

Release, Control & Validation

ITIL Capability Certification



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Contents

Chapter 1: Course Introduction	1
Objectives.....	2
Terms-to-Know.....	2
Lesson 1 Course Organization.....	3
Welcome to the Course!.....	4
Classroom Introductions.....	5
Mentoring Community Introductions.....	6
Why Are You Here?.....	7
Using Bloom's Taxonomy.....	8
What do you Expect?.....	9
Housekeeping in the Classroom.....	10
Housekeeping in the Online Classroom.....	11
Housekeeping Online.....	12
Lesson 2 Course Conventions & Agenda.....	13
Conventions Used.....	14
Quizzes & Exercises.....	15
ITIL Qualification Scheme.....	16
ITIL Intermediate Exams.....	17
Getting Started in the Classroom.....	18
Getting Started in an Online Classroom.....	19
Getting Started with an Online Class.....	20
Chapter 2: Release, Control & Validation	21
Objectives.....	22
Terms-to-Know.....	22

Lesson 3 Introduction to RCV.....	23
The Service Lifecycle & RCV.....	24
Managing Across the Lifecycle.....	25
Service Assets & Capability.....	26
RCV & Service Transition.....	27
RCV & Service Operation.....	29
RCV & the ST Model.....	30
Purpose, Goals & Objectives.....	31
Scope.....	32
Value to the Business.....	33
Lesson 4 RCV Principles.....	35
Setting the Stage.....	36
Principles.....	37
Governance.....	38
Management.....	39
Quality.....	40
Service Transition Interface.....	41
Challenges.....	42
Critical Success Factors.....	43
Risks.....	44
RCV Processes.....	45
Lesson 5 RCV Summary.....	47
RCV Summary.....	48
Checkpoint Instructions.....	49
Chapter 3: RCV Processes.....	51
Objectives.....	52
Terms-to-Know.....	53
Lesson 6 Change Management.....	55
Introduction to Change Management.....	57

Purpose, Goals & Objectives of Change Management	58
Scope of Change Management	59
Value of Change Management	61
Concepts of Change Management	62
Activities of Change Management	63
The Change Advisory Board (CAB).....	64
Change Types.....	65
Change Model.....	66
Change Proposal.....	67
Change Process Flow.....	68
Create & Review a Request for Change.....	69
Assess & Evaluate Request for Change.....	70
Authorize a Change.....	71
Change Authorization Model.....	72
Coordinate Change.....	73
Review & Close Change.....	74
Standard Change.....	75
Triggers, Inputs & Outputs.....	77
Change Management Relationships.....	78
Information.....	79
Critical Success Factors.....	80
Challenges & Risks.....	81
Change Management Summary.....	82
Lesson 7 SACM.....	83
Introduction.....	84
Purpose, Goals & Objectives.....	85
Scope.....	86
Value to the Business.....	87
Concepts.....	88

SACM Management Policies.....	89
Configuration Management System.....	90
Definitive Media Library.....	91
Activities.....	92
Configuration Activity Model.....	93
Management & Planning.....	94
Logical Configuration Model.....	95
Configuration Identification.....	96
Configuration Control.....	97
Status Accounting & Reporting.....	98
Verification & Audit.....	99
Triggers, Inputs & Outputs.....	100
Process Relationships.....	101
Information.....	102
Critical Success Factors.....	103
Challenges & Risks.....	104
Summary.....	106
Lesson 8 Release & Deployment Management.....	109
Introduction.....	111
Objective.....	112
Scope.....	113
Value to the Business.....	114
Concepts.....	115
Release Package.....	117
Activities of Problem Management.....	118
Planning.....	119
Prepare Build, Test & Deployment.....	120
Build & Test.....	121
Test & Pilot Service.....	122

Service Testing.....	123
Deployment Activities.....	124
Plan & Prepare for Deployment.....	126
Transfer, Deploy & Retire.....	127
Verify Deployment.....	128
Early Life Support.....	129
Review & Close Deployment.....	130
Review & Close Service Transition.....	131
Triggers, Input & Output.....	132
Relationships.....	133
Information.....	134
Critical Success Factors.....	135
Challenges.....	136
Summary.....	137
Lesson 9 Service Validation & Testing.....	139
Introduction.....	141
Objective.....	142
Scope.....	143
Value to the Business.....	144
Concepts.....	145
Service Validation & Testing Policies.....	146
Service Quality Policy.....	147
Risk Policy.....	148
Service Transition Policy.....	149
Release Policy.....	151
Change Management Policy.....	152
Validation & Testing Process.....	153
Test Perspectives.....	154
Activities.....	155

Validation & Test Management	156
Test Levels & Test Models	157
Service Test Models	158
Plan & Design Test	159
Verify Test Plan & Acceptance	160
Prepare Test Environment	161
Perform Test	162
Evaluate Exit Criteria & Report	163
Clean Up & Close	164
Triggers, Input & Output	165
Process Relationships	166
Information	167
Critical Success Factors	168
Challenges	169
Summary	170
Lesson 10 Request Fulfillment	171
Introduction	172
Objective	173
Scope	174
Value to the Business	175
Concepts	176
Activities of Request Fulfillment	177
Menu Selection	178
Financial Approval	179
Other Approval	180
Fulfillment	181
Closure	182
Triggers, Inputs & Outputs	183
Process Relationships	184

Information	185
Critical Success Factors.....	186
Challenges.....	187
Summary.....	188
Lesson 11 Change Evaluation.....	189
Introduction.....	190
Objective.....	191
Scope.....	192
Value to the Business.....	193
Concepts.....	194
Evaluation Point Scope.....	196
Activities.....	197
Service Evaluation Terms.....	198
Change Evaluation Process.....	199
Evaluation Plan.....	200
Understand Intended Effects of Change.....	201
Understand Unintended Effects of Change.....	202
Consider Factors Affecting Change.....	203
Evaluate Predicted Performance.....	204
Evaluate Actual Performance.....	205
Manage Risk.....	206
Evaluation Report.....	207
Triggers, Inputs & Outputs.....	208
Relationships.....	209
Information.....	210
Critical Success Factors.....	211
Challenges.....	212
Summary.....	214
Lesson 12 Knowledge Management.....	215

Introduction	216
Objective.....	217
Scope.....	218
Value to the Business.....	219
Concepts.....	220
DIKW Structure	221
SKMS Relationships.....	222
Activities.....	223
Knowledge Management Strategy.....	224
Knowledge Transfer.....	225
Data & Information Transfer.....	226
Service Knowledge Management System (SKMS).....	227
Utilization of SKMS.....	228
Triggers, Inputs & Outputs.....	229
Relationships.....	230
Information.....	231
Critical Success Factors.....	232
Challenges.....	233
Summary.....	234
Lesson 13 RCV Processes Summary.....	235
RCV Process Summary.....	236
Checkpoint Instructions.....	237
Chapter 4: Organization & Technology.....	239
Objectives.....	240
Terms-to-Know.....	240
Lesson 14 Organizing RCV.....	241
Introduction	242
Organizational Context	243
Service Transition Roles.....	244

Service Owner.....	245
Process Owner.....	246
Process Manager.....	247
Process Practitioner.....	248
Service Transition Manager.....	249
Planning & Support.....	250
Change Management Roles.....	251
Change Authority & CAB Roles.....	252
SACM Roles.....	253
Release & Deployment Roles.....	254
Release Packaging & Build.....	255
Deployment.....	256
Early Life Support.....	257
Build & Test Environment Management.....	258
Service Validation & Testing Roles.....	259
Change Evaluation Roles.....	260
Service Knowledge Management.....	261
Relationships.....	262
Lesson 15 Technology Considerations.....	263
Technology Considerations.....	264
Service Management Tools.....	265
Tools.....	266
Knowledge Management Tools.....	268
Collaboration.....	269
Communities.....	271
Workflow Management.....	272
Configuration Management System.....	273
Improving Services & Processes.....	274
Lesson 16 Implement RCV.....	275

Implementation Considerations.....	276
Implementation Steps.....	277
Establish High-Level Objectives.....	278
Assess Current Capabilities.....	279
Determine Measurable Targets.....	280
Implement Process Improvement.....	281
Implement Measurement Framework.....	282
Review & Improve.....	283
Key Implementation Activities.....	284
Process Integration.....	285
Cloud Environment & RCV.....	286
Managing Change.....	287
Project Management.....	288
Assessing & Managing Risk.....	289
Involvement in Design & Transition.....	290
Planning & Implementing Technology.....	291
Challenges, Risks & CSFs.....	292
Challenges.....	293
Risks.....	294
CSFs.....	295
Lesson 17 Organization & Technology Summary.....	297
Organization & Technology Summary.....	298
Checkpoint Instructions.....	299
Appendix: RCV Capability Certification Syllabus.....	301
Appendix: Service Transition Input/Output.....	325
Service Transition Inputs & Outputs.....	326
Service Transition I/O with Service Strategy.....	327
Service Transition I/O with Service Design.....	328
Service Transition I/O with Service Operation.....	329

Service Transition I/O with CSI.....	330
ITIL 2011 Glossary.....	331

Chapter 1:
Course Introduction

Objectives..... 2
Terms-to-Know..... 2

Objectives

Knowledge & understanding of:

- ITIL Qualification scheme
- Course structure
- Bloom's Taxonomy
- Course materials

Terms-to-Know

Accredited Training Organization (ATO) – An organization that is accredited to provide training in ITIL by a licensed Examination Institute (EI).

Accreditor (APMG) – Organization empowered by the Office of Government Commerce (OGC), the "owner" of ITIL, to establish the ITIL qualification scheme, devise ITIL syllabi and examinations, and oversee Examination Institutes (EI). The current ITIL Accreditor is the APM Group.

Bloom's Taxonomy – A method of classifying learning objectives that provides the basis for formulating different levels of questions for the ITIL Foundation, Intermediate and Advanced examinations.

Exam – The official ITIL exam. ITIL examinations are closed-book and require an independent proctor to monitor the exam security. Many examinations require that the candidate attend an accredited course.

Examination Institute (EI) – An organization licensed by the ITIL Accreditor. EIs operate an ITIL examination scheme through a network of Accredited Training Organizations (ATO), accredited materials.

ITIL/OGC Books – The five core books of the IT Infrastructure Library (ITIL): Service Strategy, Service Design, Service Transition, Service Operation and Continual Service Improvement.

ITIL Qualification Scheme – A modular, tiered approach to ITIL certification that comprises a series of certifications focused on different disciplines or areas of ITIL best practice to various degrees of depth and detail.

Practice Paper – An official ITIL exam that is available for practice by the student. Two practice exams are available for most ITIL courses.

Student Manual – A document produced by the ATO and which contains copies of the slides, amplifying information and other course material.

Quiz – Short quizzes within the course to help students track their progress toward understanding the learning objectives of the course.

Chapter 2:

Release, Control & Validation

Objectives.....	22
Terms-to-Know.....	22
Lesson 3 Introduction to RCV.....	23
Lesson 4 RCV Principles.....	35
Lesson 5 RCV Summary.....	47

Objectives

Introduction to Release, Control and Validation (RCV) - Bloom's Level 2 Objectives – Full understanding of RCV terms and core concepts

- The concept of Service Management as a practice and how it delivers value to customers and the business
- The underpinning processes and functions that support the Service Lifecycle
- What makes up the Service Capability RCV cluster (i.e. which stages of the Service Lifecycle contribute to this capability and how they interact) and its specific focus on Service Transition.

Terms-to-Know

Function – A team or group of people and the tools they use to carry out one or more processes or activities.

Governance – Ensuring that policies and strategy are actually implemented, and that required processes are correctly followed. Governance includes defining roles and responsibilities, measuring and reporting and taking actions to resolve any issues identified.

Management – The act or manner of managing; handling, direction, or control.

Process –A structured set of activities designed to accomplish a specific objective.

Quality – The ability of a product, service or process to provide the intended value.

Stakeholder – All people who have an interest in an organization, project, IT Service, etc. Stakeholders may be interested in the activities, targets, resources or deliverables.

Utility –Functionality offered by a product or service to meet a particular need. Utility is often summarized as "what it does."

Warranty –A Promise or guarantee that a product or service will meets its agreed requirements..

Lesson 3

Introduction to RCV

The Service Lifecycle & RCV.....	24
Managing Across the Lifecycle.....	25
Service Assets & Capability.....	26
RCV & Service Transition.....	27
RCV & Service Operation.....	29
RCV & the ST Model.....	30
Purpose, Goals & Objectives.....	31
Scope.....	32
Value to the Business.....	33

The Service Lifecycle & RCV

- Service Strategy
 - Design, development & implementation
- Service Design
 - Design & development
- **Service Transition (ST)**
 - **Development & improvement**
- **Service Operation (SO)**
 - **Delivery & support**
- Continual Service Improvement
 - Create & maintain value



The Service Lifecycle & RCV

Service Transition transitions Service Design into Service Operation. It provides the mechanisms to move a new service into the production environment, nurture the service during its fledgling days, and validate the quality and business value of the change.

Service Operation coordinates the processes and activities for the delivery and management of services at their agreed levels. It is where most of the business community maintains contact with IT as Service Operation “makes IT services happen” in the eyes of the customer.

The capability to “release, control and validate” an IT Service relies primarily on the processes of the Service Transition phase of the IT Service Lifecycle, but it also incorporates one process from the Service Operation phase.

Managing Across the Lifecycle



Managing Across the Lifecycle

The processes of Service Transition and Operation combine to provide a Service Provider organization with the capability necessary to do a controlled release of a validated IT Service into operation. This ensures that these deployed services are fit for use and purpose.

Service Assets & Capability

- Capabilities & resources
- Business units
- Service units

Capability is the ability of an organization, person, process, application configuration item or IT service to carry out an activity.

Resource is a generic term that includes IT infrastructure, people, money or anything else that might help to deliver an IT service.



Service Assets & Capability

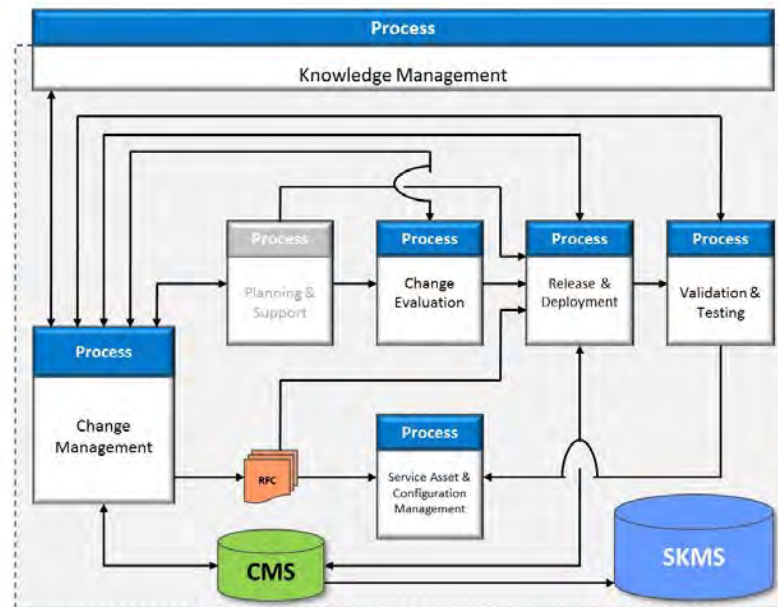
A Service Asset is anything that could contribute to the delivery of an IT service. Both capabilities and resources are types of assets.

Resources are those things that are used as direct inputs for the production of an IT service, and include money (capital), infrastructure, software applications, information and people.

Capabilities are the organizations' ability to utilize resources to achieve value. Release, Control and Validation focuses on the organizational capabilities necessary to effectively release an IT Service in a controlled manner into operation and ensure that IT Service has been properly validated to ensure it will deliver the desired business outcomes.

Similar to utility and warranty, by themselves neither resources nor capability can produce value for the customer. Business Units utilize their resources to create value for their customers through the production of various goods or services. Service Units, such as IT, specialize in creating value for the Business Units through the delivery of service-related goods and services to the business.

RCV & Service Transition



RCV & Service Transition

The success of a service strategy depends largely on the ability of the service provider to respond dynamically to a changing business environment. The processes of the Service Transition phase of the IT Service Lifecycle make change a normal part of what IT does..

This requires that Service Transition maintain visibility and control over the service assets. It not only knows the content of the IT infrastructure but also the context of its components. This visibility helps reduce risks as the IT organization builds and subsequently deploys changes to the infrastructure in the live environment.

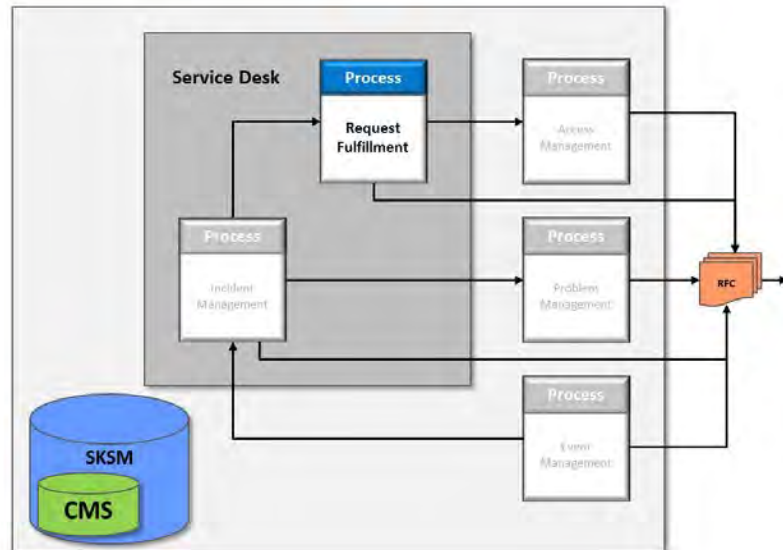
Service Transition analyzes the service design, evaluates the likelihood of it meeting the desired outcomes, and approves strategic initiatives. It determines how to proceed in the execution of the service design by evaluating likely transition paths and picking the one that provides the optimal solution and cost.

The Change Management process orchestrates the realization of the service strategy via the execution of the service design. The Service Transition process plans the transition effort and its ongoing support. It performs iterative evaluation of the service as it transitions from design to operation to ensure it will be able to achieve the desired outcomes.

Its processes determine what portion of the IT infrastructure the change will impact, and figures out how to release the change into the live environment. Of course, that requires a significant amount of testing throughout the Service Transition phase to ensure it will be fit for use as well as fit for purpose when deployed.

Similar to the Service Design phase, both the Service Transition and Operation phases of the IT Service Lifecycle depend on the accumulated knowledge of those involved in bringing the new or changed service to life. Knowledge Management provides for the systematic gathering, categorization and use of organizational knowledge in support of IT Service Management.

RCV & Service Operation



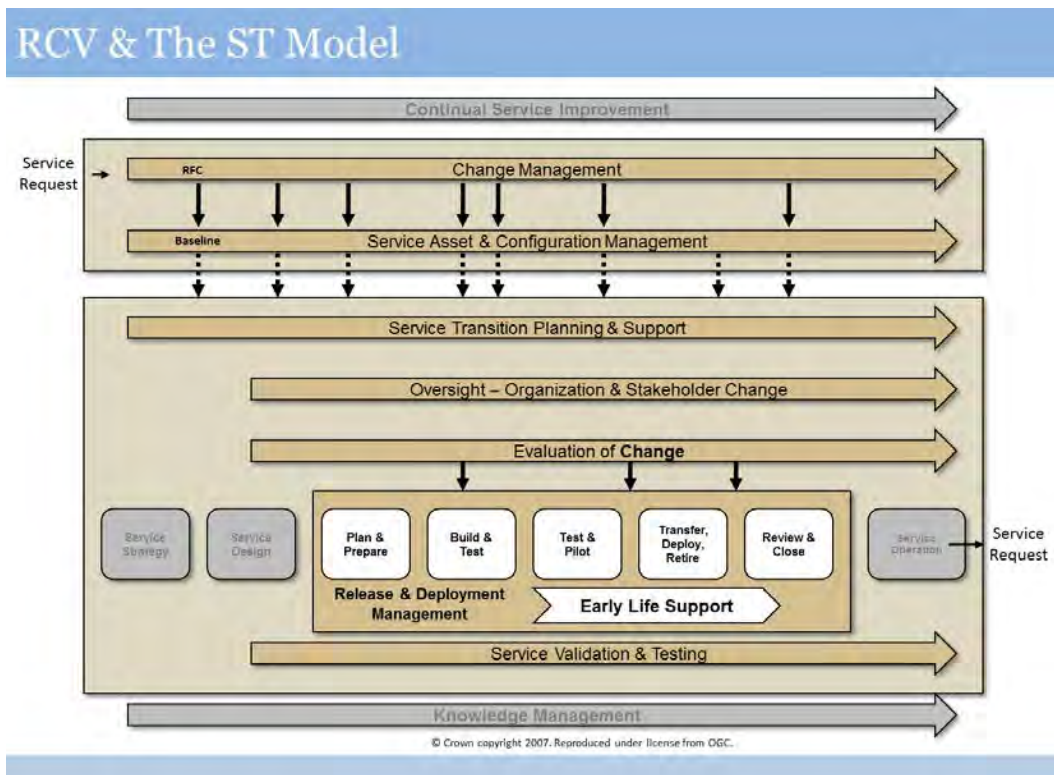
RCV & Service Operation

Service Operation manifests the final realization of service strategy. However, no matter the elegance of the design, without the support capabilities of the processes of the Service Operation phase of the IT Service Lifecycle the strategy would fail.

The delivery of IT Services does not necessarily fall into the “one size fits all” category. The successful deployment of service assets relies on patterns that optimize the delivery of the required utility and warranty based on the customer's needs.

The functions and processes of the Service Operation phase of the IT Service Lifecycle focus on providing the actual delivery of IT Services and their operational support. They cover restoring disrupted services, providing a focal point for requesting and fulfilling requests for IT Services, managing access to services, and identifying and removing the root cause of service failures.

Similar to Service Transition, the capture and use of organizational knowledge is fundamental to successfully executing the functional and process activities of Service Operation.



RCV & the ST Model

Release, Control and Validation capability encompasses most of the processes of the Service Transition phase of the IT Service Lifecycle, and the Request Fulfillment process of the Service Operation phase.

As shown in the above diagram, Service Transition provides a structured bridge between the design of a new service, and the installation of that new service into the live environment.

Among the crucial services it provides are a phased validation of the Design to ensure its proper transition into Service Operation and to validate its compliance to the business' value requirements that drive its design.

Purpose, Goals & Objectives

- Plan & manage service changes & related assets & resources
- Manage risks relating to new, changed, or retired services by developing risk profiles & appropriate governance
- Successfully deploy (or retire) service releases to (from) supported environments
- Set correct performance expectations for new or changed services
- Ensure service changes create expected value
- Provide good quality information and communication

Purpose, Goals & Objectives

The processes of the Service Transition phase of the IT Service Lifecycle serves as the conduit through which the outputs of Service Design move into the real-life world of production and Service Operation.

While guiding a change in a service through a step-by-step implementation, the Service Transition processes also address the context in which the change is made. This activity ensures that the users are motivated to use the new service, IT knows how to support it, and the business will be able to evaluate its promise to create value.

Scope

- **Manage & coordinate**
 - Processes
 - Functions
 - Systems
 - As related to:
 - Packaging
 - Building
 - Testing
 - Releasing
 - Deploying ... **IT Services**
- **Service Operation & Continual Service Improvement**
 - Request Fulfillment
 - Modifications of existing services

Release Control & Validation is involved in two aspects of the Service Lifecycle. It provides the necessary framework to transition new services into operation as well as the modification of existing services to effect corrections or improvements and provision Service Requests.

Scope

The Release, Control and Validation capability encompasses all Service Transition processes and the Request Fulfillment process of the Service Design phase and is responsible for all transitions, either as part of a new or changed service, or as part of building changes to the Service Management processes themselves.

Service Transition's internal processes of Change Management, Service Asset and Configuration Management, and Knowledge Management support transitions initiated within any of the lifecycle stages.

Service Transition addresses all of the types of changes and transitions that an IT service faces, including introducing new services, changing existing services, discontinuing services, changing suppliers, changing from in-sourced services to out-sourced services or the other way, down- and up-sizing, mergers and acquisitions, and so forth.

Value to the Business

- Handle high volume of change
- Overall improvement in productivity
- Predictability of QoS & warranty
- Higher change success rate
- Closer adherence to plans
- Adaptability

Value to the Business

The successful deployment of Service Transition and Operation processes improves the service provider's ability to handle high volumes of changes and releases across the customer base. This in turn enables the service provider to align a new or changed service with business requirements and operations to ensure that customers and users can use it in a way that maximizes value to business operations.

Lesson 4

RCV Principles

Setting the Stage.....	36
Principles.....	37
Governance.....	38
Management.....	39
Quality.....	40
Service Transition Interface.....	41
Challenges.....	42
Critical Success Factors.....	43
Risks.....	44
RCV Processes.....	45

Setting the Stage

- Service Transition lifecycle stages
- Prepare for service transition
- Planning & coordination of service transition
- Provide Service Transition process support
 - Administration
 - Communication

Setting the Stage

While not an RCV process, the activities of the Service Transition Planning & Support process play an important role in setting the stage for RCV.

The lifecycle stages of the Service Transition stage of the IT Service Management Lifecycle are defined by the Service Design Package. This typically includes, acquisition and test of new CIs, build and test, service release test, operational readiness test, deployment, early life support and the review and closures of service transition.

The transition is prepared by reviewing and accepting input from other lifecycle stages, checking deliverables, raising necessary RFCs, checking configuration baselines and overall readiness.

Planning and coordination of a service transition requires that each transition be planned in detail. However, transition models can be used and tweaked as needed. This will provide the necessary coordination for getting the work environment in shape, scheduling handover and delivery, ensuring activities and tasks are carried out, allocation of staff and other resources, risk management and contingency planning. Most, if not all of this is done in the context of program and project management methods in use by the Service Provider's organization.

As the transition progresses, it's important to provide ongoing support to the other processes. Mostly this support comes in the form of providing administrative and communication support. This frees up technically skilled resources to facilitate the transition.

Principles

- Governance
- Management
- Quality

Principles

Several key principles underlie the methods that transition a new or changed service into operation. These principles fall into three categories: governance, management, and quality of the Service Transition phase of the IT Service Lifecycle.

Governance

- Formalize Service Transition (ST) policy
- Utilize Service Transition as focal point for changes
- Use common framework & standards
- Maximize re-use of processes & systems
- Align Service Transition plans & business needs

Governance

Governance is the exercise of authority and control over something and is commonly expressed by developing and documenting the organization's principles and associated policies. In this case it is important to establish the principles and associated policies that provide governance throughout the Service Transition phase.

The first step in establishing governance over Service Transition is the formalization of its policy. A policy is a defined course of action adopted for the sake of facilitating the desired outcomes of Service Transition; the efficient and effective transition of a new or changed service from Service Design to Service Operation. This causes the Service Transition phase to be the focal point for all changes to IT Services.

The adoption of common frameworks and standards is another important principle in Service Transition because it enables the organization to achieve consistency in the transition of new or changed services. It also promotes the re-use of existing processes (that work) along with their supporting systems.

All of this enables the IT organization to align its transition plans with those of the business to ensure that new or changed services dovetail with new or changed business process in the achievement of desired business outcomes.

Management

- Manage stakeholder relationships
- Utilize Knowledge Management
- Plan release & deployment packages
- Anticipate & manage course corrections
- Manage resources across ST & SO

Management

A number of principles and associated policies underlie the management of the transition of a new or changed service. Fundamental to any transition is an understanding of who has a stake in the transition and the subsequent management of the relationships among its stakeholders.

Today's complex IT infrastructures and integrated systems and IT Services require the involvement of many different processes, functional areas, technical and support staff. The utilization of data and information gathered throughout the Service Transition phase is critical. It ensures that the right people have access to the right information at the right time.

Planning is critical to Service Transition and the planning for releases into the live environment and subsequent turnover to the operations staff ensures the consistency required to achieve required levels of efficiency and effectiveness in the deployment of release packages.

Change is the only constant we can count on in IT, and that is also true of the transition of new or changed services. Any number of internal or external factors can force fundamental changes to the intended design of the service. Planning is also critical to enable the business and IT to have a complete understanding of what the potential impact is of an unexpected "mid-course" correction.

Transitioning a service from design to operation involves a lot of moving parts and resources. It is critical to manage those resources effectively to maximize organizational and enterprise efficiency in the transition of IT Services.

Quality

- Ensure Early Service Transition involvement in lifecycle
- Assure service quality
 - New services
 - Changed services
- Proactive quality improvement throughout Service Transition

Quality

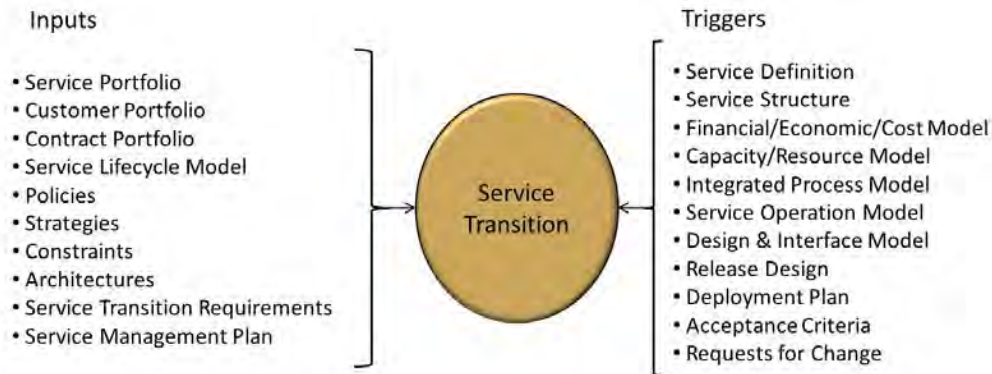
Everyone has heard the old axiom that you can have anything you want - good, fast or cheap - just pick which two you want. Service Transition attempts to rationalize this seemingly fundamental truth with the reality that the business demands that IT deliver all three.

Service Transition is not capable of changing the fundamental laws of nature, but it strives to understand and optimize the achievement of the customer's requirement for service quality, the time it takes to deliver the service into operation and the costs of doing so. To achieve that goal the Service Transition processes' scope must extend into the very early phases of the IT Service Lifecycle.

Although this is true of all the other phases, it is particularly important in the case of Service Transition because this phase expends significant resources in bringing the new or changed service to life. It is always better and less expensive in the long run to identify design deficiencies early in the lifecycle of a service so they can quickly be resolved in a cost-effective manner.

The Service Transition phase is also responsible for Quality of Service (QoS). Similar in concept to early involvement in the lifecycle of a service, building quality in is always more efficient and cost effective than "bolting" on fixes after it goes live. IT only has to look to the US auto industry as an example of what it cost when quality was not built into the product. This also extends to the adoption of the fundamental principle of proactively looking for ways to improve the quality of a service throughout its transition from design to operation.

Service Transition Interface



Service Transition Interface

In the context of the capabilities needed for Release, Control and Validation the Service Transition processes receive inputs from all of the other IT Service Lifecycle processes. However, Service Strategy has a significant impact on the overall approach of how the service will be transitioned, how it will be structured and defining the constraints under which it will be designed and built. These inputs include the Service, Customer and Contract Portfolios. These describe what services are chartered, for which customers and what contracts (agreements) exist that govern the performance of the service provider and the quality of the services provided. Policies provide overall guidance for Service Transition and are based on what services are needed and why (strategy). Constraints dictate the latitude that exists for any given service solution and often takes into consideration the existing business and IT architectures. Each Service Transition can have its own unique requirements defined during the Strategy phase, and refined during the Design phase, and this is reflected with the Service Management Plan.

The Service Design phase provides the majority of the triggers to the Service Transition phase of the IT Service Lifecycle. Most of these come in the form of the Service Design Package which includes the definition of the service, its structure, cost and financial issues and capacity and forecast models. The design and interface specifications, release design as well as the deployment plan also originate in Service Design. The Service Operation phase provides triggers in the form of support resources, escalation procedures and critical situation handling procedures.

Challenges

- Central to large number of stakeholders
- Being a business enabler
- Manages many
 - Contracts
 - Interfaces
 - Relationships
- Integration of processes & disciplines
- Establish who does what to whom
- Understanding stakeholder perspectives
- Collaborative culture
- Balancing stability & responsiveness
- Legacy systems
- Standard performance measures

Challenges

The Service Transition phase of the IT Service Lifecycle faces a number of challenges. In particular, today's IT is so embedded in the business processes it has become central to a large number of stakeholders. IT must perform as a business enabler and as a result it also must deal with all of the contracts, interfaces and relationships in a multi-vendor service provider environment.

In order to perform at its optimum, the IT organization must address the lack of process integration and organizational and staff discipline in policy and process compliance. This goes hand-in-hand with ensuring that everyone knows and understands their roles and responsibilities within the Service Transition processes and extends to understanding the perspectives of all stakeholders in a service's transition.

Service Transition requires the establishment of a culture of collaboration (business, internal and external service providers) that enables the IT organization to balance the stability of the services provided with the responsiveness that the business demands.

Legacy systems offer a significant challenge because many of them may have been put into service without the rigor that the IT Service Lifecycle processes, and in particular Service Transition, applies to new or changed services. It is often very difficult to “retrofit” Quality of Service into a poorly designed or implemented service, and it requires time to incrementally improve the service until it achieves the required standard performance measures.

Critical Success Factors

- Understanding & managing stakeholder perspectives
- Managing all relationships during transition
- Understanding inherent dependencies among systems
- Process automation
- Knowledge management
- Enabling tools
- Understanding CI dependencies
- Clear accountability, roles & responsibilities
- Demonstrated
 - Process improvement
 - Customer satisfaction
 - Transition cycle time
- Communication of risk attitude

Critical Success Factors

Critical Success Factors are those things that an organization must do if it is going to achieve desired outcomes. Fundamental to the transition of any service is a complete understanding of who the stakeholders are and what is important to them. Without such an understanding, managing all the relationships becomes impossible.

Today's IT infrastructures are very complex and often depend on multiple vendors and service providers to effect the delivery of an IT Service. This requires a complete understanding of the inherent dependencies among the systems that make up the services along with any supporting or enabling process automation and tools. This complexity also underscores the importance of the knowledge required by both the service provider and service consumer, thus the importance of managing that knowledge. Central to the knowledge is a full understanding of the content and context of the CIs within the IT infrastructure and their dependencies.

Inherent in the adoption of any process framework are the concepts of accountability and the clear and unambiguous understanding of everyone's roles and responsibilities. This is critical to the IT organization's ability to demonstrate overall improvement of the process, improved customer satisfaction and the reduction in time it takes to transition a service from Service Design to Service Operation.

Change is inherently risky but is fundamental to IT's ability to support a dynamic and growing business. Critical to the success of any service transition is the understanding of the risks involved and the communication of those risks to the stakeholders.

Risks

- Inefficiencies due to poor process implementation
- Lack of maturity & integration of systems & tools
- Change in accountability
 - Roles
 - Responsibilities
- Resistance to change
- Alienation of key support & operation staff
- Unplanned costs
- Overly averse to risk
- Knowledge sharing (wrong people/wrong time)
- Poor or incomplete process integration

Risks

Probably one of the biggest risks faced in transitioning a new or changed service into production is the lack of process or poor implementation and management of those processes in place, amplified by the lack of clearly defined roles and responsibilities. Similarly, poorly implemented or integrated support tools can get in the way of the efficient and effective transition of a service.

All organizations have a built-in defense mechanism to change. Overcoming resistance to change, whether from the customer, IT staff or management, presents a significant risk to the success of a service transition.

Change can be costly if not managed correctly, and unplanned costs can pop up due to poorly designed services or poorly managed service transitions. This is often the case if poor or incomplete process integration creates “cracks” through which critical issues can fall.

Some organizations can be overly averse to risk and often fail to respond to changing business opportunities. These organizations find themselves in “analysis paralysis” and just do not seem to get anything done unless it is risk free.

Knowledge management within IT is critical and that includes making sure that the right people get the right information at the right time.

RCV Processes

- Lifecycle focus
 - Change Management
 - Service Asset & Configuration Management
 - Knowledge Management
- Service Transition focus
 - Release & Deployment Management
 - Service Testing & Validation
 - Change Evaluation
- Service Operation
 - Request Fulfillment



RCV Processes

The processes of Release Control & Validation fall into three categories; the three processes of Service Transition have a focus that spans the entire IT Service Lifecycle and include;

- Change Management
- Service Asset & Configuration Management (SACM)
- Knowledge Management

Three processes of the Service Transition phase focus primarily on the transition of a service from design to operation and include;

- Release & Deployment Management
- Service Testing & Validation
- Evaluation

One process from the Service Operation phase is included within RCV;

- Request Fulfillment

These processes combined provide an IT organization with the capability necessary to do a controlled release of a validated IT Service into operation.

Lesson 5

RCV Summary

RCV Summary.....	48
Checkpoint Instructions.....	49

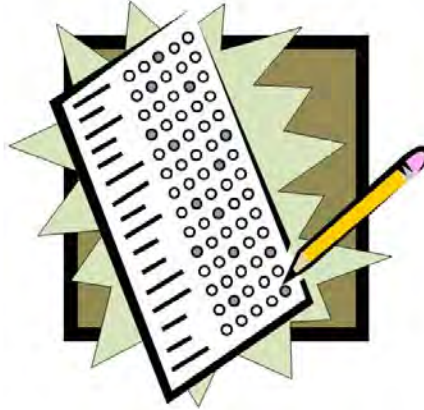
Release, Control & Validation Summary

- RCV processes provide overall capability
- Provides overall coordination of resources
 - New or changed services
 - Build
 - Test
 - Deploy
 - Validate
- Enable business process
- Maximize business benefits
- Manage risks

RCV Summary

The Service Transition phase of the IT Service Management Lifecycle provides the Release, Control and Validation capability for the overall coordination of the resources necessary to build, test, deploy, validate and early life support for new or changed services. Its central focus is to provide the rigor necessary to ensure these services actually enable business processes, maximize their benefits and manage the associated risks.

Checkpoint



Checkpoint Instructions

Refer to the Checkpoint booklet for relevant quizzes and exercises for this chapter.

Chapter 3:

RCV Processes

Objectives.....	52
Terms-to-Know.....	53
Lesson 6 Change Management.....	55
Lesson 7 SACM.....	83
Lesson 8 Release & Deployment Management.....	109
Lesson 9 Service Validation & Testing.....	139
Lesson 10 Request Fulfillment.....	171
Lesson 11 Change Evaluation.....	189
Lesson 12 Knowledge Management.....	215
Lesson 13 RCV Processes Summary.....	235

Objectives

Change Management; Bloom's Level 4 Objectives – Support problem solving by putting theory into practice, interpret principles and relationships

- The end-to-end process flow for Change Management inclusive of its design strategy, components, activities, roles and operation including its organizational structure and the interfaces with other processes
- A measurement model and the metrics that would be used to support Change Management within RCV practices
- The benefits and business value that can be gained from Change Management

Service Asset and Configuration Management (SACM); Bloom's Level 4 Objectives – Support problem solving by putting theory into practice, interpret principles and relationships

- The end-to-end process flow for Asset and Configuration Management inclusive of its design strategy, components, activities, roles and operation including its organizational structure and the interfaces with other processes
- A measurement model and the metrics that would be used to support Service Asset and Configuration Management within RCV practices
- The benefits and business value that can be gained from Service Asset and Configuration Management

Service Validation and Testing (SVT); Bloom's Level 4 Objectives – Support problem solving by putting theory into practice, interpret principles and relationships

- The end-to-end process flow for SVT process inclusive of its design strategy, components, activities, roles and operation including its organizational structure as well and the interfaces with other processes
- SVT testing perspectives (e.g. Test requirement, conditions, environments, data, etc.) and how these test components are used to ensure service quality
- The benefits and business value that can be gained from SVT as related to RCV

Release and Deployment Management; Bloom's Level 4 Objectives – Support problem solving by putting theory into practice, interpret principles and relationships

- The end-to-end process flow for Release and Deployment Management inclusive of its design strategy, components, activities, roles and operation including its organizational structure and the interfaces with other processes
- The Release and Deployment model and related activities (e.g. design, planning, build, pilots, test, transfer, deployment, retirement, etc.) and how these activities ensure service quality
- The benefits and business value that can be gained from Release and Deployment Management

Request Fulfilment; Bloom's Level 4 Objectives – Support problem solving by putting theory into practice, interpret principles and relationships

- The end-to-end process flow for Request Fulfillment inclusive of its design strategy, components, activities, roles and operation including its organizational structure and the interfaces with other processes (e.g. Incident and Release)
- The Request Fulfillment model and related activities (e.g. effectiveness of designs, changes, performance, etc.) and provide examples of how these activities help to ensure Quality Service within RCV
- The benefits and business value that can be gained from Request Fulfillment Management

Evaluation; Bloom's Level 4 Objectives – Support problem solving by putting theory into practice, interpret principles and relationships

- The end-to-end process flow for Evaluation inclusive of its design strategy, components, activities, roles and operation including its organizational structure and the interfaces with other processes
- The Evaluation model and related activities (e.g. effectiveness of designs, changes, performance, etc.) and how these activities help to ensure service quality

Knowledge Management; Bloom's Level 4 Objectives – Support problem solving by putting theory into practice, interpret principles and relationships

- The end-to-end process flow for Knowledge Management inclusive of its design strategy, components, activities, roles and operation including its organizational structure and the interfaces with other processes (e.g. CSI processes)
- The Knowledge Management model and related activities (e.g. DIKW, stakeholder management, metrics, etc.) and how these activities help to ensure service quality
- The benefits and business value that can be gained from Knowledge Management

Terms-to-Know

Change –The addition, modification or removal of anything that could have an effect on IT Services.

Change Advisory Board –A group of people that advise the Change Manager in the assessment, prioritization and scheduling of changes.

Configuration Item –Any component that needs to be managed in order to deliver an IT Service.

Configuration Management System –A set of tools and databases that are used to manage an IT Service Provider's configuration data.

D.I.K.W. –The foundation of Knowledge Management is the DIKW structure (Data-Information-Knowledge-Wisdom). Data consists of discreet facts, and information puts those facts into context to answer questions like 'who,' 'what,' 'when' and 'where?' Knowledge is information in a usable form, which answers questions like 'how?' Wisdom provides contextual awareness to the knowledge to provide common sense judgment.

Early Life Support –Support provided for a new or changed IT Service for a period of time after its is released.

Evaluation –Comparing an actual outcome with the intended outcome or comparing one alternative with another.

Definitive Media Library –One or more locations in which the definitive and approved versions of all software Configuration Items are securely stored.

Release –A collection of hardware, software, documentation, processes or other components required to implement one or more approved changes to IT Services.

Release Unit –Components of an IT Service that are normally released together.

Request for Change –A formal proposal for a change to be made.

Service Design Package –Documents defining all aspects of an IT Service and its requirements through each stage of its lifecycle.

Service Knowledge Management System –A set of tools and databases that are used to manage knowledge and information.

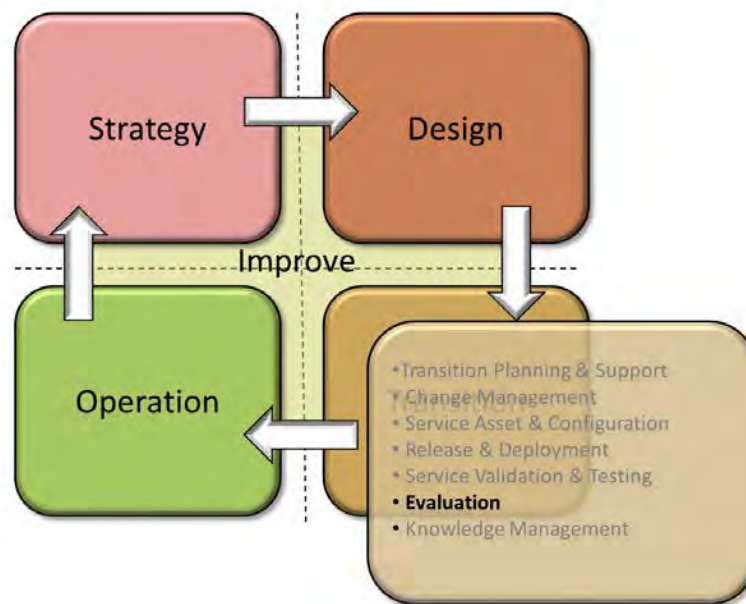
Validation –An activity that ensures a new or changed IT Service, process, plan or other deliverable meets the needs of the business.

Lesson 11

Change Evaluation

Introduction.....	190
Objective.....	191
Scope.....	192
Value to the Business.....	193
Concepts.....	194
Evaluation Point Scope.....	196
Activities.....	197
Service Evaluation Terms.....	198
Change Evaluation Process.....	199
Evaluation Plan.....	200
Understand Intended Effects of Change.....	201
Understand Unintended Effects of Change.....	202
Consider Factors Affecting Change.....	203
Evaluate Predicted Performance.....	204
Evaluate Actual Performance.....	205
Manage Risk.....	206
Evaluation Report.....	207
Triggers, Inputs & Outputs.....	208
Relationships.....	209
Information.....	210
Critical Success Factors.....	211
Challenges.....	212
Summary.....	214

Introduction



Introduction

Evaluation is the systematic determination of merit, worth, and significance of something or someone. ITIL's adoption of a generic evaluation process seeks to determine if a new or changed service is acceptable, provides the anticipated value to the business, and ensures that the risks are understood and acceptable.

Many different drivers can structure an Evaluation process. In the case of the Service Transition phase of the IT Service lifecycle, the Evaluation process is both objectives-based and decision-oriented. An objectives-based approach relates outcomes to pre-specified objectives, allowing judgments to be made about their level of attainment. A decision-oriented approach provides a knowledge and value base for making and defending decisions. This approach encourages the use of evaluations to plan and implement needed progress and helps justify decisions about those plans and actions.

Purpose, Goals & Objectives

- **Purpose**
 - Provide standard means to evaluate performance (utility & warranty)
- **Goals**
 - Assess performance against its predicted performance
 - Identify & mitigate risks related to the change
- **Objectives**
 - Set stakeholder expectations
 - Evaluate effects
 - Expected
 - Unexpected
 - Provide feedback to change management

Objective

The Evaluation process establishes the criteria for evaluating the performance (i.e., utility and warranty) of a service change in the context of existing and proposed services and the IT infrastructure. This helps to properly set the stakeholders' expectations as to the impact and scope of the change by providing accurate information about the new or changed IT Service to the Change Management process.

The process seeks to understand and evaluate not only what is expected from the change; it also tries to understand the potential unexpected effects, feeding this information back to the Change Management process to help mitigate the risks to the business.

Scope

- Service design
 - New or changed services
- Service transition
 - Deployment
 - Actual vs. predicted performance
- Clarify stakeholder expectations

Scope

The Evaluation process covers a new or changed IT Service from the Service Design phase through Service Transition's deployment. Throughout these two phases, the Evaluation process constantly seeks to determine the IT Service's acceptability and value, and to mitigate its risks. In doing so, it can help clarify stakeholders' expectations, and manage them throughout the IT Service's lifecycle.

Value to the Business

- Establish value attained
 - Delivered benefit
- Information for continual improvement

Value to the Business

The Evaluation process focuses on the value of the IT Service being transitioned into production. The process seeks to establish that the new or changed services can realize their intended benefits. It also provides significant input to the Continual Service Improvement phase of the IT Service Life-cycle to aid its analysis of future improvements to both processes and services.

Concepts

- Policies
 - Evaluate services prior to transition
 - Manage deviation between actual & predicted
 - Evaluate in the context of a customer engagement package
- Principles
 - Identify & understand consequences
 - Perform objective evaluations
- Plan-do-check-act
 - Ensure consistency

Concepts

The policies supporting the Evaluation process address four major concepts:

Evaluation Initiation - Best practices recommend building the evaluation into the IT Service design or change prior to its transition into the live environment. It is also important to note that evaluation is an iterative process, evaluating different sets of outcomes at different stages of the transition process.

Evaluation Deviation Guidelines - The policies establish the process by which the customer can manage his response if the change's actual performance, defined by its utility and warranty, deviates from its predicted performance. There are three possible courses of action:

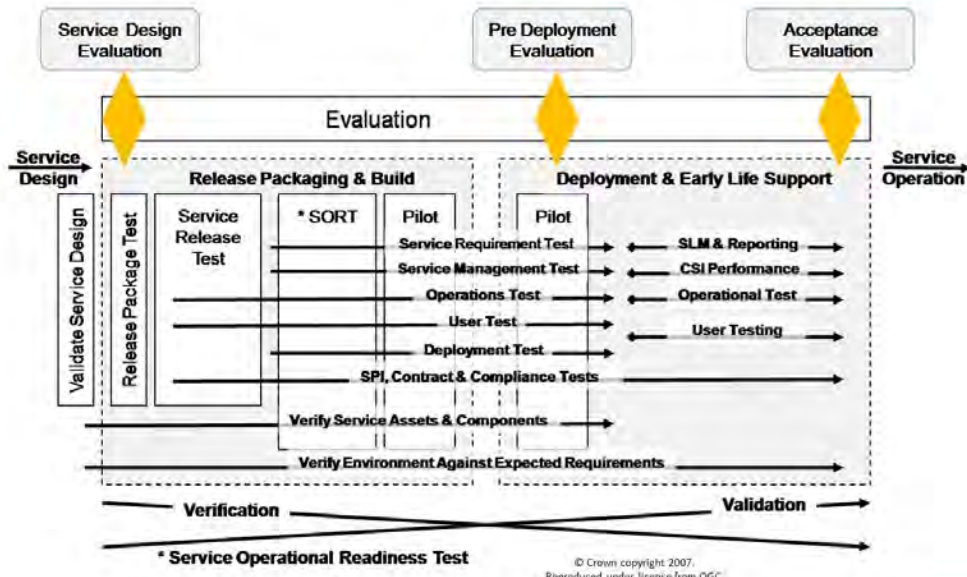
- Accept the change;
- Reject the change;
- Require a new change with revised predicted performance.

The above guidelines provide the capability to deal with all deviations between actual and predicted performance.

Evaluation Inputs - In addition, evaluations are always done in the context of a customer engagement package (boundaries defining interaction, responsibilities of the stakeholders, and deliverables between the customer and the service provider as it relates to the evaluated service).

Evaluation Scope - As it evaluates a new or changed service, the Evaluation process seeks to identify and understand the consequences (intended and unintended) of the change. Fundamental to the process is its use of the Plan-Do-Check-Act model, which helps ensure consistency.

Evaluation Point Scope



Evaluation Point Scope

As the above illustration depicts, there are three important times to perform an Evaluation during the Service Design, Transition and Operation processes:

Service Design - Upon receipt of the Service Design Package (SDP), the Service Design Evaluation examines the contents and format of the SDP that will govern the forthcoming Transition process.

Release & Deployment - The Pre-Deployment Evaluation evaluates the release and deployment processes prior to release. If the new service will go through a Pilot phase, it may evaluate the release and deployment processes on an iterative basis - prior to the Pilot, 'lessons learned' after the Pilot, prior to the actual release and deployment, 'lessons learned' after the actual release and deployment, etc.

Acceptance - Upon final implementation, Evaluation kicks in again to assess the effectiveness of the Service Acceptance Criteria (SAC) in stating the resolution to the business' requirements and its effectiveness in meeting those requirements. Again, this evaluation may take place over several months as users become more familiar with the new service and as the service has time to build up a measurable history.

Activities

- Develop evaluation plan
 - Understand intended effects of change
 - Understand unintended effects of change
 - Consider factors affecting change
 - Evaluate predicted performance
 - Evaluate actual performance
 - Manage risk
-

Activities

The Evaluation process spans the IT Service Lifecycle from Service Design, Transition and Operation, and includes:

- Develop Evaluation Plan - what are the consequences of the change as viewed from different perspectives?
- Understand Intended Effects of Change - will the change perform as expected?
- Understand Unintended Effect of Change - what unexpected things might happen?
- Consider Factors Affecting Change - what are the factors that will impact the change?
- Evaluate Predicted Performance - will the predicted performance be achieved?
- Evaluate Actual Performance - did actual performance match predicted performance?
- Manage Risk - what are the risks, can they be mitigated?

Service Evaluation Terms

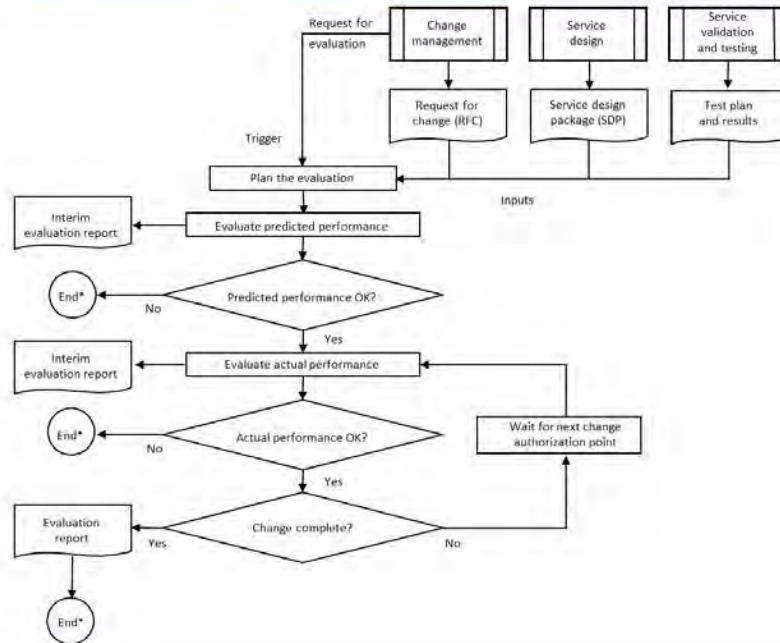
- Service Change
- Service Design Package
- Performance
- Performance Model
- Predicted Performance
- Actual Performance
- Deviation Report
- Risk
- Countermeasures
- Test Plan & Results
- Residual Risk
- Service Capability
- Capacity
- Constraint
- Resource
- Evaluation Plan
- Evaluation Report

Service Evaluation Terms

The Evaluation process uses the following terms;

- Service Change - a change to an existing service or the introduction of a new one
- Service Design Package - definition of a new or changed service
- Performance - the utility and warranty of a service
- Performance Model - a representation of the performance of a service
- Predicted Performance - the expected performance of a service following a change
- Actual Performance - the performance achieved following a change
- Deviation Report - the detailed differences between predicted and actual performance
- Risk - a function of the likelihood and negative impact of a service not performing as expected
- Countermeasures - the mitigation that is implemented to reduce risk
- Test Plan & Results - the response to an impact assessment of the proposed service change
- Residual Risk - the remaining risk after countermeasures have been deployed
- Service Capability - the ability of a service to perform as required
- Capacity - an organization's ability to maintain service capability under any predefined circumstances
- Constraint - limits on an organization's capacity
- Resource - the normal requirements of an organization to maintain service capability
- Evaluation Plan - the outcome of the evaluation planning exercise
- Evaluation Report - a report consisting of a risk profile, deviation report, recommendation and a qualification statement

Change Evaluation Process



Change Evaluation Process

The Evaluation process flow starts with the Request for Change (RFC) from Change Management. It joins with the Service Design Package (SDP) from Service Design and the test plans and results from Transition Planning & Support to provide input to the Evaluation Plan.

The process performs two evaluations; one against predicted performance and the other against actual performance. In all cases, the Evaluation process considers the use of the term 'performance' as synonymous with the concept of a service's utility and warranty.

If the evaluation results are negative, the Evaluation process produces an interim report for Change Management. It also produces a final evaluation report.

Evaluation Plan

- Carry out from different perspectives
- Understand effects
 - Unintended
 - Intended
- Match to acceptance criteria

Evaluation Plan

The evaluation of a change to the IT infrastructure for either a new or changed IT Service takes several different perspectives to ensure that it uncovers unknown or unintended consequences. The evaluation plan considers both the intended and unintended effects of the change. It assumes that the intended consequences of a change are positive and unintended consequences are negative. The evaluation plan matches the predicted and actual performance of the changed service to the Service Acceptance Criteria (SAC).

Although understanding the intended consequences is relatively straight forward, understanding the unintended consequences is a bit more problematic. In this case, the contributions of many different stakeholders provide important input for evaluating a change. This also helps to properly set expectations for the level of effort required to fully evaluate possible negative side effects of a change. It is also important that the evaluation effort be commensurate with the risk profile of the IT Service under change.

Understand Intended Effects of Change

- Understand purpose of the change
 - What is the expected benefit?
 - Reduced costs?
 - Improved performance?
 - Reduced resource requirements?
 - Etc?
- Based on change documentation
 - Must be clear & unambiguous
 - If unclear – STOP!!!
- Consider regulatory impact

Understand Intended Effects of Change

The Service Design Package lays out what the new or changed service is supposed to do, as well as the associated benefits that will accrue to the business as the result of the change. The Evaluation process references the Service Design Package to understand those benefits and to quantify the predicted effect of the change.

Does the change reduce cost, make a transaction faster, or lower the human or equipment resources necessary to execute the business process? Those are just a small subset of the types of questions that the Evaluation process asks and answers.

A fully documented change should be clear and unambiguous in detailing what a change is, who is involved, and what the intended benefits will be. Unclear or mushy requirements and objectives will make it impossible to fully understand and quantitatively measure the intended effect of the change. This is of particular importance in the context of changes made to meet industry or governmental regulatory requirements.

Understand Unintended Effects of Change

- Ask & answer the questions:
 - “What things might happen that we didn’t think about?”
 - “Are the unintended effects bad?”
- Unintended effects of change
 - Most often negative
- Effort is similar to due diligence
- Requires heavy stakeholder involvement
 - Full understanding of change
 - Informed feedback



Understand Unintended Effects of Change

While it is assumed that the unintended consequences of a change are bad, it is not necessarily the case in all circumstances. A cautionary approach to understanding the unintended effects of the change evaluates all aspects, both good and bad.

What this activity seeks to accomplish is to ask, “What things might happen that we didn’t think about?” It is very similar to performing due diligence, which looks at a business transaction with the care of what a “... prudent person might be expected to exercise in the examination and evaluation of risks affecting a business transaction.” In this case what the “prudent person” is evaluating is a changed IT Service.

It should be apparent that it is necessary to fully involve all of the stakeholders in understanding the full extent of the change, and, thus the full impact and associated effect the change will have on the business and the business processes. It is imperative that the successful execution of the evaluation process requires fully informed feedback from the stakeholders (not optional, or a nice to have).

Consider Factors Affecting Change

- Service Provider capability
 - Can the Service Provider perform as required?
- Tolerance
 - Do they have the ability or capacity to absorb the change?
- Organizational setting
 - Can the organization accept the change?
- Resources
 - Are the requisite resources available?
- Modeling & measurement
 - Does what's happening match what we thought would happen?
- People
 - What effect does this change have on the impacted people?
- Use
 - Will the service be fit for use?
- Purpose
 - Will the service be fit for purpose?

Consider Factors Affecting Change

An evaluation looks at a number of different aspects. Probably the most obvious is the service provider's capability to actually perform as required. This is important both for internally as well as externally sourced services. A low bid does not ensure the vendor can actually deliver the required service.

Does the organization have adequate resources of the right type, does it have the capability to actually model and measure the actual performance of a new or changed service to what was desired, required and predicted?

In both internal and external service provider organizations, the evaluation considers their ability to absorb the change. This is called their "tolerance" for change, and many factors can impact it, such as human and technical resources, infrastructure architecture, etc. This also goes hand-in-hand with assessing the organization's overall capability to accept change, which evaluates management and skill of the staff, policies, etc.

In the final analysis, is the service capable of being considered fit for use and purpose, and ready for service?

Evaluate Predicted Performance

- Compare
 - Predicted performance to performance model
- Perform risk assessment
- Determine
 - Are there unacceptable risks?
 - Will it meet acceptance criteria?
- Produce interim evaluation report
 - Outcome of risk assessment
 - Performance vs. acceptance criteria

Evaluate Predicted Performance

The evaluation of the predicted performance (utility and warranty) of a new or changed service requires the customer's requirements along with the Service Acceptance Criteria (SAC). It compares predicted performance to the performance model. In addition, it performs a risk assessment to determine what the risks are, and the level of acceptability.

The evaluation of the predicted performance produces an interim Evaluation Report that includes the outcome of the risk assessment and the results of the predicted performance vs. the Service Acceptance Criteria.

Evaluate Actual Performance

- Post-implementation
 - Performance report from operations
- Actual performance compared to:
 - Customer requirements
 - Performance model
 - Predicted
 - Actual
- Risk assessment
- Interim evaluation report
 - Actual performance vs. acceptance criteria
 - Remediation recommendations

Evaluate Actual Performance

During the post-implementation phase of the Change, Operations provides a performance report. It compares actual performance (utility and warranty) to the customer's requirements and the Performance Model. At this time, it also reassesses the risks to see if anything has changed. A second interim Evaluation Report details the actual performance vs. the Service Acceptance Criteria and makes any recommendations on required remediation.

Manage Risk

- Two Steps in Risk Management
 - Assessment
 - Mitigation
- Assessment
 - Threats
 - Weaknesses
- Risk = Likelihood x Impact
- Mitigation
 - High levels of risk addressed
 - Disaster recovery sites
 - Backups
 - Etc.

Manage Risk

The Evaluation process performs Risk Management in two steps; first, it assesses the risks, and, then, it mitigates them as required.

The risk assessment looks at the possible threats that could result from intended and unintended effects of the change along with any weaknesses. Risk is a function of the likelihood that something will happen and the impact if it does. An organization can choose to mitigate (take countermeasures) those risks, or choose to accept them. Mitigation can take many forms, such as disaster recovery sites, frequent backups, redundant hardware, etc.

Evaluation Report

- Evaluation Report Sections
 - Risk Profile
 - Represents residual risk after countermeasures
 - Deviations Report
 - Difference between Predicted & Actual Performance
 - Qualification Statement
 - Go/No-Go on operating environment & infrastructure
 - Validation Statement
 - Go/No-Go on applications & services
 - Recommendation
 - Accept or reject
 - Review & close
 - Update Knowledge Management

Evaluation Report

A typical Evaluation Report consists of the following sections:

Risk Profile - represents the residual risks after countermeasures have been applied. It is the risk that the enterprise must accept if the change is to be made.

Deviation Report - details the differences between the change's predicted performance and its actual performance. It is used in the Change Management decision-making process.

Qualification Statement - is simply a “go/no go” statement concerning the environment and the IT infrastructure.

Validation Statement - is a “go/no go” statement concerning the application or service.

Recommendation - is a statement to accept or reject, review and close and update the Knowledge Management Database.

Triggers, Inputs & Outputs

- Triggers
 - Request for evaluation from Change Management
 - Inputs
 - Service Design Package including:
 - Service Charter
 - Service Acceptance Criteria
 - Change Proposal
 - RFC
 - Discussion with stakeholders
 - Test results & reports
 - Outputs
 - Interim evaluation reports
 - Evaluate report
-

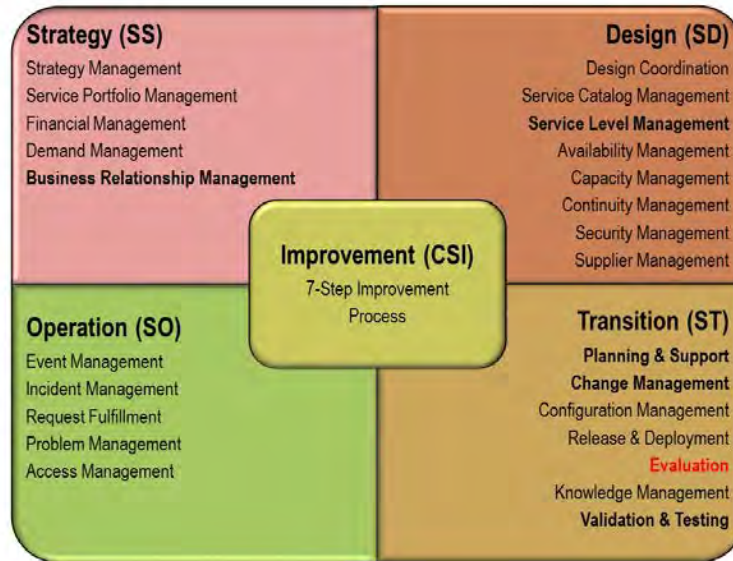
Triggers, Inputs & Outputs

There are three points in the transition of a new or changed service that it is evaluated. The process is triggered by a request from the Change Management process.

Inputs to the process include the Service Design Package and the Service Charter. These provide the context from which the service will be evaluated. The process also looks that input from the stakeholders, the actual Request for Change and the results of any and all tests that have been run.

The process produces interim evaluation reports as the new or changed services makes its way through the service Transition stage, and issues a final evaluation report at the end of the process.

Relationships



Relationships

Service Strategy provides the strategic intent of the new or changed service via the Service Portfolio, and the Service Design phase processes provide the Service Design Package (SDP) and the Service Acceptance Criteria (SAC)..

Within the Service Transition phase, Change Management, via a Request for Change (RFC), triggers an Evaluation with additional input from Transition Planning & Support. The Evaluation process shares a relationship with all of the processes of the Service Transition phase.

Service Operation provides Operations performance reporting to the Evaluation process for inclusion in the interim and final Evaluation Reports.

Information

- Service Portfolio
- Service Design Package (SDP)
- Service Acceptance Criteria (SAC)
- Test Results
- Reports
 - Test Report
 - Evaluation Report

Information

The Service Portfolio provides information about the strategic intent of the change, and the Service Design Package (SDP) provides the full documentation of the requirements of the change and how it is to be supported. This, along with the Service Acceptance Criteria (SAC), represents two major inputs the Evaluation process uses to produce both the interim and final Evaluation reports.

The results of the many tests performed throughout the lifecycle of the service and the change provide input to the Evaluation process as it produces its reports.

Critical Success Factors

- CSF – Ensure stakeholders understand of expected performance
 - KPI – Reduced number of incident for new or changed services
 - KPI – Increased stakeholder satisfaction
- CSF – Ensure Change Management has quality evaluations
 - KPI – Increased percentage of evaluation delivered on time
 - KPI – Reduced number of changes backed out due to errors
 - KPI – Reduced number of failed changes
 - KPI – Increased Change Management staff personal satisfaction with Change Evaluation process

Critical Success Factors

The Change Evaluation process seeks to ensure that the stakeholders have a realistic understanding of the new or changed service's expected performance. In other words, through the process it communicates its findings to the stakeholders so there are no surprises once the service is deployed.

The process also seeks to ensure that it produces quality evaluations, so it measures the efficiency, effectiveness and compliance to the process.

Challenges & Risks

- **Challenges**
 - Develop standard performance measures & methods
 - Understand stakeholder perspectives
 - Understand & assess
 - Manage risk
 - Taking risks
 - Measure & demonstrate less variation in evaluation predictions
 - Pragmatic & measured approach to risk
 - Communication organizations attitude to risk & risk management
 - Build understanding of risks that may impact service transition
 - Encourage risk management
- **Risks**
 - Lack of clear criteria
 - Unrealistic expectations
 - Insufficient process staff experience or authority
 - Inaccurate project or supplier delivery dates

Challenges

The Evaluation process faces several significant challenges. Probably the biggest is the lack of standard performance measures within the organization and in several IT technical areas. Standards that do exist are often proprietary (associated with a single vendor) and are not applicable in a heterogeneous IT environment.

Service providers often cannot reliably estimate project deliverables or time, which can lead to significant cost overruns, so the tendency is to accept “what’s done” and hope that the rest comes later.

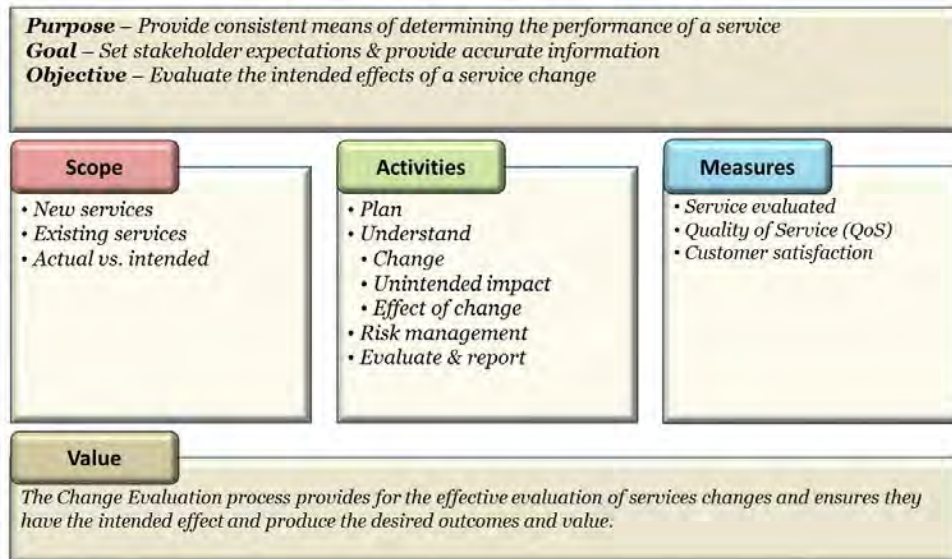
One major hurdle that IT organizations have difficulty with is an in-depth understanding of the issues of all of the stakeholders. What is seemingly an insignificant issue to an IT person may be a major issue with a business line manager. A failure to accept all feedback and work to understand it will undermine the entire Evaluation process.

Overkill is as bad as ignoring or not performing an evaluation on a new or changed service. The evaluation must understand a change’s strategic importance, impact to the organization (or enterprise as a whole) and the risks of failure. It must strike the correct balance to avoid spending \$10 to avoid risking \$2.

Over time an organization will develop a track record on its Evaluation process and thus refine its methods to achieve consistency or minimize the variation in its predictions of success (or failure). This coupled with taking a very pragmatic approach to risk, fully understanding the organization’s appetite for risk, and developing methods for thoroughly understanding risk will lead to the development of a culture within the IT organization capable of managing risk.

Risk associated with the Change Evaluation process tend toward communication and resource related issues. Communication issues include the lack of clear evaluation criteria, unrealistic stakeholder expectations poor or inaccurate dates from program or project management or suppliers. Resource related risks center around staff experience and authority (staff not having the expertise or positional authority to influence the uptake of process outputs if the evaluation is negative).

Summary



Summary

Was it worth it?

The Evaluation process looks at a change to evaluate whether its performance (utility and warranty) is acceptable and provides value for money spent.

Service Transition typically conducts an evaluation during deployment and before final transition to Service Operation. Continual Service Improvement can cull a great deal of intelligence from Evaluation to analyze future improvements.

Evaluation evaluates the effects of a change by looking at several key factors:

- Service Provider Capability - Ability of a service provider or service unit to perform as required
- Tolerance - Ability or capacity of a service to absorb the service change or release
- Organizational Setting - Ability of an organization to accept the proposed change and work to ensure a smooth transition
- Resources - Availability of appropriately skilled and knowledgeable people, sufficient budget, infrastructure, etc. to operate the system after Transition
- Modeling and Measurement - Extent to which the predictions of behavior match the actual behavior of the new or changed service
- People - Effect of the change on the people within a system
- Use - Is the service fit for use and available as required?
- Purpose - Is the service fit for purpose and does it meet its objectives?

Chapter 4:

Organization & Technology

Objectives.....	240
Terms-to-Know.....	240
Lesson 14 Organizing RCV.....	241
Lesson 15 Technology Considerations.....	263
Lesson 16 Implement RCV.....	275
Lesson 17 Organization & Technology Summary.....	297

Objectives

Organizing for Service Transition

Bloom's Level 4 Objectives – Support problem solving by putting theory into practice, interpret principles and relationships

- Service Transition roles and responsibilities, where and how they are used as well as how a Service Transition organization would be structured to use these roles
- The interfaces that exist between Service Transition and other organizational units (including third parties) and the “handover points”
- Why Service Transition needs Service Design and Service Operation, what it uses from them and How
- The roles and responsibilities related to Change Management, Service Asset and Configuration Management, Service Validation and Testing, Release and Deployment Management, Request Fulfillment, Evaluation, and Knowledge Management. Where and how these are used, as well as, how they fit within the Service Transition organization

Consideration of Technology

Bloom's Level 4 Objectives – Support problem solving by putting theory into practice, interpret principles and relationships

- Technology requirements that supports Service Transition, where and how these would be used
- Types of Knowledge Management, Service Asset and Configuration Management and workflow tools that can be used to support Service Transition

Terms-to-Know

Process Owner – A role responsible for ensuring that a process is fit for purpose.

Responsibility – A particular burden of obligation upon one who is responsible: the responsibilities of authority.

Risk – A possible event that could cause harm or loss, or affect the ability to achieve objectives.

Role – A set of responsibilities, activities and authorities granted to a person or team.

Service Owner – A role that is accountable for the delivery of a specific IT Service

Value – The worth of something in terms of the amount of other things for which it can be exchanged or in terms of some medium of exchange.

Lesson 16

Implement RCV

Implementation Considerations.....	276
Implementation Steps.....	277
Establish High-Level Objectives.....	278
Assess Current Capabilities.....	279
Determine Measurable Targets.....	280
Implement Process Improvement.....	281
Implement Measurement Framework.....	282
Review & Improve.....	283
Key Implementation Activities.....	284
Process Integration.....	285
Cloud Environment & RCV.....	286
Managing Change.....	287
Project Management.....	288
Assessing & Managing Risk.....	289
Involvement in Design & Transition.....	290
Planning & Implementing Technology.....	291
Challenges, Risks & CSFs.....	292
Challenges.....	293
Risks.....	294
CSFs.....	295

Implementation Considerations

- Business Impact Analysis (BIA)
- Service Level Requirements (SLR)
- Risks
 - IT Services
 - IT lifecycle processes

Implementation Considerations

The crux of implementing Service Design is to create a process that leads to designs that align IT services with the business' needs.

The Business Impact Analysis (BIA) establishes the service's contribution from the business' point of view by asking the question what would happen to the business if this function or service were not available, or only partially available.

The Business Impact Analysis translates these answers into Service Level Requirements (SLR). This provides the focal point for the business to define its requirements, IT to define its capabilities, and the two parties to agree on the level of requirements in the context of a Service Level Agreement (SLA). It is always wise to design and build new services with the SLRs in mind.

The design for a new service must be holistic in the sense that it must take into account the transition of the new service as well as its ultimate operation. This includes assessing the risk of the Service Transition activities to current operational services.

Implementation Steps

- Establish high-level objectives
- Assess current capabilities
- Determine measureable targets
- Implement process improvement
- Implement measurement framework
- Review, refine & improve



Implementation Steps

The details of Service Design implementation vary from organization to organization. Every organization has different goals, different concerns, different maturity levels, and different cultures. However, the process for implementing Service Design is similar across all implementations.

Borrowing from the Continual Service Improvement model, the Service Design Implementation/-Improvement cycle asks these six questions:

1. What is the vision?
2. Where are we now?
3. Where do we want to be?
4. How do we get there?
5. How can you tell we have got there?
6. How do we keep going?

Establish High-Level Objectives

- Establish vision
- Establish scope
- Establish governance
- Obtain management commitment
- Start cultural transformation



Establish High-Level Objectives

What is the vision?

This simple starting point brings together the culture and the environment of the organization to establish the high-level objectives of the Service Design phase.

This question establishes the operating parameters of the project. Among the key steps this activity completes are establishing a vision aligned with the business vision and objectives, establishing the scope of the project, determining budget and governance, obtaining the appropriate level of management commitment, and establishing a culture based on the organization's own culture and values.

Assess Current Capabilities

- Internal/external audits
- Capability maturity assessment
- Framework audits
 - ISO 20000
 - CobiT ®
- SWOT Analysis
- Risk assessment



Assess Current Capabilities

In many ways, this is one of the more challenging aspects of implementing Service Design. It is almost impossible to design anything as all encompassing as Service Design 'from scratch' in an existing organization; likewise, most organizations have many processes, including Service Design, that are working just fine.

Not only should existing processes not be thrown out in the eagerness to implement a new process, but they should be considered an asset that will potentially reduce the time and cost to implement the new environment.

The path to completing a meaningful assessment of the IT organization's current capabilities lies within a structured approach to the assessment. Typical formalized techniques include internal reviews and audits, formal maturity assessments (either internal or external), an ISO/IEC 20000 audit, a CobiT audit, a Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis.

Determine Measurable Targets

- Improved service provision alignment
- Improved quality of service
- Improved quality of design
- Improved customer satisfaction
- Improved process performance



Determine Measurable Targets

Where do we want to be?

This target-setting phase of the Implementation/Improvement cycle refines the envisioned objectives to define measurable targets that will chart the IT organization's progress in meeting the business' objectives.

Typical subject areas for targeted improvements include:

- Improved Service Provision Alignment
- Improved Quality of Service
- Improved Quality of Design
- Improved Customer Satisfaction
- Improved Process Performance

Implement Process Improvement

- Process improvement initiatives
- Select frameworks, methods & standards
- Work to reasonable time frames
- Work within resources & budgets
- Define roles & responsibilities
- Establish
 - Monitoring
 - Measurement
 - Review



Implement Process Improvement

How do we get there?

Much like an automobile road trip, getting to the targeted Service Design implementation involves some detailed planning, including selecting from a number of options, developing plans to implement the desired options, and monitoring progress along the path chosen, all the while keeping track of budget and resources.

The plan should be a holistic plan, incorporating improvements in Service Transition and Service Operation as well. It is an ideal place to utilize some formal project-planning techniques.

Implement Measurement Framework

- Measure capability of process
 - Commitment of resources
 - Capabilities
 - Assets
- Measure quality of process
 - Effectiveness
 - Efficiency
 - Compliance
 - Value
- Measure quality of service
 - Availability
 - Capacity
 - Continuity
 - Security



Implement Measurement Framework

How can we tell when we have got there?

Before starting on an improvement initiative, it is necessary to know up front what the desired end state is. Thus, the Service Design implementation process must include metrics that will demonstrate that it has attained its objectives.

The dangers of not expressing metrics and measurements at the start include vagueness in determining whether the project has actually met its objectives, additional expenses and resources to implement measures and metrics while the project is in progress, and mid- or late-course corrections in the targeted objectives to accommodate metrics that prove impossible to measure.

Review & Improve

- Develop learning environment
- Establish culture of improvement
- Reinforce responsibilities for
 - Quality
 - Improvement
- Maintain improvement momentum



Review & Improve

How do we keep things going?

The final step in the Implementation/Improvement cycle is actually the first step in the next cycle. Building upon what the organization learned in the first iteration gives it a chance to fix problems, or to strive for a higher target in the next cycle.

The actions that contribute to this step encompass a culture with a desire to improve, the acceptance that quality and improvement are everybody's job, and the recognition that improvement and quality are not a one-time project, but an on-going process.

Although intangible and hard to quantify, these attributes of a 'learning organization' lead to tangible results in meeting targets and maintaining higher standards of quality.

Key Implementation Activities

- Justify Service Transition
- Design Service Transition
 - Define standards & policies
 - Establish relationships with internal support services
 - Communicate with customers & users
 - Interface with other stakeholders
 - Budget & allocate resources
- Determine impact on existing projects
 - Understand the impact of organizational change
 - Understand risk & value

Key Implementation Activities

It's not always easy for some stakeholders to understand that something has to happen between the service design and the actual delivery and operation of a new or changed service. That something is Service Transition, and the case must be made for how it will contribute to the overall quality of the service.

The design of the Service Transition stage and process is straightforward; define the standards that will be used and the governing policies, establish the relationships with key internal support services. Communication is fundamental to the success of Service Transition. Communicate with both customers and the users and other key stakeholders. Budget and allocate adequate resources for the adoption, implementation and going execution of the processes.

A critical decision point organizations must face during an implementation is whether to include existing projects or just those started after implementation are pros and cons and careful consideration must be given to the conditions on the ground.

Process Integration

- RCV requires closely integrated processes
- Understand how processes will work together
- Understand process inputs, outputs & dependencies
- Define & assign resources to process roles
- Develop an integrated set of Critical Success Factors
- Develop an integrated improvement plan

Process Integration

One can almost compare the processes of the Service Transition stage of the lifecycle to an orchestra. Both require a high degree of integration in order to be successful. It's critical in process design to understand that all of the transition processes receive inputs from other processes and in turn produce outputs used by still other processes. This creates a highly complex set of dependencies among all of the processes involved.

Similarly, the process roles and responsibilities of each process, will to some extent, be dependant on other process roles. The same can be said for critical success factors; to be successful, each process must contribute to the success of the other transition processes. By doing so, an integrated improvement plan can be developed and executed.

Cloud Environment & RCV

- Consider impact virtualization or cloud architectures
 - Design
 - Implementation
 - Transition
- Understand impact of operating in a dynamic environment
 - Creating, deploying & retiring virtual servers
 - Adding physical resources or additional capacity
 - Moving a virtual service
- Understand automation issues
- Clarify impact to categorization of CI types
- Simplification still means responsibility for asset management

Cloud Environment & RCV

Cloud and vitalization technology is the latest in a long line of technical innovation that is having a significant impact on today's Service Providers. However, there is really nothing out of the ordinary for the lifecycle processes to do in order to incorporate cloud and vitalization technology into the services they offer.

They must consider the impact the technology has on the design of a service, its implementation and transition into the live environment. It must be understood that there will be an impact on the speed at which things will now move, with highly compressed delivery times. Significant portions of service support in this new environment can and should be automated, which requires that CI types be accurately categorized in the CMS.

This new technology can mean simplification for the Service Provider. However, it still means that the Service Provider is still responsible for manage its service assets.

Managing Change

- Change triggers
- Change assessment
- Measure successful change

Managing Change

The RCV processes must take into consideration Service Operation's focus on achieving a stable level of IT Service delivery at the required quality level. Change is inherently destabilizing. However, stable does not mean no changes at all. One of the keys to any organization's success in providing IT Services is its ability to deal with change as a normal part of managing IT Services.

Many change triggers can affect the Service Operation environment:

- New, changed or retired services, technology and applications
- Enhanced processes
- New or changed laws or regulations
- Changes to business priorities
- Management or personnel changes
- Changes to service levels

Anything that triggers a change that affects Service Operation must include the staff in assessing the change. Participation on the Change Advisory Board (CAB) very nicely accomplishes this goal, in addition to keeping staff involved throughout the design and transition of the change.

A successful change is one where the only thing the user notices is the improved support of his or her business process.

Project Management

- Used when
 - Major infrastructure upgrades occur
 - New or changed procedures
- Project benefits understood
- Visibility
 - What is being done?
 - Who is doing it?
 - How its being managed?
- Aid funding
- Consistency & improved quality
- Measureable achievement of objectives

Project Management

One difficulty facing Service Operation is the perception that it has always been there, which leads it to blend into the background. This lack of visibility becomes problematic when it comes to funding and participating in designing or transitioning new or improved services.

All too often, changes that affect Service Operation and RCV processes do not employ either a formal program or a project methodology. However, major upgrades and changes in operational procedures should always employ these structured disciplines.

RCV processes should be part of the formal program and project methodologies enable management to understand clearly what is happening, how many and which resources it is using, and how the participating organizations are managing those resources. These are basic requirements, especially if funding is an issue.

Formal program and project methodologies aid in achieving a consistent delivery when changes do occur, and they enable the overall achievement of improved IT Service quality. They also provide the formal capability to measure the achievement of the change's objectives.

Assessing & Managing Risk

- Failures or potential failures
- New projects
- Environmental risks
- Suppliers
- Security
- New customer/services

Assessing & Managing Risk

Managing risk involves knowing what the risks are and either transferring them or mitigating them. It may not be possible to transfer or mitigate some risks, and RCV and Service Operation must plan how to handle them.

In its assessments, Service Management staff looks for some common generic risks:

- Failure/Potential Failures - things that may fail in the infrastructure
- New Projects - unknown affect of new services
- Physical Risks to the Environment - fire, flood, civil unrest, etc.
- Vendors/Supplier - the significant role external service providers play in today's infrastructure
- Security - physical as well as electronic attacks
- New Customers & Services - unknown impact

Involvement in Design & Transition

- Supportability – technical & operational
- Impact on
 - Existing technology & operations
 - Work practices
 - Processes
 - Schedules
- Costs
- Contractual & legal issues
- Support complexity

Involvement in Design & Transition

To achieve and maintain acceptable levels of support, the Service Operation staff must participate throughout the entire IT Service Lifecycle. They need to contribute their input when considering a new service's affect on:

Existing Technology - within both the current technical and the operational contexts;

- Work Practices - impact on existing work practices;
- Processes - impact on existing processes;
- Schedules - impact on existing schedules.

There may also be cost, contractual and legal issues, as well as issues due to the overall complexity of the new service.

Planning & Implementing Technology

- License
 - Dedicated (named)
 - Shared (pooled)
 - Web
- Deployment
- Capacity
- Timing
- Introduction

Planning & Implementing Technology

IT is unique in that it employs technology to manage technology. This adds to the already complex job of managing the components of the infrastructure. Managing the management tools, therefore, is critical to the success of Service Operation and RCV processes. Planning and implementing management technology includes:

Licenses - understanding the need for dedicated, pooled or web access;

- Deployment - deploying agents for event and discovery tools;
- Capacity - ensuring targeted devices have sufficient capacity;
- Timing - introducing the tool at the right time;
- Introduction - establishing the tool in the context of different deployment strategies, such as new or a replacement, big bang, or phased in.

Challenges, Risks & CSFs

- Challenges
 - Impact to all business processes
 - Manage stakeholders
 - Process integration
- Risks
 - Overly risk-averse
 - Change in accountability
 - Alienation of key support staff
- Critical Success Factors
 - Support
 - Staff
 - Tools

Challenges, Risks & CSFs

The adoption of the processes associated with RCV face numerous challenges and risks. To be successful the Service Provider must have a complete understanding of what it takes to achieve success.

Challenges

- Impact to all business processes
- Manage stakeholders
- Process integration
- Balancing new & legacy technology
- Stability vs. responsiveness
- Succumbing to bureaucracy
- Creating standards, simplification & knowledge sharing
- Becoming an integral part of business change

Challenges

RCV's Service Transition processes impact all business processes, so there is no room for error in transitioning a service into production. One key aspect of this is to maintain good relationships with and manage the stakeholders. This includes other process owners that interface with the processes involved in RCV.

There is always a tension between the new and old technology. In many instances legacy systems have a significant impact on what can be done, or how quickly things can happen. This goes hand-in-hand with balancing stability of the services offered and being responsive to the business. It critical to understand the trade offs.

Dotting the "i"s and crossing the "t"s is important to ensure the quality of the services transitioned into production. However, its never good when "i" dotting and "t" crossing is done for the sake of dotting "i"s and crossing "t"s.

One critical challenge for any Service Provider organization is creating standards and sticking to them. The best solutions is often the most simple one and as most quality programs teach us, simplification leads to higher quality.

Its important RCV become an integral part of implementing business change.

Risks

- Change in accountability
- Alienation of some key support & operation staff
- Unplanned costs
- Resistance to change
- Overly risk-averse

Risks

Risk is inherent in change. Making changes to existing services or deploying new services there is an explicit risk associated with changes in accountability. These kinds of changes can also cause concern and even alienation of support personnel as the familiar goes away and the unfamiliar becomes the latest and greatest thing going. For some, that is a very uncomfortable place to be.

Bad things happen to good people. Similarly, the unexpected can lead to unplanned costs. It's probably cliché to "plan for the unexpected" but it does make sense to assume that if you don't know what you don't know, it might be a good idea to put some buffer in the budget.

Organizations are naturally resistant to change. Conventional wisdom says that more deployment fails due to organizational resistance than technical or functional failure. One major risk any Service Provider runs is failing to properly manage the stakeholders and organizational change associated with new or changed services.

On the other side of the coin is the risk of being overly risk-averse. This is similar to "analysis paralysis" in that any risk becomes too much risk.

CSFs

- Understand & manage stakeholder perspectives
- Establish & maintain clearly defined relationships
 - Program/project management
 - Other lifecycle processes
- Understanding legacy system dependencies
- Process automation
- Creating & maintaining new & updated knowledge
- Good quality systems
- Good support tools

CSFs

Success means managing the stakeholders and their perspectives of the new or changed service. A beautifully functioning, technically elegant service is a failure if the stakeholders do not perceive it that way.

To manage the stakeholders means establishing and maintaining clearly defined relationships at the project and process levels. Communications is key. Understanding and communicating issues or dependencies on legacy systems is important to properly set and manage expectations. Where possible support processes should be automated to improve quality and ensure consistency in support of the new or changed service.

The stock-in-trade for the RCV processes is knowledge. The creation, sharing and accessing make for better processes, and better service transitions. It also ensures good quality systems are put in place and good support tools are used.

Appendix:

RCV Capability Certification Syllabus

This appendix contains the complete syllabus provided by the Official Accreditor, The APM Group (APMG), for the ITIL RCV Capability Certification Course. It is provided here as reference for the use of the student.



INTERMEDIATE QUALIFICATION

SERVICE CAPABILITY

RELEASE, CONTROL AND VALIDATION CERTIFICATE

SYLLABUS



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The ITIL Intermediate Qualification Release Control and Validation Certificate v5.2 – July 2011
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Page 2 of 23

Contents

RELEASE, CONTROL AND VALIDATION CERTIFICATE	4
Target Candidate	4
Prerequisite Entry Criteria	5
Eligibility for Examination	5
Syllabus at a Glance	6
Learning Unit RCV01: Introduction to release, control and validation (RCV)	6
Learning Unit RCV02: Change management	6
Learning Unit RCV03: Service asset and configuration management (SACM)	6
Learning Unit RCV04: Service validation and testing (SVT)	6
Learning Unit RCV05: Release and deployment management (RDM)	6
Learning Unit RCV06: Request fulfilment	7
Learning Unit RCV07: Change evaluation	7
Learning Unit RCV08: Knowledge management (KM)	7
Learning Unit RCV09: Release, control and validation roles and responsibilities	7
Learning Unit RCV10: Technology and Implementation Considerations	7
Qualification Learning Objectives	8
Level of Difficulty	9
Release, Control and Validation Syllabus	11
Lecture and Exercises	22
Format of the Examination	22
Criteria of Training Competence	22
Approved Delivery Structure	22
Terminology List	23

THE ITIL INTERMEDIATE QUALIFICATION: RELEASE, CONTROL AND VALIDATION CERTIFICATE

The ITIL Intermediate Qualification: Release, Control and Validation (RCV) Certificate is a free-standing qualification, but is also part of the ITIL Intermediate Capability stream, and one of the modules that leads to the ITIL Expert Certificate in IT Service Management. The purpose of this training module and the associated exam and certificate is, respectively, to impart, test, and validate the knowledge on industry practices in service management as documented in the ITIL Service Lifecycle core publications.

The ITIL Certificate in Release, Control and Validation is intended to enable the holders of the certificate to apply the practices during the service management lifecycle and specifically in the following key ITIL process, role and function areas:

- Change management
- Service asset and configuration management
- Service validation and testing
- Release and deployment management
- Request fulfilment
- Change evaluation
- Knowledge management

Target Candidate

The target group of the ITIL Intermediate Qualification: Release, Control and Validation Certificate includes, but is not restricted to:

- IT professionals
- Business managers
- Business process owners
- Individuals who require a deep understanding of the ITIL Certificate in the Release, Control and Validation processes and of how it may be used to enhance the quality of IT service support within an organization.
- IT professionals that are working within an organization that has adopted and adapted ITIL, and who need to be informed about, and thereafter contribute to, an ongoing service improvement programme
- Operational staff involved in change management, release and deployment management, service validation and testing, service asset and configuration management, request fulfilment, change evaluation and knowledge management, and who wish to enhance their role-based capabilities
- Individuals who have attained the ITIL Foundation Certificate in IT Service Management and wish to advance to higher level ITIL certifications
- Individuals seeking the ITIL Expert Certificate in IT Service Management for which this qualification can be one of the prerequisite modules
- Individuals seeking progress toward the ITIL Master Certificate in IT Service Management for which the ITIL Expert is a prerequisite.

Prerequisite Entry Criteria

Candidates wishing to be trained and examined for this qualification must already hold the ITIL Foundation Certificate in IT Service Management which must be presented as documentary evidence to gain admission

Candidates who hold the following ITIL qualifications are also eligible, and similar evidence will be required:

- Earlier ITIL (V2) Foundation plus Foundation Bridge
- ITIL Expert Certificate in IT Service Management (achieved via Service Manager or Practitioner bridging routes).

It is recommended that candidates:

- Demonstrate familiarity with IT terminology and understand the context of release, control and validation management in their own business environment
- Have some experience of working in a service management capacity within a service provider environment, with responsibility relating to at least one of the following service management processes:
 - Change management
 - Service asset and configuration management
 - Service validation and testing
 - Release and deployment management
 - Request fulfilment
 - Change evaluation
 - Knowledge management

Before attending training for the certification it is also strongly recommended that candidates read the ITIL Service Lifecycle core publications and, in particular, the *ITIL Service Transition* and *ITIL Service Operation* publications.

Eligibility for Examination

To be eligible for the examination leading to the ITIL Release, Control and Validation Certificate, the candidate must fulfil the following requirements:

- Undertake at least 30 contact hours (hours of instruction, excluding breaks, with an Accredited Training Organisation (ATO) or an accredited e-learning solution) for this syllabus, as part of a formal, approved training course/scheme
- 2 to 4 years professional experience working in IT service management is highly desirable
- Hold the ITIL Foundation Certificate in IT Service Management (or other appropriate earlier ITIL and bridge qualifications– see *Prerequisite Entry Criteria* on p5)
- It is also recommended that candidates should complete a minimum of 12 hours of personal study by reviewing the syllabus and the pertinent areas within the *ITIL Service Transition* and *ITIL Service Operation* core guidance in preparation for the examination, specifically *Chapter 2: Service management as a practice*.

Syllabus at a Glance

Learning Unit RCV01: Introduction to release, control and validation (RCV)

Bloom's Level 2 Objectives – Full understanding of RCV core concepts

- The purpose, objectives and scope of service transition lifecycle phase
- The RCV processes in relation to service transition
- Activities related to overall transition planning and ongoing support

Learning Unit RCV02: Change management

Bloom's Level 4 Objectives – The knowledge, interpretation and analysis of change management principles, techniques and relationships and their application for the effective management of release, control and validation

- The end-to-end process flow for change management, including its policies, design strategy, concepts, activities, and interfaces with other processes
- A measurement model and the metrics that would be used to support change management within RCV practices
- The benefits and business value that can be gained from change management and the challenges and risks to be managed

Learning Unit RCV03: Service asset and configuration management (SACM)

Bloom's Level 4 Objectives – The knowledge, interpretation and analysis of service asset and configuration management principles, techniques and relationships and their application for the effective management of release, control and validation

- The end-to-end process flow for service asset and configuration management, including its policies, design strategy, concepts, activities and interfaces with other processes
- A measurement model and the metrics that would be used to support service asset and configuration management within RCV practices
- The benefits and business value that can be gained from service asset and configuration management and the challenges and risks to be managed

Learning Unit RCV04: Service validation and testing (SVT)

Bloom's Level 4 Objectives – The knowledge, interpretation and analysis of service validation and testing principles, techniques and relationships and their application for the effective management of release, control and validation

- The end-to-end process flow for the SVT process, including its policies, concepts, activities and interfaces with other processes
- Test modeling techniques and testing concepts (for example, stakeholder requirements, test conditions, environments, data) and how these test components are used to ensure service quality
- A measurement model and the metrics that would be used to support service validation and testing within RCV practices
- The benefits and business value that can be gained from SVT and the challenges and risks to be managed

Learning Unit RCV05: Release and deployment management (RDM)

Bloom's Level 4 Objectives – The knowledge, interpretation and analysis of service validation and testing principles, techniques and relationships and the application of them for the effective management of release, control and validation

- The end-to-end process flow for release and deployment management, including its policies, concepts, phases, activities and interfaces with other processes
- Release and deployment models and related activities (for example, design, planning, build, pilots, test, transfer, deployment, retirement), and how these activities ensure service quality
- A measurement model and the metrics that would be used to support release and deployment management within RCV practices
- The benefits and business value that can be gained from release and deployment management

Learning Unit RCV06: Request fulfilment

Bloom's Level 4 Objectives – The knowledge, interpretation and analysis of request fulfilment principles, techniques and relationships and their application for the effective management of release, control and validation

- The end-to-end process flow for request fulfilment, including its policies, concepts, activities, and interfaces with other processes (for example, RDM, SACM and change management)
- Request fulfilment models and related activities (for example, effectiveness of designs, changes, performance) and how these activities help to ensure quality service within RCV
- A measurement model and the metrics that would be used to support request fulfilment within RCV practices
- The benefits and business value that can be gained from request fulfilment and the challenges and risks to be managed

Learning Unit RCV07: Change evaluation

Bloom's Level 4 Objectives – The knowledge, interpretation and analysis of change evaluation principles, techniques and relationships and their application for the effective management of release, control and validation

- The end-to-end process flow for change evaluation, including its policies, concepts, activities interfaces with other processes
- Perspectives and considerations for evaluating the effectiveness of a service change
- A measurement model and the metrics that would be used to support change evaluation within RCV practices
- The benefits and business value that can be gained from change evaluation and the challenges and risks to be managed

Learning Unit RCV08: Knowledge management (KM)

Bloom's Level 4 Objectives – The knowledge, interpretation and analysis of knowledge management principles, techniques and relationships and their application for the effective management of release, control and validation

- The end-to-end process flow for knowledge management, including its policies, concepts, activities and interfaces with other processes (for example CSI processes)
- Related concepts (for example, data-information-knowledge-wisdom (DIKW)) and how these activities help to ensure knowledge transfer and improved decision-making
- The benefits and business value that can be gained from knowledge management and the challenges and risks to be managed

Learning Unit RCV09: Release, control and validation roles and responsibilities

Bloom's Level 4 Objectives – The knowledge, interpretation and analysis of RCV roles and their application for the effective management of release, control and validation

- Generic roles that support service transition and the RCV processes
- The roles and responsibilities related to transition planning and support, change management, service asset and configuration management, service validation and testing, release and deployment management, request fulfilment, change evaluation, and knowledge management. Where and how these are used, as well as how they fit within the context of service transition.

Learning Unit RCV10: Technology and Implementation Considerations

Bloom's Level 4 Objectives – The knowledge, interpretation and analysis of technology and implementation considerations and their application for the effective management of release, control and validation

- The technology requirements for service management tools, where and how these would be used within RCV (for example, knowledge management and service asset and configuration management)
- The need and benefits of tools that support service transition as related to RCV
- Implementing RCV processes in the context of planning and managing change, service operation, project management, risk management, and staff considerations.

Qualification Learning Objectives

Candidates can expect to gain competencies in the following areas upon successful completion of the education and examination components related to this certification:

- The importance of service management as a practice concept and service transition principles, purpose and objective
- The importance of ITIL release, control and validation while providing service
- How all processes in ITIL release, control and validation interact with other service lifecycle processes
- What are the processes, activities, methods and functions used in each of the ITIL release, control and validation processes
- How to use the ITIL release, control and validation processes, activities and functions to achieve operational excellence
- How to measure ITIL release, control and validation
- The importance of IT security and its contributions to ITIL release, control and validation
- The technology and implementation considerations surrounding ITIL release, control and validation
- Change management as a capability to realize successful service transition
- Service validation and testing as a capability to ensure the integrity and the quality of service transition
- Service asset and configuration management as a capability to monitor the state of service transition
- Knowledge management as part of enhancing the on-going management decision support and service delivery capability
- Request fulfilment and change evaluation to ensure meeting committed service level performance
- Release, control and validation process roles and responsibilities
- Technology and implementation considerations
- Challenges, critical success factors and risks associated with ITIL release, control and validation

In addition, the training for this qualification should include examination preparation, including an opportunity for a mock examination.

Level of Difficulty

All ITIL service management qualifications use the Bloom's taxonomy in both the construction of the learning units and in the examination which is based on this syllabus.

A learning taxonomy is a scale of the degree of difficulty in the learning process. These levels apply to the cognitive, affective and psychomotor domains of learning but, in the ITIL Qualification Scheme, we deal only with the cognitive sphere.

Bloom defines six levels of learning in the COGNITIVE domain which are both sequential and cumulative. They move from the simple to the complex. This implies that in order to achieve the sixth level of learning, for example, the instructor must ensure that the previous five levels have been mastered.

Level 1 - The KNOWING level: The candidate is able to bring to mind or remember the appropriate material. The examination questions associated with this level tax the candidate's memory and include such tasks as defining, recalling, listing, recognizing, describing and naming.

Level 2 - The COMPREHENDING stage: The candidate is able to understand or grasp the meaning of what is being communicated and make use of the idea without relating it to other ideas or materials and without seeing the fullest possible meaning or translation of the idea. Examination questions at this level would include scenarios giving examples of, illustrating, inferring, summarizing and interpreting. These actions involve the knowing which has taken place at the first level.

Level 3 - The APPLYING level: The candidate should be able to use ideas, principles and theories in new, particular and concrete situations. Examination questions at this level involve both knowing and comprehension, and might include choosing appropriate procedures, applying principles, using an approach or identifying the selection of options.

Level 4 - The ANALYSING level: The candidate is able to break down a communication (rendered in any form) into constituent parts in order to make the organization and significance of the whole clear. Breaking down, discriminating, diagramming, detecting, differentiating and illustrating are important tasks at this level and can be seen to include the previous levels of knowing, comprehending and applying. Here the significance of the constituent parts of an entity are examined in order to understand the whole more fully.

Level 5 - The SYNTHESIS level: At this level the candidate is able to put back together again the various parts or elements of a concept into a unified organization or whole. This putting together again and making sense of small parts is a crucial factor in intelligence and learning. Examination questions at this level would include scenarios involving creating, writing, designing, combining, composing, organizing, revising and planning. In order for this level of learning to occur, it must include the first four levels – knowing, comprehending, analysing and applying. This level of learning is probably the most intense and exciting for the candidate.

Level 6 - The EVALUATING phase: In this phase the candidate is able to arrive at an overview and to judge the value and relative merit of ideas or procedures by using appropriate criteria. At this level of learning the candidate will be able to compare, judge, appraise, justify, criticize and contrast theories, procedures, methods and concepts. This level involves mastery of the five previous levels of knowing, comprehending, applying, analysing and synthesizing.

For the purposes of the ITIL Qualifications Scheme, the Bloom's level will appear in each syllabus module to identify the highest level of cognitive difficulty that the course content should deliver in order to meet the learning outcome and ensure the competence required to meet the examination level of difficulty.

The following table illustrates the use of the taxonomy in ITIL professional qualifications.

Bloom's Levels and taxonomy	Used by ITIL certification	Intellectual activity in learning outcome and exam proficiency
1. Knowing 2. Comprehending	ITIL service management Foundation Level	The ability to recall, recite, name, and understand the meaning of ITIL terminology and basic practice fundamentals. <i>Vernacular examples used in Syllabus:</i> Understand; describe; identify
3. Applying 4. Analysing	ITIL service management Lifecycle Stream Capability Stream Managing Across the Lifecycle	The ability to use the practices and concepts in a situation or unprompted use of an abstraction. Can apply what is learned in the classroom in workplace situations. Can separate concepts into component parts to understand structure and can distinguish between facts and inferences. <i>Vernacular examples used in Syllabus:</i> Analyse; demonstrate; apply; distinguish; justify; produce; decide
5. Synthesis 6. Evaluating	ITIL service management Managing Across the Lifecycle – level 5 only ITIL Master	The ability to create patterns or structure from composite elements to achieve a new meaning or outcome. Can make judgements, weigh options of ideas and elements to justify and support an argument or case. <i>Vernacular examples used in Syllabus:</i> Evaluate; justify; summarize; plan; modify; manage; control

Intermediate stream qualifications will examine according to the Bloom's level assigned to each syllabus learning unit within each of the service lifecycle and service capability streams. This means that a candidate must be prepared to be tested up to and including that level for any question related to that learning unit or units.

The examination format of complex multiple choice will offer a scenario and questions with a corresponding series of possible answers. Each is constructed to test a candidate's competency up to and including the Bloom's level associated with the syllabus learning unit that the question is mapped to. Instructors should ensure that the module curriculum offers discussion, practical exercises and instruction that will ensure the candidate has the competence required to meet the exam level of difficulty.

The intermediate modules are expected to provide a practical level of proficiency to enable a candidate to utilize the knowledge learned in their work environment. The examinations test a level of proficiency that allows candidates to apply the knowledge learned in the course to correctly select the correct sequence of possible answers.

Release, Control and Validation Syllabus

The ITIL Intermediate Qualification: Release, Control and Validation Certificate is awarded to those who complete the ten units of study described below, and who successfully pass the relevant multiple-choice examination.

Core guidance references with publication reference (SS – Service Strategy, SD – Service Design, ST – Service Transition, SO – Service Operation, CSI – Continual Service Improvement) and section numbers are included along with indicative contact study hours.

The contact hours are shown in each learning unit and are suggested to provide adequate time to cover the core guidance content. However, Accredited Training Organisations (ATOs) are encouraged to combine or re-order the learning units in any way that suits the flow of their courseware content delivery. All ATOs must ensure, however, that the minimum contact hours for eligibility for examination are met.

Section numbers are indicated as "chapter . section . subsection" (X.X.X). Unless otherwise indicated instructional coverage of the content of the entire section referenced is assumed.

The process-related learning units cover the day-to-day operation of the ITIL processes covered in this course, but exclude aspects such as implementing the processes which are covered in the Service Lifecycle modules.

The process-related units should be considered from the practitioner perspective and should impart the skills and knowledge needed to execute the activities on a daily basis.

For each process, all sub-sections in the book should be covered, with a particular focus placed on the end-to-end process flow. Candidates must understand the details of each process activity, along with associated methods and techniques.

The recommended contact hours for each process-related learning unit should be taken as a guide to the level of detail that can be achieved.

Learning Unit	Curriculum Subjects Covered	Level of Difficulty
ITIL SC: RCV01 Introduction	<p>The initial learning unit provides an introduction to the purpose and objectives of the service transition phase and the role that RCV plays within that phase and within the service lifecycle. Considerations for developing a transition strategy and planning and coordinating service transition activities are explored, including associated roles and responsibilities.</p> <p>To achieve the learning outcomes and meet the examination level of difficulty, the candidates must be able to understand and describe:</p> <ul style="list-style-type: none"> • Purpose and objectives of service transition Core Guidance References - ST 1.1.1 • Scope of the service transition phase in relation to the RCV processes, its value to the business and how the RCV processes interact with processes within other lifecycle stages Core Guidance References - ST 1.1.2, 1.1.4 • Various aspects to be considered for developing an effective service transition strategy Core Guidance References - ST 4.1.5.1 • Defining service transition lifecycle stages 	<p>Up to Bloom's level 2</p> <p>Knowing and Comprehending</p> <p>The ability to recall, recite, name and to understand the meaning of ITIL terminology and basic practice fundamentals.</p>

Learning Unit	Curriculum Subjects Covered	Level of Difficulty
	<p>Core Guidance References - ST 4.1.5.2</p> <ul style="list-style-type: none"> The key initiatives that are important for an effective preparation for service transition Core Guidance References - ST 4.1.5.3 The approach and best practices in planning and coordinating service transition activities Core Guidance References - ST 4.1.5.4 How service transition provides transition process support to stakeholders Core Guidance References - ST 4.1.5.5 	
	Contact hours recommended – 1.0	
ITIL SC: RCV02 Change management	<p>This learning unit addresses how the process of change management contributes to RCV practices. The lifecycle stage emphasized in this unit is service transition. A complete overview of the purpose, objectives, scope and importance of change management as a process to generate business value is explored and demonstrated using examples. Change management policies, principles, concepts, activities, methods and techniques are explained in relation to RCV practices, and especially in relation to types of change requests and how they flow through the process. Efficient use of change management metrics are reviewed in this unit, as well as how service operation and continual service improvement interacts with change management.</p> <p>To achieve the learning outcomes and meet the examination level of difficulty, the candidates must be able to understand, describe, identify, demonstrate, apply, distinguish, produce, decide or analyse:</p> <ul style="list-style-type: none"> The purpose and objectives of the change management process, and describe its practical application within a business environment Core Guidance References - ST 4.2.1 The scope of the change management process Core Guidance References - ST 4.2.2 The business value of change management and demonstrate some practical examples in real-life situations Core Guidance References - ST 4.2.3 Change management policies, and its design and planning considerations Core Guidance References - ST 4.2.4.1, 4.2.4.2 Types of change request, and describe them using examples by service lifecycle stage; distinguish changes, requests for change (RFCs) and change records Core Guidance References - ST 4.2.4.3, 4.2.4.4 The role of change models, change proposals and standard changes Core Guidance References - ST 4.2.4.5, 4.2.4.6, 4.2.4.7. The options and considerations for remediation planning 	<p>Up to Bloom's level 4</p> <p>Applying and Analysing</p> <p>The candidate should reach a level of competence that supports problem solving, putting theory into practice, interpreting principles and relationships relating to principles and relationships relating to change management.</p>

Learning Unit	Curriculum Subjects Covered	Level of Difficulty
	<p>Core Guidance References - ST 4.2.4.8</p> <ul style="list-style-type: none"> Typical activities involved in managing changes, and describe workflow of processing different types of change requests Core Guidance References - ST 4.2.5 up to beginning of 4.2.5.1, including Figures 4.2, 4.3 and 4.4 The methods and techniques associated with each major change management activity Core Guidance References – balance of ST 4.2.5 The change management process triggers, inputs, outputs and interfaces with other processes Core Guidance References - ST 4.2.6 The role of the configuration management system (CMS) in change management Core Guidance References - ST 4.2.7 How change management can be effectively measured, and examples of critical success factors and key performance indicators Core Guidance References - ST 4.2.8 The challenges and risks of change management Core Guidance References - ST 4.2.9 Typical change management activities that may be performed on a day-to-day basis during the service operation lifecycle stage Core Guidance References - SO 5.12.1, 8.1 Managing organization and stakeholder change as an essential part of continual improvement Core Guidance References - ST 5.2 (up to 5.2.1), ST 5.2.1.1, ST 5.2.3 (up to 5.2.3.1) 	
	Contact hours recommended – 4.0	
ITIL SC: RCV03 Service asset and configuration management	<p>This learning unit expands on how the process of service asset and configuration management (SACM) contributes to RCV practices. The lifecycle phase emphasized in this unit is service transition. It provides a complete overview of the purpose, objectives, scope and importance of SACM as a process to generate business value. SACM policies, principles, concepts, activities, methods and techniques are explained in relation to RCV practices. The importance and use of configuration items (CIs) is explained, along with tools, activity models, CMS back-ups and historical data. Efficient use of SACM metrics are reviewed in this unit, as well as how service operation interacts with SACM.</p> <p>To achieve the learning outcomes and meet the examination level of difficulty, the candidates must be able to understand, describe, identify, demonstrate, apply, distinguish, produce, decide or analyse:</p> <ul style="list-style-type: none"> The purpose and objectives of the SACM process Core Guidance References - ST 4.3.1 	<p>Up to Bloom's level 4</p> <p>Applying and Analysing</p> <p>The candidate should reach a level of competence that supports problem solving, putting theory into practice, interpreting principles and relationships relating to SACM.</p>

Learning Unit	Curriculum Subjects Covered	Level of Difficulty
	<ul style="list-style-type: none"> The scope of SACM Core Guidance References - ST 4.3.2 The business value of the SACM process, and demonstrate some practical examples in real-life situations Core Guidance References - ST 4.3.3 SACM policies and basic concepts and various types of CIs Core Guidance References - ST 4.3.4.1, 4.3.4.2 The use of a configuration management system (CMS), and its major components, in supporting the effective execution of SACM process Core Guidance References - ST 4.3.4.3 The activities of asset management, the role of software asset management and associated tools Core Guidance References - ST 4.3.4.4 The key SACM process activities and deliverables for executing each of these activities Core Guidance References - ST 4.3.5 The SACM process triggers, inputs, outputs and interfaces with other processes Core Guidance References - ST 4.3.6 The information management considerations for SACM Core Guidance References - ST 4.3.7 How the SACM process can be effectively measured, and examples of critical success factors and key performance indicators and their application Core Guidance References - ST 4.3.8 The challenges and risks of SACM Core Guidance References - ST 4.3.9 Typical SACM activities performed on a daily basis by service operation Core Guidance References - SO 5.12.2 	
	Contact hours recommended – 3.5	
ITIL SC: RCV04 Service validation and testing	<p>This learning unit introduces the service validation and testing (SVT) process and looks at how it contributes to RCV. It provides a complete overview of the purpose, objectives, scope and importance of SVT as a process, the various test models, test and validation conditions. SVT policies, principles, concepts, activities, methods and techniques are explained in relation to RCV practices and building/achieving quality of service. Efficient use of SVT metrics is reviewed in this unit in terms of business value contribution and internal efficiency.</p> <p>To achieve the learning outcomes and meet the examination level of difficulty, the candidates must be able to understand, describe, identify, demonstrate, apply, distinguish, produce, decide or analyse:</p> <ul style="list-style-type: none"> The purpose and objectives of the SVT process Core Guidance References - ST 4.5.1 The scope of the SVT process 	<p>Up to Bloom's level 4</p> <p>Applying and Analysing</p> <p>The candidate should reach a level of competence that supports problem solving, putting theory into practice, interpreting principles and relationships</p>

Learning Unit	Curriculum Subjects Covered	Level of Difficulty
	<p>Core Guidance References - ST 4.5.2</p> <ul style="list-style-type: none"> The business value of the SVT process, and demonstrate some practical examples in real-life situations Core Guidance References - ST 4.5.3 How policies can drive and support the execution of the SVT process, and describe practical examples of such policies Core Guidance References - ST 4.5.4.1 Various test models, their objectives and test conditions, and examples of validation conditions Core Guidance References - ST 4.5.4.5, ST Table 4-10 Various validation and testing perspectives, their purposes and the stakeholder groups' requirements to be addressed Core Guidance References - ST 4.5.4.6 The use of test levels and test models to help with building quality service deliverables during the early stage of the service development lifecycle Core Guidance References - ST 4.5.4.7, ST Fig 4-14 The key activities of the SVT process, the underlying method and techniques in performing each step Core Guidance References - ST 4.5.5, ST Fig 4-32 The SVT process triggers, inputs, outputs and interfaces with other processes Core Guidance References - ST 4.5.6 The practices of maintaining test data and test environments in respect of changing test requirements Core Guidance References - ST 4.5.7 How the SVT processes can be measured in terms of business value contribution and internal efficiency, and examples of critical success factors and key performance indicators Core Guidance References - ST 4.5.8 The challenges and risks of SVT Core Guidance References - ST 4.5.9 	relating to SVT.
	Contact hours recommended – 4.0	
ITIL SC: RCV05 Release and deployment management	<p>This learning unit covers how the release and deployment management (RDM) process contributes to RCV practices. It provides a complete overview of the purpose, objectives, scope and importance of release and deployment management as a process to generate business value. Release and deployment management policies, principles, concepts, activities, methods and techniques are explained in relationship to RCV practices. The concept of the release unit is explained, along with RDM planning, release build and test, pilots, deployment, logistics, delivery, retirement, risks and financials. Efficient use of RDM critical success factors and key performance indicators are reviewed.</p> <p>To achieve the learning outcomes and meet the examination level of difficulty, the candidates must be able to understand,</p>	Up to Bloom's level 4 Applying and Analysing The candidate should reach a level of competence that supports problem solving, putting theory into practice, interpreting

Learning Unit	Curriculum Subjects Covered	Level of Difficulty
	<p>describe, identify, demonstrate, distinguish, decide or analyse:</p> <ul style="list-style-type: none"> • The purpose, and objectives of the RDM process Core Guidance References - ST 4.4.1 • The scope of the RDM process Core Guidance References - ST 4.4.2 • The business value of the RDM process Core Guidance References - ST 4.4.3 • RDM policies, the concept of a release unit, release design options and considerations, and models Core Guidance References - ST 4.4.4.1, 4.4.4.2, 4.4.4.3, 4.4.4.4 • The four phases of RDM Core Guidance References - ST 4.4.5 (up to 4.4.5.1) • Release and deployment planning considerations Core Guidance References - ST 4.4.5.1 <i>(Candidates are expected to understand the concepts and examples presented in 4.4.5.1 but are not expected to memorize the bulleted lists)</i> • Release and deployment plans • Pass/fail criteria • Build and test planning • Planning release packaging and build • Preparation for release build and test • Deployment planning • Planning of pilots • Financial/commercial planning • The key steps and techniques for performing the release build and test stage Core Guidance References - ST 4.4.5.2 <i>(Candidates are expected to understand the concepts and examples presented in 4.4.5.2 but are not expected to memorize the bulleted lists)</i> • Release and build documentation • Acquire and test input configuration items and components • Release packaging • Build and manage the test environments • Service testing and pilots • The approach for developing a detailed plan for deployment and the key steps for performing the actual transfer, deployment and retirement, verifying deployment, providing early life support Core Guidance References - ST 4.4.5.3, ST Fig 4-25 • Reviewing and closing the deployment Core Guidance References - ST 4.4.5.4 	principles and relationships relating to RDM.

Learning Unit	Curriculum Subjects Covered	Level of Difficulty
	<ul style="list-style-type: none"> The RDM process triggers, inputs, outputs and interfaces with other processes Core Guidance References - ST 4.4.6 How information pertaining to service deployment should be recorded and maintained Core Guidance References - ST 4.4.7 How the RDM processes can be measured in terms of business value contribution and examples of critical success factors and key performance indicators Core Guidance References - ST 4.4.8 The challenges, risks and critical success factors pertaining to RDM Core Guidance References - ST 4.4.9 Typical RDM activities performed on a daily basis by service operation Core Guidance References - SO 5.12.3 	
	Contact hours recommended – 4.0	
ITIL SC: RCV06 Request fulfilment	<p>This learning unit looks at how the request fulfilment process contributes to RCV practices. The lifecycle phase emphasized in this unit is service operation. A complete overview of the purpose, objectives, scope and importance of request fulfilment as a process, as well as of how request fulfilment may help to establish a self-help service practice within an organization. Request fulfilment policies, principles, concepts, activities, methods and techniques are explained in relation to RCV practices. The relationship between request fulfilment and release and deployment management is explored, as well as how it differs from incident management.</p> <p>To achieve the learning outcomes and meet the examination level of difficulty, the candidates must be able to understand, describe, identify, demonstrate, distinguish, decide or analyse:</p> <ul style="list-style-type: none"> The purpose, objectives and scope of the request fulfilment process Core Guidance References - SO 4.3.1, 4.3.2 The business value of the request fulfilment process Core Guidance References - SO 4.3.3 Request fulfilment policies, principles and basic concepts. Core Guidance References - SO 4.3.4 Request fulfilment activities and demonstrate some practical examples of service requests that can be offered as standard services by category Core Guidance References - SO 4.3.5 Request fulfilment process triggers, inputs, outputs and interfaces (particularly with RDM, SACM and change management) Core Guidance References - SO 4.3.6 Information required by the request fulfilment process Core Guidance References - SO 4.3.7 How request fulfilment can be effectively measured, and 	<p>Up to Bloom's level 4</p> <p>Applying and Analysing</p> <p>The candidate should reach a level of competence that supports problem solving, putting theory into practice, interpreting principles and relationships relating to request fulfilment.</p>

Learning Unit	Curriculum Subjects Covered	Level of Difficulty
	<p>examples of critical success factors and key performance indicators Core Guidance References - SO 4.3.8</p> <ul style="list-style-type: none"> Challenges and risks pertaining to request fulfilment Core Guidance References - SO 4.3.9 	
	Contact hours recommended – 2.0	
ITIL SC: RCV07 Change evaluation	<p>This learning unit covers the change evaluation process of service transition and how it contributes to RCV. It provides a complete overview of the purpose, objectives, scope and importance of change evaluation as a process. Change evaluation policies, principles, concepts, activities, methods, and techniques are explained in relation to RCV practices. The evaluation of predicted and actual service performance and their relation to risk management is also discussed.</p> <p>To achieve the learning outcomes and meet the examination level of difficulty, the candidates must be able to understand, describe, identify, demonstrate, distinguish, decide or analyse:</p> <ul style="list-style-type: none"> The purpose, objectives and scope of the change evaluation process Core Guidance References - ST 4.6.1, 4.6.2 The business value of the change evaluation process Core Guidance References - ST 4.6.3 Change evaluation policies, principles and use of the Plan-Do-Check-Act model Core Guidance References - ST 4.6.4 Change evaluation process terminology and typical change evaluation process workflow Core Guidance References - ST 4.6.5.1, 4.6.5.2, ST Fig 4-33 Perspectives to consider when executing an evaluation plan, the intended and unintended effect of a change, and factors for evaluating the effectiveness of a service change Core Guidance References - ST 4.6.5.3, 4.6.5.4, 4.6.5.5, 4.6.5.6, ST Table 4-14 The evaluation of predicted service performance and actual performance and of risk management. How this can impact the course of actions for the overall service design/change evaluation. Core Guidance References - ST 4.6.5.7, 4.6.5.8, 4.6.5.9 Evaluation report contents Core Guidance References – ST 4.6.5.10 Change evaluation process triggers, inputs, outputs and interfaces Core Guidance References - ST 4.6.6 The role of the SKMS and CMS relative to the change evaluation process Core Guidance References - ST 4.6.7 How change evaluation can be effectively measured, and examples of critical success factors and key performance 	<p>Up to Bloom's level 4</p> <p>Applying and Analysing</p> <p>The candidate should reach a level of competence that supports problem solving, putting theory into practice, interpreting principles and relationships relating to request fulfilment.</p>

Learning Unit	Curriculum Subjects Covered	Level of Difficulty
	<p>indicators Core Guidance References - ST 4.6.8</p> <ul style="list-style-type: none"> Challenges and risks pertaining to change evaluation Core Guidance References - ST 4.6.9 	
	Contact hours recommended – 2.0	
ITIL SC: RCV08 Knowledge management	<p>This learning unit deals with how the KM process contributes to RCV practices. It covers a complete overview of the purpose, objectives, scope and importance of KM as a process, and the benefits of deploying a service knowledge management system (SKMS). The basic layers of the KM concept using the data-information-knowledge-wisdom (DIKW) structure are covered, as well as what constitutes an effective KM strategy with practical techniques for enabling knowledge transfer. It covers KM policies, principles, concepts, activities, methods and in relation to RCV practices and the importance of the stakeholder groups. Efficient use of KM critical success factors and key performance indicators are reviewed.</p> <p>To achieve the learning outcomes and meet the examination level of difficulty, the candidates must be able to understand, describe, identify, demonstrate, distinguish, decide or analyse:</p> <ul style="list-style-type: none"> The purpose, objectives and scope of the KM process Core Guidance References - ST 4.7.1, 4.7.2 The business value of the KM process, especially in the context of service transition Core Guidance References - ST 4.7.3 KM policies and use of DIKW structure. The SKMS and its relationship with the CMDB and CMS, using examples Core Guidance References - ST 4.7.4.1, 4.7.4.2, 4.7.4.3, ST Fig 4-35 KM activities and practical techniques for enabling a KM strategy, knowledge transfer and the effective management of data, information and knowledge. Demonstrate the benefits of using an SKMS through examples Core Guidance References - ST 4.7.5, ST Fig 2-7 KM process triggers, inputs, outputs and interfaces. The stakeholder groups within the IT service management organization whose support is needed for effective knowledge management. Core Guidance References - ST 4.7.6 Information management aspects to consider when creating an SKMS Core Guidance References - ST 4.7.7 How KM can be effectively measured, and examples of critical success factors and key performance indicators Core Guidance References - ST 4.7.8 Challenges and risks pertaining to KM Core Guidance References - ST 4.7.9 The relationship between continual service improvement and knowledge management 	<p>Up to Bloom's level 4</p> <p>Applying and Analysing</p> <p>The candidate should reach a level of competence that supports problem solving, putting theory into practice, interpreting principles and relationships relating to the KM process.</p>

Learning Unit	Curriculum Subjects Covered	Level of Difficulty
	Core Guidance References - CSI 3.7	
	Contact hours recommended – 3.5	
ITIL SC: RCV09 RCV roles and responsibilities	<p>This learning unit deals with how service transition roles and responsibilities contribute to RCV practices. It defines and discusses change management, release and deployment management, service validation and testing, service asset and configuration management, knowledge management, request fulfilment and change evaluation roles/functions that are responsible for executing each step of the process.</p> <p>To achieve the learning outcomes and meet the examination level of difficulty, the candidates must be able to understand, describe, identify, demonstrate, distinguish, decide or analyse:</p> <ul style="list-style-type: none"> • Generic roles involved in service transition Core Guidance References - ST 6.4.1, 6.4.2, 6.4.3, 6.4.4 • The key roles/functions responsible for executing each process step as related to: • Transition planning and support Core Guidance References - ST 6.4.5 • Change management Core Guidance References - ST 6.4.6 • Service asset and configuration management Core Guidance References - ST 6.4.7 • Release and deployment management Core Guidance References - ST 6.4.8 • Service validation and testing Core Guidance References - ST 6.4.9 • Request fulfilment Core Guidance References - SO 6.7.7 • Change evaluation Core Guidance References - ST 6.4.10 • Knowledge management Core Guidance References - ST 6.4.11 	<p>Up to Bloom's level 4</p> <p>Applying and Analysing</p> <p>The candidate should reach a level of competence that supports problem solving, putting theory into practice, interpreting principles and relationships relating to the roles and responsibilities.</p>
	Contact hours recommended – 2.0	
ITIL SC: RCV10 Technology and implementation considerations	<p>This learning unit deals with technology and implementation considerations and how they contribute to RCV practices. Service design is specifically used to identify good practices and evaluation criteria for technology and tools. Service operation provides the specifics on managing changes in operations, service operation and project management, assessing and managing risk in service operation, operational staff in service design and transition and planning and implementing service management technology. Service transition provides the specifics on the technology considerations for implementing and collaboration for service asset and configuration management and knowledge management.</p> <p>To achieve the learning outcomes and meet the examination level of difficulty, the candidates must be able to understand,</p>	<p>Up to Bloom's level 4</p> <p>Applying and Analysing</p> <p>The candidate should reach a level of competence that supports problem solving, putting theory into practice, interpreting</p>

Learning Unit	Curriculum Subjects Covered	Level of Difficulty
	<p>describe, identify, demonstrate, distinguish, decide or analyse:</p> <ul style="list-style-type: none"> The list of generic requirements for integrated ITSM technology Core Guidance References - SO 7.1 The evaluation criteria for service management tools for process implementation Core Guidance References - SD 7.2 The RCV practices for process implementation which include: <ul style="list-style-type: none"> Managing change in operations Core Guidance References - SO 8.1 Service operation and project management Core Guidance References - SO 8.2 Assessing and managing risk in service operation Core Guidance References - SO 8.3 Operational staff in service design and transition Core Guidance References - SO 8.4 The challenges, critical success factors and risks relating to implementing service transition practices and processes Core Guidance References - ST 9.1, 9.2, 9.3 How to plan and implement service management technologies Core Guidance References - SO 8.5 The technology considerations for implementing the following processes and activities: <ul style="list-style-type: none"> Knowledge management tools Core Guidance References - ST 7.1 Collaboration Core Guidance References - ST 7.2 Configuration management system Core Guidance References - ST 7.3 	principles and relationships relating to RCV technology considerations.
	Contact hours recommended – 2.5	
ITIL SC: RCV11 Summary, Exam Preparation and Directed Studies	This unit summarizes the material covered in the previous units and prepares candidates for the examination. It is likely that most course providers will wish to offer, and review, at least one opportunity for a mock examination.	
	Contact hours recommended – 1.5	

Lecture and Exercises

Meeting the learning objectives of this syllabus can be aided by the use of practical exercises during the delivery of an accredited course. It is recommended that course providers make use of exercises to enhance the reinforcement of the learning objectives in this syllabus. To aid course providers, there are areas within each learning unit whose learning objective includes such phrases as "identify, describe, analyse", etc, which may be considered as opportunities to introduce practical course exercises. These are not mandated areas for practical exercises, but provided as suggestions for use by course providers.

Format of the Examination

Type	Eight (8) multiple choice, scenario-based, gradient scored questions. Each question will have 4 possible answer options, one of which is worth 5 marks, one which is worth 3 marks, one which is worth 1 mark, and one which is a distracter and achieves no marks.
Duration	Maximum 90 minutes for all candidates in their respective language
Provisions for additional time relating to language	Candidates completing an exam. <ul style="list-style-type: none"> in a language that is not their mother tongue, and where the language of the exam is not their primary business language, have a maximum of 120 minutes to complete the exam and are allowed the use of a dictionary
Prerequisite	<ul style="list-style-type: none"> ITIL Foundation Certificate in IT Service Management (or other appropriate earlier ITIL and bridge qualifications– see <i>Prerequisite Entry Criteria</i> on p5) Completion of an Accredited course from an ITIL Accredited Training Provider
Supervised	Yes
Open Book	No
Pass Score	28/40 or 70%

Criteria of Training Competence

This syllabus can only be delivered to target groups by an accredited provider / trainer. Any provider/trainer must hold the following qualifications to be eligible to provide this syllabus:

Criteria	Eligibility	Degree of proficiency validation
Accredited Training Organisation	Required	The company shall be registered and in good standing with the Official Accreditor
ITIL Release, Control and Validation Certification	Required	Instructor must present a valid certificate issued by an accredited Examination Institute
ITIL Expert Certification	Required	Instructor must present a valid certificate issued by an accredited Examination Institute

Approved Delivery Structure

Structure	Operational Standard Requirements
Training Delivery	<ul style="list-style-type: none"> Training providers are free to structure and organise their training in the way they find most appropriate, provided the units of the syllabus are sufficiently covered. Training must be delivered via an ATO based on this syllabus. Training can be delivered virtually, via an e-learning / learning technology solution.

Terminology List

After studying this course, the candidate is expected to understand the meanings of the following terms in the context of release, control and validation. This list does not include terms that are explicitly mentioned within the learning units of this syllabus - for example, "critical success factor".

acceptance	contract	quality
assembly	course corrections	relationship
asset	CSI register	release
asset register	culture	release identification
attribute	customer-facing service	release package
audit	definitive media library	release record
availability	deliverable	release unit
back-out	design coordination	requirement
baseline	effectiveness	service acceptance criteria
budgeting	efficiency	service catalogue
build	emergency change	service charter
build environment	emergency change advisory board	service design package
business objective	environment	service level agreement
business relationship management	fit for purpose	service level target
capacity	fit for use	service model
change advisory board	fixed asset	service portfolio
change schedule	fixed asset management	service request
change window	impact	specification
charter	information security management	stakeholder
CI type	knowledge base	status accounting
component	known error	supplier
component CI	known error database	test
configuration	live environment	transition
configuration baseline	normal change	transition planning and support
configuration control	operational level agreement	urgency
configuration identification	outcome	utility
configuration item	post-implementation review	validation
configuration management database	priority	verification
configuration record	programme	verification and audit
configuration structure	project	version
continual service improvement	projected service outage	warranty

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Appendix:

Service Transition Input/Output

This appendix provides an overview of the inputs and outputs of the Service Transition stage of the IT Service Management Lifecycle.

Service Transition Inputs & Outputs

- Service Management Lifecycle
 - Service Strategy
 - Service Design
 - Service Transition
 - Service Operation
- Service Transition
 - Inputs & Outputs to all stages of the lifecycle
 - Support transition of IT Services
 - Support Knowledge Management in support of IT Services
 - Support deployment of IT Services
 - Support improvement of IT Services



Service Transition Inputs & Outputs

The Service Transition stage connects a service designed by the Service Design stage with the deployed service in Service Operation. Its processes receive inputs from all of the IT Service Management Lifecycle stages and provides output to all of the lifecycle stages.

ITIL 2011 Glossary

A

Acceptance

Formal agreement that an IT Service, process, plan, or other deliverable is complete, accurate, reliable and meets its specified requirements. Acceptance is usually preceded by Evaluation or Testing and is often required before proceeding to the next stage of a project or process.

Access Management

The Process responsible for allowing users to make use of IT Services, data, or other assets. Access Management helps to protect the Confidentiality, Integrity and Availability of Assets by ensuring that only authorized users are able to access or modify the assets. Access Management is sometimes referred to as Rights Management or Identity Management.

Account Manager

A role that is very similar to Business Relationship Manager, but includes more commercial aspects. Most commonly used when dealing with external customers.

Accounting

The Process responsible for identifying actual Costs of delivering IT Services, comparing these with budgeted costs, and managing variance from the Budget.

Accredited

Officially authorized to carry out a role. For example, an Accredited body may be

authorized to provide training or to conduct audits.

Active Monitoring

Monitoring of a Configuration Item or an IT Service that uses automated regular checks to discover the current status.

Activity

A set of actions designed to achieve a particular result. Activities are usually defined as part of processes or plans, and are documented in procedures.

Agreement

A document that describes a formal understanding between two or more parties. An agreement is not legally binding unless it forms part of a contract.

Alert

A warning that a threshold has been reached, something has changed, or a Failure has occurred. Alerts are often created and managed by System Management tools and are managed by the Event Management Process.

Application

Software that provides functions that are required by an IT Services. Each Application may be part of more than one IT Service. An Application runs on one or more Servers or Clients. See also Application Management, Application Portfolio.

Application Management

The Function responsible for managing Applications throughout their lifecycle.

Application Portfolio

A database or structured document used to manage Applications throughout their life-cycle. The Application Portfolio contains key attributes of all applications. The Application Portfolio is sometimes implemented as part of the Service Portfolio, or as part of the Configuration Management System.

Application Sizing

The activity responsible for understanding the resource requirements needed to support a new application, or a major change to an existing application. Application Sizing helps to ensure that the IT Service can meet its agreed Service Level Targets for capacity and performance.

Architecture

The structure of a system or IT Service, including the relationships of components to each other and to the environment they are in. Architecture also includes the standards, and guidelines that guide the design and evolution of the system.

Assessment

Inspection and analysis to check whether a standard or set of guidelines is being followed, that records are accurate, or that efficiency and effectiveness targets are being met.

Asset

Any Resource or Capability. Assets of a Service Provider including anything that could contribute to the delivery of a service. Assets can be one of the following types; Management, Organization, Process, Knowledge, People, Information, Applications, Infrastructure, and Financial Capital.

Asset Management

Asset Management is the process responsible for tracking and reporting the value and ownership of financial assets throughout their life-cycle. Asset Management is part of an overall Service Asset and Configuration Management Process.

Attribute

A piece of information about a Configuration Item. Examples are; name, location, Version

number and Cost. Attributes of CIs are recorded in the Configuration Management Database (CMDB).

Audit

Formal inspection and verification to check whether a standard or set of guidelines is being followed, that records are accurate, or that efficiency and effectiveness targets are being met. An Audit may be carried out by internal or external groups.

Authority Matrix

See RACI

Automatic Call Distribution (ACD)

Use of the information Technology to direct an incoming telephone call to the most appropriate person in the shortest possible time. ACD is sometimes called Automated Call Distribution.

Availability

Ability of a Configuration Item or IT Service to perform its agreed Function when required. Availability is determined by Reliability, Maintainability, Serviceability, Performance, and Security. Availability is usually calculated as a percentage. This calculation is often based on Agreed Service Time and Downtime. It is Best Practice to calculate Availability using measures of the Business output of the IT Service.

Availability Management

The process responsible for defining, analyzing, Planning, measuring and improving all aspects of the availability of IT Services. Availability Management is responsible for ensuring that all IT infrastructure, processes, tools, roles, etc. are appropriate for the agreed Service Level Targets for availability.

Availability Management Information System (AMIS)

A set of tools, data and information that is used to support Availability Management. See also Service Knowledge Management System.

Availability Plan

A plan to ensure that existing and future Availability Requirements for IT Services can be provided cost effectively.

B

Back-out

See Remediation

Backup

Copying data to protect against loss of Integrity or Availability of the original.

Balanced Scorecard

A management tool developed by Drs. Robert Kaplan (Harvard Business School) and David Norton, A Balanced Scorecard enables a Strategy to be broken down into Key Performance Indicators. Performance against the KPIs is used to demonstrate how well the Strategy is being achieved. A Balanced Scorecard has four major areas, each of which has a small number of KPIs. The same four areas are considered at different levels of detail throughout the Organization.

Baseline

A Benchmark used as a reference point. For example: An ITSM Baseline can be used as a starting point to measure the effect of a Service Improvement Plan. A Performance Baseline can be used to measure change in Performance over the lifetime of an IT Service. A Configuration Management Baseline can be used to enable the IT Infrastructure to be restored to a known Configuration if a Change or Release fails.

Benchmark

The recorded state of something at a specific point in time. A Benchmark can be created for a configuration, a process, or any other set of data. For example, a benchmark can be used in Continual Service Improvement, to establish the current state for managing improvements or Capacity Management, to document performance characteristics during normal operations.

Benchmarking

Comparing a Benchmark with a Baseline or with Best Practice. The term Benchmarking is also used to mean creating a series of Bench-

marks over time, and comparing the results to measure progress or improvement.

Best Management Practice (BMP)

The Best Management Practice portfolio is owned by the Cabinet Office, part of HM Government. The BMP portfolio includes guidance on IT Service Management and Project, Program, Risk Portfolio and Value Management.

Best Practice

Proven Activities or Processes that have been successfully used by multiple Organizations. ITIL is an example of Best Practice.

Billing

Part of the charging process. Billing is the activity responsible for producing an invoice or a bill and recovering the money from customers. See also Pricing.

Brainstorming

A technique that helps a team to generate ideas. Ideas are not reviewed during the Brainstorming session, but at a later stage. Brainstorming is often used by Problem Management to identify possible causes.

British Standards Institution (BSI)

The UK national standards body, responsible for creating and maintaining British Standards.

Budget

A list of all the money an organization or business Unit plans to receive, and plans to pay out, over a specified period of time.

Budgeting

The Activity of predicting and controlling the spending of money. Consists of a periodic negotiation cycle to set future budgets (usually annual) and the day-to-day monitoring and adjusting of current budgets.

Build

The Activity of assembling a number of Configuration Items to create part of an IT Service. The term Build is also used to refer to a release that is authorized for distribution. For example Server Build or laptop Build.

Business

An overall corporate entity or organization formed of a number of Business Units. In the context of ITSM, the term Business includes public sector and not-for-profit organizations, as well as companies. An IT Service Provider provides IT Services to a customer within a Business. The IT Service Provider may be part of the same Business as its customer (Internal Service Provider), or part of another Business (External Service Provider).

Business Capacity Management

In the context of ITSM, Business Capacity Management is the sub-process of Capacity Management responsible for understanding future business requirements for use in the Capacity Plan.

Business Case

Justification for a significant item of expenditure. Includes information about costs, benefits, options, issues, Risks, and possible problems.

Business Continuity Management

The business process responsible for managing risks that could seriously affect the business.

Business Customer

A recipient of a product or a service from the business. For example, if the business is a car manufacturer then the business customer is someone who buys a car.

Business Impact Analysis (BIA)

BIA is the activity in Business Continuity Management that identifies Vital Business Functions and their dependencies. These dependencies may include Suppliers, people, other business processes, IT Services etc. BIA defines the recovery requirements for IT Services. These requirements include Recovery Time Objectives, Recovery Point Objectives and minimum Service Level Targets for each IT Service.

Business Objective

The Objective of a business process, or of the business as a whole. Business Objectives support the business vision, provide guidance for

the IT Strategy, and are often supported by IT Services.

Business Operations

The day to day execution, monitoring and management of business processes.

Business Perspective

An understanding of the Service Provider and IT Services from the point of view of the business, and an understanding of the business from the point of view of the Service Provider.

Business Process

A Process that is owned and carried out by the Business. A Business Process contributes to the delivery of a product or service to a business customer.

Business Relationship Management

The process or function responsible for maintaining a relationship with the business. Business Relationship Management usually includes: managing personal relationships with business managers, providing input to Service Portfolio Management, ensuring that the IT Service Provider is satisfying the business needs of the customers.

Business Relationship Manager

A role responsible for maintaining the relationship with one or more customers. This role is often combined with the Service Level Manager role.

Business Service

An IT Service that directly supports a business process, as opposed to an infrastructure service, which is used internally by the IT Service Provider and is not usually visible to the business.

Business Service Management (BSM)

An approach to the management of IT Services that considers the business processes supported and the Business value provided. The term also means the management of Business Services delivered to business customers.

Business Unit

A segment of the business that has its own plans, Metrics, income and costs. Each Busi-

ness Unit owns assets and uses these to create value for customers.

C

Call

A telephone call to the Service Desk from a user. A call could result in an incident or a Service Request being logged.

Call Center

An Organization or Business Unit that handles large numbers of incoming and outgoing telephone calls.

Call Type

A Category that is used to distinguish incoming requests to a Service Desk. Common call types are Incident, Service Request and Complaint.

Capability

The ability of an organization, person, process, application, IT Service or other Configuration Item to carry out an activity. Capabilities are intangible assets of an organization. See also resource.

Capability Maturity Model Integration (CMMI)

A process improvement approach developed by the Software Engineering Institute (SEI) of Carnegie Mellon University. CMMI provides organizations with the essential elements of effective processes. It can be used to guide process improvement across a project, a division or an entire organization. CMMI helps integrate traditionally separate organizational functions, set process improvement goals and priorities, provide guidance for quality processes and current process.

Capacity

The maximum throughput that a Configuration Item or IT Service can deliver while meeting agreed Service Level Targets. For some types of CI, Capacity may be the size or volume, for example a disk drive.

Capacity Management

The process responsible for ensuring that the Capacity of IT Services and the IT

Infrastructure is able to deliver agreed Service Level Targets in a cost effective and timely manner. Capacity Management considers all resources required to deliver the IT Service and plans for short, medium and long term business requirements.

Capacity Management Information System

A set of tools, data and information that is used to support Capacity Management. See also Service Knowledge Management System.

Capacity Plan

A Capacity Plan is used to manage the resources required to deliver IT Services. The plan contains scenarios for different predictions of business demand, and costed options to deliver the agreed Service Level Targets.

Capacity Planning

The Activity within Capacity Management responsible for creating a Capacity Plan.

Capital Cost

The cost of purchasing something that will become a financial asset. The value of the asset depreciates over multiple accounting periods.

Capital Expenditure (CAPEX)

The cost of purchasing something that will become a financial asset, for example, computer equipment and buildings. The value of the asset is depreciated over multiple accounting periods.

Category

A named group of things that have something in common. Categories are used to group similar things together. For example, Cost Types are used to group similar types of Cost, Incident Categories are used to group similar types of Incidents, CI Types are used to group similar types of configuration Items.

Certificate

Issuing a certificate to confirm Compliance to a standard. Certification includes a formal audit by an independent and accredited body. The term Certification is also used to mean

awarding a certificate to verify that a person has achieved a qualification.

Certification

Issuing a certificate to confirm compliance to a standard. Certification includes a formal audit by an independent and accredited body. The term is also used to mean awarding a certificate to provide evidence that a person has achieved a qualification.

Change

The addition, modification or removal of anything that could have an effect on IT Services. The scope should include all IT Services, Configuration Items, processes, documentation, etc.

Change Advisory Board (CAB)

A group of people that advises the Change Manager in the assessment, prioritization and scheduling of Changes. This board is usually made up of representatives from all areas within the IT Service Provider, representatives from the business and third parties such as suppliers.

Change Case

The Process responsible for controlling the lifecycle of all changes. The primary objective of Change Management is to enable beneficial Changes to be made, with minimum disruption to IT Services.

Change Evaluation

The process responsible for formal assessment of a new or changed IT Service to ensure that risks have been managed and to help determine whether to authorize the change.

Change Management

The process responsible for controlling the lifecycle of all changes, enabling beneficial changes to be made with minimum disruption to IT Services.

Change Model

A repeatable way of dealing with a particular Category of Change. A Change Model defines specific pre-defined steps that will be followed for a change of this Category. Change Models may be very simple, with no requirement for approval (e.g. Password Reset) or may be

very complex with many steps that require approval (e.g. major software release). See also Standard Change, Change Advisory Board.

Change Proposal

A document that includes a high level description of a potential service introduction or significant change along with a corresponding business case and an expected implementation schedule. Change proposals are normally created by the Service Portfolio Management process and are passed to Change Management for authorization. Change Management will review the potential impact on other services, on shared resources, and on the overall change schedule. Once the change proposal has been authorized, Service Portfolio Management will charter the service.

Change Record

A Record containing the details of a Change. Each Change Record documents the lifecycle of a single Change. A Change Record is created for every Request for Change that is received, even those that are subsequently rejected. Change Records should reference the Configuration Items that are affected by the Change. Change Records are stored in the Configuration Management System.

Change Schedule

A document that lists all approved Changes and their planned implementation dates. A Change Schedule is sometimes called a Forward Schedule of Change, even though it also contains information about Changes that have already been implemented.

Charging

Requiring payment for IT Services. Charging for IT Services is optional and many Organizations choose to treat their IT Service Provider as a Cost Center.

Charging Policy

A policy specifying the objective of the charging process and the way in which charges will be calculated.

Charging Process

The process responsible for deciding how much customer should pay (pricing) and recovering money from them (billing). This process is not described in detail within the core ITIL publications.

Charter

A document that contains details of a new service, a significant change or other significant project. Charters are typically authorized by Service Portfolio Management or by a Project Management Office. The term charter is also used to describe the act of authorizing the work required to complete the service change or project.

Chronological Analysis

A technique used to help identify possible causes of Problems. All available data about the problem is collected and sorted by date and time to provide a detailed time line. This can make it possible to identify which events may have been triggered by others.

Classification

The act of assigning a category to something. Classification is used to ensure consistent management and reporting. CIs, Incidents, Problems, Changes etc. are usually classified.

Client

A generic term that means a Customer, the Business or a Business Customer. For example, Client Manager may be used as a synonym for Accounting Manager.

Closed

The final status in the Lifecycle of an Incident, Problem, Change etc. When the status is closed no further action is taken.

Closure

The act of changing the Status of an Incident, Problem, Change etc. to Closed.

CoBIT

Control Objectives for information and related Technology (CoBIT) provides guidance and Best Practice for the management of IT Processes. CoBIT is published by the IT Governance Institute. See www.isaca.org for more information.

Code of Practice

A guideline published by a public body or a standards organization, such as ISO or BSI. Many standards consist of a code of practice and a specification. The code of practice describes recommended best practice.

Commercial Off-The-Shelf (COTS)

Application software or Middleware that can be purchased from a Third Party.

Compliance

Ensuring that a Standard or a set of Guidelines is followed, or that proper, consistent accounting or other practices are being employed.

Component

A general term that is used to mean one part of something more complex. For example, a computer System may be a Component of an IT Service, an Application may be a Component of a Release Unit. Components that need to be managed should be Configuration Items.

Component Capacity Management

The Process responsible for understanding the Capacity, Utilization and Performance of Configuration Items. Data is collected, recorded and analyzed for use in the Capacity Plan. See also Service Capacity Management.

Component CI

A Configuration Item that is part of an assembly. For example, a CPU or memory CI may be part of a server CI.

Component Failure Impact Analysis (CFIA)

A technique that helps to identify the impact of CI failure on IT Services. A matrix is created with IT Services on one edge and CIs on the other. This enables the identification of critical CIs (that could cause the failure of multiple IT Services) and of fragile IT Services (that have multiple Single Points of Failure.)

Computer Telephony Integration (CTI)

Computer telephony Integration (CTI) is a general term covering any kind of integration between computers and telephone Systems. It is most commonly used to refer to systems where an application displays detailed screens relating to incoming or outgoing telephone

calls. See also Automatic Call distribution, Interactive Voice Responses.

Concurrency

A measure of the number of Users engaged in the same Operation at the same time.

Confidentiality

A security principle that requires that data should only be accessed by authorized people.

Configuration

A generic term used to describe a group of Configuration Items that work together to deliver an IT Service, or a recognizable part of an IT Service. Configuration is also used to describe the parameter settings for one or more CIs.

Configuration Baseline

The baseline of a configuration that has been formally agreed and is managed through the Change Management process. A Configuration Baseline is used as a basis for future builds, releases and changes.

Configuration Control

The activity responsible for ensuring that adding, modifying or removing a CI is properly managed, for example by submitting a Request for Change or Service Request.

Configuration Item (CI)

Any component that needs to be managed in order to deliver an IT Service. Information about each CI is recorded in a Configuration Record within the Configuration Management System and is maintained throughout its Lifecycle by Configuration Management. CIs are under the control of Change Management. CIs typically include IT Services, hardware, software, buildings, people, and formal documentation such as Process documentation and SLAs.

Configuration Management

The Process responsible for maintaining information about Configuration Items required to deliver an IT Service, including their Relationships. This information is managed throughout the Lifecycle of the CI. Configuration Management is part of an overall Service Asset and Configuration Management Process.

Configuration Management Database (CMDB)

A database used to store Configuration Records throughout their Lifecycle. The Configuration Management System maintains one or more CMDBs, and each CMDB stores Attributes of CIs, and Relationships with other CIs.

Configuration Management System (CMS)

A set of tools and databases that are used to manage an IT Service Provider's Configuration Data. The CMS also includes information about Incidents, Problems, Known Errors, Changes and Releases; and it may contain data about employees, Suppliers, locations, Business Units, Customers and Users. The CMS includes tools for collecting, storing, managing, updating, and presenting data about all Configuration Items and their Relationships. The CMS is maintained by Configuration Management and is used by all IT Service Management Processes. See also Configuration Management Database, Service Knowledge Management System.

Continual Service Improvement (CSI)

A stage in the Lifecycle of an IT Service and the title of one of the Core ITIL publications. Continual Service Improvement is responsible for managing improvements to IT Service Management Processes and IT Services. The performance of the IT Service Provider is continually measured and improvements are made to Processes, IT Services, and IT Infrastructure in order to increase Efficiency, Effectiveness, and Cost Effectiveness. See also Plan-Do-Check-Act.

Contract

A legally binding Agreement between two or more parties.

Control

A means of managing a Risk, ensuring that a Business Objective is achieved, or ensuring that a Process is followed. Example: Controls include policies, procedures, roles, RAID, door locks etc. A Control is sometimes called a countermeasure or safeguard. Control also

means to manage the utilization or behavior of a Configuration Item, System or IT Service.

Control Objective

An approach to the management of IT Services, Processes, Functions, Assets, etc. There can be several different Control Perspectives on the same IT Service, Process, etc., allowing different individuals or teams to focus on what is important and relevant to their specific Role. Example Control Perspectives include Reactive and Proactive management with IT Operations, or a Lifecycle view for an Application Project team.

Control Objectives for Information and related Technology (CoBIT)

See CoBIT.

Control Perspective

An approach to the management of IT Services, processes, functions, assets etc. There can be several different Control Perspectives on the same IT Services, process etc., allowing different individuals or teams to focus on what is important and relevant to their specific role.

Core Service

A service that delivers the basic outcomes desired by one or more customers. A Core Service provides a specific level of utility and warranty. Customers may be offered a choice of utility and warranty through one or more service options.

Cost

The amount of money spent on a specific Activity, IT Service or Business Unit. Costs consist of real cost (money), notional cost such as people's time, and Depreciation.

Cost Benefit Analysis

An Activity that analyses and compares the Costs and the benefits involved in one or more alternative courses of action. See also Business Case.

Cost Center

A business unit or project to which costs are assigned. A Cost Center does not charge for services provided. An IT Service Provider can be run as a Cost Center or a Profit Center.

Cost Effectiveness

A measure of the balance between the Effectiveness and Cost of Service, Process or activity. A Cost Effective Process is one that achieves the Objectives at minimum Cost. See also KPI, Value for Money.

Cost Element

The middle level of category to which costs are assigned in budgeting and accounting. The highest-level category is cost type.

Cost Management

A general term that is used to refer to budgeting and accounting, and is sometimes used as a synonym for Financial Management

Cost Model

A framework used in budgeting and accounting in which all known costs can be recorded, categorized and allocated to specific customers, business units or projects.

Cost Unit

The lowest level of category to which costs are assigned, Cost Units are usually things that can be easily counted or things easily measured. Cost Units are included within cost elements.

Countermeasure

Can be used to refer to any type of Control. The term Countermeasure is most often used when referring to measures that increase Resilience, Fault Tolerance or Reliability of an IT Service.

Course Corrections

Changes made to a plan or activity that has already started to ensure that it will meet its objectives. Course corrections are made as a result of monitoring progress.

Crisis Management

The process responsible for managing the wider implications of Business Continuity. A Crisis Management team is responsible for strategic issues such as managing media relations and shareholder confidence, and decides when to invoke Business Continuity Plans.

Critical success Factor (CSF)

Something that must happen if a Process, Project, Plan or IT Service is to succeed. KPIs

are used to measure the achievement of each CSF. For example a CSF of 'protect IT Services when making Changes' could be measured by KPIs such as 'percentage reduction of unsuccessful Changes', 'percentage reduction in Changes causing Incidents', etc.

CSI Register

A database or structured document used to record and manage improvement opportunities throughout their lifecycle.

Culture

A set of values that is shared by a group of people including expectations about how people should behave, their ideas, beliefs and practices. See also Vision.

Customer

Someone who buys goods or services. The Customer of an IT Service Provider is the person or group that defines and agrees the Service Level Targets. The term Customer is also sometimes informally used to mean Users, for example 'this is a Customer focused Organization'.

Customer Agreement Portfolio

A database or structured document used to manage service contracts or agreements between an IT Service Provider and its customers. Each IT Service Delivered to a customer should have a contract or other agreement that is listed in the Customer Agreement Portfolio.

Customer Asset

Any resource or capability of a customer.

Customer-facing Service

An IT Service that is visible to the customer. These are normally services that support the customer's business process and facilitate one or more outcomes desired by the customer. All live Customer-facing Services, including those available for deployment, are recorded in the Service Catalog along with customer-visible information about deliverables, prices, contact points, ordering and request processes. Other information such as relationships to supporting services and other CIs

will also be recorded for internal use by the IT Service Provider.

D

Dashboard

A graphical representation of overall IT Service Performance and Availability. Dashboard images may be updated in real time and can also be included in management reports and web pages. Dashboards can be used to support Service Level Management, Event Management or Incident Diagnosis.

Data-to-Information-to-Knowledge-to-Wisdom (DIKW)

A way of understanding the relationship between data, information, knowledge and wisdom. DIKW show how each of these builds on the others.

Definitive Media Library (DML)

One or more locations in which the definitive and approved versions of all software Configuration Items are securely stored. The DML may also contain associated CIs such as licenses and documentation. The DML is a single logical storage area even if there are multiple locations. All software in the DML is under the control of Change and Release Management and is recorded in the Configuration Management System. Only software from the DML is acceptable for use in a Release.

Deliverable

Something that must be provided to meet a commitment in a Service Level Agreement or a Contract. Deliverable is also used in a more informal way to mean a planned output of any Process.

Demand Management

Activities that understand and influence Customer demand for Services and the provision of Capacity to meet these demands. At a Strategic level Demand Management can involve analysis of Patterns of Business Activity and User Profiles. At a tactical level it can involve use of a Differential Charging to encour-