

# Team Software Process (TSP) Coach Certification Guidebook

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**September 2013**

**SPECIAL REPORT**  
CMU/SEI-2013-SR-025

**Team Software Process (TSP) Initiative**

<http://www.sei.cmu.edu>



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This report was prepared for the  
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## Acknowledgments

While creating this certification guidebook, we consulted with several individuals who provided ideas and helped to shape the certification program. In particular, we want to acknowledge the TSP team—Kimberley Campbell, Mark Kasunic, James McHale, Gene Miluk, William Nichols, and James Over—for helping us out when we needed a new perspective. We would also like to thank Rafael Salazar and Tracey Kelly for their help in defining the associate coach role and incorporating it into the TSP Coach Certification Program.



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## Abstract

This guidebook explains the process required to become an SEI-Certified Team Software Process (TSP) Associate Coach, SEI-Certified TSP Coach, or SEI-Certified TSP Mentor Coach. It describes the entry requirements, certification process steps, and performance evaluation components that must be satisfied.

Please refer to the *Team Software Process (TSP) Coach Mentoring Program Guidebook, Version 2.0 (CMU/SEI-2013-SR-024)* for a comprehensive description of the mentorship component of the certification process. Mentorship is one of the key requirements that must be met in order to become an SEI-Certified TSP Coach. Mentoring also plays a role in the certification process for SEI-Certified TSP Associate Coaches and SEI-Certified TSP Mentor Coaches.



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# 1 Introduction

This guidebook explains how to apply for, receive, and maintain certification as an SEI-Certified Team Software Process (TSP) Associate Coach, SEI-Certified TSP Coach, or SEI-Certified TSP Mentor Coach. It describes the entry requirements, certification process steps, and performance evaluation components that must be satisfied in order to become certified in one or more of these coach roles.

Applicants for certification are encouraged to read the entire guidebook carefully before beginning the application process to ensure that they meet all the eligibility requirements for the desired certification. Successful applicants and their supporting coaches or mentor coaches should continue to refer to this guidebook, as well as to the *Team Software Process (TSP) Coach Mentoring Program Guidebook, Version 2.0* (CMU/SEI-2013-SR-024), throughout the certification process.

## 1.1 Audience

This document is intended for individuals who are interested in becoming

- SEI-Certified TSP Associate Coaches
- SEI-Certified TSP Coaches
- SEI-Certified TSP Mentor Coaches

Other individuals who should be familiar with the information contained in this guidebook include

- SEI-Authorized Personal Software Process (PSP) Instructors
- change agents who are responsible for transitioning and sustaining TSP in their organizations
- individuals who are responsible for administering the TSP coaching and instructor programs in their organizations

## 1.2 Professional Certification Overview

Professional certification is a mechanism that allows professionals to demonstrate their mastery of the essential skills, knowledge, and principles relevant to a particular professional field. Certifications differ from certificate programs in that certifications generally include requirements for competencies and skills in a particular field that a competent professional is expected to possess. Proof of competency must be assessed objectively, usually by the following means:

- passing a proficiency exam
- completing a skill demonstration
- attaining a requisite level of experience in the field
- meeting a required standard for both performance and experience

In contrast, certificates are usually awarded after the completion of a single course or a program of study and do not require the recipient to meet examination performance standards or experience requirements. Certificates of completion do not have expiration dates and are valid for the lifetime of the recipient, whereas professional certifications are valid for only a specific period of time; in order to maintain certification, certified individuals must periodically demonstrate that they have maintained the level of performance required for certification, usually by presenting proof of continuing education or participation in professional societies, through authorship of works relevant to the field of practice, or by passing the current version of the certification assessment.

### **1.3 Advantages of Professional Certifications**

Certifications provide employers and consumers with an assurance that the certified individual has attained a well-defined level of understanding or ability against a particular skill set or body of knowledge and has maintained that level of expertise over a specific period of time. The requirement for renewal of certification ensures that certified professionals continually maintain and expand their knowledge and skills in the profession, while keeping abreast of any advancements and updates in their field. Certification is required by law for employment in some professions, whereas in other fields, certification provides a competitive advantage for promotion or hiring decisions.

## 2 Coach Qualification Overview

The SEI currently offers three TSP coach credentials: SEI-Certified TSP Associate Coach, SEI-Certified TSP Coach, and SEI-Certified TSP Mentor Coach. Figure 1 provides a general overview of the requirements for and relationships among the three certifications.

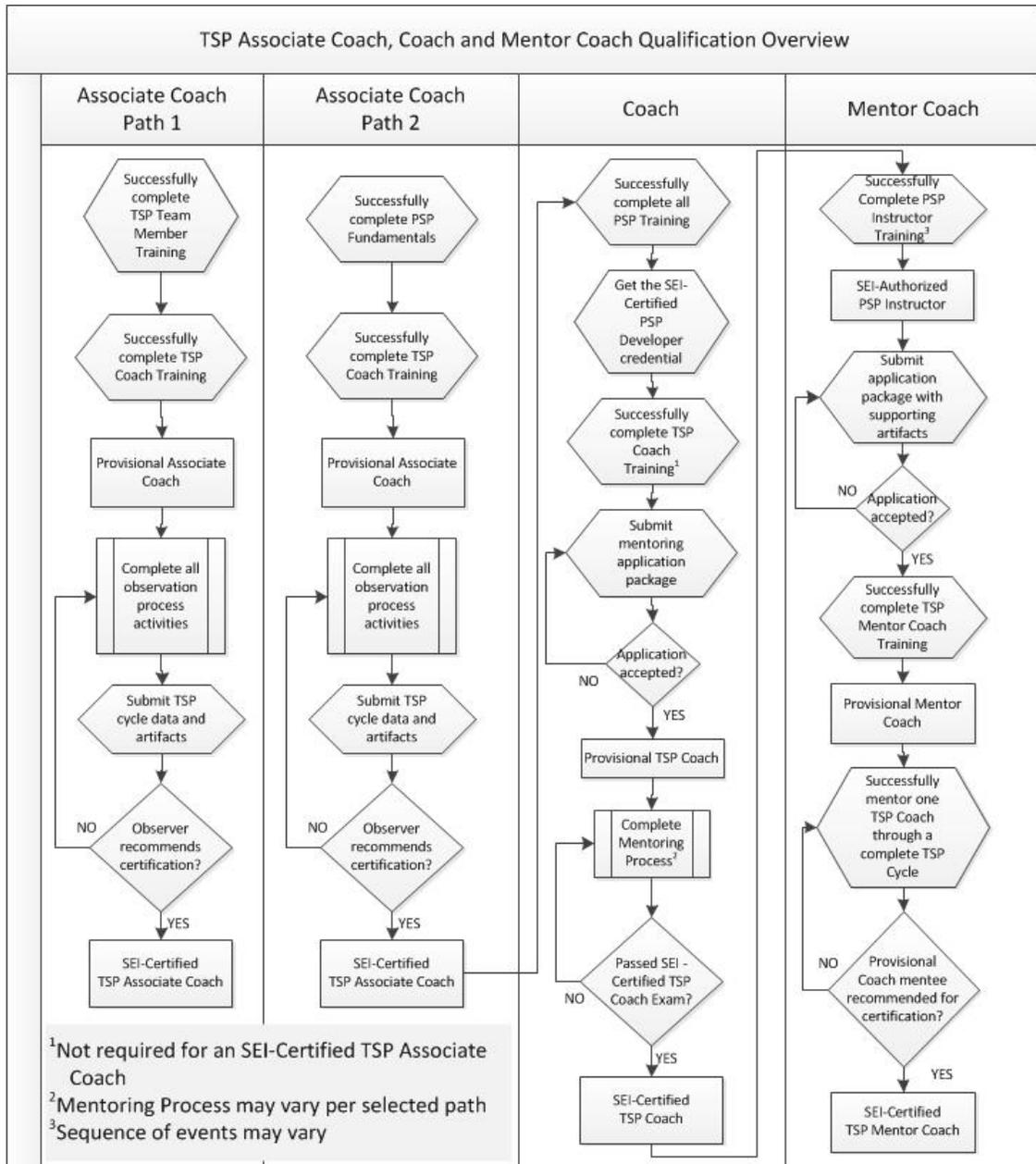


Figure 1: TSP Associate Coach, TSP Coach, and TSP Mentor Coach Qualifications Overview

A detailed analysis of the skills required for competent performance at each of the three coaching levels is provided in this guidebook as Appendix A, TSP Coach Skills Analysis. Please note that the skills required for TSP Coaches and TSP Mentor Coaches are presumed to be cumulative; a candidate for the role of SEI-Certified TSP Coach is expected to possess all of the skills identified at both the associate coach and coach levels, and a candidate SEI-Certified TSP Mentor Coach is expected to be proficient in all of the skills described in the analysis document.

## **2.1 SEI-Certified TSP Associate Coach**

The SEI-Certified TSP Associate Coach is the newest addition to the TSP coaching certification model. In this role, an individual has the capability to facilitate (re)launches and weekly team meetings and provide day-to-day team support under the guidance of an SEI-Certified TSP Coach. The TSP Associate Coach has sufficient knowledge and experience to work with teams and individuals, but may not have the seniority, experience, or standing to fully coach personnel in management positions. At this level, the individual is able to coach role managers and use basic historic data, but may not be capable of using sophisticated analysis techniques and tools. The TSP Associate Coach will be expected to work under the guidance of an SEI-Certified TSP Coach, who will perform the checkpoints and postmortems for the TSP team. The SEI-Certified TSP Coach is responsible for overseeing the work of the associate coach to ensure that (re)launches and day-to-day operations are performed correctly.

See Section 3.1 of this guidebook for a detailed explanation of the entry prerequisites and certification requirements for the SEI-Certified TSP Associate Coach credential.

## **2.2 SEI-Certified TSP Coach**

The SEI-Certified TSP Coach is an individual who has demonstrated competence in performing all aspects of the TSP cycle under the mentorship of an SEI-Certified TSP Mentor Coach and has satisfied all the requirements for TSP Coach Certification. An SEI-Certified TSP Coach has the training and experience to act as the process expert for the following TSP team activities:

- team launches and relaunches
- day-to-day work processes, data collection, and data analysis
- role manager duties and processes
- weekly reporting
- project/phase/cycle postmortems
- interim checkpoints

See Section 3.2 of this guidebook for a detailed explanation of the entry prerequisites and certification requirements for the SEI-Certified TSP Coach credential.

### **2.3 Certified TSP Mentor Coach**

The SEI-Certified TSP Mentor Coach is an experienced coach who is qualified to train provisional coaches and who can use sophisticated methods to analyze data and perform complete postmortems that analyze process improvement.

See Section 3.3 of this guidebook for a detailed explanation of the entry prerequisites and certification requirements for the SEI-Certified TSP Mentor Coach credential.

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## 3 TSP Coaching Certifications

The TSP has grown and transitioned through the technology adoption life-cycle curve from early adoption into the early majority phase [Moore 2002]. In response, the SEI has changed the TSP introduction strategy to better support the needs of a different category of technology adaptors. An essential element in this strategy is the inclusion of multi-tiered coach certifications.

The certification levels detailed in this guidebook describe three levels of certification, each with definitive entry and exit gates. These levels are Provisional TSP Associate Coach / SEI-Certified TSP Associate Coach; Provisional TSP Coach / SEI-Certified TSP Coach; and Provisional TSP Mentor Coach / SEI-Certified TSP Mentor Coach. The provisional level represents someone who has completed all the training necessary to fulfill a particular role but has not yet completed the requisite steps for certification.

The TSP coach qualification model (as shown in Figure 1 above) accounts for the needs of a newly-trained associate coach, coach, or mentor coach to implement the knowledge and skills learned in the classroom into real-world practice under the tutelage of a more experienced coach. The inclusion of observations and mentoring in the qualification model is a means for ensuring that novice coaches at each certification level receive the support and feedback needed for development and growth into autonomously functioning, competent practitioners [Ericsson 1993]. The tiered model also provides a path for continued professional growth by providing qualified and interested individuals with an ability to attain higher levels of certification as they gain expertise in process implementation, data analysis, and interpersonal / team-working skills.

At the organizational level, the tiered certification structure provides better scalability and decreased costs when broadening the implementation of TSP across multiple sectors of the organization. The multiple tracks provide the organization with a means to develop the required TSP support structure by training qualified employees who are already familiar with the corporate structure, processes, and culture, thereby eliminating the costs associated with recruiting, hiring, and training already-certified individuals from outside the organization.

### 3.1 Provisional Associate Coach / SEI-Certified TSP Associate Coach

#### 3.1.1 Requirements for Admission to Provisional Associate Coach Status

As shown in Figure 1, there are two entry points to the path for becoming an SEI-Certified TSP Associate Coach. The first path begins with successful completion of the TSP Team Member Training course (<http://www.sei.cmu.edu/training/p16b.cfm>) taught by the SEI or an SEI-Authorized Instructor. The second path begins with the successful completion of the PSP Fundamentals course (<http://www.sei.cmu.edu/training/p18b.cfm>) taught by the SEI or an SEI-Authorized PSP Instructor. The two paths converge after the individual has successfully completed the TSP Coach Training course (<http://www.sei.cmu.edu/training/p21.cfm>) leading to the status of Provisional TSP Associate Coach.

The complete application package for the role of Provisional TSP Associate Coach consists of the following:

- course completion certificate for either TSP Team Member Training or PSP Fundamentals taught by SEI personnel or an SEI-Authorized Instructor
- sponsorship form for the TSP Associate Coach role (signed by the business point of contact in the sponsoring SEI Partner organization)
- signed SEI Code of Professional Conduct form
- signed SEI Certification Agreement form

Once the complete application has been accepted and approved by the SEI and the applicant has successfully passed the TSP Coach Training course, the applicant becomes a Provisional TSP Associate Coach and may begin the observation phase. The provisional associate coach will need to find an SEI-Certified TSP Coach or Mentor Coach, who will support the candidate as he or she works with a TSP team through a complete TSP cycle. Upon successful completion of the observation requirement and recommendation by the observing coach, the individual will receive the SEI-Certified TSP Associate Coach credential.

### **3.1.2 Requirements for TSP Associate Coach Certification**

To become certified, a provisional associate coach must successfully complete the list of activities below under the guidance of an SEI-Certified TSP Coach or SEI-Certified Mentor Coach. The observation phase must be completed within twelve months of completing TSP Coach training.

- (re)launch a TSP team while being observed by a coach or mentor coach
- support the team's day-to-day operations through a complete TSP cycle from (re)launch to phase or project postmortem
- assist the assigned coach or mentor coach in conducting the team's checkpoints and postmortems

A provisional associate coach has permission to use the TSP tool and intellectual property under the sponsor's license agreement for the duration of the provisional period; the observing coach or mentor coach will provide access to the tool and intellectual property on an as-needed basis. The provisional associate coach is also subject to annual support payments, as outlined in the partner agreement.

The observing SEI-Certified TSP Coach or Mentor Coach of the provisional associate coach's team has the following responsibilities:

- observe the provisional associate coach as he or she performs a TSP team (re)launch
- submit the (re)launch observation report, launch output materials (including consolidated team plan, individual plans, and meeting 9 out-brief), and launch evaluation forms to the SEI within 30 days of the last day of the observed (re)launch
- observe the provisional associate coach as he or she conducts routine day-to-day coaching activities. The day-to-day support activities should include
  - attending the weekly team meetings of the assigned TSP team

- coaching the team’s role manager
- interpreting basic time, size, defect, and schedule data generated by the team
- conduct a checkpoint and postmortem with the assigned TSP team, with the provisional associate coach’s support
- provide the SEI with a complete team data set from the checkpoint and the postmortem, and with interim progress reports (as appropriate). Each report and/or data set should be submitted to the SEI within 30 business days of completing the corresponding TSP cycle event
- provide regular feedback to the provisional associate coach as he or she progresses through the TSP cycle, using the TSP Associate Coach Skills Checklist
- submit the completed Associate Coach Final Assessment Report (form AFAR) with the recommendation to either grant certification or withhold certification pending remediation

The maximum time allowed for completion of the provisional associate coach period is 12 months, with an option to apply for one extension of up to 6 months (subject to approval by the SEI).

At the end of the provisional period, and on receipt of the AFAR, the SEI will verify that the assigned observing TSP coach or mentor coach has submitted all required documents. The SEI also will evaluate the assessments and TSP cycle data. After approval from the SEI, the Provisional TSP Associate Coach will be awarded the credential of SEI-Certified TSP Associate Coach. The certified individual will receive an official certificate bearing the date of the final qualifying event.

### **3.1.3 The SEI-Certified TSP Associate Coach**

The designation of SEI-Certified TSP Associate Coach is conferred upon individuals who have completed all training and observation requirements and submitted a complete dataset of a TSP cycle ((re)launch, checkpoint, and postmortem) to the SEI, as outlined in Figure 1. These individuals are fully qualified to conduct launches or relaunches and to support the team’s day-to-day operations under the guidance of an SEI-Certified TSP Coach or Mentor Coach.

The SEI-Certified TSP Associate Coach certification is valid for a period of one year from the date it was awarded, to expire on the last day of the month in which the credential was awarded. For example, a certification issued on any date in January 2014 will expire on 31 January 2015.

### **3.1.4 Rights and Responsibilities of the SEI-Certified TSP Associate Coach**

After receiving the certification credential, an SEI-Certified TSP Associate Coach is allowed to (re)launch TSP teams and conduct normal day-to-day coaching activities under the supervision of an SEI-Certified TSP Coach or Mentor Coach. These activities may be conducted without the direct observation of the assigned supervising coach/mentor coach, with the expectation that assistance will be sought from the supervisor or offered to the associate coach (as the case may be) when such assistance is desired or warranted. The associate coach may not conduct checkpoints or postmortems; only SEI-Certified TSP Coaches or Mentor Coaches can perform these activities.

All professionals certified by the SEI recognize that such certification must be both earned and maintained. In support of this principle, all SEI-certified professionals are required to commit to fully support the SEI Code of Professional Conduct (CoPC). Certified individuals who intentionally or knowingly violate any provision of the CoPC will be subject to action by a peer review panel, which may result in the revocation of certification.

SEI-Certified TSP Associate Coaches who possess the requisite software development skills can become SEI-Certified TSP Coaches and Mentor Coaches by completing the requirements described in the guidebook sections corresponding to each of these certification credentials.

### **3.1.5 SEI-Certified TSP Associate Coach Certification Renewal**

SEI-Certified TSP Associate Coaches must renew their certification every year. Renewal criteria are as follows:

- hold a current SEI-Certified TSP Associate Coach credential
- at a minimum, the team's assigned SEI-Certified TSP Coach (or the associate coach, on behalf of the assigned team coach) has submitted team data for one complete TSP cycle that was supported by the associate coach. The TSP cycle includes at least one each of the following events:
  - launch or relaunch
    - workbooks (overall, consolidated, and individual) or equivalent
    - questionnaires (site, project, and team member)
    - evaluations (launch and relaunch)
    - presentations from launch meetings 1 and 9
  - checkpoint
    - report of findings and recommendations
    - workbooks (consolidated and individual) or equivalent
  - project or cycle postmortem
    - postmortem report
    - workbooks (consolidated and individual) or equivalent

## **3.2 Provisional TSP Coach / SEI-Certified TSP Coach**

### **3.2.1 The Provisional TSP Coach**

A Provisional TSP Coach has received training in PSP and TSP and is ready to apply his or her skills and knowledge under the supervision of a qualified mentor. An individual may apply for Provisional TSP Coach status by submitting a completed application package to the SEI. The complete application package for the role of Provisional TSP Coach consists of the following.

- course completion certificate for PSP Fundamentals and PSP Advanced Training, or PSP for Engineers I and II, taught by SEI personnel, an authorized SEI Partner, or an accredited university
- course completion certificate for TSP Coach Training

- proof of current status as an SEI-Certified PSP Developer
- sponsorship form for the TSP coach role (signed by the business point of contact in the sponsoring SEI Partner organization)
- signed SEI Code of Professional Conduct form
- signed SEI Certification Agreement form

Once the complete application has been accepted and approved by the SEI, the applicant becomes a Provisional TSP Coach and may begin the mentoring phase. The Provisional TSP Coach will be mentored by an SEI-Certified Mentor Coach (or a Provisional TSP Mentor Coach working under supervision from an SEI-Certified TSP Mentor Coach from the SEI staff) who will mentor the candidate as he or she works with a TSP team through a complete TSP cycle. Upon successful completion of the mentoring process (See *Team Software Process (TSP) Coach Mentoring Program Guidebook, Version 2.0*) and recommendation by a mentor, the individual will be permitted to take the TSP Coach Certification Exam. Once the provisional coach passes the exam, he or she will receive the SEI-Certified TSP Coach certification.

### 3.2.2 Requirements for TSP Coach Certification

To become certified, a Provisional TSP Coach must successfully complete all of the following activities under the supervision of an SEI-Certified TSP Mentor Coach (or a provisional mentor coach who is working under the guidance of an SEI-Certified TSP Mentor Coach):

- perform at least one each of the following TSP events:
  - TSP launch or relaunch
  - TSP checkpoint
  - TSP project or cycle postmortem
- perform all of the responsibilities of a TSP coach as outlined in tasking areas C through G of the TSP Coach Job Analysis Report (see Appendix B of the *TSP Coach Mentoring Program Guidebook, Version 2.0*)
- receive a passing score on the TSP Coach Certification exam

The complete requirements for the TSP mentorship are defined in the *Team Software Process (TSP) Coach Mentoring Program Guidebook, Version 2.0* (CMU/SEI-2013-SR-024).

A Provisional TSP Coach has permission to use the TSP tool and intellectual property under the sponsor's license agreement for the duration of the provisional period; the supervising mentor will provide access to the tool and intellectual property on an as-needed basis. The Provisional TSP Coach is also subject to annual support payments, as outlined in the partner agreement. The maximum completion time for the provisional period is 18 months, with an option to apply for an extension (subject to approval by the SEI).

Successful completion of the above-listed requirements must be confirmed by the supervising TSP Mentor Coach by means of the Final Assessment Report (form FAR), which must include the mentor's recommendation that the Provisional TSP Coach be granted certification as an SEI-Certified TSP Coach. If the supervising mentor cannot recommend the Provisional TSP Coach for

certification, he or she should provide to the SEI a detailed description of the skills and/or knowledge areas in which the Provisional TSP Coach requires remediation; the report to the SEI should also contain a remediation plan and an estimated timeline for completing the exam.

On receipt of a favorable report with certification recommendation from the Provisional TSP Coach's supervising mentor, the SEI will notify the candidate coach that he or she may schedule a date and time for the certification exam. The Provisional TSP Coach is allowed a maximum of three attempts at passing the exam; failure to pass the exam on the third attempt will disqualify the individual from becoming an SEI-Certified TSP Coach. After successful completion of the TSP Certification exam, the Provisional TSP Coach will be awarded the credential of SEI-Certified TSP Coach.

The certified individual will receive an official certificate bearing the date of the final qualifying event. The certificate will also bear the certificant's name as entered on the original certification application, a unique registration number, and the expiration date of the certification.

### **3.2.3 The SEI-Certified TSP Coach**

The designation of SEI-Certified TSP Coach is given individuals who have completed all training and testing requirements as outlined in Figure 1. These individuals are fully qualified to coach a TSP team. An SEI-Certified TSP Coach has been mentored by an SEI-Certified TSP Mentor Coach, was evaluated against a standard in the form of a written examination, and has demonstrated the skills necessary to successfully coach a TSP team. The SEI-Certified TSP Coach can apply PSP/TSP principles in ill-defined team and organizational situations and is able to guide teams toward superior performance. The SEI-Certified TSP Coach also acts as a champion for PSP/TSP, motivating new developers, managers, and executives to adopt these technologies.

All professionals who are certified by the SEI recognize that such certification must be both earned and maintained. In support of this principle, all SEI-certified professionals are required to commit to fully support the SEI Code of Professional Conduct (CoPC). Certified individuals who intentionally or knowingly violate any provision of the CoPC will be subject to action by a peer review panel, which may result in the revocation of certification.

### **3.2.4 SEI-Certified TSP Coach Certification Renewal**

SEI-Certified TSP Coaches must renew their certification every two years. Renewal criteria are as follows:

- maintain a current SEI-Certified PSP Developer credential
- hold a current SEI-Certified TSP Coach credential
- at a minimum, submit data for one complete TSP cycle, which includes at least one each of the following events:
  - launch or relaunch
    - workbooks (overall, consolidated, and individual) or equivalent
    - questionnaires (site, project, and team member)

- evaluations (launch and relaunch)
- presentations from launch meetings 1 and 9
- checkpoint
  - report of findings and recommendations
  - workbooks (consolidated and individual) or equivalent
- project or cycle postmortem
  - postmortem report
  - workbooks (consolidated and individual) or equivalent

### **3.3 Provisional TSP Mentor Coach / SEI-Certified TSP Mentor Coach**

A mentor coach is responsible for providing provisional coaches with the guidance and support necessary to effectively coach TSP teams. A mentor coach is an experienced person who acts as a trusted counselor, role model, and guide to a less experienced person or a newcomer. A mentor coach has completed the required training and has gained sufficient experience in coaching successful TSP teams to counsel and mentor provisional coaches. A mentor coach also prepares provisional coaches for their final evaluations to become SEI-Certified TSP Coaches.

#### **3.3.1 The Provisional TSP Mentor Coach**

In order to become a Provisional TSP Mentor coach, an applicant must be an SEI-Certified TSP Coach in good standing and must also successfully complete the TSP Mentor Coach Training course offered by the SEI. The TSP Mentor Coach Training course prerequisites are as follows:

- submit an application with all required supporting data
- be an SEI-Authorized PSP Instructor
- teach or co-teach three of the courses from the TSP product suite; these courses must be any one PSP course and any two non-PSP courses listed in the product suite
- launch (or relaunch) a minimum of four different teams during the five-year period immediately preceding the mentor coach application; the launch or relaunch to postmortem cycles must total at least 52 team-weeks of coaching experience, and evidence must be available from data submissions made to the SEI
- complete a minimum of four TSP checkpoints and four TSP project or cycle postmortems associated with the aforementioned (re)launched teams, as evidenced with reports and actual data submitted to the SEI
- provide at least one of the following sets of recommendations:
  - letters of recommendation to be a mentor coach from all team leaders of the aforementioned (re)launched teams and at least two of the associated team members
  - Launch Participant Feedback Forms and a Launch Coach Feedback Form for each of the aforementioned (re)launched teams
- Complete the Mentor Coach Program Application and submit it to the SEI

### 3.3.2 Requirements for TSP Mentor Coach Certification

To become an SEI-Certified TSP Mentor Coach, a provisional mentor coach must successfully mentor a Provisional TSP Coach candidate through the process of becoming an SEI-Certified TSP Coach, as defined in the *Team Software Process (TSP) Coach Mentoring Program Guidebook, Version 2.0* (CMU/SEI-2013-SR-024). The mentoring activities must be completed under the guidance of an SEI-Certified TSP Mentor Coach from the SEI.

After successfully mentoring a Provisional TSP Coach through a complete TSP cycle to the point that the Provisional TSP Coach is ready to apply for the TSP Coach Certification exam, the provisional mentor coach will become an SEI-Certified TSP Mentor Coach. The certified individual will receive an official certificate bearing the date of the final qualifying event. The certificate will also bear the certificant's name as entered on the original certification application, a unique registration number, and the expiration date of the certification.

### 3.3.3 The SEI-Certified TSP Mentor Coach

An SEI-Certified TSP Mentor Coach is capable of meeting all the responsibilities outlined in the TSP Coach Mentoring Program Guidebook without the direct guidance of the SEI and is capable of providing a provisional coach with all the skills needed in order to successfully coach a TSP team.

In order to provide each provisional coach with the attention needed for success, a mentor coach is permitted to mentor no more than four provisional coaches at any given time.

All professionals who are certified by the SEI recognize that such certification must be both earned and maintained. In support of this principle, all SEI-Certified professionals are required to commit to fully support the SEI Code of Professional Conduct (CoPC). Certified individuals who intentionally or knowingly violate any provision of the CoPC will be subject to action by a peer review panel, which may result in the revocation of certification.

An SEI-Certified TSP Mentor Coach must renew his or her certification every four years. Renewal criteria are as follows:

- hold a valid SEI-Certified PSP Developer certification
- hold a valid SEI-Certified TSP Coach certification
- maintain current status as an SEI-Authorized PSP Instructor
- successfully mentor at least two provisional coaches through the complete process of becoming an SEI-Certified TSP Coach (see Section 3.2) during the four-year certification period.



## Appendix A TSP Coach Skills Analysis

The TSP Coach Skills Analysis is a mapping of the coaching levels to the TSP Coach Job Analysis Report developed in 2006. Each item in the report is mapped to associate, coach, mentor, instructor, or master categories.

Category	Description
<b>Associate</b>	The set of skills associated with an SEI-Certified TSP Associate Coach.
<b>Coach</b>	The set of skills associated with an SEI-Certified TSP Coach. In addition to these skills a certified coach should have all the skills categorized as associate-level skills.
<b>Mentor</b>	The set of skills associated with an SEI-Certified TSP Mentor Coach. In addition to these skills a certified mentor coach should have all the skills categorized as associated or coach level skills.
<b>Instructor</b>	The set of skills associated with an SEI-Authorized PSP Instructor.
<b>Master</b>	The set of advanced skills not associated with any aforementioned categories. While some certified individuals may possess these skills, they are not covered by the current training and certification categories.

<b>Prepare Organization for Initial TSP Usage</b>	
A-1 Secure executive sponsor for TSP	<b>Master</b>
A-2 Conduct TSP executive seminar	<b>Coach, Instructor</b>
A-3 Conduct organizational needs analysis	<b>Master</b>
A-4 Establish pilot success criteria (e.g., benchmark data, ROI)	<b>Master</b>
A-5 Define TSP pilot selection criteria	<b>Coach</b>
A-6 Identify TSP pilot projects	<b>Coach</b>
A-7 Develop TSP introduction plan	<b>Coach</b>
A-8 Identify TSP coach candidates	<b>Coach</b>
A-9 Establish pilot project reward system	<b>Master</b>
A-10 Deliver PSP/TSP awareness presentation	<b>Coach</b>
A-11 Evaluate TSP pilot projects	<b>Coach</b>
A-12 Set data privacy standards	<b>Mentor, Master</b>

<b>Provide TSP Domain Training</b>	
B-1 Handle course logistics	<b>Associate, Instructor</b>
B-2 Prepare for course delivery	<b>Coach, Instructor</b>
B-3 Develop supplemental training materials	<b>Coach, Instructor</b>
B-4 Deliver course (e.g., Executive Seminar, Management Training, PSP for Engineers, Introduction to the PSP Process)	<b>Mentor, Instructor</b>
B-5 Evaluate TSP/PSP course outcomes	<b>Coach, Instructor</b>
B-6 Implement (PSP) training PIPs	<b>Mentor, Instructor</b>
B-6 Implement (TSP) training PIPs	<b>Mentor, Instructor</b>

<b>Facilitate TSP Team Launch</b>	
C-1 Prepare management for launch	<b>Coach</b>
C-2 Prepare TSP team lead for launch	<b>Associate</b>
C-3 Prepare TSP team for launch	<b>Associate</b>
C-4 Arrange for TSP launch logistics	<b>Associate</b>
C-5 Guide creation of draft conceptual design (prior to launch)	<b>Associate</b>
C-6 Plan for departures from the norm	<b>Associate</b>
C-7 Provide conditions for TSP team to jell	<b>Associate</b>
C-8 Guide TSP team in selecting appropriate roles	<b>Associate</b>
C-9 Guide TSP team in establishing goals (e.g., management, project, team)	<b>Associate</b>
C-10 Guide TSP team in defining conceptual design	<b>Associate</b>
C-11 Guide TSP team in determining development strategy	<b>Associate</b>
C-12 Guide TSP team in defining work processes	<b>Associate</b>
C-13 Guide TSP team in developing process support and role plans	<b>Associate</b>
C-14 Develop TSP coaching plans	<b>Coach</b>
C-15 Guide TSP team in developing top level plan	<b>Associate</b>
C-16 Provide early warning to senior management if their goals cannot be met	<b>Associate</b>
C-17 Guide TSP team in creating quality plan	<b>Associate</b>
C-18 Guide team in creating individual TSP plans	<b>Associate</b>
C-19 Guide TSP team in balancing workload	<b>Associate</b>
C-20 Guide TSP team in consolidating individual TSP plans	<b>Associate</b>
C-21 Guide TSP team in reviewing plans	<b>Associate</b>
C-22 Guide TSP team in creating alternative plans	<b>Associate</b>
C-23 Guide TSP team in creating summary project plan	<b>Associate</b>
C-24 Guide TSP team to identify and mitigate risks	<b>Associate</b>
C-25 Guide TSP team in preparing management briefing	<b>Associate</b>
C-26 Guide TSP team in brainstorming questions management is likely to ask	<b>Associate</b>
C-27 Guide TSP team leader in preparing for management meeting	<b>Associate</b>
C-28 Guide TSP team in conducting the management briefing	<b>Associate</b>
C-29 Obtain management approval for team plan	<b>Associate</b>
C-31 Guide team in conducting launch PM	<b>Associate</b>
C-32 Train new teams in tool usage	<b>Associate</b>
C-33 Facilitate the use of launch scripts	<b>Associate</b>
C-34 Coordinate cross-team involvement	<b>Coach</b>

<b>Guide Personal Process Usage</b>	
D-1 Conduct individual data review	<b>Coach</b>
D-2 Identify individual strengths and weaknesses	<b>Coach</b>
D-3 Guide individuals with improvement goals	<b>Coach</b>
D-4 Guide individuals improvement plan (PIP)	<b>Coach</b>
D-5 Guide individuals in presenting their status	<b>Associate</b>
D-6 Guide individual in fulfilling team member roles	<b>Associate</b>
D-7 Provide individual remedial PSP training	<b>Coach, Instructor</b>

<b>Guide Team Process Usage</b>	
E-1 Guide team in assessing quality status	<b>Associate</b>
E-2 Guide team in assessing process status	<b>Associate</b>
E-3 Guide team in assessing schedule status	<b>Associate</b>
E-4 Guide team in dynamic plan adjustments (e.g., load balancing, task management)	<b>Associate</b>
E-5 Identify team strengths and weaknesses	<b>Coach</b>
E-6 Guide team in setting improvement goals	<b>Coach</b>
E-7 Guide team in developing improvement plan	<b>Coach</b>
E-8 Guide team in presenting its status to management	<b>Associate</b>
E-9 Guide team in fulfilling TSP team roles	<b>Associate</b>
E-10 Guide team with remedial TSP training	<b>Coach, Instructor</b>
E-11 Attend weekly team meetings	<b>Associate</b>
E-12 Guide team through initial inspections	<b>Associate</b>
E-13 Conduct checkpoint review	<b>Coach</b>
E-14 Guide team to conduct cycle & project PM	<b>Coach</b>
E-15 Guide team to conduct replanning and relaunch	<b>Associate</b>
E-16 Guide team in managing inter/intra team dependencies	<b>Associate</b>
E-17 Guide team in managing risks and issues	<b>Associate</b>
E-18 Guide team in achieving management goals	<b>Associate</b>
E-19 Guide team in developing new process elements (e.g. design standards, review checklist)	<b>Coach</b>
E-20 Show team leader how to use TSP tools	<b>Associate</b>
E-21 Coordinate changes in team membership	<b>Associate</b>
E-22 Guide team in correcting identified problems	<b>Coach</b>

<b>Guide Management in TSP Usage</b>	
F-1 Guide management in assessing quality status	<b>Coach</b>
F-2 Guide management in assessing process status	<b>Coach</b>
F-3 Guide management in assessing scheduling status	<b>Coach</b>
F-4 Guide management in dynamic plan adjustments (e.g., load balancing, task management)	<b>Coach</b>
F-5 Guide management in identifying organizational process strengths & weaknesses	<b>Master</b>
F-6 Guide management in developing organizational improvement plan	<b>Master</b>
F-7 Guide management in communicating successes	<b>Coach</b>
F-8 Guide management in reviewing and rewarding success	<b>Master</b>
F-9 Guide management in data privacy practices	<b>Coach</b>
F-10 Guide linkages to organizational-level business goals	<b>Master</b>
F-11 Guide management in TSP integration with organizational goals	<b>Master</b>
F-12 Sustain TSP sponsorship	<b>Master</b>
F-13 Guide management in developing and improving teams as organizational assets	<b>Master</b>

<b>Support Data Analysis and Usage</b>	
G-1 Support organizational software development final analysis	<b>Master</b>
G-2 Support defect prevention analysis	<b>Coach</b>
G-3 Support handling of system test defects	<b>Coach</b>
G-4 Support establishment of benchmarks (e.g., yield, quality, productivity, task hours)	<b>Coach</b>
G-5 Support conducting TSP usage opinion survey	<b>Master</b>
G-6 Support selection and recommendation of data analysis tools	<b>Master</b>
G-7 Support reconciling data from multiple sources (e.g., system test defects, production defects, configuration management tools)	<b>Coach</b>

<b>Support Organizational TSP Infrastructure</b>	
H-1 Support organizational process asset library (PAL)	<b>Master</b>
H-2 Develop TSP coaches	<b>Mentor</b>
H-3 Develop PSP instructors	<b>Mentor, Instructor</b>
H-4 Plan PSP/TSP training	<b>Coach, Instructor</b>
H-5 Couple TSP to existing improvement initiatives	<b>Master</b>
H-6 Help determine budget for TSP implementation	<b>Coach</b>
H-7 Develop organizational rollout plan	<b>Master</b>
H-8 Market TSP process internally (e.g., presentations, consulting)	<b>Coach</b>

<b>Perform Administrative Activities</b>	
I-1 Report TSP/PSP data to SEI	<b>Coach</b>
I-2 Maintain SEI authorizations	<b>Associate</b>
I-3 Maintain SEI Partner license	<b>Associate</b>
I-4 Maintain PSP Developer certification	<b>Coach</b>
I-5 Support candidate coaches and instructors	<b>Mentor</b>
I-6 Report defects in SEI materials to SEI	<b>Associate, Instructor</b>
I-7 Manage TSP vendor relationships and contracts	<b>Associate</b>

<b>Pursue Professional Development</b>	
J-1 Interact with the external community (e.g., PSP, TSP, software practitioners)	<b>Associate</b>
J-2 Develop TSP gap closures (e.g., prototype, try new things, build new tools)	<b>Coach</b>
J-3 Transition new knowledge (e.g., tools, ideas, metrics, practices, data consolidation)	<b>Coach</b>
J-4 Review professional publications	<b>Coach</b>
J-5 Review technical documentation	<b>Coach</b>
J-6 Publish professional articles	<b>Coach</b>
J-7 Subscribe to newsgroups	<b>Associate</b>
J-8 Participate in TSP mentoring and apprentice programs	<b>Mentor</b>
J-9 Obtain professional certifications (e.g., PMI, ASQ)	<b>Associate</b>
J-10 Review related disciplines	<b>Associate</b>
J-11 Participate in professional organizations and societies	<b>Associate</b>
J-12 Participate in professional training (e.g., symposiums, conferences)	<b>Associate</b>
J-13 Deliver professional presentations	<b>Coach</b>

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## References

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<b>REPORT DOCUMENTATION PAGE</b>			<i>Form Approved</i> <i>OMB No. 0704-0188</i>	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.				
1. AGENCY USE ONLY (Leave Blank)	2. REPORT DATE September 2013	3. REPORT TYPE AND DATES COVERED Final		
4. TITLE AND SUBTITLE Team Software Process (TSP) Coach Certification Guidebook		5. FUNDING NUMBERS FA8721-05-C-0003		
6. AUTHOR(S) Timothy A. Chick, Marsha Pomeroy-Huff				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Software Engineering Institute Carnegie Mellon University Pittsburgh, PA 15213			8. PERFORMING ORGANIZATION REPORT NUMBER CMU/SEI-2013-SR-025	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) AFLCMC/PZE/Hanscom Enterprise Acquisition Division 20 Schilling Circle Building 1305 Hanscom AFB, MA 01731-2116			10. SPONSORING/MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES				
12A DISTRIBUTION/AVAILABILITY STATEMENT Unclassified/Unlimited, DTIC, NTIS			12B DISTRIBUTION CODE	
13. ABSTRACT (MAXIMUM 200 WORDS)  This guidebook explains the process required to become an SEI-Certified Team Software Process (TSP) Associate Coach, SEI-Certified TSP Coach, or SEI-Certified TSP Mentor Coach. It describes the entry requirements, certification process steps, and performance evaluation components that must be satisfied.  Please refer to the <i>Team Software Process (TSP) Coach Mentoring Program Guidebook, Version 2.0</i> (CMU/SEI-2013-SR-024) for a comprehensive description of the mentorship component of the certification process. Mentorship is one of the key requirements that must be met in order to become an SEI-Certified TSP Coach. Mentoring also plays a role in the certification process for SEI-Certified TSP Associate Coaches and SEI-Certified TSP Mentor Coaches.				
14. SUBJECT TERMS tsp, team software process, tsp mentor coach			15. NUMBER OF PAGES 30	
16. PRICE CODE				
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT UL	