

Scheduling Process Maturity Level Self Assessment Questionnaire

Process improvement usually begins with an analysis of the current state. The purpose of this document is to provide a means to undertake a self assessment of your organization's current project scheduling maturity level.

There are a number of standards, guides, and assessment techniques that exist for integrated master schedules (IMS) that discuss schedule best practices. For example the DoD Data Item Description DI-MGMT-81650 lists more than 45 individual IMS requirements. Metrics have been developed and used by various organizations to assess the quality of schedules and to respond to requirements such as the Defense Contract Management Agency (DCMA) 14 point schedule assessment. In addition, the National Defense Industrial Association (NDIA) Industrial Committee for Program Management (ICPM) Program Planning and Scheduling Subcommittee (PPSS) recently produced a Planning and Scheduling Excellence Guide (PASEG) that discusses a set of generally accepted scheduling principles (GASP). The Government Accountability Office (GAO) is also working on scheduling guide.

This document has a different purpose. As a regular part of its professional practice, Humphreys & Associates (H&A) provides scheduling training and schedule subject matter experts to all types of organizations, working with project schedules of various sizes and complexity to meet various requirements. H&A is a recognized leader in management practices and systems for large complex projects. H&A developed this questionnaire so that any organization can undertake a self assessment of its organizational maturity level in developing, maintaining, and using schedules. The intent is to provide a foundation that can be used to identify areas for improvement or to implement actions to further mature the scheduling process and practices.

What follows is a set of questions regarding an organization's scheduling process and practices. The questions are grouped in five topic areas to help you focus on one discipline at a time. The topic areas are:

1. Incorporation of Scheduling into the Corporate Culture
2. Schedule Quality
3. Scheduling Relevancy to Current Management
4. Scheduling Relevancy to Future Management and Forecasting
5. Process Improvement

Within each topic area, answer each question with an estimate of your organization's level of maturity with a score of 1, 2, 3, or 4. Since many companies are familiar with capability maturity models such as CMMI, a similar scale is used where 1 is the lowest level of maturity and 4 is the highest level of maturity. Selecting the answers that best fit a company's level of adherence to the processes in question will result in an overall score that indicates a general level of maturity.

Incorporation of Scheduling into Corporate Culture

1. The company has a formal scheduling process for projects.

There exists a standardized methodology for planning and scheduling projects. The practices, processes, and procedures are documented as part of a body of management practices. Appropriate scheduling software is in universal use. Specified organizations and personnel are responsible for maintaining scheduling “best practices.”

1	Few of these practices exist, with no plan for implementation.
2	Some of the above criteria are true, but no formal roadmap for implementation is in place.
3	The company is implementing most or all of these criteria with a specific plan and schedule for full compliance.
4	All of the above criteria are true.
Score	

2. The company’s project scheduling process is integrated with other business planning processes.

Scheduling processes are integrated with all phases of the business enterprise from proposal development to strategic planning to project execution and closeout. The scheduling software is compatible with related process software such as enterprise resource management, accounting, and earned value management. Schedule data are regularly shared with and updated by other enterprise planning tools. Schedules form the basis for time phased budgets. Consequently, resource planning is integral with schedule management.

1	Few of these practices exist, with no plan for implementation.
2	Some of the above criteria are true, but no formal roadmap for implementation is in place.
3	The company is implementing most or all of these criteria with a specific plan and schedule for full compliance.
4	All of the above criteria are true.
Score	

3. All functions within a project use a common schedule to drive the project.

There exists a single schedule for the execution of each project within the enterprise. The schedule is capable of being viewed at several levels of granularity. The schedules for various organizations are derived from the common scheduling database and are readily accessible to personnel in those organizations. Other schedules supporting the master schedules may exist providing they are not in conflict with the master schedule.

1	Few of these practices exist, with no plan for implementation.
2	Some of the above criteria are true, but no formal roadmap for implementation is in place.

3	The company is implementing most or all of these criteria with a specific plan and schedule for full compliance.
4	All of the above criteria are true.
Score	

4. There is a single database for schedule information.

All scheduling data reside in a single data repository. The company has a visible portfolio of projects organized in a hierarchy by responsible managers or similar structure. The schedule is maintained under rigorous configuration management to avoid confusion over the “official” schedule. Both baseline and current forecasts are available in the common repository. Backups are made frequently under a formal procedure to protect the schedule data. As schedules are updated for each proposal or project within the enterprise, the common database is updated using standard processes and procedures.

1	Few of these practices exist, with no plan for implementation.
2	Some of the above criteria are true, but no formal roadmap for implementation is in place.
3	The company is implementing most or all of these criteria with a specific plan and schedule for full compliance.
4	All of the above criteria are true.
Score	

5. The scheduling process is supported by systems and tools capable of meeting the periodic scheduling requirements.

There are sufficient personnel, software and hardware resources, and infrastructure to ensure that schedule development and maintenance are carried out. Scheduling resources are regularly evaluated in a formal process to ensure adequacy to support all projects. Performance metrics are maintained to provide early warning of scheduling process or system shortcomings. Adequate overhead budget is provided to ensure that periodic schedule requirements are met.

1	Few of these practices exist, with no plan for implementation.
2	Some of the above criteria are true, but no formal roadmap for implementation is in place.
3	The company is implementing most or all of these criteria with a specific plan and schedule for full compliance.
4	All of the above criteria are true, with updates performed on a weekly basis.
Score	

6. Personnel are oriented in the schedule and scheduling process.

Orientation training for new employees includes training in schedule processes and practices. Personnel who will use the scheduling software are provided with adequate

training to use it competently and effectively. Refresher training in scheduling processes, procedures, and standards is part of the corporate training program. Performance metrics for personnel familiarity with scheduling processes are established, maintained, and reported regularly to senior management.

1	Few of these practices exist, with no plan for implementation.
2	Some of the above criteria are true, but no formal roadmap for implementation is in place.
3	The company is implementing most or all of these criteria with a specific plan and schedule for full compliance.
4	All of the above criteria are true.
Score	

7. The company works closely with customers to assure understanding of schedules.

A briefing on scheduling policies, practices, and standards is a required part of all project kickoff meetings. All company scheduling training courses are made available to the customer. The customer is provided with rapid and comprehensive responses to any inquiries relating to schedules. The customer is briefed on schedule issues at all project reviews. If necessary, the customer is provided with equipment and software to enable analysis and reporting of the schedule by customer personnel.

1	Few of these practices exist, with no plan for implementation.
2	Some of the above criteria are true, but no formal roadmap for implementation is in place.
3	The company is implementing most or all of these criteria with a specific plan and schedule for full compliance.
4	All of the above criteria are true.
Score	

Schedule Quality

8. The company has appropriate levels of data accuracy in the schedule.

There is a standardized, institutionalized, regularly conducted set of practices for testing the quality of schedules. Quality metrics are published and used as a basis for improvement. Root cause analyses and corrective actions are performed to eliminate repetitive quality issues in the schedule. As projects are executed, metrics are maintained that measure predicted values and actual values for start dates and durations of completed effort.

1	Few of these practices exist, with no plan for implementation.
2	Some of the above criteria are true, but no formal roadmap for implementation is in place.
3	The company is implementing most or all of these criteria with a specific plan and schedule for full compliance.

4	All of the above criteria are true.
Score	

9. Valid schedules exist for each function of the project.

The schedule for a specific project includes the labor and material of all functions, both direct and indirect, that comprise the entire effort. All discrete effort and level of effort is included. Subcontracted effort is included in the schedule, logically integrated, and regularly updated (statused). Any effort included in the project's budget (except undistributed budget) is included in the project schedule, and the project schedule contains codes or data that demonstrate this.

1	Few of these practices exist, with no plan for implementation.
2	Some of the above criteria are true, but no formal roadmap for implementation is in place.
3	The company is implementing most or all of these criteria with a specific plan and schedule for full compliance.
4	All of the above criteria are true.
Score	

10. The company works with suppliers to develop and maintain high quality schedules.

The company provides suppliers with scheduling expectations and standards. The company provides assistance to suppliers wherever required to establish and maintain schedule excellence. This assistance may include, but not be limited to, training and/or providing temporary scheduling personnel to ensure timely completion of compliant schedules. Supplier schedules are tested to ensure that specific quality standards are met prior to incorporation into the project schedule. Corporate training includes information on the importance of maintaining high quality supplier schedules and the methods used. Supplier schedules are incorporated as quickly as possible into the master schedule so that all data in the master schedule reflects the same performance period.

1	Few of these practices exist, with no plan for implementation.
2	Some of the above criteria are true, but no formal roadmap for implementation is in place.
3	The company is implementing most or all of these criteria with a specific plan and schedule for full compliance.
4	All of the above criteria are true.
Score	

Scheduling Relevancy to Current Management

11. The schedule is integrated with and used to support the company risk management process.

Risk management is formally practiced on all projects, employing standard company policies and procedures. Schedules are developed consistent with the risks. As risks are recognized, alternative mitigation schedules are formulated to be used in the event that risk related impacts to the baseline schedule are realized. Schedule risk assessment using a technique such as Monte Carlo simulation is used to forecast schedule uncertainty, and findings are shared with the customer. Schedule risk data are shared among managers and integrated into the corporate central management data repository.

1	Few of these practices exist, with no plan for implementation.
2	Some of the above criteria are true, but no formal roadmap for implementation is in place.
3	The company is implementing most or all of these criteria with a specific plan and schedule for full compliance.
4	All of the above criteria are true.
Score	

12. Resource requirements are compared to resource availability/capacity periodically as appropriate.

Schedules are used to generate resource requirements by time period. As a part of each subsequent posting of schedule accomplishment and the results of critical path schedule analysis, resource requirement forecasts are compared with current plans for labor and non-labor resources. This comparison is used to modify project and corporate plans appropriately. The methodology and requirement are documented in company policies, procedures, and instructions.

1	Few of these practices exist, with no plan for implementation.
2	Some of the above criteria are true, but no formal roadmap for implementation is in place.
3	The company is implementing most or all of these criteria with a specific plan and schedule for full compliance or increased frequency.
4	All of the above criteria are true.
Score	

13. Analysis of schedule information results in management actions.

Management uses the schedules. Standard practice is to use schedule related data to feed information systems used by management. Changes presented to the change board include an assessment of the change's impact on schedule and schedule risk. Current schedule data (baseline dates, current forecasts, and actual start and finish dates) are readily available to decision makers and capable of being displayed in useful formats. Specific management actions are documented at a level of detail that includes schedule related influences.

1	Few of these practices exist, with no plan for implementation.
2	Some of the above criteria are true, but no formal roadmap for implementation is

	in place.
3	The company is implementing most or all of these criteria with a specific plan and schedule for full compliance.
4	All of the above criteria are true.
Score	

14. The projects are committed to the schedules produced.

A culture exists that is aggressive in accomplishing schedule goals. Metrics are published that measure performance to the baseline schedule. Interim milestones are widely disseminated to focus attention on the next schedule challenge. Evaluations of personnel and organizations use schedule performance as a major factor.

1	Few of these practices exist, with no plan for implementation.
2	Some of the above criteria are true, but no formal roadmap for implementation is in place.
3	The company is implementing most or all of these criteria with a specific plan and schedule for full compliance.
4	All of the above criteria are true.
Score	

15. Schedule deliverables are provided to the customer on time.

All schedule related deliverables receive maximum commitment and oversight by corporate and project management. Events and processes that lead to the delivery of schedule items are planned and executed to support timely deliveries. Adequate resources are provided to ensure on time delivery of schedules and related documents. Schedule related project reviews are scheduled and conducted as early as reasonably possible. The company prides itself on a record of on time schedule updates and deliveries.

1	Few of these practices exist, with no plan for implementation.
2	The company is implementing most or all of these criteria with a specific plan and schedule for full compliance.
3	Some of the above criteria are true, but no formal roadmap for implementation is in place.
4	All of the above criteria are true.
Score	

16. The master schedule correctly interprets and integrates schedules from supporting areas such as major suppliers and manufacturing.

The company recognizes the uniqueness of different work areas and provides for the integration of that unique information into the master schedule. Methodologies exist for incorporating and measuring work from disparate supporting areas such as manufacturing,

tooling, engineering, testing, suppliers, and so on. Planning and measurement processes fit the work involved.

1	Few of these practices exist, with no plan for implementation.
2	Some of the above criteria are true, but no formal roadmap for implementation is in place.
3	The company is implementing most or all of these criteria with a specific plan and schedule for full compliance.
4	All of the above criteria are true.
Score	

Scheduling Relevancy to Future Management and Forecasting

17. Schedules generate forecasts periodically, as required.

Managers use the schedules. Management decisions and direction are based on schedule considerations. Status of ongoing work is entered into the schedule database as frequently as required, on a date that supports schedule analysis, schedule quality management, and schedule deliveries to the customer. Critical path analysis is used to forecast future events and activity time phasing.

1	Few of these practices exist, with no plan for implementation.
2	Some of the above criteria are true, but no formal roadmap for implementation is in place.
3	The company is implementing most or all of these criteria with a specific plan and schedule for full compliance.
4	All of the above criteria are true.
Score	

18. Changes to the schedule baseline are controlled in a documented process.

Corporate policies and procedures provide for rigorous schedule baseline control. A documented system exists for proposing, reviewing, and approving changes to the schedule. The system is designed to accommodate rolling wave planning as used in earned value management. Electronic or paper records exist that track the history of changes to the initial baseline schedule, providing an audit trail.

1	Few of these practices exist, with no plan for implementation.
2	Some of the above criteria are true, but no formal roadmap for implementation is in place.
3	The company is implementing most or all of these criteria with a specific plan and schedule for full compliance.
4	All of the above criteria are true.
Score	

Process Improvement

19. The company uses schedule performance measurements as a key mechanism for improving overall performance.

Performance metrics based on actual schedule execution are used to factor future planned work to improve scheduling accuracy. Procedures and processes for developing schedules mandate the use of past performance data, wherever available. A formally controlled database of prior schedule performance, comparing initial estimates with actual execution times, is maintained, updated regularly, and available to schedulers.

1	Few of these practices exist, with no plan for implementation.
2	Some of the above criteria are true, but no formal roadmap for implementation is in place.
3	The company is implementing most or all of these criteria with a specific plan and schedule for full compliance.
4	All of the above criteria are true.
Score	

20. There is a process to drive schedules back to the most reasonable possible execution times based on appropriate probability of accomplishing goals.

Corporate culture, policies, and procedures are oriented toward optimistic scheduling and success-oriented planning. Strategic optimization of schedules is a standard agenda item at all schedule status reviews and regularly held project reviews. Incorporation of schedule changes, including the detailed planning and scheduling of high level planning packages, follows a standard process that includes a review of the newly defined schedule in search of more efficient ways of completing the involved work. Imposition of mandated schedules is not practiced.

1	Few of these practices exist, with no plan for implementation.
2	Some of the above criteria are true, but no formal roadmap for implementation is in place.
3	The company is implementing most or all of these criteria with a specific plan and schedule for full compliance.
4	All of the above criteria are true.
Score	

21. The company uses information from the schedules to improve competitive position.

The organization stresses to potential clients that it makes use of its extensive historical schedule performance data to develop more accurate schedules for future work, increasing customer confidence in the organization's plans and schedules. The corporation proposes to use established schedule discipline, processes, procedures, schedule quality management, risk analysis, existing talent, and infrastructure to gain a competitive advantage.

1	Few of these practices exist, with no plan for implementation.
2	Some of the above criteria are true, but no formal roadmap for implementation is in place.
3	The company is implementing most or all of these criteria with a specific plan and schedule for full compliance.
4	All of the above criteria are true.
Score	

22. The company is committed to continuous improvement of the schedule process – personnel, software, policies, and procedures.

Management has published policies that make clear the organization’s intent to be industry leaders in schedule related disciplines and practices. Incentives are in place to promote professional development in the scheduling discipline and participation in relevant professional societies. Intra-organizational seminars and meetings are conducted regularly to encourage sharing of scheduling practices and innovations among organizational elements and different projects. Senior management sponsors regularly scheduled reviews by IT and scheduling organizations to review the availability of improved software and methods. Sufficient overhead funding is provided for infrastructure upgrades.

1	Few of these practices exist, with no plan for implementation.
2	Some of the above criteria are true, but no formal roadmap for implementation is in place.
3	The company is implementing most or all of these criteria with a specific plan and schedule for full compliance.
4	All of the above criteria are true.
Score	

To determine a general schedule maturity level score (1 to 4), add all the score numbers and divide by 22.

Scores Total: _____ ÷ 22 = _____ maturity level