

Roles and Responsibilities Of Stakeholders In A Multi-Project TOC Organization

In a TOC Multi-Project Organization, some roles and responsibilities may be different than in a conventional system. Here is an outline of the roles and responsibilities for the following functions:

Project Teams:

- Developers
- Lead Engineers
- Project Managers
- Resource Managers
- System Owner/Operator

Responsibilities

Developers

The multi-project information system is based on valid project plans. Until a valid project plan is in place, developers must make planning the project a higher priority than doing the work of the project. Therefore, a responsibility of the developer is to subordinate to the project planning process.

Once the project plan is in place, the developers should focus on their technical contributions. Task completions should be reported immediately. Once each week, the developers must provide an update for the remaining duration of their active tasks, to the project manager.

Lead Engineer

The Lead Engineer (known as the Systems Engineer in some organizations) has responsibility for the technical integration of the project. The lead engineer may assist the resource managers by identifying the necessary skills for the project. He/she will play a primary role in defining the project's deliverables with the project's customer. The Lead Engineer will also play a primary role in the technical development of the project, once the project has started.

In industry today, it is common to combine the function of Lead Engineer with the function of Project Manager, in the same person. Professor Nam Suh, of MIT has shown that the choice of physical embodiment must be made so as not to couple Functional Requirements with Design Parameters. He presents this as the Independence Axiom¹. When an individual has to perform both the function of lead engineer and project manager, that person is in a constant conflict regarding whether to allocate their time to the project management of the project, or towards technical contributions to their project. Most lead engineers resolve this conflict in favor of making technical contributions to the project, and the project management function is minimally

¹ The Principles of Design, Nam P. Suh, Oxford University Press, New York, New York, 1990. ISBN 0-19-504345-6.

performed. Consequently, the leadership of the organization never has the information to make optimal decisions about resource deployment.

Project Manager

The project manager works with resource managers on scheduling the planning of upcoming projects. The project manager also facilitates the definition of the project's goal, deliverables, resources, and phase development. In addition, the project manager leads the project planning process, by helping the team members to determine intermediate deliverables, tasks, predecessor-successor relationships, and task duration estimates. The project manager is also responsible for creating (or having assistants create) the software representation of a project plan. This software representation is a necessary input to the multi-project scheduling process.

Finally, the project manager obtains approval, from the resource managers and customers, for the project plan and for the corresponding schedule that is the outcome of the plan's integration into the multi-project system.

Once the project is underway, the project manager, often through assistants, provides the following functions:

- Coordinate and facilitate project update meetings as needed.
- Update project schedules to support the weekly publishing of the enterprise-wide buffer report, and to maintain predictive models of the remaining work in each project.
- Analyze the weekly enterprise-wide buffer report.
- Meet with the resource managers and lead engineers, to review the buffer report and possible causes of buffer consumption.
- Attend the weekly Buffer Management Meeting.
- Perform whatever tasks become necessary to support the project's performance to schedule.
- Revise project schedules as needed to reflect reality.
- Document project management lessons learned at the completion of the project.

Drum Resource Manager

This is the manager of the drum resource group. This senior resource manager enforces the prioritization decisions of the leadership team. He/she does so by creating, managing, and protecting the enterprise-wide schedule for all the projects of the enterprise. While it is possible for this person to be trained in the use of the multi-project scheduling software, it is usually more desirable for this person to work with an assistant who is an expert user of such software.

Other responsibilities of the Drum Resource Manager include the following:

- Providing the enterprise-wide buffer report on a weekly basis.
- Providing other resource managers with the information required to make resource assignments across projects, if, when, and as often as necessary.

Resource Managers

Resource managers are responsible for providing the organization with adequately skilled resources and properly functioning facilities, as required for the successful completion of the organization's projects.

Working with project managers and lead engineers, resource managers assign developers to projects. They also set the expectation, of developers, that until a valid project plan is in place, developers must make planning the project a higher priority than doing the project work. Resource managers also set the expectation that developers work each task at a full level of effort, in accordance to the prioritization information provided by the enterprise-wide buffer reports.

System Owner/Operator

Resource managers necessarily are in the trenches of day-to-day activities. There must be someone and some regularly recurring format (meeting) during which all the resource managers regroup, exchange information with the System Owner/Operator (person with tactical oversight), and decide on the next set of tactics for the coming week or month. The System Owner/Operator's role is to cause the managers to come to the Buffer Management Meeting, exchange information with him/her and with the other managers, and to ensure that a proper set of tactics is defined for the upcoming interval.

The System Owner/Operator can facilitate this exchange of information, with the use of The Three Golden Questions at the appropriate time during the buffer management meeting. The buffer information acts as an instrument panel for the System Owner/Operator. With this instrument panel, the Owner/Operator can determine when to invoke which questions.

The Three Golden Questions are:

- What's going on? – A simple request for clarity.
- What are we doing about it? This is to ensure that the outcome of the meeting is Buffer Management, not Buffer Watching.
- What are we doing to prevent this in the future? With this question, a process of ongoing improvement is embedded in the organization.

This buffer management meeting, and the Three Golden Questions, is the culmination of the organization's multi-project management implementation. All of the roles and responsibilities outlined above are necessary to bring about a successful multi-project buffer management meeting.

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