

How to Bring the Process Discipline to a Team? – The PSP Framework

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Topics

- What is a Team
- Self-directed team
- Process discipline
- PSP/TSP Framework
- Team Building
- Team Management
- TSP Benefits
- PSP/TSP Training
- Conclusion

*“A Great Orchestra Is Not
Composed Of Great Musicians
But Of Adequate Ones Who
Produce At Their Peak”*

Peter Drucker

Group

- A number of people that are together in the same place or that are connected in some way
- Question:
 - Is a group a team?

Team

- Having **two or more people** with a **common goal**, **specific role** assignments, and **interdependence**

Jean L Dyer, 1984



Self-directed team

6 Properties of a self-directed team

- A sense of membership and belonging
- Commitment to a common team goal
- Ownership of the process and plan
- The skill to make a plan, the conviction to defend it, and the discipline to follow it
- A shared commitment to honest, truthful, and respectful behavior
- Dedication to excellence

Teambuilding

Successful teams need

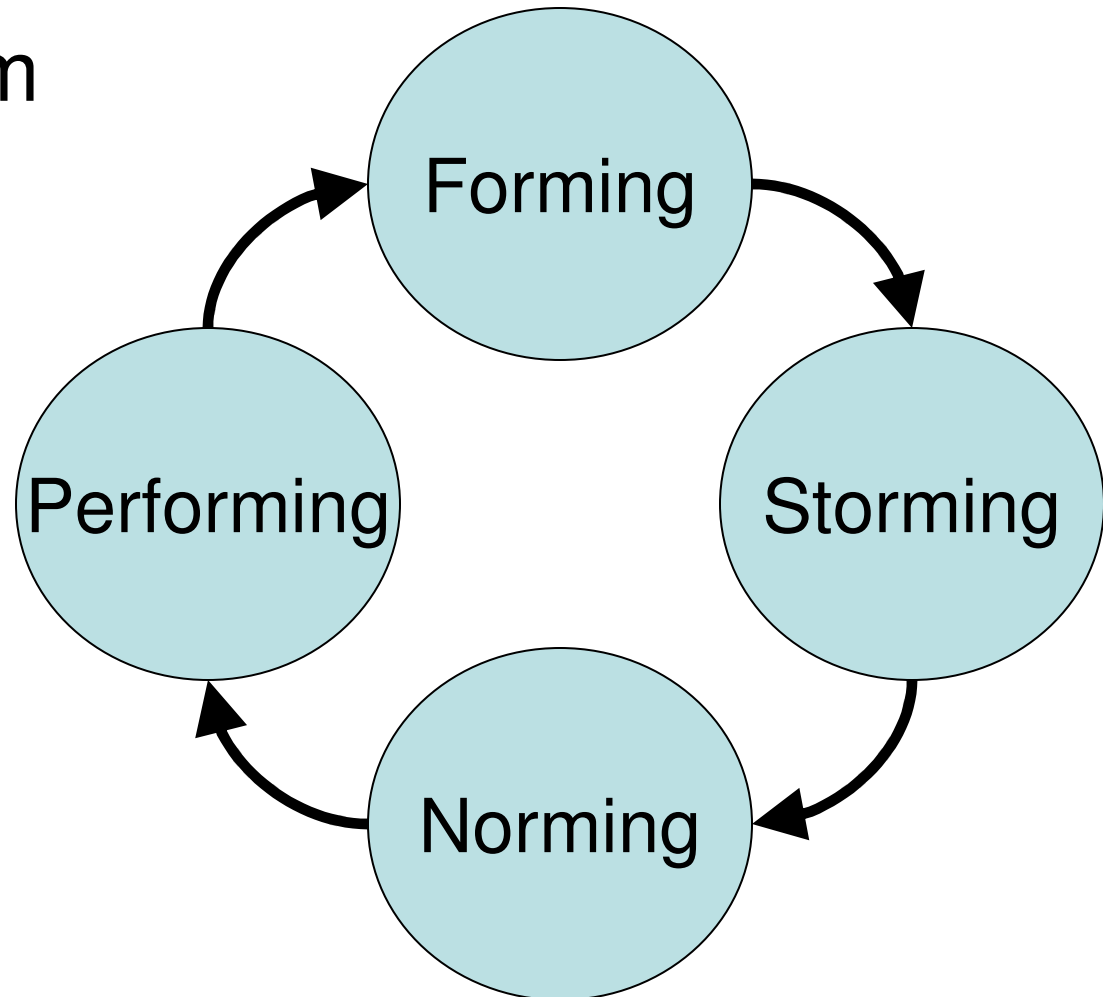
- a compelling mission
- realistic and achievable commitments
- suitably skilled resources
- proper guidance and support

Producing these conditions is called
teambuilding.

A Team Lifecycle

4 Stages of team

- Forming
- Storming
- Norming
- Performing



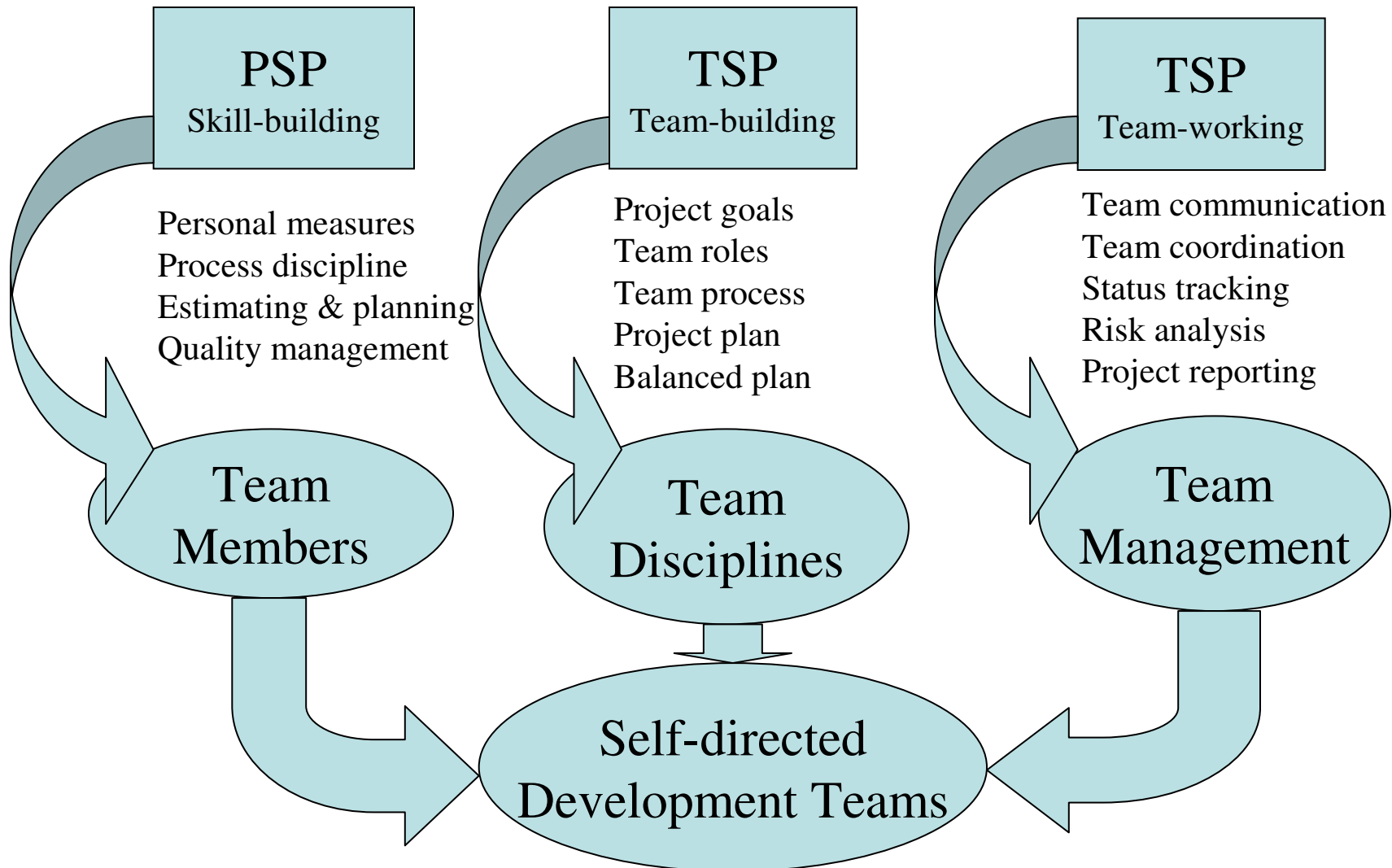
Teambuilding Objectives

- An effective teambuilding process accomplishes three things:
 - Satisfies the conditions for effective teamwork.
 - Applies in the team's working environment.
 - Guides the team in using effective working styles.

Teambuilding Requirements

- To actually improve a team's performance, the teambuilding process must
 - directly relate to the team's work
 - include all the team members
 - involve the team leader
 - have the support of the team's management
 - be competently coached

PSP/TSP Framework



Team Software Process (TSP)

- A process framework designed for building and managing high performance, self-directed, interdisciplinary teams
- TSP focuses on
 - Building a self-directed team
 - Guiding a self-directed team
 - Supporting a self directed team
- TSP is a **CMM Level 5** process for teams

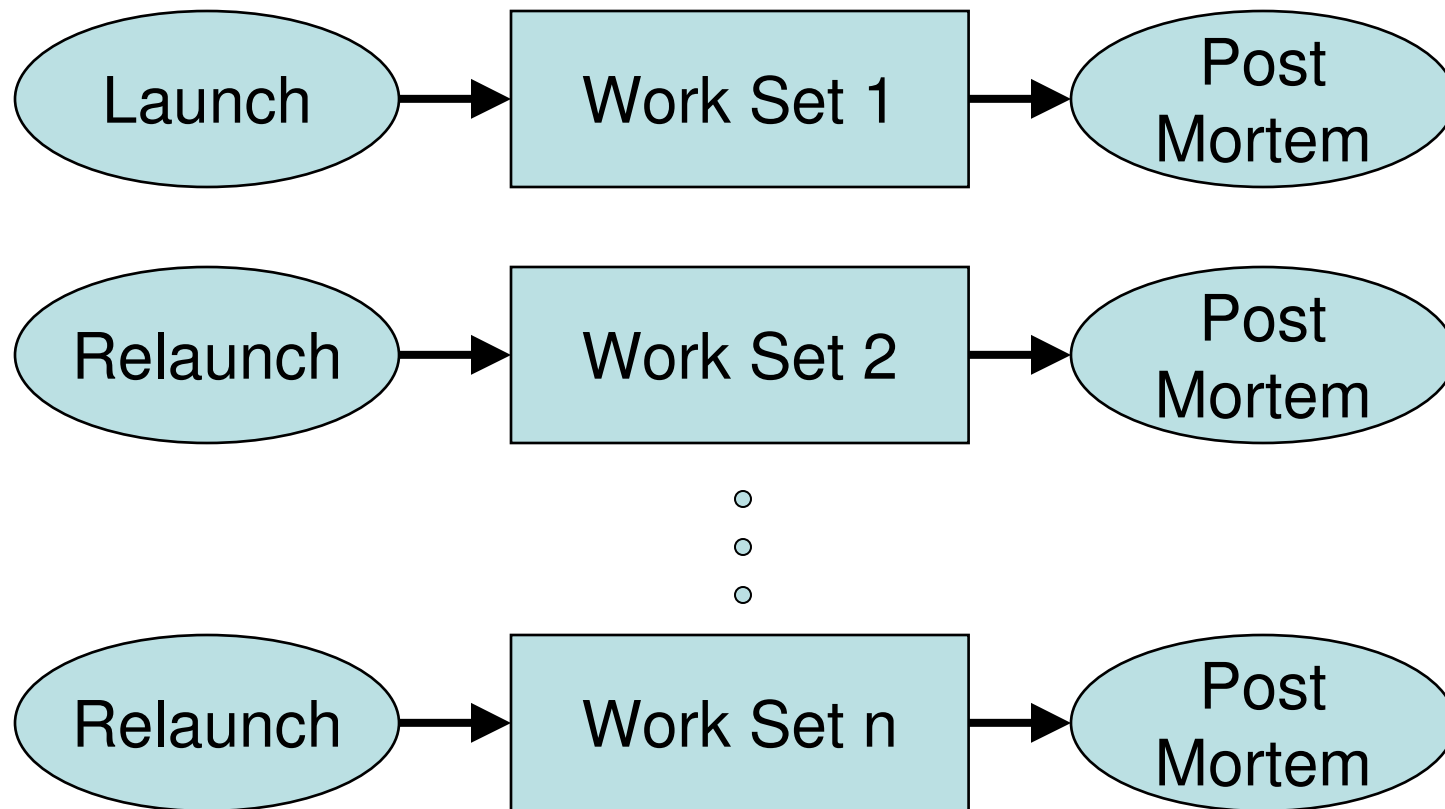
TSP benefits

- TSP helps engineers to
 - do better work
 - build and maintain a cohesive team
 - improve personal and team skills
- TSP help teams addressing
 - commitment
 - control
 - quality
 - teamwork

TSP includes

- A full set of process forms, scripts, and standards
- Standard team-member roles
- A structured launch and tracking process
- A team and developer support system

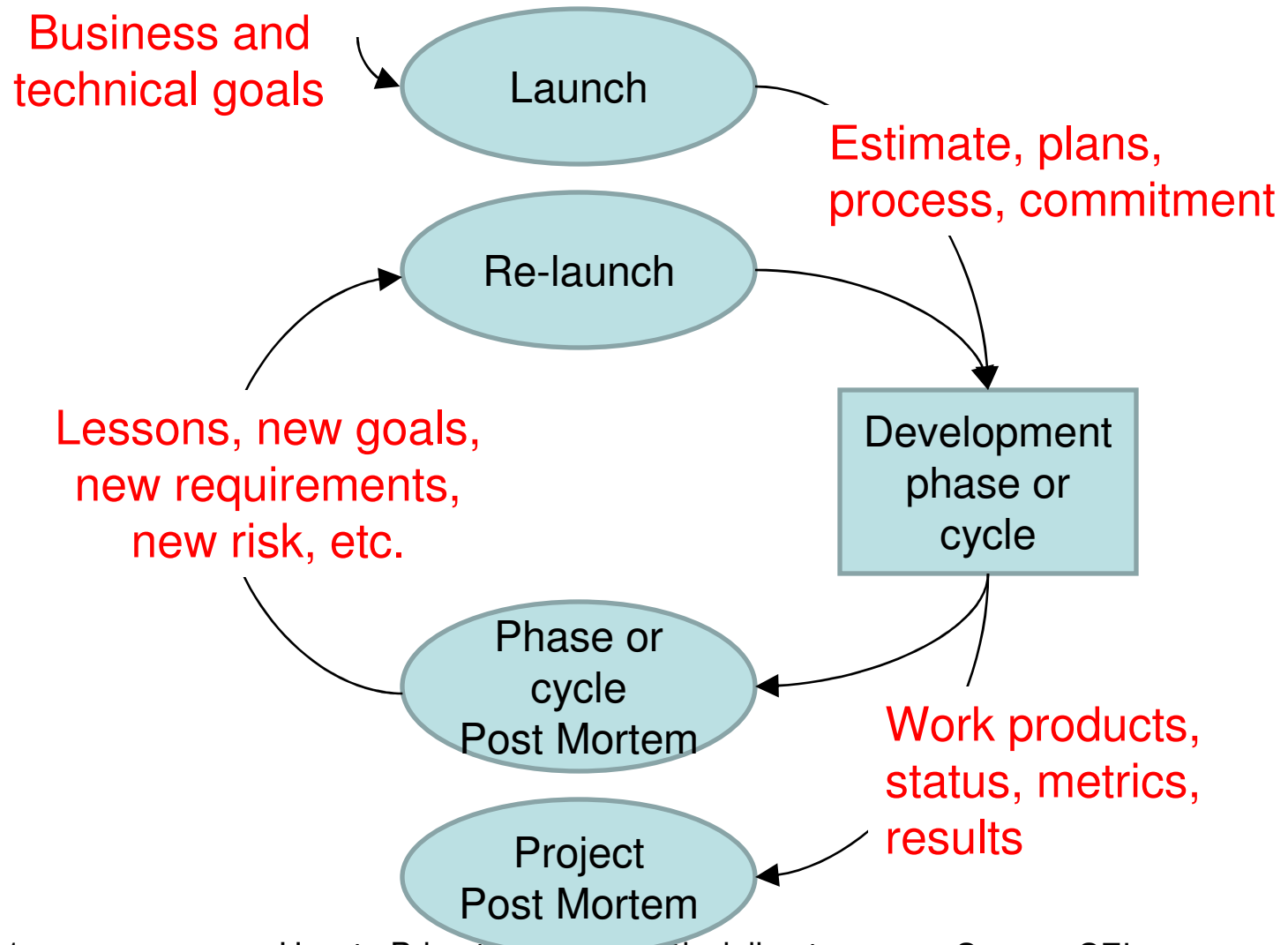
TSP Structure and Flow



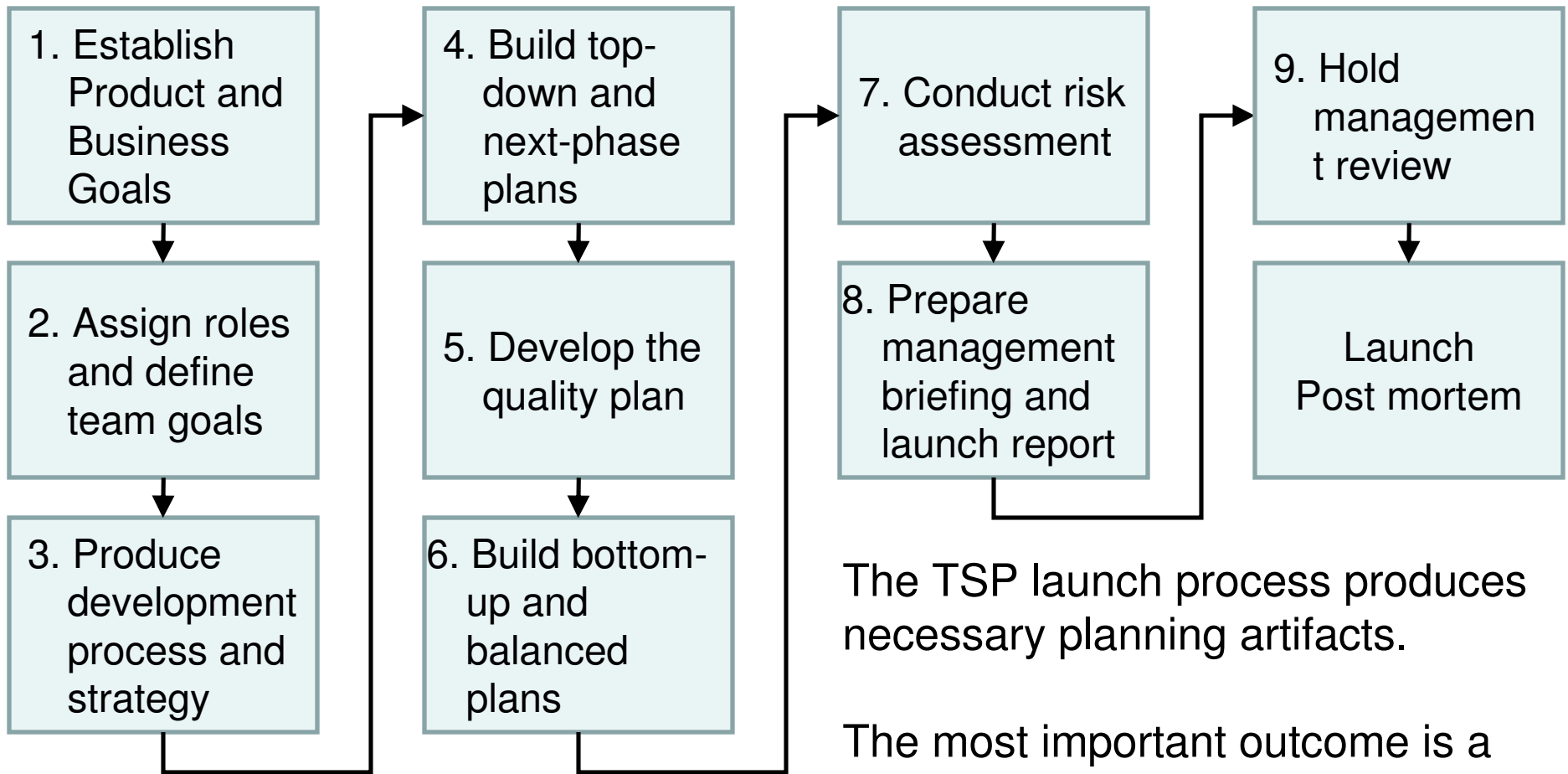
TSP Launch

- A TSP launch kicks off each major project phase.
- The team builds a common understanding of
 - the process
 - the work
 - the plan
- The members produce plans to guide their work.
- Subsequent phases kick off with a TSP relaunch.

TSP Process Structure



TSP Launch Process



The TSP launch process produces necessary planning artifacts.

The most important outcome is a **committed team**.

Launch meeting 1

- In launch meeting 1, stakeholders
 - describe what is to be accomplished
 - explain the importance
 - answer questions
- The objectives of meeting 1 are to
 - motivate the team members
 - understand the criteria for success

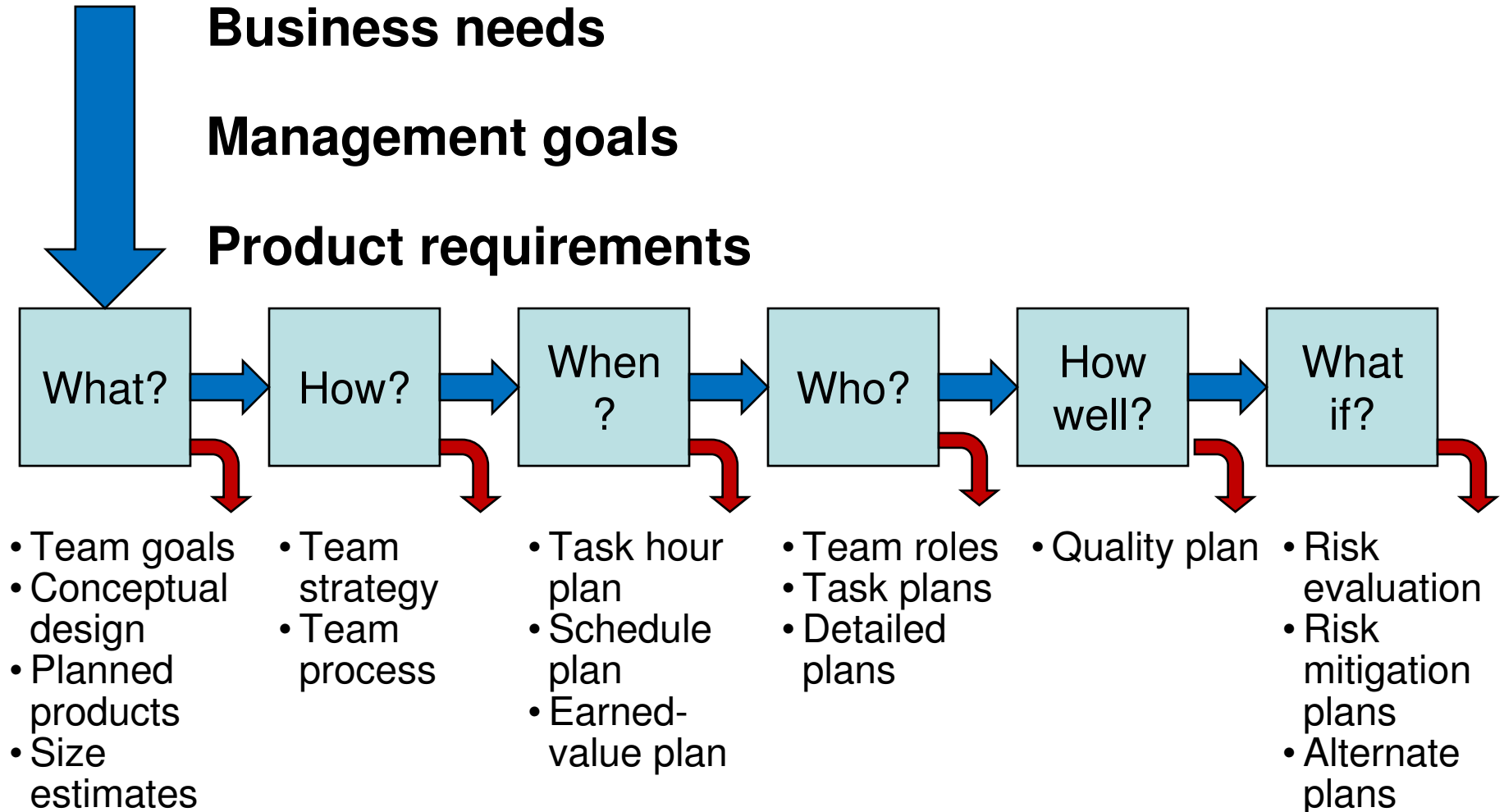
Launch meeting 2 – 8

- The team members
 - define a process and strategy
 - produce detailed team and personal plans
 - assess the risks of their plans
- Since there are a lot of things to do during the launch, the team are coached through
 - building the plan
 - working without observers

Launch meeting 9

- The team presents its plan.
 - best plan
 - alternative plans
- Stakeholders' responsibilities in meeting 9 are to
 - probe the team's plan
 - assess the plan's accuracy and completeness
 - approve the plan if it is suitable

Launch Product



Revision 1.1
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Source: SEI

22

Launch Summary

- At the launch, the team
 - build team unity
 - set objectives
 - determine the process for the work
 - make detailed plans for the work

Team Management

- TSP teams are self-directed.
- Team members share responsibilities via roles
 - Customer Interface Manager
 - Design Manager
 - Implementation Manager
 - Planning Manager
 - Process Manager
 - Quality Manager
 - Support Manager
 - Test Manager
 - etc

Team Operation

- After the launch, the team does the job
 - follows the plans
 - tracks the work
 - gathers data while doing work
 - regularly assesses project risks
 - regularly reports to management on status and progress
- For longer jobs, TSP teams periodically relaunch their projects.

The Weekly Team Meeting

- The TSP teams meet weekly to discuss
 - Individual status report
 - What has been accomplished
 - Issues/problems encountered
 - Team status report
 - Goal and Risk tracking status
 - Plan for week ahead

TSP Metrics

- These TSP metrics are gathered and used to help manage
 - quality
 - schedule
 - resources
 - risk
 - scope
 - cost

Management Trust

- To earn and retain management trust, teams must
 - make responsible commitments
 - regularly report status
 - do what they say they will do
 - deliver quality products

How Do We Bring Process Discipline to a Team?

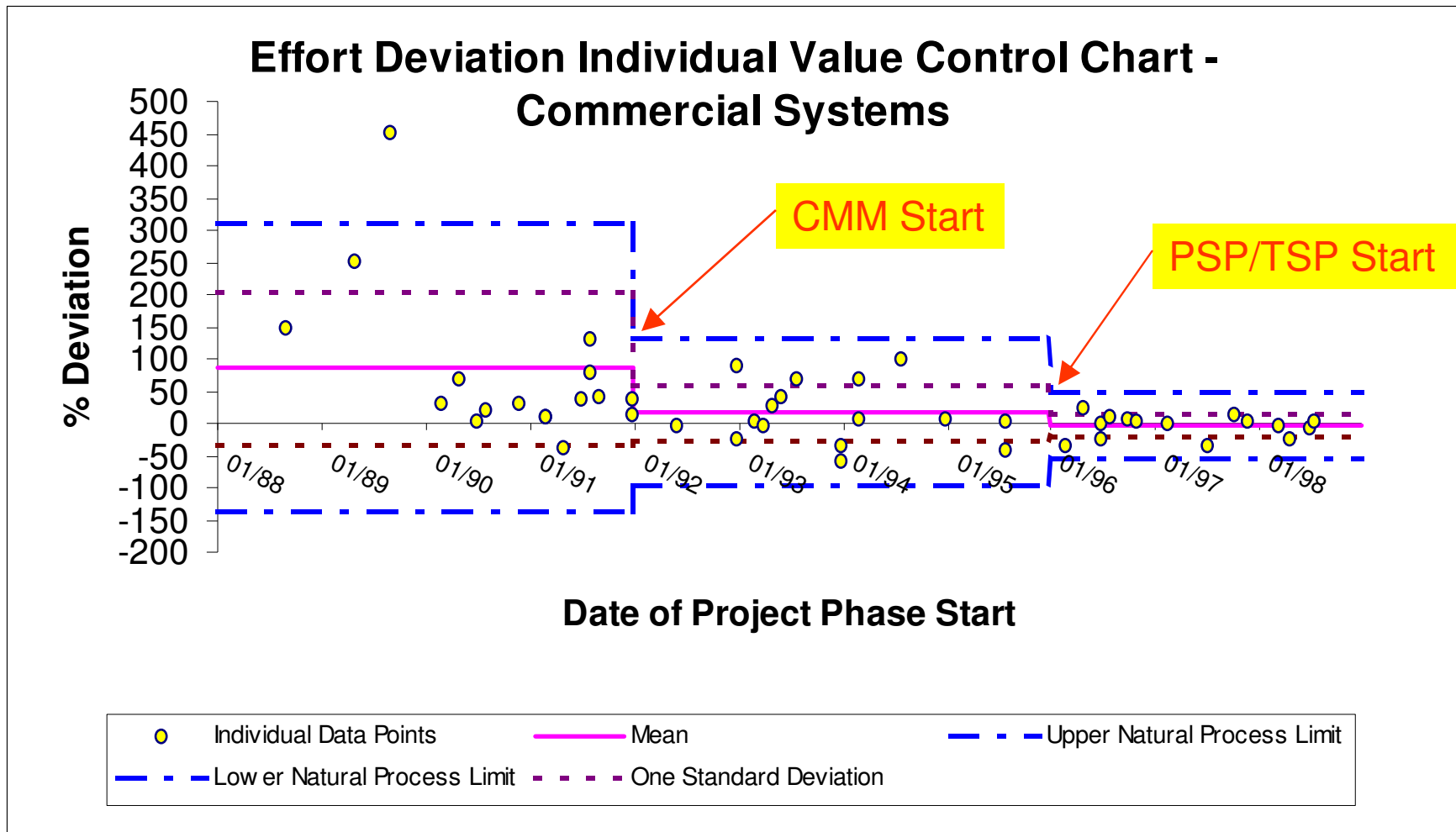
...by establishing and executing team roles for sharing responsibilities for managing the project.

- When team members execute their role responsibilities, follow defined processes, and meet their goals and commitments, the team performs

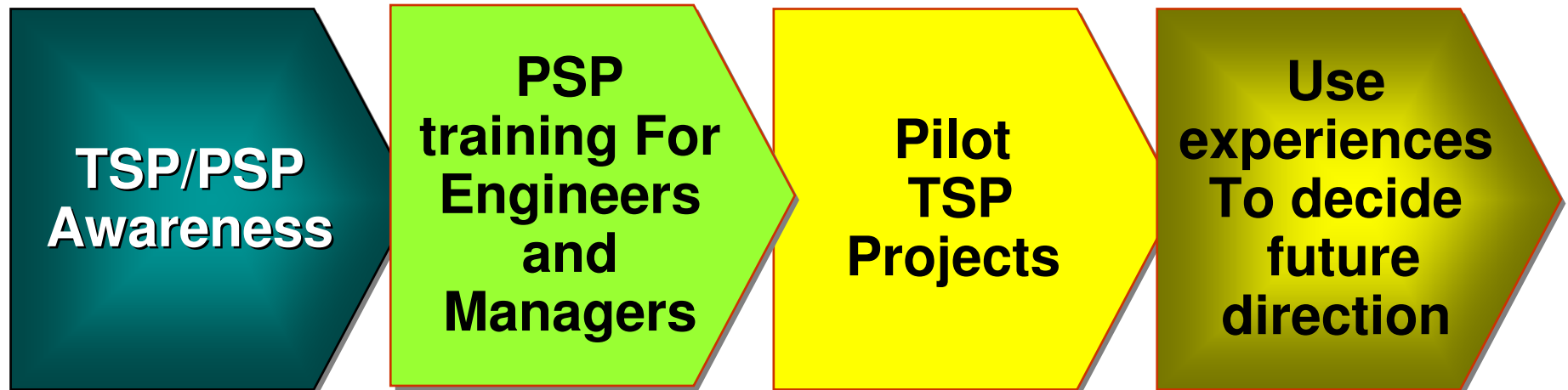
TSP Requirements

- Supports from management
- All members are PSP trained
- Team lead is trained in the course “Leading a Development team”
- A set of TSP process scripts, forms, standards, and tools
- A coach to guide the first few launches

TSP Result: Effort Deviation



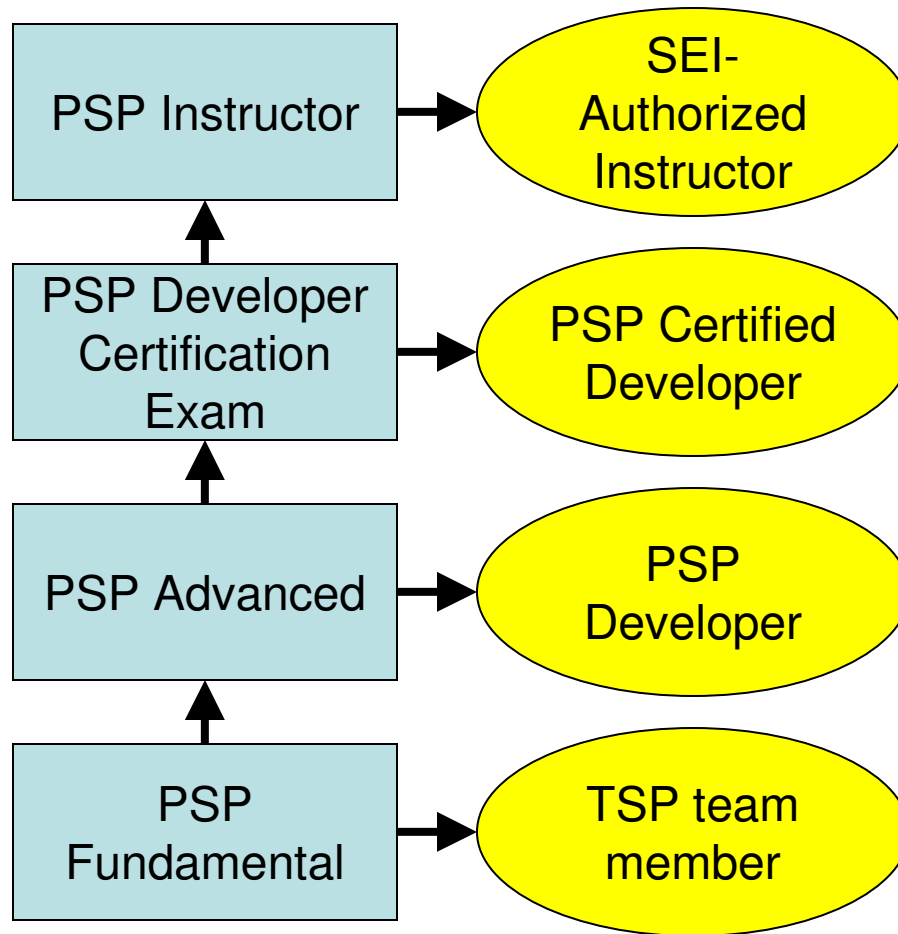
Introducing PSP/TSP



PSP Training

- Developer
- Non-programmer
- Team Lead or Project Manager
- Executive

PSP Training – Developer



PSP Fundamental

- PSP concepts and principles
- A process-based approach for developing software
- Measure and analyze one own personal software process
- Use process data to improve their personal performance
- Apply PSP methods to other structured tasks

PSP Advanced

- Verification techniques
- Using PROxy-Based Estimating (PROBE)
- Tracking and prediction
- Understanding planning and quality performance
- Improving the software process, product and programmer productivity

PSP Developer Certification Exam

Based on the PSP Body of Knowledge, covering 7 competency areas

- Competency Area 1: Foundational Knowledge
- Competency Area 2: Basic PSP Concepts
- Competency Area 3: Size Measuring and Estimating
- Competency Area 4: Making and Tracking Project Plans
- Competency Area 5: Planning and Tracking Software Quality
- Competency Area 6: Software Design
- Competency Area 7: Process Extensions

Typical Outcome

Developer will

- Learn about good processes
- Improve their own processes
- Measure the effects of process changes
- Quantify the benefits
- Set goals for further improvements

***PSP prepares us to be
a self-improving individual***

PSP Training – Non-programmer

- TSP Team member Training
- A 3 days course covering
 - Defining a Personal Process
 - Personal Planning and quality measurements
 - Personal Estimating and Scheduling
 - In-Process Control and Tracking
 - Defect Management
 - Process Analysis and Improvement
 - Team Software Process

PSP Training – Team Lead

- Leading the Development Team
- A 3 days course covering
 - Team leader's roles and responsibilities
 - TSP Overview
 - Team management
 - The TSP launch process
 - Understanding process data at the team level
 - Status Tracking
 - Managing quality during software development
 - Report team status to management
 - How to handle various leadership challenges

PSP Training – Executive

- TSP Executive Strategy Seminar
- A 1 day course covering
 - A strategic perspective of the software business
 - PSP/TSP Overview
 - Rational management (managing with facts and data)
 - Quality during software development
 - Introducing TSP into an organization

Conclusion

- PSP and TSP show developers how to
 - measure their work
 - plan and track their projects
 - deliver quality products
- Self-directed TSP teams
 - share common goals
 - define their own processes and plans
 - run their own show
 - consistently meet their commitments

Questions?