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**TSP Roles**

The role specifications provide guidance on the characteristics helpful for people filling each role and their principal duties and responsibilities.

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**TSP Meeting Roles and Responsibilities**

<b>Objective</b>	By consistently following the defined meeting script and roles, team meetings will be shorter and more productive.
<b>General</b>	See script MTG for guidance on running meetings.
<b>Chairperson</b>	<p>The meeting chairperson</p> <ul style="list-style-type: none"> <li>- produces the meeting agenda</li> <li>- sets the meeting time and location</li> <li>- arranges for facilities</li> <li>- selects the meeting timekeeper and recorder</li> <li>- keeps the meeting on schedule and focused on the agenda</li> <li>- defers off-the-point items and has the recorder note them for later attention</li> <li>- ensures that all attendees get a chance to state their views</li> <li>- ensures that all items are covered or otherwise handled</li> <li>- ensures that a final meeting report is produced, distributed, and filed in the project notebook</li> </ul>
<b>Recorder</b>	<p>The recorder</p> <ul style="list-style-type: none"> <li>- records meeting decisions: who and what</li> <li>- records planned actions: who, what, and when</li> <li>- checks each decision and planned action to ensure that the attendees agree with the report's wording</li> <li>- produces a summary meeting report (form MTG)</li> <li>- checks the report with the chairperson to ensure that it is complete and correct</li> <li>- provides the report to the chairperson for distribution and filing in the project notebook</li> </ul>
<b>Facilitator/Timekeeper</b>	<p>The facilitator/timekeeper</p> <ul style="list-style-type: none"> <li>- helps the chairperson maintain a productive atmosphere</li> <li>- assists in keeping the discussion factual and objective</li> <li>- prevents the meeting from becoming personal or destructive</li> <li>- alerts the chairperson when the discussion deviates from the agenda</li> <li>- informs the chairperson when an agenda item is nearing the end of its allotted time</li> <li>- records the actual meeting times for each agenda item</li> <li>- provides time data to the recorder for the meeting report</li> </ul>
<b>Attendees</b>	<p>Each meeting attendee</p> <ul style="list-style-type: none"> <li>- prepares for the meeting</li> <li>- supports the facilitator/timekeeper in maintaining a productive atmosphere</li> <li>- contributes to the discussion whenever he or she has something relevant to say</li> <li>- volunteers for meeting roles and action items as needed</li> </ul>



**TSP Inspection Roles and Responsibilities**

<b>Objective</b>	By consistently following the defined inspection script and roles, team inspections will be more efficient and effective.
<b>General</b>	<ul style="list-style-type: none"> <li>- See script INS for guidance on running inspections.</li> <li>- Record the data for every inspection on INS forms and file in the project notebook.</li> </ul>
<b>Moderator</b>	<p>The moderator leads the inspection process</p> <ul style="list-style-type: none"> <li>- arranges for all participants and meetings</li> <li>- performs the inspection moderator tasks (see script INS)</li> <li>- ensures that all participants know the inspection process</li> <li>- acts as the meeting chairperson (see meeting roles)</li> <li>- ensures that the entry conditions are met or defers the inspection or briefing meeting until they are</li> <li>- gathers the preparation data and has the recorder enter them in INS forms</li> <li>- focuses the meeting on identifying defects, not fixing them</li> <li>- after the inspection, verifies that all identified defects are fixed</li> <li>- completes form INS with estimated remaining defects and yield per team member</li> <li>- if many defects likely remain, recommends to the Team Leader that the product be reinspected after rework</li> <li>- files the INS form in the project notebook</li> </ul>
<b>Producer</b>	<p>The producer prepares for and participates in the inspection.</p> <ul style="list-style-type: none"> <li>- performs the inspection producer tasks (see script INS)</li> <li>- provides a product briefing and answers questions</li> <li>- makes sure to thoroughly understand every problem raised</li> <li>- corrects all identified product defects</li> <li>- checks the defect fixes to ensure they are complete, accurate, and do not cause other problems</li> <li>- reviews the fixes and fix data with the moderator to verify that the fixes have been properly made</li> </ul>
<b>Recorder</b>	<p>The recorder records the inspection data.</p> <ul style="list-style-type: none"> <li>- performs the inspection recorder tasks (see script INS)</li> <li>- checks that all the defect descriptions are agreed to by the producer and involved reviewers</li> </ul>
<b>Facilitator/ timekeeper</b>	The facilitator/timekeeper serves as the meeting facilitator/timekeeper (see meeting roles)
<b>Reviewers</b>	<p>The reviewers prepare for and participate in the inspection.</p> <ul style="list-style-type: none"> <li>- perform the inspection reviewer tasks (see script INS)</li> <li>- ensure that every question or concern is answered to his/her satisfaction or actions taken to do so</li> </ul>



**TSP Coach Roles and Responsibilities**

<b>Objective</b>	Every team and every team member is unique. The coach's main objective is to provide the required skill, discipline, insight and even an outside perspective teams and individuals require to be successful using tailored approaches to meet the needs of the team and its members within a firm set of principles. The coach also works to motivate and support the team in meeting its established goals.
<b>Goals</b>	The TSP Coaches goals are to ensure that <ul style="list-style-type: none"> <li>- the process is followed</li> <li>- everyone is involved</li> <li>- everyone contributes to every part of the process</li> <li>- there is complete communication among team members, team leader, management and other relevant stakeholders</li> </ul>
<b>Role Characteristics</b>	The characteristics most helpful to the TSP Coach are <ul style="list-style-type: none"> <li>- You have excellent communication skills and are able to work with all levels of an organization.</li> <li>- You like people and are able to actively listen to others and summarize ideas</li> <li>- You have strong organization skills and can keep a team focused on the task at hand</li> <li>- You are able to focus on the process, not the content.</li> <li>- You are not defensive or afraid to make mistakes</li> <li>- You are able to suggest alternative methods and procedures without evaluating other ideas</li> <li>- You are sensitive to the feelings and well-being of all participants</li> <li>- You are skilled at giving constructive feedback</li> <li>- You are able to maintain personal integrity while adapting to ever changing situations</li> </ul>
<b>Process Consultant</b>	The TSP Coach acts as the process expert for details of the <ul style="list-style-type: none"> <li>- launch process</li> <li>- day-to-day work processes</li> <li>- role manager processes</li> <li>- weekly reporting process</li> <li>- project/phase post mortem process</li> <li>- checkpoint process</li> </ul>
<b>Facilitator</b>	The TSP Coach acts as the meeting facilitator who understands the <ul style="list-style-type: none"> <li>- team life-cycle</li> <li>- group working styles</li> <li>- communication types</li> </ul>

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**TSP Coach Roles and Responsibilities (continued)**

<b>Coaching Principles</b>	<p>There is no standard coaching formula, thus the coach must be able to adjust to the dynamic needs of a team and its members while consistently conforming to a firm set of coaching principles:</p> <ul style="list-style-type: none"> <li>- Believe that people want to do the right thing</li> <li>- Build talent             <ul style="list-style-type: none"> <li>- learn team members' potentialities</li> <li>- help team members to improve</li> </ul> </li> <li>- Set high standards             <ul style="list-style-type: none"> <li>- Know what superior work looks like</li> <li>- Understand the practices and methods that produce superior work</li> <li>- Recognize when work is below standards and what caused the problems</li> <li>- Motivate and guide team members to do better when they fall short</li> </ul> </li> <li>- Focus on improvement             <ul style="list-style-type: none"> <li>- Show team members how much better they could have done if they had followed the process a little better.</li> <li>- Convince team members to follow the process even better next time</li> </ul> </li> <li>- Improve in steps             <ul style="list-style-type: none"> <li>- Insist on quality work, but consider the members' capabilities.</li> <li>- Be pragmatic. Don't ask for things that the team feels will not contribute to the job</li> </ul> </li> <li>- Celebrate every step             <ul style="list-style-type: none"> <li>- Nobody does everything right the first time. We all need to take a step at a time</li> <li>- Help the team members to make gradual improvements at each step and cheer whenever they do</li> <li>- Focus on how far they have come, not on how far they have to go</li> </ul> </li> <li>- Focus on succeeding with this project             <ul style="list-style-type: none"> <li>- If something is done wrong, it can be done over again</li> <li>- The team may be together only for this project</li> </ul> </li> </ul>
<b>TSP Coach Responsibility</b>	<p>The TSP Coach's principal responsibility is to management, which is to work with the team to make the team successful and to guide management in their role in successfully implementing TSP in their organization. The coach is responsible for providing management with objective and appropriate levels of visibility into, and feedback on, processes and associated work products throughout the life of the project.</p> <p>The coach's next responsibility is to the team's leader and its members.</p> <ul style="list-style-type: none"> <li>- The coach's obligation to the team leader is to do his or her utmost to help the team do its job successfully. In cases where the coach and team leader do not agree on how to handle specific situations, the coach must work with the team leader to find an amicable solution if at all possible before taking the issue to management.</li> <li>- The coach's obligation to the individual team members is to respect the privacy of all the confidential information he or she may have about the team members. In cases where an individual is not following the process, reliably maintaining and analyzing data, or adequately performing their assigned role the coach must work with the individual to resolve the issue if at all possible before taking the issue to the team leader.</li> </ul>





**TSP Team Leader Roles and Responsibilities**

<b>Objective</b>	When all team members consistently meet their role responsibilities, follow the defined process, and work to agreed goals and specifications, the team will be most efficient and effective.
<b>Goals</b>	The team leader's goals are to <ul style="list-style-type: none"> <li>- ensure that the project is successful</li> <li>- build a motivated and effective team</li> <li>- fully utilize the talents and abilities of all team members</li> <li>- keep management informed</li> </ul>
<b>Role Characteristics</b>	The characteristics most helpful to the team leader are the following. <ul style="list-style-type: none"> <li>- You enjoy being leader and naturally assume a leadership role.</li> <li>- You are able to identify the key issues and objectively make decisions.</li> <li>- You do not mind occasionally taking unpopular actions and are willing to press people to accomplish difficult tasks.</li> <li>- You respect your team members, are willing to listen to their views, want to help them perform to the best of their abilities, and will support them to higher management.</li> </ul>
<b>Team Member Responsibilities</b>	All team members, including the team leader, are responsible for meeting their responsibilities as team members (see Team Member Roles and Responsibilities). <ul style="list-style-type: none"> <li>- meeting their team member commitments</li> <li>- following a disciplined personal process</li> <li>- planning, managing, and reporting on their personal work</li> <li>- cooperating with the team and all team members to maintain an effective and productive working environment</li> </ul>
<b>Leadership</b>	The team leader leads the team. <ul style="list-style-type: none"> <li>- maintains a clear and continuous focus on the team's goals</li> <li>- ensures that all team members are working productively and effectively</li> <li>- maintains a sense of urgency and pushes to accelerate tasks where practical</li> <li>- consistently presses for daily results, recognizing that schedules slip a day at a time</li> <li>- motivates and supports the team</li> <li>- challenges the team's and team members' decisions and asks what alternatives they have considered</li> <li>- maintains awareness of other related work and ensures that the team takes advantage of applicable prior results</li> <li>- represents and supports management to the team</li> <li>- represents and supports the team to management</li> </ul>
<b>People Management</b>	The team leader handles all team personnel issues. <ul style="list-style-type: none"> <li>- manages project staffing, recruiting, and training</li> <li>- is sensitive to team interaction issues and takes steps to resolve such problems when the team cannot resolve the issues itself</li> <li>- considers team members' interests and abilities in making job assignments</li> <li>- ensures that the tasks and work pressures are consistent with each team member's skills and abilities</li> <li>- protects the team from diversions and time-consuming distractions</li> </ul>

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**TSP Team Leader Roles and Responsibilities (continued)**

<b>Team Discipline</b>	<p>The team leader maintains a disciplined and effective working environment.</p> <ul style="list-style-type: none"> <li>- facilitates team communication</li> <li>- keeps the team informed and leads the weekly project status meetings</li> <li>- ensures that the team and the team members produce their own plans</li> <li>- reviews individual and team plans to ensure that they are aggressive but realistic</li> <li>- ensures that team members follow disciplined personal practices</li> <li>- ensures that team members adhere to the agreed team standards and processes</li> </ul>
<b>Quality Management</b>	<p>The team leader maintains a consistent focus on quality.</p> <ul style="list-style-type: none"> <li>- ensures that quality metrics are regularly gathered and analyzed</li> <li>- regularly motivates the team to meet its quality goals</li> <li>- leads the team reviews of every valid integration, system test, and user-reported defect (form DEFECT and script TESTD).</li> </ul>
<b>Project Management</b>	<p>The team leader manages the project.</p> <ul style="list-style-type: none"> <li>- handles funding issues</li> <li>- resolves issues with management and other teams or departments</li> <li>- where possible, delegates all defined project tasks to team members</li> <li>- handles all ill-defined issues and problems, at least until they can be defined and assigned to the team or a team member for attention</li> <li>- maintains awareness of schedule status and chances of acceleration or delay</li> <li>- regularly reports project status to management and the customer</li> <li>- leads risk evaluation and tracking</li> <li>- leads issue tracking and resolution</li> <li>- ensures that all requirements and design assumptions and uncertainties are promptly and thoroughly verified</li> <li>- participates in the configuration control board</li> <li>- ensures that all requirements and design changes are promptly assessed for impact</li> <li>- where a change significantly impacts the project cost or schedule, ensures that the plan is adjusted and approved before the change is implemented</li> </ul>
<b>Principal Team Leader Activities</b>	<p>The team leader motivates the team to perform their tasks and resolve issues.</p> <p>Every week, the team leader holds a team meeting to</p> <ul style="list-style-type: none"> <li>- track that all committed tasks have been completed</li> <li>- check that all team members have submitted the required data</li> <li>- check that the TASK and SCHED templates are up to date for the team and each team member</li> <li>- check that all INS, SUMP, and SUMQ forms have been completed on work accomplished to date</li> <li>- check on the status of development tasks</li> <li>- check on change, ITL, and risk activity</li> <li>- press late team members to promptly provide the required data</li> </ul> <p>Weekly, the team leader</p> <ul style="list-style-type: none"> <li>- reports team status and progress to management and the customer</li> <li>- maintains the project notebook</li> </ul> <p>At each phase postmortem and at project conclusion, the team leader leads the team in producing or updating the project final report (specification SUMMARY).</p>



**TSP Team Member Roles and Responsibilities**

<b>Objective</b>	When all team members consistently meet their role responsibilities, follow the defined process, and work to agreed goals and specifications, the team will be most efficient and effective.
<b>General</b>	All team members are responsible for meeting their responsibilities as team members.
<b>Personal Discipline</b>	<p>The team will be most effective when all team members</p> <ul style="list-style-type: none"> <li>- establish and work to personal improvement goals</li> <li>- arrange for and get the education and training needed to do superior work</li> <li>- follow disciplined professional practices in doing their personal work</li> <li>- strive to produce quality products</li> <li>- record data on every defect found and use these data to improve the process</li> <li>- prevent defects wherever possible</li> <li>- remove defects as early in the process as possible</li> <li>- strive to understand the customer and application environment and use this knowledge to build products the customer will view as superior</li> </ul>
<b>Personal Management</b>	<p>All team members are expected to</p> <ul style="list-style-type: none"> <li>- plan their personal work</li> <li>- track and manage their personal time</li> <li>- track their personal schedule performance</li> <li>- define their schedule commitments</li> <li>- work aggressively to meet their commitments with quality products</li> <li>- keep management and team members informed of their project status</li> <li>- when they feel that a schedule is unreasonably aggressive, gather historical data to demonstrate their concerns</li> <li>- ensure that management and the team understand their views on the schedule and the data to support these views</li> </ul>
<b>Team Responsibilities</b>	<p>Effective teamwork requires that every team member</p> <ul style="list-style-type: none"> <li>- focus on maintaining an effective and productive team environment</li> <li>- participate in resolving team issues and problems</li> <li>- work objectively to settle team issues in the best interest of the team and its goals</li> <li>- call on the team for help when he or she need it</li> <li>- support other team members when they need help</li> <li>- take responsibility for handling one or more team roles</li> <li>- participate in team activities and make sure his or her views and ideas are known and understood</li> <li>- listen to other team members and understand their views and ideas</li> </ul>

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**TSP Team Member Roles and Responsibilities (continued)**

<b>Questions</b>	<p>Examples of questions to be addressed by each team member include:</p> <ul style="list-style-type: none"><li>- Does my individual task plan reflect the work I am currently doing and plan to do next?</li><li>- Do tasks need to be added, deleted, renamed, reassigned, re-estimated, broken down into sub-tasks, or combined?</li><li>- Does my current task plan meet commitments made to the team?</li><li>- Are all completed tasks marked accordingly?</li><li>- Do I need help from the team?</li><li>- Am I producing quality products that will meet the team's goals and expectations? If not, what remedial actions do I need to take?</li><li>- Am I following the process? If not, what remedial actions do I need to take?</li><li>- Am I recording all my time and defect data? If not, what remedial actions do I need to take?</li><li>- Have I updated my personal review checklists based on defects found?</li><li>- Have I conducted a performance analysis of my data? Have I set improvement goals based on past performance? Have I made changes to my personal process or submitted PIPs against the team or organization processes in order to accomplish set goals?</li></ul>
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**TSP Customer Interface Manager Roles and Responsibilities**

<b>Objective</b>	When all team members consistently meet their role responsibilities, follow the defined process, and work to agreed goals and specifications, the team will be most efficient and effective.
<b>Goals</b>	The customer interface manager's goals are to <ul style="list-style-type: none"> <li>- understand the customer's wants and needs</li> <li>- lead the team in providing a product that delights the customer</li> </ul>
<b>Role Characteristics</b>	The characteristics most helpful to the customer interface manager are the following <ul style="list-style-type: none"> <li>- You like working with people.</li> <li>- You understand people's needs and can empathize with their concerns.</li> <li>- You can describe technical problems in non-technical terms.</li> <li>- You are interested in defining and building a superior product.</li> </ul>
<b>Team Member Responsibilities</b>	All team members are responsible for meeting their responsibilities as team members (see Team Member Roles and Responsibilities). <ul style="list-style-type: none"> <li>- meeting their team member commitments</li> <li>- following a disciplined personal process</li> <li>- planning, managing, and reporting on their personal work</li> <li>- cooperating with the team and all team members to maintain an effective and productive working environment</li> </ul>
<b>Customer Focus</b>	The customer interface manager leads the team's interactions with the customer. <ul style="list-style-type: none"> <li>- maintain a focus on the customer's needs throughout the project</li> <li>- ensure that the customer agrees with the product requirements</li> <li>- where needed, define prototypes to help the customer understand proposed product features</li> <li>- guide the team in establishing customer training and documentation plans</li> <li>- work with the customer to establish acceptance test criteria and plans</li> <li>- document the agreed acceptance test criteria and plans and ensure that the customer reviews and agrees with them</li> </ul>
<b>Define Requirements</b>	One of the customer interface manager principal responsibilities is to lead the development and evolution of the product requirements. <ul style="list-style-type: none"> <li>- identify and define requirements issues and manage their resolution</li> <li>- document and confirm requirements issue resolution</li> <li>- lead the team in producing, refining, and verifying the product requirements</li> <li>- lead the team in specifying, testing, analyzing, and resolving product usability issues</li> <li>- ensure that all the requirements assumptions are identified, documented, and verified</li> <li>- ensure that installation issues are addressed by the team in a timely way</li> </ul>
<b>Manage Requirements Changes</b>	The customer interface manager <ul style="list-style-type: none"> <li>- manages the requirements change process</li> <li>- leads the team in estimating and documenting the impact of every requirements change</li> <li>- ensure that the configuration control board is provided with complete and timely data for requirements change decisions</li> </ul>
<b>Establish and Manage Requirements Standards</b>	The customer interface manager establishes team standards and procedures for documenting and reviewing the product requirements.
<b>Reporting</b>	The customer interface manager tracks and reports weekly to the team on the status of the requirements standards and requirements development.

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**TSP Customer Interface Manager Roles and Responsibilities (continued)**

<b>Questions</b>	<p>Examples of questions to be addressed by the customer interface manager includes:</p> <ul style="list-style-type: none"> <li>- Are we being responsive to customer requests?</li> <li>- Are we properly handling customer requests?</li> <li>- Is every requested change being evaluated, planned, and approved before being implemented?</li> <li>- Has a criteria for evaluating and accepting good requirements been defined? Is it followed?</li> <li>- Is the interface between the developers and the requirements and/or systems people working properly? If not, what should the team do to improve this interface?</li> <li>- Is development being delayed by the requirements work?</li> <li>- Is the quality of the requirements documentation sufficiently good to guide the development work?</li> <li>- Have specifications for the creation of the SRS, ERS, interface requirements, market studies, and impact analysis reports been defined? Are they followed? Are they based on customer needs? If not, what remedial actions do you recommend?</li> <li>- Is bi-directional traceability being maintained? If not, what remedial actions do you recommend?</li> <li>- Are the SRS, ERS, interface requirements, market studies, impact analysis reports and all supporting documentation being appropriately managed and controlled? If not, what remedial actions do you recommend?</li> <li>- Are the right people reviewing and approving the requirements?</li> <li>- Do all team members understand the environment in which the system will be used?</li> <li>- Are customer needs, expectations, constraints, and interfaces well documented and understood by the team? If not, what remedial actions do you recommend?</li> <li>- Has packaging of completed products for delivery to appropriate customers been defined, negotiated and agreed to by all relevant stakeholders? If not, what remedial actions do you recommend?</li> <li>- Have the procedures and criteria for verification and validation been agreed to by the customer? If not, what remedial actions do you recommend?</li> <li>- Are there any other customer-related issues that the team should be aware of?</li> <li>- Are there any outstanding requirements issues? What are they and what is the plan for resolving them?</li> <li>- Is the requirements work on schedule?</li> </ul>
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**TSP Design Manager Roles and Responsibilities**

<b>Objective</b>	When all team members consistently meet their role responsibilities, follow the defined process, and work to agreed goals and specifications, the team will be most efficient and effective.
<b>Goals</b>	The design manager's goals are to <ul style="list-style-type: none"> <li>- lead the team in producing a superior design</li> <li>- fully utilize all the team's skills and ideas in producing this design</li> <li>- ensure that the design and its documentation are of high quality</li> </ul>
<b>Role Characteristics</b>	The characteristics most helpful to the design manager are the following. <ul style="list-style-type: none"> <li>- You like to design and build things.</li> <li>- You are generally familiar with design methods.</li> <li>- You are most interested in producing a superior design, even if it is not the one you originally thought of.</li> <li>- You can objectively compare other people's designs with your own.</li> </ul>
<b>Team Member Responsibilities</b>	All team members are responsible for meeting their responsibilities as team members (see Team Member Roles and Responsibilities). <ul style="list-style-type: none"> <li>- meeting their team member commitments</li> <li>- following a disciplined personal process</li> <li>- planning, managing, and reporting on their personal work</li> <li>- cooperating with the team and all team members to maintain an effective and productive working environment</li> </ul>
<b>Lead the Design</b>	The Design Manager leads the team's design activities. <ul style="list-style-type: none"> <li>- maintain a focus on design issues throughout the project</li> <li>- identify and resolve all design issues</li> <li>- document and confirm design issue resolution</li> <li>- provide the team focus for anticipating and addressing product performance and size issues</li> <li>- lead the team in producing, refining, and verifying the product design</li> <li>- using analyses, prototypes, or experiments as appropriate, ensure that all the design issues and assumptions are identified, documented, and resolved</li> </ul>
<b>Manage Design Changes</b>	The design manager oversees design change activities. <ul style="list-style-type: none"> <li>- manage the design change process</li> <li>- for product elements under configuration control, lead the team in estimating and documenting the design impact of every change</li> <li>- for product elements under configuration control, ensure that the configuration control board is provided with complete and timely data to make design change decisions</li> </ul>
<b>Establish and Manage Design Standards</b>	The design manager establishes the standards and procedures the team will use to produce the design materials.
<b>Reporting</b>	The design manager reports weekly to the team on the status of design standards and product design work.

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**TSP Design Manager Roles and Responsibilities (continued)**

<b>Questions</b>	<p>Examples of questions to be addressed by the design manager include:</p> <ul style="list-style-type: none"> <li>- Are the team's design methods and notations capable of producing a quality design?</li> <li>- Are operational, functional, state and logic specification templates being used to capture the design?</li> <li>- Do all team members understand how to use these design methods?</li> <li>- If some team members are not fluent with the design methods, what remedial action do you recommend?</li> <li>- Is the team's design work of high quality?</li> <li>- Are adequate design verification techniques being used to find design defects early in the process? If not, what remedial actions do you recommend?</li> <li>- Has a sound system architecture been produced and documented?</li> <li>- Is the architecture properly controlled and maintained?</li> <li>- Does the architecture consider future product evolution?</li> <li>- Does the design conform to the architecture?</li> <li>- Is the design properly documented and maintained?</li> <li>- Are the interfaces and other design dependencies with other related teams properly identified and managed?</li> <li>- Are Software Design Specifications (SDS) and all relevant technical data being managed and controlled? If not, what remedial actions do you recommend?</li> <li>- Are operational concepts and associated scenarios included in the SDS? If not, were are they captured and how are they managed?</li> <li>- Have alternative design solutions been developed and evaluated in order to ensure the best design has been selected?</li> <li>- Are there any open design issues? What are they and what is the plan for resolving them?</li> <li>- Are there any other design issues that the team should be aware of?</li> <li>- Is the design work on schedule?</li> </ul>
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**TSP Implementation Manager Roles and Responsibilities**

<b>Objective</b>	When all team members consistently meet their role responsibilities, follow the defined process, and work to agreed goals and specifications, the team will be most efficient and effective.
<b>Goals</b>	The implementation manager's goals are to <ul style="list-style-type: none"> <li>- lead the team in producing a superior implementation</li> <li>- ensure the implementation fully conforms to the design</li> <li>- produce an implemented product that is of high quality</li> </ul>
<b>Role Characteristics</b>	The characteristics most helpful to the implementation manager are the following. <ul style="list-style-type: none"> <li>- You like to build things.</li> <li>- You understand the implementation tools and environment.</li> <li>- You are most interested in producing a high-quality product.</li> </ul>
<b>Team Member Responsibilities</b>	All team members are responsible for meeting their responsibilities as team members (see Team Member Roles and Responsibilities). <ul style="list-style-type: none"> <li>- meeting their team member commitments</li> <li>- following a disciplined personal process</li> <li>- planning, managing, and reporting on their personal work</li> <li>- cooperating with the team and all team members to maintain an effective and productive working environment</li> </ul>
<b>Lead the Implementation</b>	The implementation manager oversees the implementation activities. <ul style="list-style-type: none"> <li>- maintains a focus on implementation issues throughout the project</li> <li>- identifies and resolves all implementation issues</li> <li>- documents and confirms implementation issue resolution</li> <li>- leads the team in planning for and handling product packaging, distribution, and installation problems</li> <li>- leads the team in producing, refining, and verifying the product implementation</li> <li>- leads the team in measuring and identifying any performance and size issues</li> <li>- using prototypes or experiments as appropriate, ensures that all the implementation issues and assumptions are identified, documented, and resolved</li> </ul>
<b>Manage Implementation Changes</b>	The implementation manager oversees the implementation change process. <ul style="list-style-type: none"> <li>- For product elements under configuration control, lead the team in estimating and documenting the implementation impact of every change.</li> <li>- For product elements under configuration control, ensure that the configuration control board is provided with complete and timely data to make implementation change decisions.</li> </ul>
<b>Establish and Manage the Implementation Standards</b>	The implementation manager <ul style="list-style-type: none"> <li>- establishes the standards and procedures the team will use to produce the product implementation and its documentation</li> <li>- ensures that the team has standards for coding, LOC counting, language, and documentation</li> </ul>
<b>Reporting</b>	The implementation manager reports to the team weekly on the status of implementation standards and product implementation. These reports include the plan and actual LOC coded, reviewed, compiled, inspected and repaired, unit tested, and released to integration.

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**TSP Implementation Manager Roles and Responsibilities (continued)**

<b>Questions</b>	<p>Examples of questions to be addressed by the implementation manager includes:</p> <ul style="list-style-type: none"><li>- Are all of the team members fluent in the languages to be used?</li><li>- If any team members are not fluent with these languages, what remedial actions do you recommend?</li><li>- Have the proper implementation standards been developed and adopted?</li><li>- Are the implementation standards being consistently used?</li><li>- Are the team members taking advantage of shared and / or reused code where they can? If not, what improvement actions do you recommend?</li><li>- What are the implementation issues? What are they and what are the plans for resolving them?</li><li>- Does the team need any help in resolving the implementation issues?</li><li>- Are there any other implementation issues that the team should be aware of?</li><li>- Is the implementation work on schedule?</li></ul>
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**TSP Planning Manager Roles and Responsibilities**

<b>Objective</b>	When all team members consistently meet their role responsibilities, follow the defined process, and work to agreed goals and specifications, the team will be most efficient and effective.
<b>Goals</b>	The planning manager's goals are to <ul style="list-style-type: none"> <li>- help the team run a well-planned and tracked project</li> <li>- help the team members with their personal planning and progress tracking</li> <li>- regularly track and report the team's status against plan</li> </ul>
<b>Role Characteristics</b>	The characteristics most helpful to planning managers are the following. <ul style="list-style-type: none"> <li>- You have a logical mind and feel most comfortable when following a plan while doing your work.</li> <li>- While you may not always be able to produce a plan, you tend to plan your work when given the opportunity.</li> <li>- You are interested in process data and are willing to press people to track and measure their work.</li> </ul>
<b>Team Member Responsibilities</b>	All team members are responsible for meeting their responsibilities as team members (see Team Member Roles and Responsibilities). <ul style="list-style-type: none"> <li>- meeting their team member commitments</li> <li>- following a disciplined personal process</li> <li>- planning, managing, and reporting on their personal work</li> <li>- cooperating with the team and all team members to maintain an effective and productive working environment</li> </ul>
<b>Lead the Team's Planning</b>	The planning manager helps the team in its planning activities. <ul style="list-style-type: none"> <li>- ensures that the team is always working to a defined and documented plan</li> <li>- assists the team members in generating their personal and team estimates and plans</li> <li>- ensures that plans are revised at every team launch and relaunch or whenever the project schedule or resources change substantially</li> <li>- helps the team maintain a balanced plan at all times</li> </ul>
<b>Track Team Progress</b>	The planning manager oversees tracking activities. <ul style="list-style-type: none"> <li>- tracks team progress against the plan and reports to the team weekly on project status</li> <li>- monitors the management of the project data (specification NOTEBOOK)</li> <li>- supports the team leader in tracking project issues and risks</li> </ul>
<b>Reporting</b>	The planning manager <ul style="list-style-type: none"> <li>- ensures that team members report data on their progress in time for the weekly team meeting</li> <li>- produces a composite report of team status against plan and distributes it at or before the weekly team meeting</li> <li>- based on the rate of schedule and resource progress, keeps the team and management informed of likely phase and project completion dates</li> <li>- supports the team leader in producing weekly management and customer status reports</li> <li>- maintains the data to produce the schedule, resource, size, and productivity sections of the project report during the phase and project postmortems (specification SUMMARY and script PM)</li> </ul>

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**TSP Planning Manager Roles and Responsibilities (continued)**

<b>Questions</b>	<p>Examples of questions to be addressed by the planning manager include:</p> <ul style="list-style-type: none"><li>- Is each developer's plan sufficiently detailed?</li><li>- Do these plans accurately represent the work that the developers are currently doing?</li><li>- If any of the developers' plans do not represent their current work, what actions do you recommend?</li><li>- Is the team's workload reasonably well-balanced? If not, what actions do you recommend?</li><li>- Is the workload with any cooperating group or team reasonably well balanced? If not, what actions do you recommend?</li><li>- Are dependencies within the team and with other related groups known, properly planned for, and tracked?</li><li>- How does the management of project data compare against the project plan?</li><li>- Is the project notebook being maintained, including WEEK (risks, action items, individual and team status, attendees, etc.) artifacts? If not, what remedial actions do you recommend?</li><li>- Are risks being managed and controlled? If not, what remedial actions do you recommend?</li><li>- Are meeting minutes being managed and controlled? If not, what remedial actions do you recommend?</li><li>- Are STATUS reports being managed and controlled? If not, what remedial actions do you recommend?</li><li>- Are PM reports being managed and controlled? If not, what remedial actions do you recommend?</li><li>- Is each team member's plan accurately projecting when the team member will finish? Is the TSP tool correctly populated and maintained in order to correctly predict their finish dates?</li><li>- Are there any other planning issues that the team should be aware of?</li></ul>
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**TSP Process Manager Roles and Responsibilities**

<b>Objective</b>	When all team members consistently meet their role responsibilities, follow the defined process, and work to agreed goals and specifications, the team will be most efficient and effective.
<b>Goals</b>	The process manager's goals are to <ul style="list-style-type: none"> <li>- ensure that the team has defined processes available for all key activities</li> <li>- assist team members in defining and using processes</li> <li>- ensure that team process data are promptly reported and analyzed</li> <li>- assist the team in identifying and resolving process problems</li> </ul>
<b>Role Characteristics</b>	The characteristics most helpful to the process manager are the following. <ul style="list-style-type: none"> <li>- You are interested in processes and process measurements.</li> <li>- You know how to define, use, measure, and analyze processes.</li> </ul>
<b>Team Member Responsibilities</b>	All team members are responsible for meeting their responsibilities as team members (see Team Member Roles and Responsibilities). <ul style="list-style-type: none"> <li>- meeting their team member commitments</li> <li>- following a disciplined personal process</li> <li>- planning, managing, and reporting on their personal work</li> <li>- cooperating with the team and all team members to maintain an effective and productive working environment</li> </ul>
<b>Process Support</b>	The process manager provides process support. <ul style="list-style-type: none"> <li>- ensures that defined processes are available for the major development, management, and team activities</li> <li>- leads the team in developing the processes the team needs</li> <li>- ensures that team members are familiar with each defined process and, where necessary, are trained in its use</li> <li>- ensures that the team always follows a defined and documented process</li> </ul>
<b>Process Tracking</b>	The process manager is responsible for ensuring that <ul style="list-style-type: none"> <li>- all team members report their process data in a timely way</li> <li>- where members are late providing their process data, promptly gets their data or calls on the team leader for help</li> </ul>
<b>Process Analysis</b>	The process manager <ul style="list-style-type: none"> <li>- analyzes the team's process data</li> <li>- identifies where the team or any team member has problems following the defined process</li> <li>- assists that team member's improvement efforts</li> </ul>
<b>Process Problems</b>	Where there are process problems, the process manager <ul style="list-style-type: none"> <li>- alerts the team</li> <li>- suggests actions to resolve the problems</li> <li>- provides needed assistance in resolving the problems</li> </ul>
<b>PIP Handling</b>	The process manager manages the elicitation, gathering, recording, tracking, and handling of the team's PIPs.
<b>Reporting</b>	The process manager <ul style="list-style-type: none"> <li>- reports weekly to the team on the status of all team process development and analysis work</li> <li>- alerts the team and team leader when process problems need their attention</li> <li>- maintains the data to produce the process section of the project report during the phase and project postmortems (specification SUMMARY and script PM)</li> </ul>

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**TSP Process Manager Roles and Responsibilities (continued)**

<b>Questions</b>	<p>Examples of questions to be addressed by the process manager include:</p> <ul style="list-style-type: none"><li>- Do the teams have defined processes for their principal activities? If not, what processes do you recommend be defined and by whom?</li><li>- Do these processes reasonable represent the way that the work is currently being done? If not, are PIPs being submitted to correct the processes?</li><li>- When team members raise process-related issues, do you encourage them to submit PIPs and how many have they submitted?</li><li>- Are the developers following the processes that they have?</li><li>- Is management providing the support needed to get the defined processes followed? If not, what remedial actions do you recommend?</li><li>- Are all process assets being consistently stored for future reference? If not, what remedial actions do you recommend?</li><li>- Are the organization's process needs and objectives understood by the team? If not, what remedial actions do you recommend?</li><li>- Do you have a defined process for handling the team and organizational PIPs? If not, what is your plan?</li><li>- Are team members accurately recording their time, size and defect data?</li></ul>
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**TSP Quality Manager Roles and Responsibilities**

<b>Objective</b>	When all team members consistently meet their role responsibilities, follow the defined process, and work to agreed goals and specifications, the team will be most efficient and effective.
<b>Goals</b>	The quality manager's goals are to <ul style="list-style-type: none"> <li>- lead the team in producing and following a quality plan</li> <li>- provide timely analysis and warning of quality problems</li> <li>- perform effectively as the team's inspection moderator</li> </ul>
<b>Role Characteristics</b>	The characteristics most helpful to quality managers are the following <ul style="list-style-type: none"> <li>- You are concerned about software quality.</li> <li>- You know how to measure, analyze, and improve software quality.</li> <li>- You have some experience with or awareness of inspection methods.</li> <li>- You are willing and able to constructively review and comment on other people's work without antagonizing them.</li> </ul>
<b>Team Member Responsibilities</b>	All team members are responsible for meeting their responsibilities as team members (see Team Member Roles and Responsibilities). <ul style="list-style-type: none"> <li>- meeting their team member commitments</li> <li>- following a disciplined personal process</li> <li>- planning, managing, and reporting on their personal work</li> <li>- cooperating with the team and all team members to maintain an effective and productive working environment</li> </ul>
<b>Quality Support</b>	The quality manager provides support for the quality plan. <ul style="list-style-type: none"> <li>- maintains a focus on product and process quality throughout the project</li> <li>- leads the team in developing and following the quality plan</li> </ul>
<b>Inspection Support</b>	The quality manager ensures that a qualified moderator is available to lead team inspections or acts as inspection moderator.
<b>Quality Tracking</b>	The quality manager <ul style="list-style-type: none"> <li>- regularly tracks product and process quality measures</li> <li>- where members are late providing their quality data, promptly gets their data or calls on the team leader for help</li> </ul>
<b>Quality Analysis</b>	The quality manager regularly <ul style="list-style-type: none"> <li>- updates a SUMQ form for the system and one for each of its parts</li> <li>- analyzes team quality data</li> <li>- ensures that these analyses are available for team reference</li> <li>- alerts the team whenever the defined process is not being followed</li> <li>- recommends how to correct the problems</li> <li>- alerts the team and management whenever quality problems require special attention</li> </ul> The quality manager determines when and where there are quality problems and recommends corrective actions, such as <ul style="list-style-type: none"> <li>- selective re-inspection</li> <li>- component rework</li> <li>- in severe cases, scrap and redevelop</li> </ul>
<b>Reporting</b>	The quality manager <ul style="list-style-type: none"> <li>- reports weekly to the team on quality measures and product quality status</li> <li>- maintains the data to produce the defect, yield, ratio, rate, and component sections of the project report during the phase and project postmortems (specification SUMMARY and script PM)</li> </ul>

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**TSP Quality Manager Roles and Responsibilities (continued)**

<b>Questions</b>	<p>Examples of questions to be addressed by the quality manager include:</p> <ul style="list-style-type: none"><li>- Is the project notebook being managed and controlled? Does it contain all work products, measures, and measurement results derived from performing the planned processes? If not, what remedial actions do you recommend?</li><li>- Are the developers properly recording their defect data?</li><li>- Do they record the defect data as they do the work or after the fact?</li><li>- Are the defect data complete and of sufficient quality to permit analysis? If not, what remedial actions do you recommend?</li><li>- Are the developers using their defect data to assess the quality of their work?</li><li>- Do the developers use their defect data to regularly update their review checklists?</li><li>- Do the developers' defect data indicate that the work is of high quality? If not, what remedial actions do you recommend?</li><li>- Are the developers holding team inspections of the requirements, design, and implementation products and are these inspections being done properly?</li><li>- Are the developers conducting personal design and code reviews and are these reviews being done properly?</li><li>- Is component and / or module quality being reviewed before integration and system test?</li><li>- Do the quality of all the components and modules meet the team's quality guidelines before integration and system test? If not, what is being done to fix the quality problems?</li><li>- Do you need further support from management or the team leader in assuring quality work?</li><li>- Are there any other quality issues that the team should be aware of?</li></ul>
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**TSP Support Manager Roles and Responsibilities**

<b>Objective</b>	When all team members consistently meet their role responsibilities, follow the defined process, and work to agreed goals and specifications, the team will be most efficient and effective.
<b>Goals</b>	The support manager's goals are to <ul style="list-style-type: none"> <li>- help the team use proper tools and methods</li> <li>- handle the team's configuration management and change control functions</li> <li>- act as the team's reuse advocate</li> </ul>
<b>Role Characteristics</b>	The characteristics most helpful to support managers are the following. <ul style="list-style-type: none"> <li>- You are interested in and like to use software support tools.</li> <li>- You are a competent computer user and feel you could assist the team with their support needs.</li> <li>- You have some experience with support tools and systems.</li> <li>- You are generally familiar with the tools that will likely be used with the current project.</li> </ul>
<b>Team Member Responsibilities</b>	All team members are responsible for meeting their responsibilities as team members (see Team Member Roles and Responsibilities). <ul style="list-style-type: none"> <li>- meeting their team member commitments</li> <li>- following a disciplined personal process</li> <li>- planning, managing, and reporting on their personal work</li> <li>- cooperating with the team and all team members to maintain an effective and productive working environment</li> </ul>
<b>Tool Support</b>	The principal role of the support manager is to provide tool support. <ul style="list-style-type: none"> <li>- ensure that the team has an appropriate development support system</li> <li>- track the performance and effectiveness of the support system</li> <li>- maintain awareness of support system developments both in this and other groups</li> <li>- recommend to management and the team whenever support system changes or enhancements are needed to improve team performance</li> <li>- lead the team in developing or obtaining special support tools or facilities</li> <li>- ensure that the team members are familiar with support tools and, where necessary, trained in their use</li> </ul>
<b>Configuration Management</b>	The support manager obtains and manages the team's configuration management system. <ul style="list-style-type: none"> <li>- maintains a protected master copy of all controlled items</li> <li>- only allows approved changes to this controlled items.</li> <li>- maintains master copies of all controlled items and versions</li> <li>- maintains the project's configuration baseline, plan and status</li> </ul>
<b>Change Control</b>	The support manager leads the Configuration Control Board. <ul style="list-style-type: none"> <li>- reviews all changes to controlled products</li> <li>- evaluates each change for impact and benefit</li> <li>- recommends to the team which changes to make</li> </ul>
<b>Reuse</b>	The support manager acts as the team's reuse advocate. <ul style="list-style-type: none"> <li>- maintains a listing of potentially reusable parts</li> <li>- alerts the team to reuse opportunities</li> </ul>
<b>Reporting</b>	The support manager tracks and reports weekly to the team on <ul style="list-style-type: none"> <li>- the status of all support procurement and development work</li> <li>- reuse status and opportunities</li> <li>- configuration management status</li> </ul>

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**TSP Support Manager Roles and Responsibilities (continued)**

<b>Questions</b>	<p>Examples of questions to be addressed by the support manager include:</p> <ul style="list-style-type: none"><li>- Are physical environment standards adequate? If not, what remedial actions do you recommend?</li><li>- Does the team have suitable tools to support its work? If not, what additional tools do you recommend?</li><li>- Does the current environment support the selected validation and verification methods? If not, what remedial actions do you recommend?</li><li>- Are all team members fluent with the available development tools?</li><li>- If any team members are not fluent with these tools, what remedial actions do you recommend?</li><li>- Does the team have adequate tool support for the configuration management process? If not, what actions do you recommend?</li><li>- Is the change control board working effectively?</li><li>- Are all changes to baselined products being managed through the configuration control system?</li><li>- Have all products that should be baselined been baselined?</li><li>- Are there any other support issues that the team should be aware of?</li></ul>
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**TSP Test Manager Roles and Responsibilities**

<b>Objective</b>	When all team members consistently meet their role responsibilities, follow the defined process, and work to agreed goals and specifications, the team will be most efficient and effective.
<b>Goals</b>	The test manager's goals are to <ul style="list-style-type: none"> <li>- lead the team in developing comprehensive test plans</li> <li>- ensure that the system is thoroughly tested and properly performs all important functions</li> </ul>
<b>Role Characteristics</b>	The characteristics most helpful to the test manager are the following. <ul style="list-style-type: none"> <li>- You like to understand and take things apart.</li> <li>- You are intrigued by puzzles.</li> <li>- You like the competitive challenge of testing products to find their defects.</li> </ul>
<b>Team Member Responsibilities</b>	All team members are responsible for meeting their responsibilities as team members (see TSP Team Member Roles and Responsibilities). <ul style="list-style-type: none"> <li>- meeting their team member commitments</li> <li>- following a disciplined personal process</li> <li>- planning, managing, and reporting on their personal work</li> <li>- cooperating with the team and all team members to maintain an effective and productive working environment</li> </ul>
<b>Test Planning</b>	The test manager supports the customer interface manager in getting acceptance test criteria defined and agreed to by the customer during the requirements phase. <ul style="list-style-type: none"> <li>- The test manager also leads the team in</li> <li>- maintaining a focus on testing throughout the entire development process</li> <li>- defining and planning the system tests during the design phase</li> <li>- defining and planning the integration tests during the implementation phase</li> </ul>
<b>Test Support</b>	The test manager supports the team members with testing activities. <ul style="list-style-type: none"> <li>- planning and executing all test activities</li> <li>- establishing unit test standards</li> <li>- reporting and reviewing all integration and system test defects (see script TESTD and form DEFECT)</li> </ul>
<b>Test Analysis</b>	The test manager <ul style="list-style-type: none"> <li>- analyzes data from every test phase to identify defect-prone product elements</li> <li>- maintains a defect density map of all product components and the overall system for every test phase</li> <li>- works with the quality manager to find areas that need reinspection or retest</li> </ul>
<b>Reporting</b>	The test manager tracks and reports weekly to the team on the status of the team's test planning, development, and execution work.

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**TSP Test Manager Roles and Responsibilities (continued)**

<b>Questions</b>	<p>Examples of questions to be addressed by the test manager include:</p> <ul style="list-style-type: none"><li>- Are test plans being produced when the process requires them?</li><li>- Are these test plans complete and thorough?</li><li>- Do the developers understand how to produce suitable test plans? If not, what remedial actions do you recommend?</li><li>- Are the system test plans being reviewed when the requirements are reviewed, the integration plans when the design is reviewed, and the unit test plans when the implementation is reviewed?</li><li>- Are sufficient test facilities planned for integration and system testing?</li><li>- Are the needed test tools available?</li><li>- Do the developers know how to use the test tools? If not, what remedial actions do you recommend?</li><li>- Are the procedures and criteria for integration of product components sufficient for ensuring a quality product in put into test? If not, what remedial actions do you recommend?</li><li>- Is the integration of product components sufficient for testing? If not, what remedial actions do you recommend?</li><li>- Are all test plans, data, and results being appropriately managed and controlled in the project notebook?</li><li>- Do the test plans, procedures, environment, and results analysis demonstrate that verification and validation criteria have been met? If not, what remedial actions do you recommend?</li><li>- Is the product quality (defect level) high enough to do system or user acceptance testing?</li><li>- Are sufficient time/resources available for testing?</li><li>- Are there any other test issues that the team should be aware of?</li><li>- Is testing on schedule?</li></ul>
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