



WHAT IS CERTIFIED PROCESS DESIGN ENGINEER (CPDE)?

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The Certified Process Design Engineer (CPDE) Certification and Role

The one constant for today's IT organizations is relentless change. To survive and thrive, IT organizations must continuously adapt and evolve based on business circumstances, needs and goals. Organizations can't afford to work in a constant chaotic state. What's needed is a methodical approach to continuous improvement and managing change.

Based on [The ITSM Process Design Guide: Developing, Reengineering, and Improving IT Service Management](#), the [CPDE certification](#) recognizes the important role that a skilled process design engineer plays within an organization. Rather than reinventing the wheel, a CPDE is able to use proven practices to quickly achieve a comprehensive understanding of an organization's IT service management capabilities, level of maturity and improvement opportunities. To speed up the design, improvement and implementation of IT service management processes, a skilled CPDE is also able to leverage and adapt available IT service management, process maturity and quality management frameworks and standards.

Simply put, a CPDE serves as a subject matter expert on matters involving process design and improvement and managing the associated culture change. The ultimate change champion, a CPDE possess a broad set of highly reusable skills that can be applied to a wide range of engagements including the initial introduction of frameworks and standards such as ITIL, ongoing process improvement, and undertaking a DevOps transformation.

The IT Service Management Challenge

In today's competitive business climate, IT organizations must do the right things right. They must continually ensure IT services meet business needs, while controlling the costs and risks associated with delivering those services. **IT service management (ITSM)** is an integrated process approach that enables an IT organization to deliver services that meet business and customer requirements.

The consistent use of well-designed and implemented processes enables IT organizations to:

- Align their efforts with business goals
- Speed up service delivery and increase service quality
- Ensure compliance with applicable regulatory controls
- Achieve customer and employee satisfaction

Most IT organizations have some IT service management processes in place for activities such as dealing with equipment failures and handling changes. The question is...how well are those processes performing? Are they well-defined and efficient or are they an ad-hoc set of loosely defined procedures. Are they streamlined and cost-effective or are they overly bureaucratic and costly? Are the processes being followed? Are they integrated? Are they being continually improved?

Perhaps the first question that needs to be answered is what is a process? A **process** is a collection of interrelated work activities that take a set of specific inputs and produce a set of specific outputs that are of value to a customer. For example, the process responsible for dealing with equipment failures is typically called Incident Management. This process takes inputs such as the symptoms of a failure and produces a resolution that restores service to the customer's satisfaction.

Processes define *what* work to do.
Procedures define *how* to do the work.

The terms process and procedure are often used interchangeably but they are actually separate and distinct concepts. A **procedure** is a step-by-step set of instructions that describe how to perform the activities in a process.

Historically, organizations began process design and improvement efforts with a clean sheet of paper. Processes were at times defined at so high a level that they were too simplistic and so unusable. At other times, the defined “processes” were actually procedures and so overly detailed and complex. Organizations often worked out the activities associated with their processes through trial and error, often reinventing the wheel many times over along the way. A lack of consensus and documentation further compounded this chronic rediscovery.

The Process Design and Improvement Solution

Many organizations use the guidance from multiple frameworks and standards to develop processes that meet their needs.

Today, it is no longer necessary – nor does it make sense – to begin with a clean sheet of paper. ITSM frameworks such as ITIL®, Control Objectives for Information and related Technology (COBIT®) and Knowledge-Centered Support (KCSSM) describe best practices IT organizations can use to implement and continually improve their ITSM capabilities.

These frameworks promote proven quality management principles such as using processes to ensure your organization’s products and services consistently satisfy customer requirements, and using a project-oriented or plan, do, check, act approach to incrementally improve process efficiency and effectiveness.

But what if you’re looking for more than just guidance? What if you’re also looking for a rule book that offers a prescriptive approach to ITSM? ISO/IEC 20000 can serve as that rule book.

ISO/IEC 20000, the international standard for ITSM, promotes the adoption of an integrated process approach to effectively deliver managed services to meet the business and customer requirements.



ISO/IEC 20000 provides a good place to start when determining the minimum processes to be implemented.

The standard defines requirements – “shalls” – for an organization to deliver managed services of an acceptable quality for its customers, and also includes guidance – “shoulds” – for service management processes within its scope.

The requirements and guidance can be used by organizations preparing to be audited against ISO/IEC 20000 in an effort to achieve certification, or by organizations simply benchmarking their performance and planning service improvements.

Determining what processes to implement and best practices relative to those processes is a good beginning. However, a clear understanding of customer requirements is also needed or your efforts will be in vain.

Determining Customer Requirements

A **customer requirement** is a service or level of service that customers feel IT must deliver to facilitate business outcomes. To ensure you understand and are meeting your customers' needs and expectations...talk to your customers. Such conversations can occur informally, or using formal techniques such as: surveying customers, conducting needs assessments, creating and using service level agreements (SLAs), and benchmarking.

Once requirements gathering activities are complete, categorizing the data helps to identify and analyze trends or common needs. As trends or common needs emerge, you can identify opportunities and options, and formulate and prioritize recommendations. Requirements and recommended solutions are documented in a requirements definition document.

Once the document has been reviewed, revised, and approved by all stakeholders, use proven quality management principles to drive your efforts to develop, reengineer, or improve your ITSM processes.

A process definition document is used to record process design and improvement results.

Developing, Reengineering, and Improving Processes

Changing an organization is hard. The organization must be ready to change, or you must prepare it to change, or your efforts may be in vain. Before beginning a process-related initiative, consider your organization's maturity with regard to process design and improvement, management's willingness to hold people accountable to processes, your organization's culture, and its ability to absorb change.

Consider using one of the many available quality-related frameworks and standards to drive process definition and improvement activities. Examples include: Total Quality Management (TQM), the Malcolm Baldrige National Quality Award, Capability Maturity Model® Integration (CMMI), Six Sigma, Lean Six Sigma, ISO 9000, and ISO 9001.

While different in their approach, the process maturity lifecycle reflected in each of these frameworks and standards is essentially the same. Processes must be defined, documented, managed via performance metrics, and continually improved. Failing to recognize the effort required to complete these steps is a common mistake, as is failing to establish clear and measurable improvement targets.

Setting improvement targets and selecting a process design approach begins with understanding why a process design initiative is needed. These factors can also be used as input when prioritizing your efforts. Once priorities are established, one of three approaches may be considered: developing, reengineering, or improving processes.

Developing processes involves documenting and designing processes not previously defined. You may develop a process because the process is new to your organization, or because the process has never been documented. To develop an existing but previously undocumented process, begin by documenting the "as is" process, and then design a "to be" process. Compare the two and then identify ways to bridge the gaps.

Reengineering processes involves fundamentally rethinking and radically redesigning existing processes in an effort to achieve dramatic improvements. It should go without saying that no one department, such as IT, or no one team or function within a department, such as the service desk, can "reengineer" on its own. Any organization that radically rethinks the way it performs certain processes must consider how the changes will affect all of the stakeholders in those processes, along with those of any interfacing processes

The effort required to develop and reengineer processes is significant and may not always be needed. Having said that, customer requirements, like customer expectations, represent a moving target and so processes must be continually improved. **Improving processes** involves continually collecting and

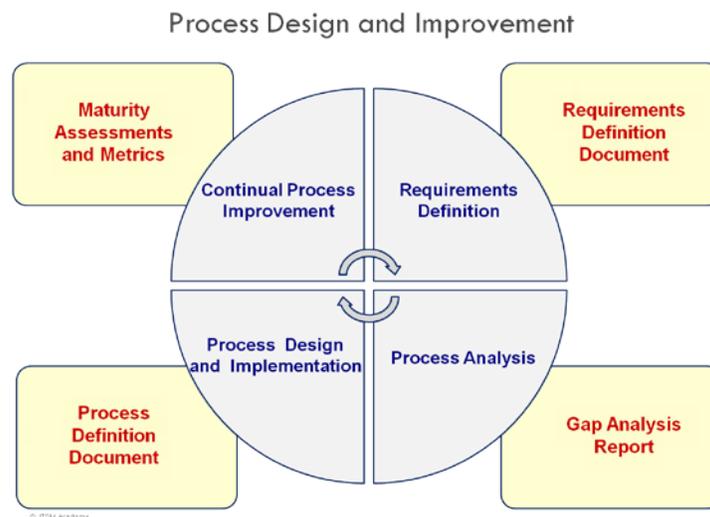
reviewing performance metrics, comparing process performance to customer requirements, and identifying, prioritizing, and initiating improvement projects.

Regardless of approach, a process is more than just a flowchart. A well-documented process includes components such as policies, an overview, roles and responsibilities, process maps, activities, and a vocabulary. A well-designed process addresses the four critical components that must be considered to achieve success when making process-related changes: people, processes, technology, and information.

Designing and Implementing Processes

Ten proven steps can be used to design and improve any process. These steps are iterative in nature and grouped into four logical phases, each of which produces a deliverable. The four phases are:

- Requirements definition
- Process analysis
- Process design and implementation
- Continual process improvement



A variety of proven tools and techniques can be used to document, design, and continually improve processes such as: process mapping, the seven basic tools of quality, and RACI matrices. The effective use of these tools and techniques requires: people skilled in their use, involvement by the people who perform the processes, and the commitment of management to continual improvement.

For larger process design or improvement projects, a business case may be used to describe the reasons for the proposed change, along with associated benefits (both tangible and intangible), costs, and risks. A business case typically includes the expected [return on investment \(ROI\)](#). ROI measures the benefit derived from an investment and compares it with the total cost of the project. ROI can be calculated prior to the start of a project and used to justify the investment, or it can be used post-project to communicate the benefits realized.

Whether large or small, plans describe the capabilities and resources needed to implement a new process and achieve a desired result. Together with policies, plans provide a roadmap to be used when executing process-related projects. Adopting a framework such as ITIL or a standard such as ISO/IEC 20000 typically involves many projects and can span several years.

Many organizations establish an ITSM program that coordinates ITSM-related planning activities. An ITSM program may oversee activities such as: curriculum development and training activities (people), process design and improvement projects (processes), process automation projects (technology), and management reporting activities (information).

Assessing Process Maturity and Ongoing Process Improvement

Of the four process design and improvement phases, the continual process improvement phase is the most difficult, but is a hallmark of high-performing organizations. This phase involves continually assessing process maturity and using meaningful metrics to improve performance. The best organizations understand that there is always room for process improvement.

Organizations are rarely able to withstand the culture change required to move from having no process to having a high performing process in a short period of time. It is also uncommon for organizations to have all of the components of a successful process – people, processes, technology, and information – in place and in a mature state when a process is first being designed and implemented. A far better approach is to recognize that organizations and processes mature over time.

A cornerstone of continual process improvement is assessing the current level of maturity and determining the steps that must be taken to move to the next maturity level. **Process maturity** is a reflection of how well a process is defined, how capable it is of being continually improved through the use of measures tied to business goals, and how well it is embedded in the organization's culture.

Assessing process maturity involves comparing the characteristics or activities of your current process, to those of a mature process. Such an effort also involves identifying the challenges that must be overcome, and the transition steps that must be taken, to move to the next level of maturity. These steps include:

- Producing and using meaningful metrics
- Managing organizational change
- Evaluating, selecting, and implementing technology

Producing Meaningful Metrics

The purpose of every process is to produce an outcome that is of value to its customer. Metrics can be used to control, measure, predict, and improve process performance. Best practices for designing and improving meaningful metrics include: implementing a metrics program, using metrics to achieve business and process improvement goals, and automatically monitoring metrics and producing reports.

Well-designed and meaningful metrics are tied to strategic objectives and must be continually improved. They can be used to demonstrate a ROI on process design and improvement activities and to drive positive behaviors. They can also be used in conjunction with organizational change management activities to keep everyone moving in the same direction.

Managing Organizational Change

Change is both inevitable and essential to an organization's ability to mature and grow. **Organizational Change Management (OCM)** is the process of preparing, motivating, and equipping people to meet new business challenges.

Change preparation involves creating a vision and promoting awareness, identifying and empowering change agents, and creating a [communication plan](#). Another important aspect of OCM is planning and designing motivational rewards aimed at gaining momentum and keeping it going during times of change. Education and training are also important and serve different purposes. Education focuses on

building the mind. Training focuses on building skills. An education and training plan ensures both are considered, particularly when planning projects designed to effect culture change.

A key to successful organizational change is proactively planning for the change and the inevitable emotional responses that the change will evoke. Successful organizational change takes time and effort and must occur with people and for people, and not to people.

Evaluating, Selecting, and Implementing Technology

ITSM technologies have advanced considerably in recent years, and the available choices are staggering. Many technology vendors have integrated ITSM best practices into their tools. As a result, these technologies can be used to considerably increase the efficiency and effectiveness of your ITSM processes. The selection, acquisition, configuration, and implementation of ITSM technology can represent a significant effort.

Before evaluating tools, it is imperative to understand your goals and requirements and, perhaps more importantly, distinguish between needing a new tool and needing to refine your ITSM processes. Using a methodical approach to select and implement any new technology leads to greater success. Strong leadership and proper staffing are also extremely important components of a successful implementation and beyond. Plan ahead and dedicate resources to fine-tuning activities and system enhancements once the system has been live for a while and its capabilities and limitations are more fully understood.

The Agile Service Management Approach

Demands on IT for innovation and reliability have been steadily increasing since technology became a critical success factor for most businesses. While devices and applications are being introduced faster than ever before, it is the service behind the technology that is still most important to the customer. As a result, IT will always need to manage its services and so ITSM practices and processes will always be necessary. The challenge is adapting ITSM practices and processes to changing times so they can enable IT to go faster and deliver more ongoing value to the customer.

Agile Service Management (Agile SM) is an approach to process design and improvement that ensures ITSM processes reflect Agile values and are designed with "just enough" control and structure to effectively and efficiently deliver services that meet business and customer needs. Agile Service Management adapts Agile (Scrum) roles, events and artifacts to the design and implementation of service management processes. This allows process improvement teams to design ITSM processes iteratively and incrementally and to deliver value more quickly.

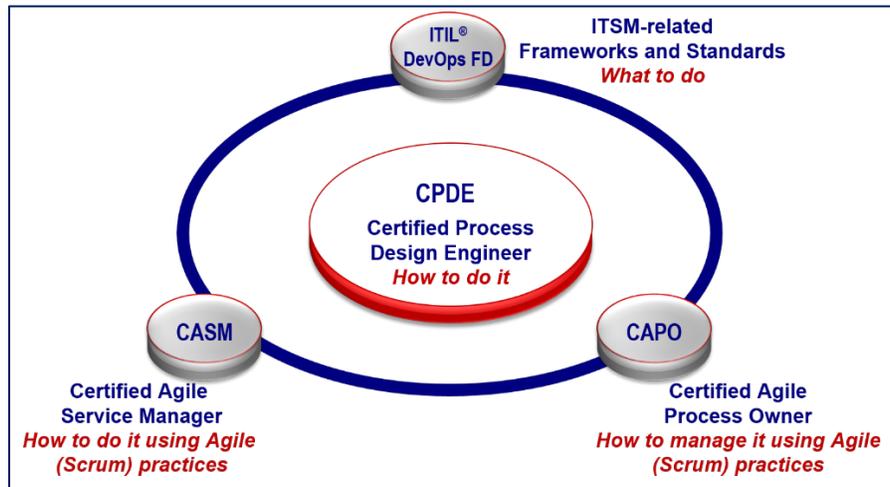
What to Learn More?

Training helps organizations build and maintain their capabilities. Training also provides individuals the knowledge, skills and information needed to fill their role(s) in an organization or achieve their career goals, along with a place to test and develop the confidence to use these skills in the workplace.

There are many frameworks and standards that define best practices for achieving quality IT service management - [ITIL](#), ISO/IEC 20000, COBIT, CMMI, [DevOps](#), Knowledge-Centered Support, etc. While each describes processes and controls (what to do), none provide clear, step-by-step methods and techniques for actually designing, reengineering and improving processes (how to do it).

ITSM Academy's [Certified Process Design Engineer \(CPDE\)®](#) certification course teaches how to (re)engineer and improve quality, lasting ITSM processes. This highly-interactive course provides hands-on opportunities to analyze, design, measure and integrate ITSM processes. The knowledge obtained in this course applies to every ITSM framework, standard and maturity model.

WHAT IS CERTIFIED PROCESS DESIGN ENGINEER (CPDE)?



CPDE provides a solid foundation for anyone involved in process design and improvement. Individuals interested in learning more about Agile Service Management may also opt to explore role-based qualifications such as [Certified Agile Service Manager \(CASM\)®](#) and [Certified Agile Process Owner \(CAPO\)®](#).

[Click here to register for CPDE or one of ITSM Academy's Agile Service Management classes today.](#)

We look forward to seeing you in class!