

This value specifies the minimum duration of a segment of an activity when activity splitting is allowed.

N

Near-critical activity

An activity that has low total float.

Network

See *network diagram*.

Network analysis

The process of identifying early and late start and finish dates for the uncompleted portions of project activities. See also *critical path method*, *Program Evaluation and Review Technique*, and *Graphical Evaluation and Review Technique*.

Network diagram

A schematic display of the logical relationships of project activities. Always drawn from left to right to reflect project chronology. Often incorrectly referred to as a "PERT chart."

Network logic

See *logic*.

Network path

Any continuous series of connected activities that make up a project network diagram.

Node

One of the defining points of a network; a junction point joined to some or all of the other dependency lines. Also, the graphic representation of an activity. See also *arrow diagramming method* and *precedence diagramming method.*

Non-standard logical relationship

A dependency between two project activities that is not the standard finish to start relationship. See *logical relationship* for the four possible types of relationships.

O

Organizational breakdown structure (OBS)

A depiction of the project organization arranged so as to relate work packages to organizational units.

Overlap

See *lead*.

P

Parent task

See *supertask*.

Path

A set of sequentially connected activities in a project network diagram.

Path float

See *total float*.

Percent complete

An estimate, expressed as a percent, of the amount of work that has been completed on an activity or group of activities.

PERT chart

A specific type of project network diagram. See *Program Evaluation and Review Technique*.

Precedence diagramming method (PDM)

A network diagramming technique in which activities are represented by boxes (or nodes). Activities are linked together by precedence relationships to show the sequence in which the activities are to be performed.

Precedence relationship

The term used in the precedence diagramming method for a logical relationship. In current usage, however, precedence relationship, logical relationship, and dependency are widely used interchangeably regardless of the diagramming method in use.

Predecessor activity

Any activity that exists on a common path with the activity in question and occurs before the activity in question.

Pre-emption

See *activity splitting*.

Program Evaluation and Review Technique (PERT)

An event-oriented network analysis technique used to estimate project duration when there is a high degree of uncertainty with the individual activity duration estimates. PERT applies the critical path method to a weighted average duration estimate.

Project

A temporary endeavor undertaken to create a unique product or service. A project consists of one or more activities.

Project management

The application of knowledge, skills, tools, and techniques to project activities in order to meet or exceed stakeholder and expectations from a project.

Project Management Body of Knowledge (PMBOK)

An inclusive term that describes the sum of knowledge within the profession of project management. As with other professions such as law, medicine, and accounting, the body of knowledge rests with the practitioners and academics who apply and advance it. The PMBOK includes proven, traditional practices that are widely applied as well as innovative and advanced ones that have seen more limited use.

Project network diagram

See *network diagram*.

Project schedule

The planned dates for performing activities and the planned dates for meeting milestones.

R

Remaining duration

The amount of time needed to complete an activity.

Resource-constrained scheduling

The scheduling of activities in a project with the knowledge of certain resource constraints and requirements. This process adjusts activity scheduled start and finish dates to conform to resource availability and use.

Resource leveling

Any form of network analysis in which scheduling decisions (start and finish dates) are driven by resource management concerns (for example, limited resource availability or difficult-to-manage changes in resource levels).

S

Schedule

See *project schedule*.

Schedule analysis

See *network analysis*.

Schedule performance index (SPI)

The ratio of work performed to work scheduled (BCWP/BCWS). See *earned value*.

Schedule variance

(1) Any difference between the scheduled completion of an activity and the actual completion of that activity.

(2) In earned value, BCWP less BCWS.

Scheduled Finish date (SF)

The date when the activity is scheduled to be completed using the resource-constrained scheduling process.

Scheduled Start date (SS)

The date when the activity is scheduled to begin using the resource-constrained scheduling process. This date is equal to or greater than the early start date.

Slack

Term used in PERT for float (see also *total float*).

Subtask

An activity that is contained within a supertask.

Successor activity

Any activity that exists on a common path with the activity in question and occurs after the activity in question.

Supertask

An aggregate or summary activity that contains one or more activities (or subtasks) such that no subtask can begin until the supertask has begun and the supertask cannot end until all of the subtasks have ended.

T

Target date

A date used to constrain the start or finish of an activity. The type of constraint is identified by an alignment type.

Task

See *activity*.

Timenow date

The calendar date that separates actual (historical) data from future (scheduled) data.

Total Float (TF)

The amount of time that an activity can be delayed from its early start without delaying the project finish date. Total float is a mathematical calculation and can change as the project progresses and changes are made to the project plan. Also called "float," "slack," and "path float." See also *free float*.

W

Work breakdown structure (WBS)

A deliverable-oriented grouping of project elements that organizes and defines the total scope of the project. Each descending level represents an increasingly detailed definition of a project component. Project components can be products or services.

Work packages

A deliverable at the lowest level of the work breakdown structure. A work package can be divided into activities.

Workshift

One or more pairs of on/off working times that define the valid working periods within a single day.

References

A Guide to the Project Management Body of Knowledge, Upper Darby, PA: Project Management Institute.

SAS/OR User's Guide: Project Management, Version 8