Course Guide

IBM Control Desk 7.6 Foundations

Course code TP351 ERC 1.0

IBM Training

August 2016 edition

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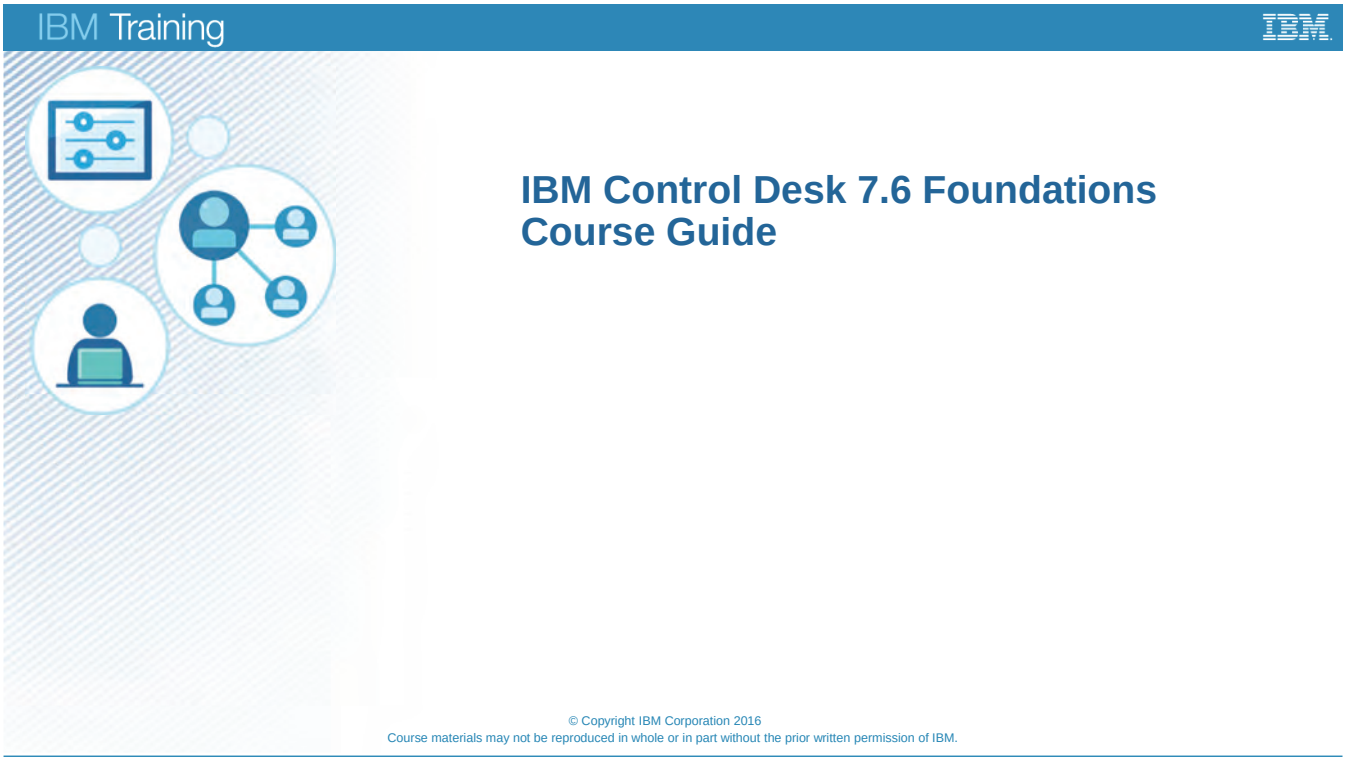
Contents

About this course



This 2-day course introduces you to the fundamental concepts of managing IT assets, service requests, and changes in your IT environment by using IBM Control Desk. You learn how managing these processes with a unified solution provides significant advantages to your organization. Through instructor-led discussion, demonstrations, and hands-on labs, you learn how to plan a deployment, perform basic configuration, and navigate IBM Control Desk.

This course includes hands-on lab exercises to reinforce the instructor-led discussion. Major topics in the exercises include these items:

- Navigating the user interfaces
- Performing the initial configuration steps
- Working with service requests
- Working with IT asset management functions
- Working with configuration items

The lab environment for this course uses the Windows 2003 Standard Server operating system.

	Details
Delivery method	Classroom or instructor-led online (ILO)
Course level	ERC 1.0
	This course is an update of TP350G IBM Control Desk 7.5 Foundations ERC1.0
Product and version	IBM Control Desk v7.6
Recommended duration	2 days
Skill level	Basic

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Objectives

- Describe the features of IBM Control Desk 7.6
- Explain the architecture
- List the primary installation scenarios
- Perform the initial configuration
- Explain the processes managed by IBM Control Desk 7.6

Course objectives

Audience

This course is suitable for all roles, including installers, administrators, and service desk agents.

Prerequisites

Before taking this course, make sure that you have basic browser navigation skills.

IBM Training

Agenda

- Unit 1: Overview
- Unit 2: Implementation
- Unit 3: Basic configuration
- Unit 4: Service Request Management
- Unit 5: IT Asset Management
- Unit 6: Change, Configuration, and Release Management

Agenda

The course contains the following units:

Unit 1: Overview

IBM Control Desk is a critical component to the IBM Service Management strategy. This unit provides an overview of Service Management from an Information Technology Infrastructure Library (ITIL) perspective and explains how IBM Service Management makes it actionable. You are also introduced to the role that IBM Control Desk plays in this strategy.

Unit 2: Implementation

This unit provides an overview of the deployment steps for IBM Control Desk. You learn how to create a deployment plan and list the basic installation steps.

Unit 3: Basic configuration

This unit covers the basic configuration that is required for an IBM Control Desk implementation. This configuration includes the creation of foundation data for IBM Control Desk. The foundation data is the software constructs that are necessary in the basic configuration of the product. These constructs include organizations, sites, locations, classifications, and various engine financial configurations.

Unit 4: Service Request Management

This unit provides an overview of the service request management features in IBM Control Desk. You learn the high-level flow of the Service Desk to manage service requests, incidents, and problems. You are also introduced to the concept of a service catalog.

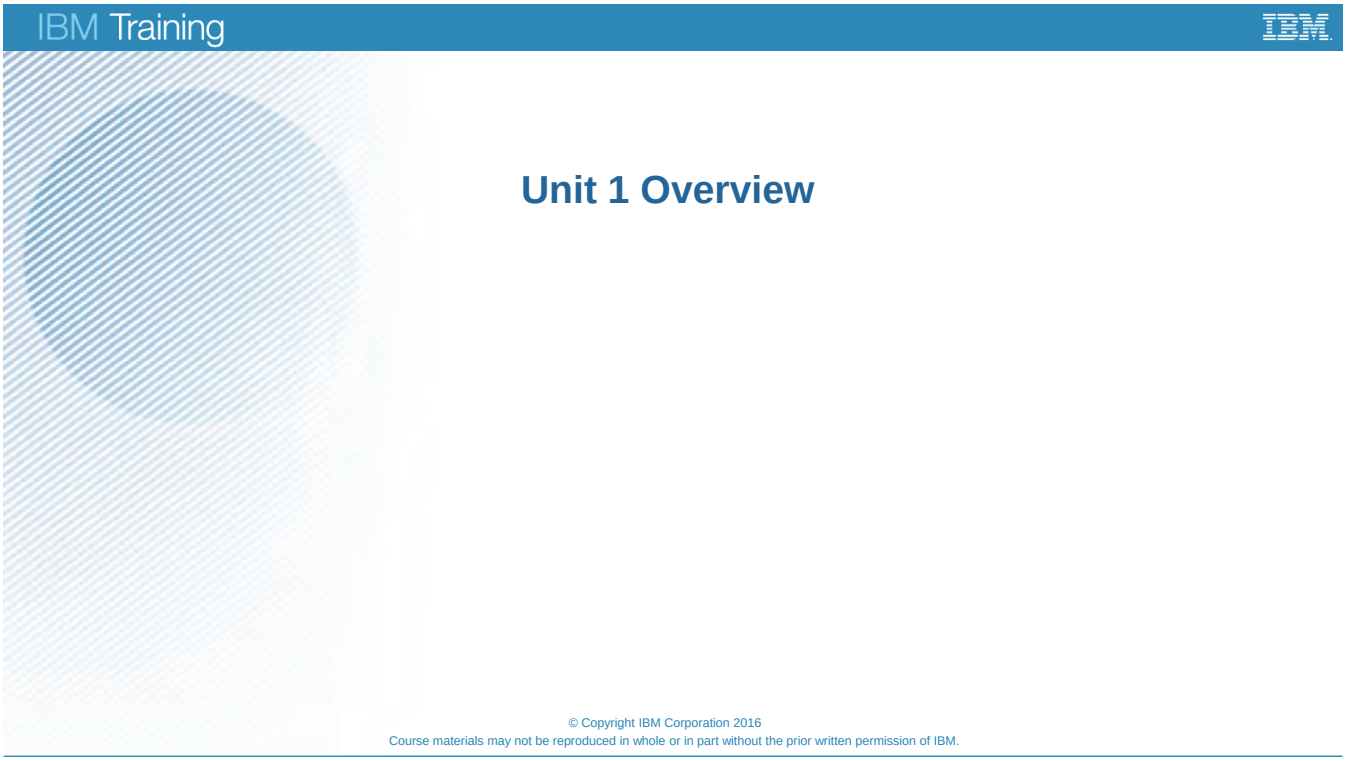
Unit 5: IT Asset Management

This unit provides an overview of the IT asset management features in IBM Control Desk. You learn what the IT asset lifecycle is and the basic components of the lifecycle. You also learn the basic requirements for software management.

Unit 6: Configuration, Change, and Release Management

This unit provides an overview of the configuration, change, and release management features in IBM Control Desk. Business processes are most successful and efficient when they are running in a trusted environment. To ensure trust, you must control the components that support the business process. You learn how configuration, change, and release management are integral to controlling these components.

Unit 1 Overview



IBM Control Desk is a critical component to the IBM Service Management strategy. This unit provides an overview of Service Management from an Information Technology Infrastructure Library (ITIL) perspective and explains how IBM Service Management makes it actionable. You are also introduced to the role that IBM Control Desk plays in this strategy.

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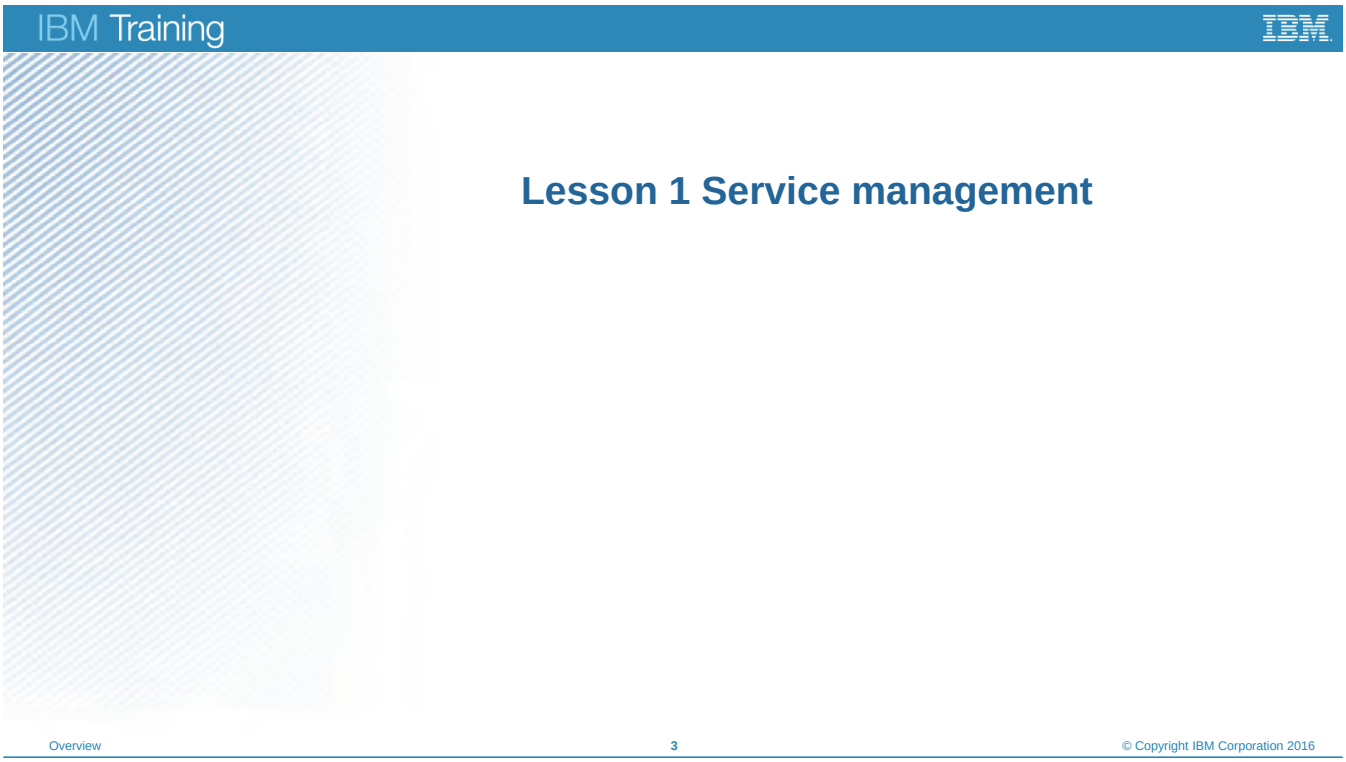
Objectives

- Describe a service
- Explain the relationship between ITIL and IBM Service Management
- List the components of IBM Control Desk
- Describe the integration points for IBM Control Desk

Objectives

Lesson 1 Service management



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What a service is

- An offering, function, or activity that is delivered to an internal or external customer that might contribute revenue and profit or fulfill a critical mission of an organization
- Output that is created by using human, intellectual, financial, and physical assets

What a service is

A service delivers something of value to a customer or consumer. The consumer does not own the means or costs of delivering the service, although they might be billed for the value of the service that is delivered.

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What service management is

- Encompasses the management processes, tactics, and best practices that are needed to deliver business services
- Is the alignment of information Technology (IT) and operation assets with desired business outcomes

What service management is

The focus of service management in this context is on Information Technology (IT) and operational assets.

Service management is about more than just delivering a service. Each service has a lifecycle, and service management provides the means of managing the life of a service, from request to fulfillment.

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What motivates a service management implementation

- Businesses are under pressure to innovate and grow
  - Competitive advantage through service excellence
  - Operational efficiency and effectiveness
  - Business growth
- Delivering high-quality, cost-effective services is challenging
  - Growing complexity
  - Rapid and constant change
  - Rising costs
  - Tougher compliance
  - Lack of service context

What motivates a service management implementation

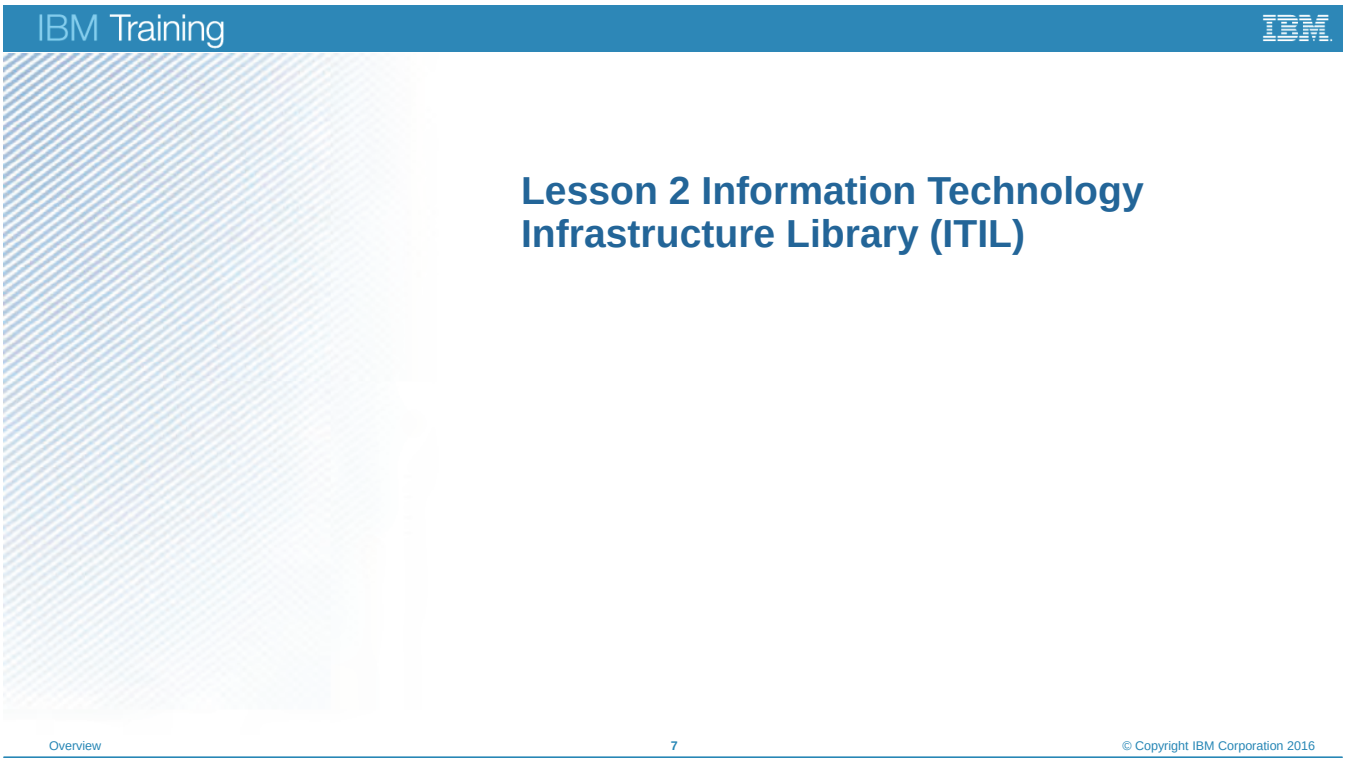
Customers are looking for a competitive advantage through service excellence. They need to retain and add new customers through quality and added-value services to make money. Their business depends on quality service delivery.

Operational efficiency and effectiveness are key to achieving these goals. Part of this efficiency is cost containment to ensure that they are spending money on the right areas. In parallel, companies must reduce the risk of security exposure and greater regulatory and audit requirements to avoid jail.

Delivery high-quality and cost-effective services is a challenge for many reasons:

- Growing complexity: Disparate technologies and service infrastructures, rapid constant change, industry consolidation, technology convergence
- Rising costs: Process inefficiencies, administration, maintenance
- Tougher compliance: Added security, audit, and governance requirements
- Lack of service context: Silos of people, process, technology, information

Lesson 2 Information Technology Infrastructure Library (ITIL)



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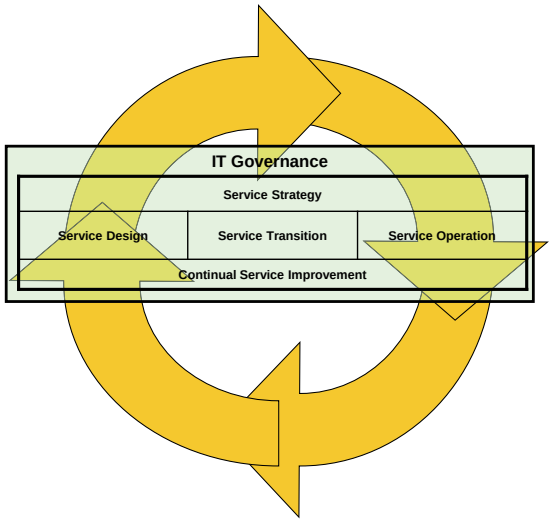
Best practices approach that uses ITIL v3

- IT Governance
  - Defines the management model and principles
- Service Strategy
  - Ensures that the service lifecycles are focused on the needs of the business
- Service Design
  - Designs services to meet IT customer needs
- Service Transition
  - Manages and controls changes to the services and the supporting infrastructure
- Service Operation
  - Delivers services
- Continual Service Improvement
  - Enhances the quality of services over time
  - Is embedded in all ITIL practices



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Best practices approach that uses ITIL v3

ITIL ***practices*** are the top-level groupings that are used to organize the work. Practices are often referred to as lifecycle stages. Each practice contains a number of related ***processes***. Each process is made up of a number of ***activities***. Individuals who are assigned to specific ***roles*** perform the activities. Each role is associated with a number of ***responsibilities***.

Both processes and activities might require work products as input and might produce resulting work products. Examples of processes are Change Management, Request Fulfillment, and IT Operation.

Both business and IT processes are typically made up of a set of activities. Personnel who are assigned specific roles and responsibilities perform the activities. IT systems that provide data access, process logging, control, and (optionally) automation of activities support the activities and people.

The services that support the ITIL processes that are used by the IT department are as critical to the IT department as the business services are to the business. In most cases, the business has top priority. If the Service Operation process is broken, how can the IT department ensure the availability and performance of the services that support the business?

From a practical perspective, most ITIL practices are built upon three layers:

- Process design and control (framework)
- Operational monitoring and control
- Review and enhancement

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ITIL v3 management processes and functions

Strategy	Design	Transition	Operation	Continual Improvement
Service Strategy	Service Portfolio Management	Change Management	Monitoring & Event Management	Measurement and Control
Market Intelligence	Service Catalog Management	Service Asset and Configuration Mgmt	Incident Management	Service Measurement
IT Financial Management	Service Level Management	Knowledge Mgmt and a service knowledge system	Request Fulfillment (standard changes)	Service Assessment and Analysis
Service Portfolio Management	Capacity Management	Service Release and Deployment Planning	Problem Management	Process Assessment and Analysis
Demand Management	Availability Management	Performance and Risk Evaluation	Access Management	Service Level Management
Risk Management	Service Continuity Management	Testing	Service Desk	Improvement Planning
	Information Security Mgmt (ISO 27K, ISO 20K)	Acquire, Build, Test Release	Infrastructure Management	
	Supplier and Contract Management	Service Release, Acceptance, Test & Pilot	IT Operations	
Processes	Organizational Change and Communications	Deployment, Decommission, and Transfer	Facilities Management	
Functions				

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ITIL v3 management processes and functions

This lesson is meant to provide a high-level overview of ITIL. If you need a deeper understanding, IBM offers several classes that focus on ITIL. To view a list of ITIL courses, go to:

http://www.ibm.com/training

On the training course page, search for ITIL to view available courses.

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Making ITIL actionable

- ITIL itself does not prescribe how to implement the process frameworks; it discusses which activities, roles, and work products to implement, and how they interact with one another
- The volumes and complexities that need to be managed in most IT environments make it impossible to implement ITIL processes without applying tools that automate some of the activities such as discovery, event management, and deployment
- The tools must be integrated to provide the synergies that enable service management
  If collections of point-products are used, you might have to be your own system integrator

Making ITIL actionable

ITIL is a good theoretical model. However, it does not contain advice on how to implement or make ITIL actionable.

IT tools can be applied to manage IT. Because of the complexities and the sheer number of resources that need to be managed in even small IT environments, it is practically impossible to manage them without tools. However, these tools must be tightly integrated with each other to provide the synergy that is required to manage the environment by using a service management paradigm. This synergy is not typically available.

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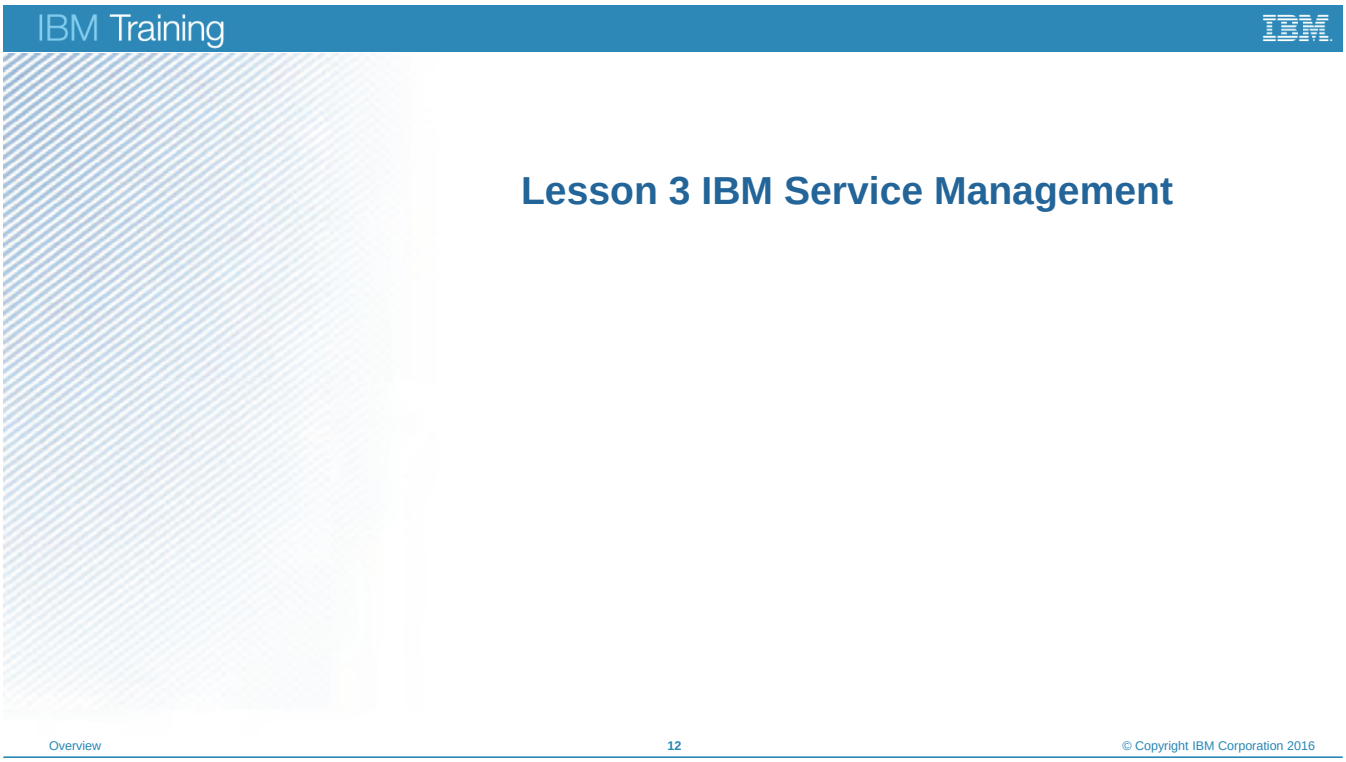
Process reference model for IT

- The process reference model for IT is a process model that includes considerations for the IT Infrastructure Library (ITIL), COBIT, IBM Rational Unified Process technology, Capability Maturity Model Integration (CMMi), and other industry-accepted practices
- IBM built and put into the public domain a comprehensive and rigorously engineered process model that describes the inner workings of and relationships between all these processes as an essential foundation for service management
- IBM Tivoli Unified Process technology, a companion to Rational Unified Process technology, is an open set of intellectual capital that helps make these IT management practices actionable

Process reference model for IT

Lesson 3 IBM Service Management



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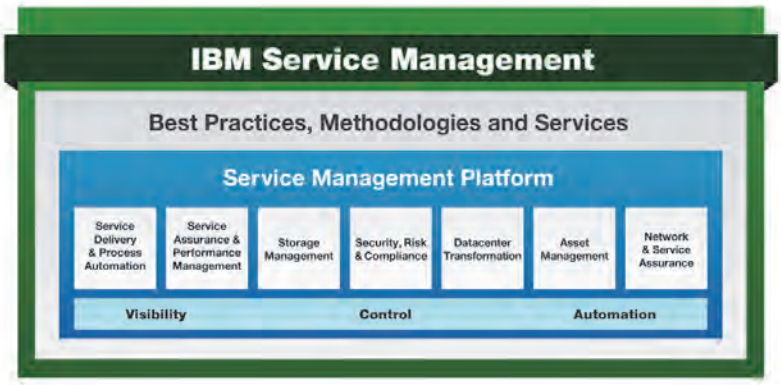
IBM Service Management components

- The overall IBM Service Management solution is divided into seven value segments
- The solution components provide
  - ITIL process frameworks
  - Tools for monitoring, management, and control of the IT infrastructure resources
  - Best practice processes, roles, and responsibilities



IBM Service Management components

IBM Service Management is built on the Service Management Platform from IBM with extensive, validated capabilities and integrated technologies for visibility, control, and automation. It brings to clients the vision, strategy, best practices, methods, and services to deliver quality service for their businesses.

IBM Service Management connects all elements of a dynamic infrastructure to help organizations harness their business and IT assets for superior, cost-effective service delivery. It delivers these benefits:

- Visibility to see what is going on across the infrastructure
- Control to keep the infrastructure in its optimum state
- Automation to manage huge and growing infrastructures while controlling cost and quality

The IBM Service Management solution components provide tools that enable some of the activities. components also implement ITIL-aligned, role-based, best practice processes to use and manage the tools. It includes ITIL-based process templates for roles and responsibilities and best practices for monitoring and reporting. The process management products share a common process definition and execution infrastructure, for unprecedented customization and integration. IBM Service Management provides more than the operational management products (OMPs) to help manage and operate complex IT environments. It also provides best-practice process management products (PMPs) that are used to implement and perform the process frameworks. The IBM Service Management solution is often referred to as SAP for IT.

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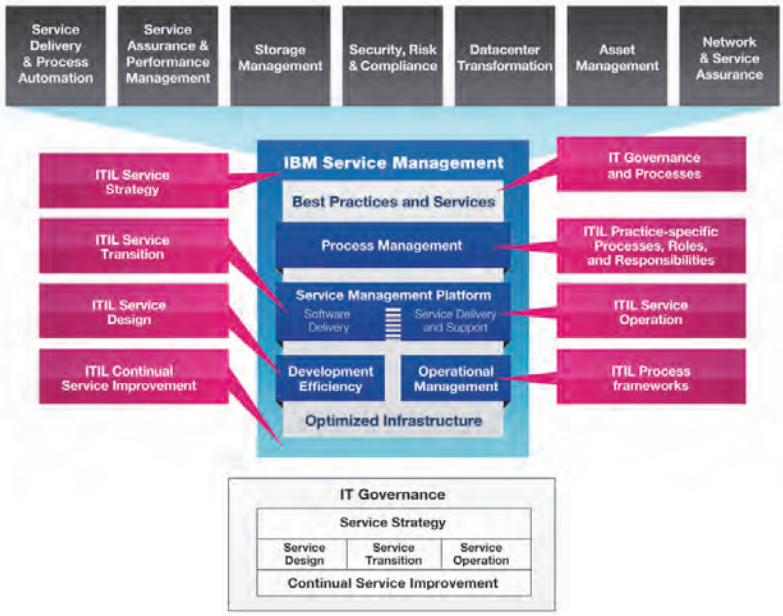
IBM Service Management and ITIL



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IBM Service Management and ITIL

IBM Service Management provides an integrated, scalable solution for management, control, and enhancement of all IT-related processes and resources in the infrastructure. The solution targets all aspects of service management from security to archiving through the lifecycle of any service. However, that is just technology. The solution provides the tools that are needed to gather metrics and react to notifications as implemented by the operational management products. IBM Service Management also includes a process layer to provide best-practice processes for reporting and controlling the activities and tasks necessary to deploy, operate, and secure the services. To successfully embrace the technology, you must focus on strengthening your processes to ensure that your organization has the maturity to use them.

The IBM Service Management process layer is aligned with ITIL V3 and encompasses all lifecycle phases of a service.

The process model that is used in IBM Service Management is called Process Reference Model for IT (PRM-IT) and uses a terminology slightly different from ITIL. This difference is because PRM-IT encompasses best practices from multiple process framework models, such as ITIL, COREBIT, Six Sigma, and others.

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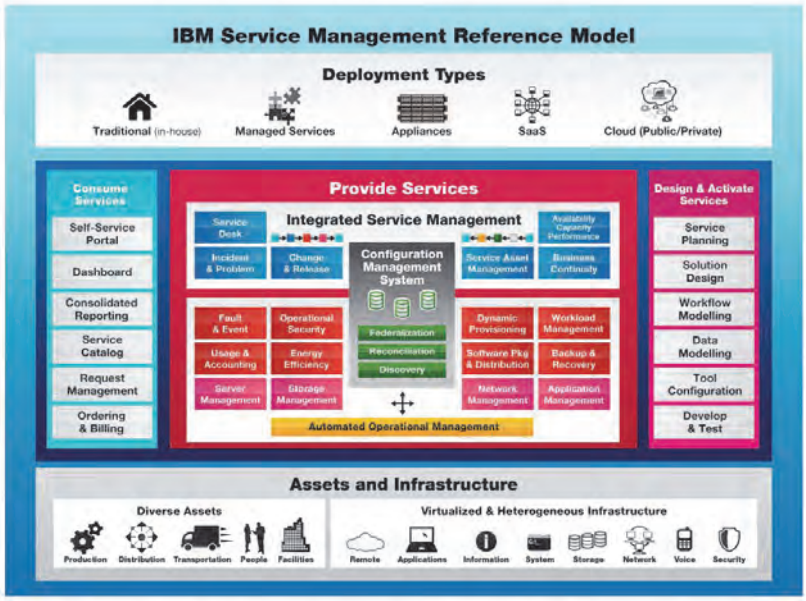
IBM Service Management reference model



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IBM Service Management reference model

The Process Reference Model for IT is based on the IT Service Management Reference Model that defines and categorizes processes and resources in a common reference model.

The touchstone architecture for IT management combines IT process management with the infrastructure for IT Service Management against the backdrop of ITIL best practices and self-managing autonomic technologies for operational management.

For more information, download the following white paper:

ftp://ftp.software.ibm.com/software/tivoli/pdf/itsmstandardsreferencemodel.pdf

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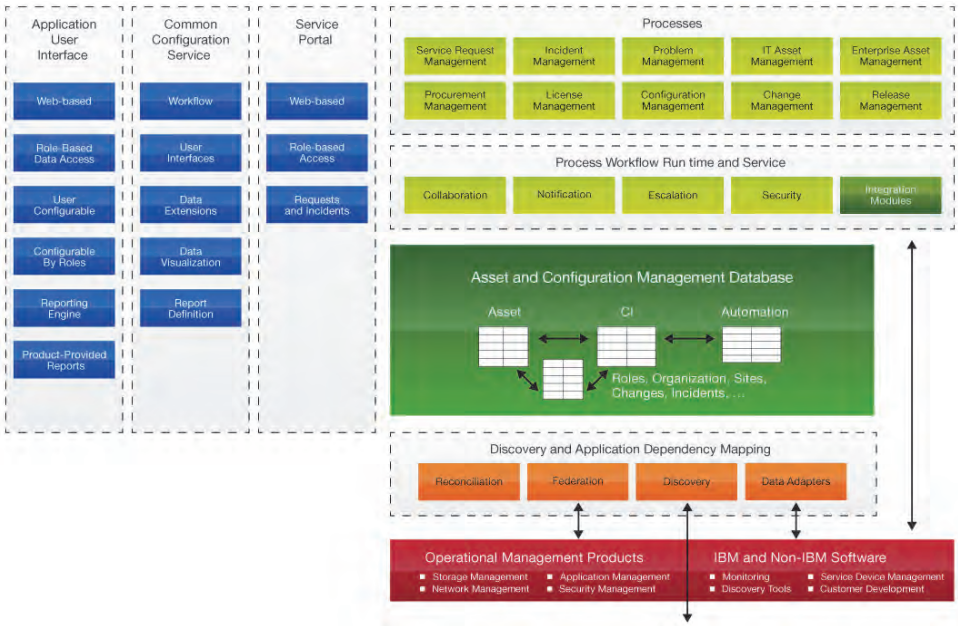
IBM Service Management process management



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IBM Service Management process management

The IBM Service Management strategy is based on the Tivoli's Process Automation Engine. Using Tivoli's Process Automation Engine provides the tight integration of tools that are needed to provide the synergy that is required to manage the environment by using a service management paradigm.

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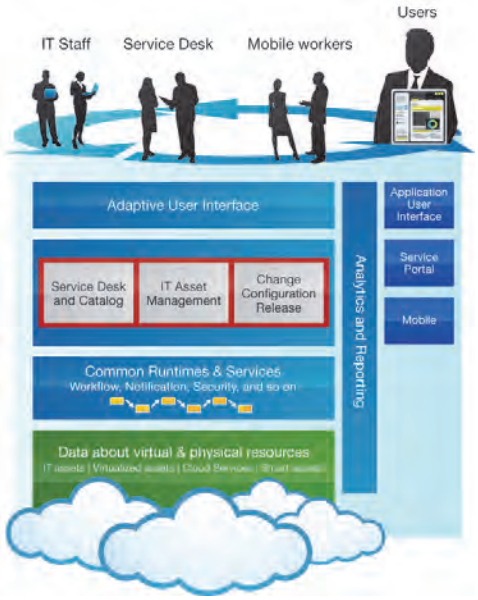
IBM Control Desk



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IBM Control Desk

IBM Control Desk brings the key service management processes together in one product. This convergence has many benefits:

- Improves efficiency and minimizes business risk by coordinating asset, change, and problem management across IT and IT-enabled assets.
- Reduces total cost of ownership by using one unified solution to license, install, and manage multiple service management processes under one price point.
- Improves quality of service and business resiliency by tightly linking service requests with asset and change management.

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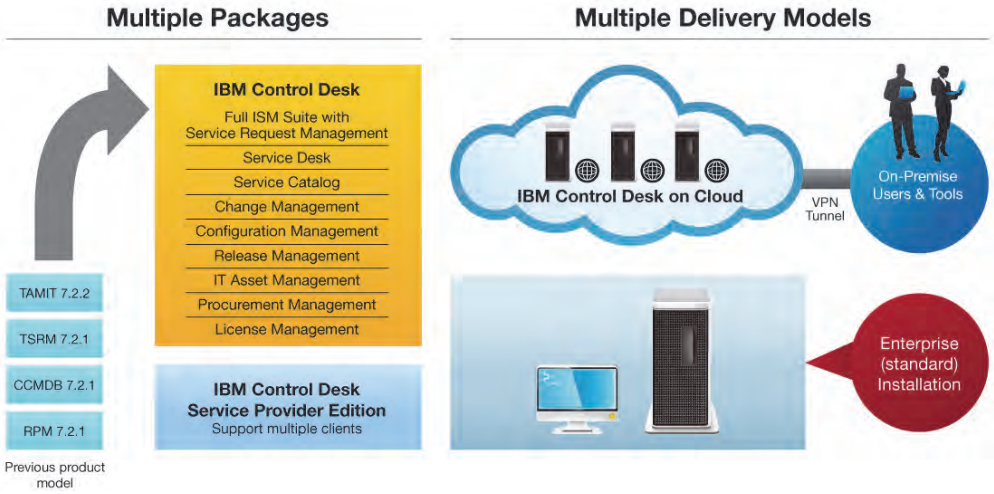
Packaging and delivery models



Packaging and delivery models

As of version 7.6, you have two packaging choices for IBM Control Desk:

- IBM Control Desk
- IBM Control Desk Service Provider Edition (internal and external)

IBM Control Desk edition provides a comprehensive range of IBM Service Management features. It provides full Service Request, IT Asset, Configuration, Change, and Release Management. This edition includes a Configuration Management database (CMDB) for storing and managing data. To ensure an accurate CMDB, IBM Control Desk can be easily integrated with discovery tools to import discovered assets and configuration items (CIs) across the data center. IBM Control Desk includes several sophisticated workflows that can direct IT processes in predictable, repeatable ways, with integration and customization capabilities.

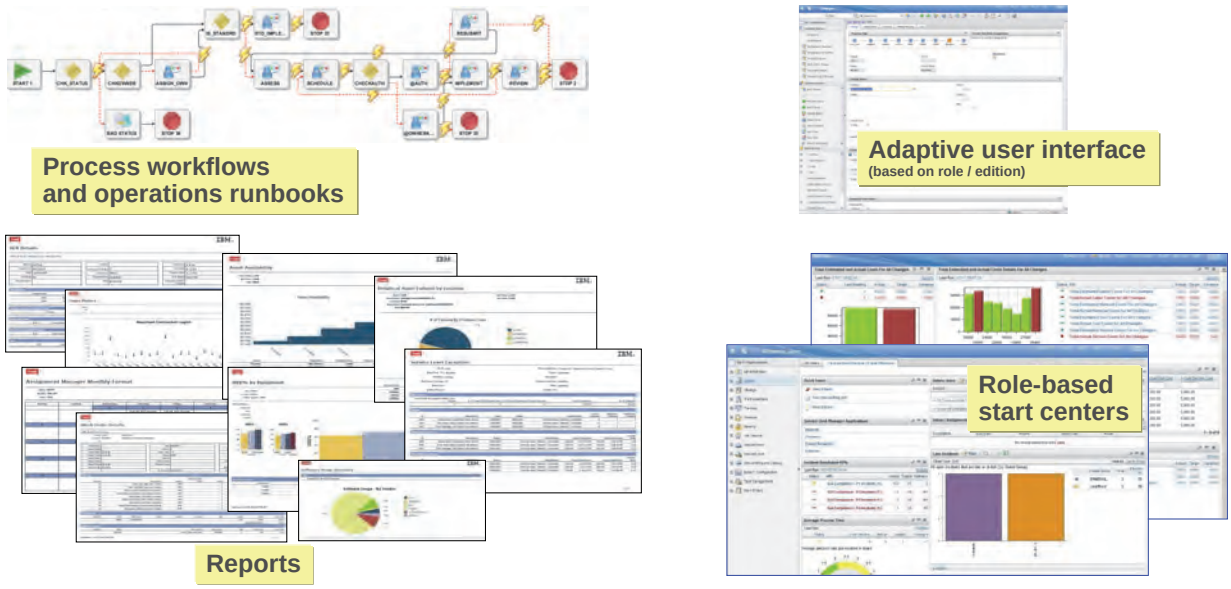
IBM Control Desk Service Provider Edition contains all features and functions in IBM Control Desk. In addition, this edition includes applications and capabilities that are designed for service providers who are managing the data centers of multiple customers, whether external or internal.

IBM offers two delivery models for IBM Control Desk:

- IBM Control Desk on Cloud (Software as a Service) in the IBM cloud
- Enterprise installation

In the first delivery model, IBM can host your IBM Control Desk instance in the IBM cloud. Customers who chose this model are given tools to work with their instance in the IBM cloud. The enterprise installation delivery model is the traditional model where customers use installation media to install IBM Control Desk in their environment.

Product-provided content for quick time to value



Product-provided content for quick time to value

Hundreds of product-provided content items are packaged with IBM Control Desk, including workflows, roles, security groups, start centers, data models, and reports.

The content packages provide predefined artifacts and sample data that can be optionally installed with IBM Control Desk. The content is based on best practices for IBM Control Desk, but it is intended primarily for test or development environments and is not designed for production environments.

You can also install several Process Content Packs, which are available on the Integrated Service Management Library formerly known as OPAL.

These packages are not required for the product applications to operate properly. They do provide significant value either as samples or as templates that you can refine to meet your specific business needs. The packs are built on a solid foundation of ITIL standards and real-world customer experiences. Examples of optional content include job plans, reports, roles, escalations, and start centers. By reducing the amount of configuration that is needed to get processes ready for launch, this content can save you considerable time. No additional costs are incurred for content packs.

For more information on the content packs, go to the IBM Knowledge Center for IBM Control Desk v7.6 and search for **Content packages for development systems**.

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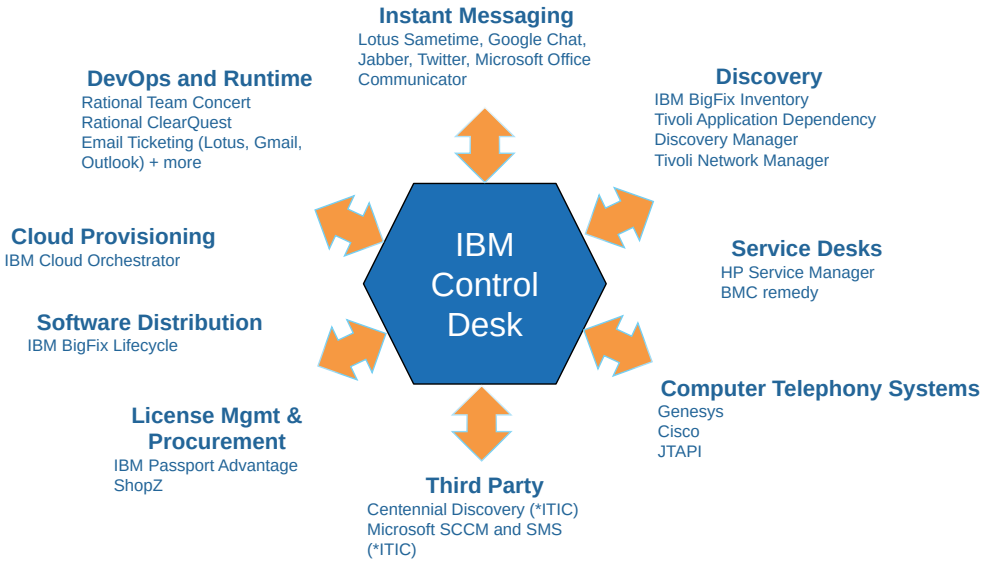
Product-provided integrations to extend the solution



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Product-provided integrations to extend the solution

A key requirement of service management is the ability to integrate with the full set of tools that are used in your IT environment. IBM Control Desk has numerous integration points to ensure this tight integration.

For more information about integrating IBM Control Desk with other software products, see the IBM Knowledge Center for IBM Control Desk v7.6 and search for **Integrating with other products**.

Mobile support

- Graphs and result sets can be displayed on the mobile start center
- Tasks that can be performed include these examples:
  - Create and view service requests
  - Report incidents
  - Approve service requests and changes
  - Search for solutions

Mobile support

The IBM Control Desk application user interface can be accessed on mobile devices. Mobile support for iOS, Android, and BlackBerry devices is available. You must purchase a Maximo Everyplace license to use this function.

The IBMM Control Desk Service Portal can also be accessed on a mobile device, such as a tablet or mobile phone. Service Portal displays the same user interface for tablet devices, such as the Apple iPad, that is displayed for desktops.

Because the user interface for cell phones accommodates small display areas, cell phone users see a different view of Service Portal. Purchase of Maximo Everyplace is not necessary to use the Service Portal on mobile devices.

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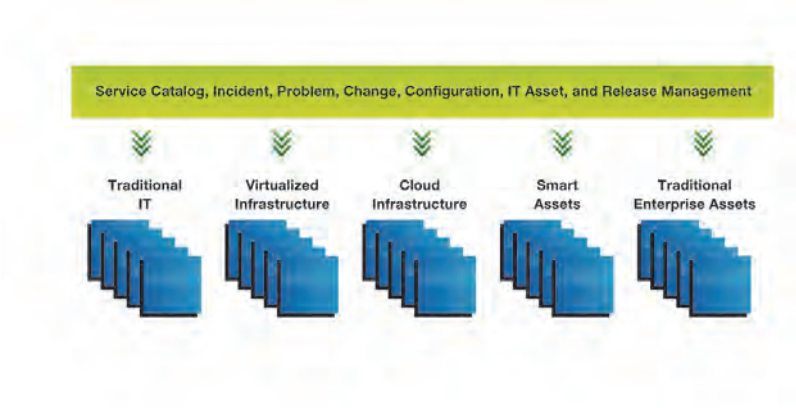
Integrated service management

Customers can start with a single area and expand without any disruption because the same system manages processes across all assets



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Integrated service management

One of the key advantages of IBM Control Desk is that you can start with one area and expand as needed. For example, you can start managing your traditional IT assets and expand to other assets such as smartphones or tablets with the same processes you already put in place.

Review questions

1. What motivates a service management implementation?
   a. Competitive advantage through service excellence
   b. Operational efficiency and effectiveness
   c. Business growth
   d. All of the above
2. True or False: ITIL practices contain processes.
3. True or False: ITIL contains advice on how to implement it.
4. Which processes are included in IBM Control Desk?
   a. Service Request, Incident, Problem, IT Asset Management, Configuration, Change, and Release
   b. Service Request, Incident, Problem, Enterprise Asset Management, Configuration, Change, and Release
   c. Service Request, Incident, Problem, IT Asset Management, Enterprise Asset Management, Configuration, and Change
   d. Incident, Problem, IT Asset Management, Enterprise Asset Management, Configuration, Change, and Release

Review answers

1. What motivates a service management implementation?

   d. All of the options that are listed are motivators for a service management implementation.

2. True or False: ITIL practices contain processes.

   True. ITIL practices are the top-level groupings that are used to organize the work. Practices are often referred to as lifecycle stages. Each practice contains a number of related processes. Each process is made up of a number of activities. Individuals who are assigned to specific roles perform the activities. Each role is associated with a number of responsibilities.

3. True or False: ITIL contains advice on how to implement it.

   False. ITIL is a good theoretical model. However, it does not contain advise on how to implement or make ITIL actionable.

4. Which processes are included in IBM Control Desk?

   a. IBM Control Desk includes Service Request Management, Incidents, Problems, IT Asset Management, Configuration Management, Change Management, Release Management, Procurement Management, and License Management.

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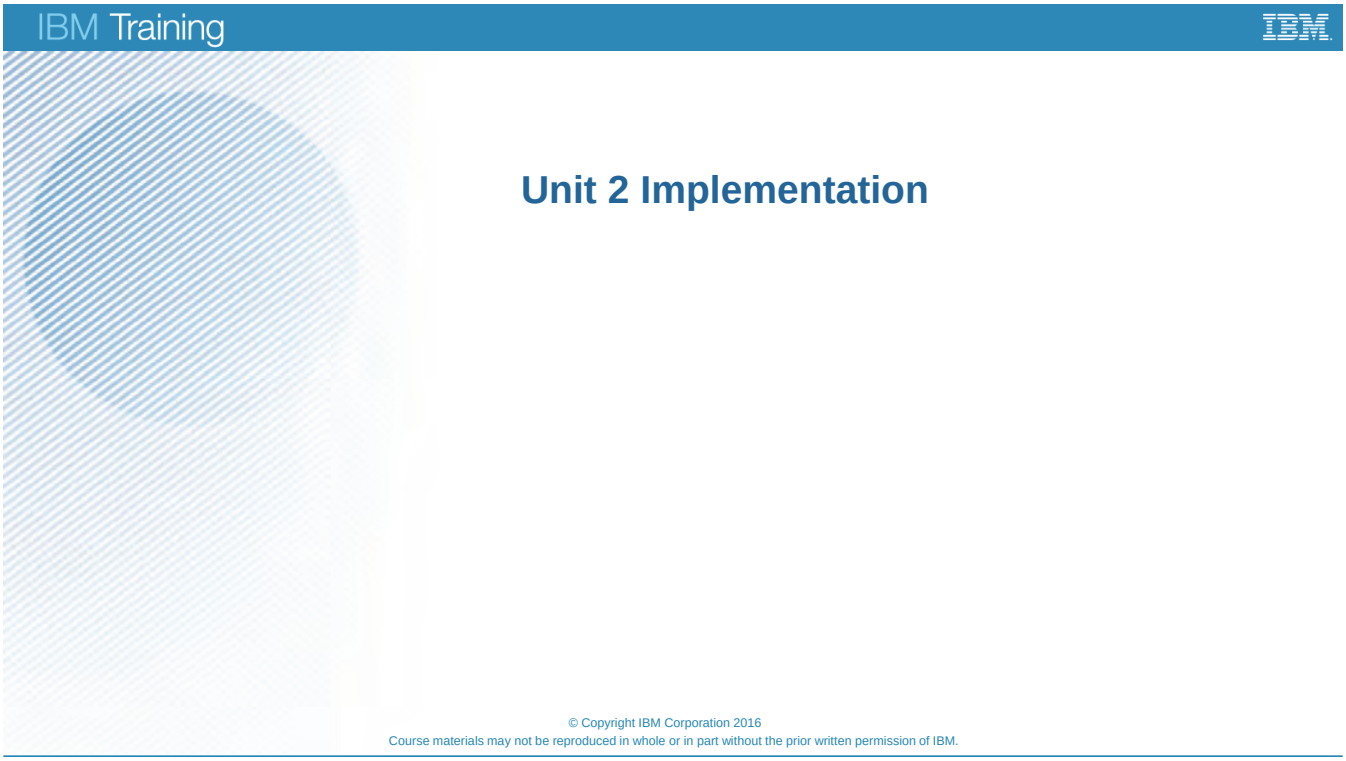
Summary

- Describe a service
- Explain the relationship between ITIL and IBM Service Management
- List the components of IBM Control Desk
- Describe the integration points for IBM Control Desk

Summary

Unit 2 Implementation



Implementation

This unit provides an overview of the deployment steps for IBM Control Desk. You learn how to create a deployment plan and list the basic installation steps.

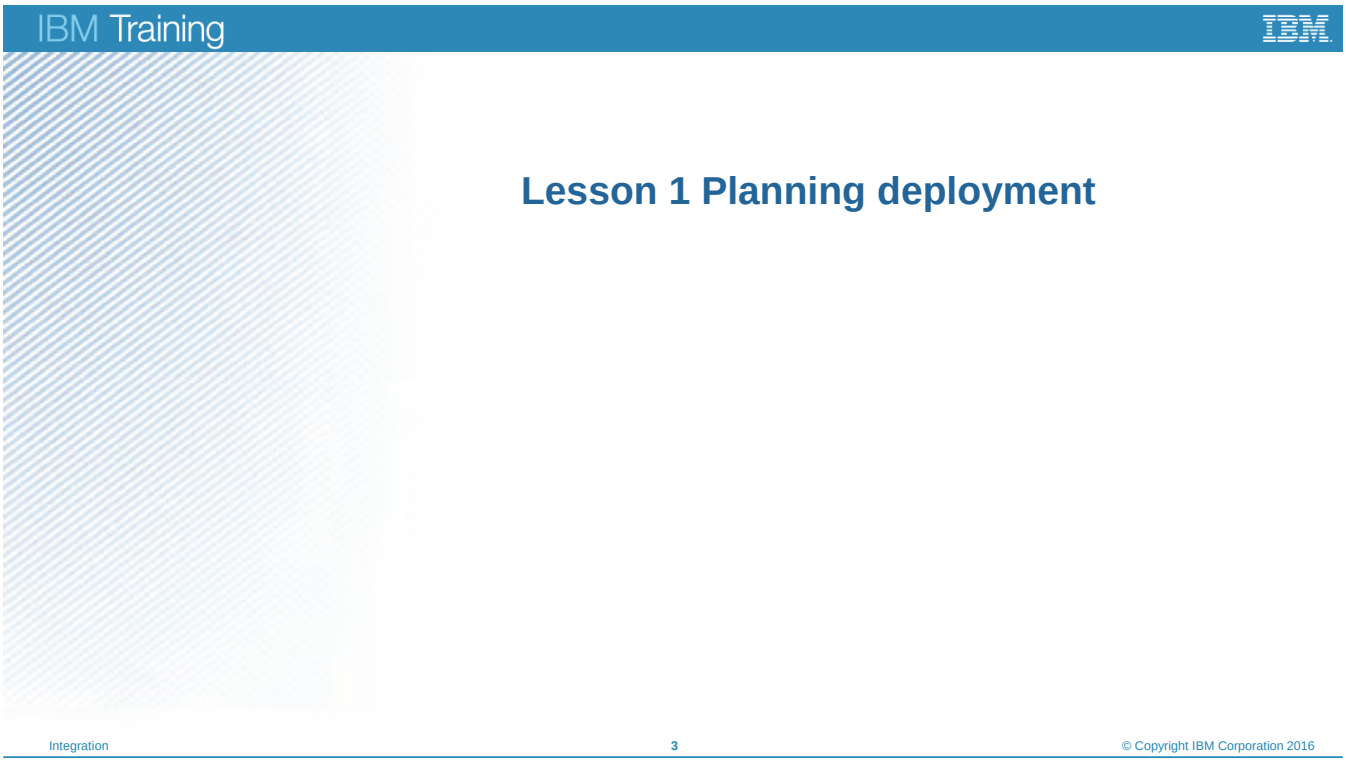
IBM Training

Objectives

- Create a deployment plan
- List the basic installation steps
  - Enterprise installation
  - Cloud installation
- Navigate the user interface
  - Application user interface
  - Service Portal

Objectives

Lesson 1 Planning deployment



IBM Training

Deployment planning steps

- Select a delivery model
  - Enterprise standard installation
  - IBM Control Desk on Cloud
- Verify hardware and software prerequisites
- Plan component deployment
  - Administrative workstation
  - Single server
  - Multiple server
- Project Start

Deployment planning steps

After selecting the delivery model, you must verify that you meet the hardware and software prerequisites. The minimum prerequisite hardware and software are listed on the product wiki:

https://www.ibm.com/developerworks/community/wikis/home?lang=en#!/wiki/IBM%20SmartCloud%20Control%20Desk/page/Version%207.6.0

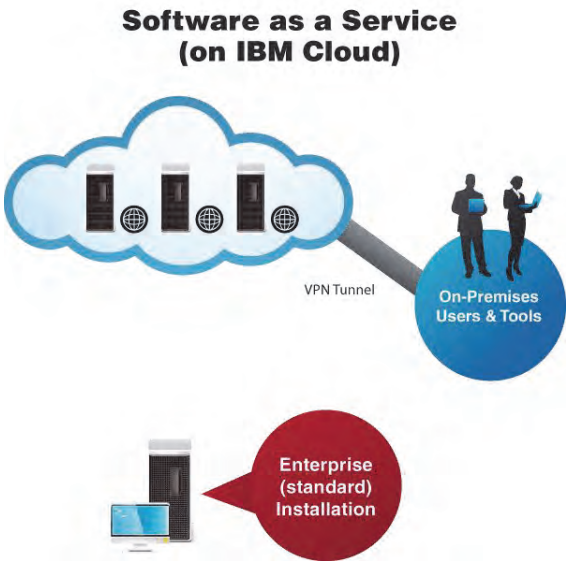
The system requirements that are listed on the wiki are only the minimum. To maximize the performance of your system, review the best practices for system performance documentation on IBM developerWorks:

https://www.ibm.com/developerworks/community/wikis/home?lang=en#!/wiki/IBM%20SmartCloud%20Control%20Desk/page/Performance%20and%20Tuning

After verifying the system requirements, you can start planning the deployment of the components. You can deploy the components to a single server or multiple server. No matter which deployment you plan, you must designate a system as the administrative workstation. The installation and all upgrades or patches are deployed from the administrative workstation.

IBM Training

Delivery methods



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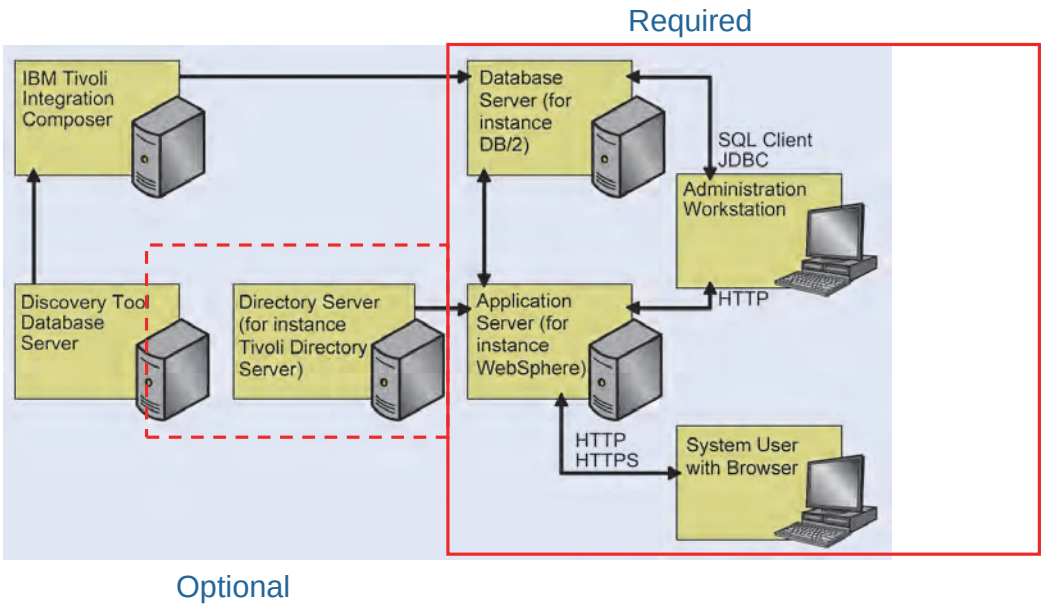
Delivery methods

As discussed in the first unit, IBM Control Desk has two different delivery models. You must choose the right model for your enterprise. For example, if you do not have the staff to manage the infrastructure, you might consider selecting IBM Control Desk on Cloud.

IBM Training

Components to deploy



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Components to deploy

These are the primary components that you must plan to deploy:

- **Administration workstation:** The installation and all upgrades or patches are run from this workstation.
- **Database server**: This server hosts the IBM Control Desk database.
- **Application server**: This server hosts the IBM Control Desk applications.
- **Directory server**: (optional) This server is used to control access to IBM Control Desk.

The IBM Tivoli Integration Composer is a tool that is used to integrate IBM Control Desk with discovery tools. You must install this tool to import discovered inventory data from tools such as Tivoli Application Dependency Discovery Manager or Tivoli Asset Discovery for Distributed.

These components can be installed on a single server or multiple servers. For more information, see the deployment topologies section of the documentation:

http://publib.boulder.ibm.com/infocenter/tivihelp/v51r1/topic/com.ibm.tusc.doc/install/cccmdbdeploymentscenarios.html

You can use existing middleware instances or install new instance for IBM Control Desk. If you plan to reuse existing middleware, verify that they are at a supported level. The middleware and product installation programs do not provide a mechanism for updating servers that use unsupported versions of middleware. The installers also do not provide remote prerequisite checks to ensure that they are at the correct level.

The product documentation provides the following deployment scenarios:

- Deploying with automatic middleware configuration
- Deploying automatically reusing existing middleware
- Deploying manually reusing existing middleware

Review these scenarios to determine which best fits your needs:

http://www.ibm.com/support/knowledgecenter/SSWT9A7.6.0/com.ibm.sccd-adv.doc/cmninst/install/cccmdbInstallationRoadmaps.html

IBM Training

Project Start

- Provides building blocks to begin to understand and plan how *your* organization can use IBM Control Desk
- Provides a sample high-level project plan and use cases based on real experiences with other IBM Control Desk customers, resources, and initial actions to start your project regardless of deployment model
- Includes these items:
  - High-level project plan
  - Detail plan
  - Guide to help prepare and plan
  - Actions to take
  - Use cases
  - Definitions
  - Links to training videos

- **IBM developerWorks > IBM Control Desk > Best Practices > Planning and configuring**

Project Start

Project Start provides building blocks to understand and plan how your organization can use IBM Control Desk. This workbook provides a sample high-level project plan and use cases based on real experiences with other Control Desk customers, resources, and initial actions to start your project regardless of deployment model.

Lesson 2 Performing an Enterprise installation

Performing an Enterprise installation

IBM Training

Enterprise installation overview

- Can be started interactively or in silent mode
- Launchpad provides a prerequisite checker
- Middleware must be installed first
- Automatic or manual configuration of the middleware is supported

Enterprise installation overview

As mentioned earlier, the installation is run from the administrative workstation. This system can be a UNIX or Windows operating system. The administrative workstation is where the product EAR files are built and later deployed to the application server.

The administrative workstation is used in all phases of the product lifecycle. It is required for the initial installation and configuration of IBM Control Desk. You also use the administrative workstation to install program fixes, product upgrades, new applications, new process managers, and more language packs. If something happens to the administrative workstation, you cannot change your installation. Therefore, it is suggested that you back up the administrative workstation regularly.

You can install IBM Control Desk interactively with the launchpad or in silent mode. When using the launchpad, you can check the system for prerequisites. You must install the middleware components before starting the product installation.

Automatic configuration is not supported when WebLogic is used as the application server.

IBM Training

System prerequisites

- Verify port availability
- Confirm CPU and RAM
  - Stand-alone topology
  - Distributed topology
- Select database and Java EE server
- Use a supported browser
- Allocate disk space

System prerequisites

For more details about the system prerequisites, go to this location:

https://www.ibm.com/developerworks/community/wikis/home?lang=en#!/wiki/IBM%20SmartCloud%20Control%20Desk/page/Version%207.6.0

IBM Training

Middleware support

Databases

- DB2
- Oracle
- Microsoft SQL Server

Java EE platforms

- IBM WebSphere Application Server Network Deployment
- BEA WebLogic

Directory servers

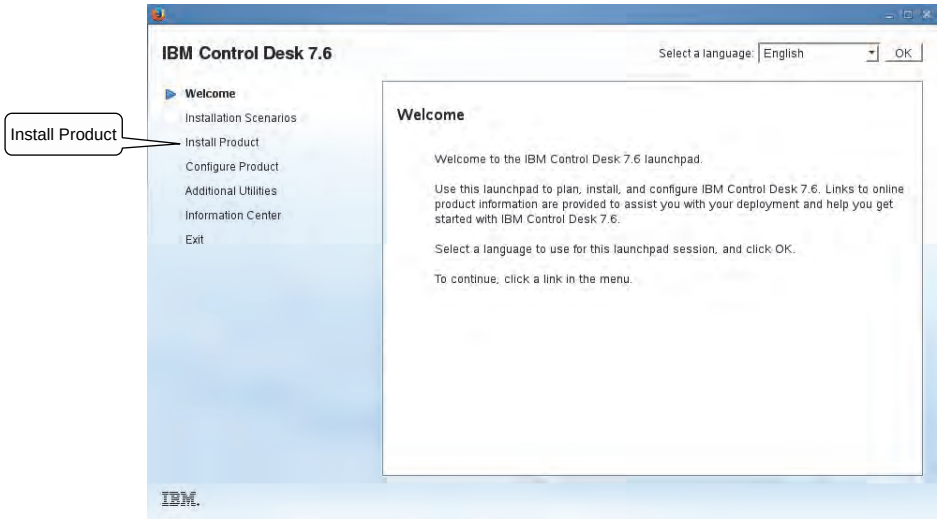
- IBM Tivoli Directory Server
- Microsoft Active Directory

Middleware support

IBM Control Desk provides limited license versions of DB2®, IBM WebSphere® Application Server Network Deployment, and IBM Tivoli Directory Server. If you want to use one of the other supported middleware products, you must have a license.

IBM Training

Using the launchpad



Using the launchpad

The launchpad provides a centralized and interactive approach to the installation. It includes:

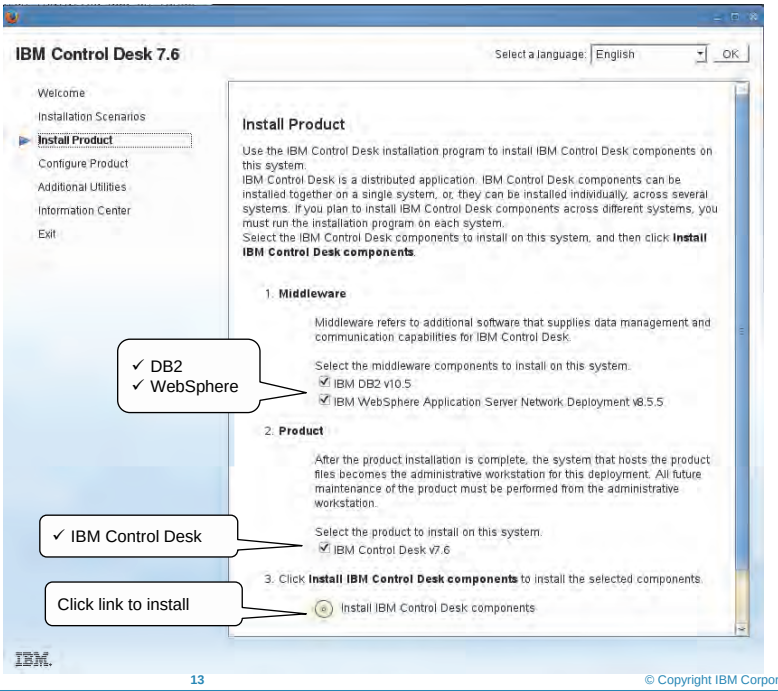
- Links to the documentation
- A prerequisite checker
- Start points for the installation of the middleware, product, optional content, and integration modules

The launchpad is at the root of the installation media. When installing on a Windows operating system, use **launchpad.exe** to start the program. When installing on a UNIX operating system, use **launchpad.sh** to start the program.

When installing on Linux or UNIX, the File Size Limit must be set to unlimited (-1) and the File Descriptor Limit must be set to unlimited or at least 8192.

IBM Training

Installing the product



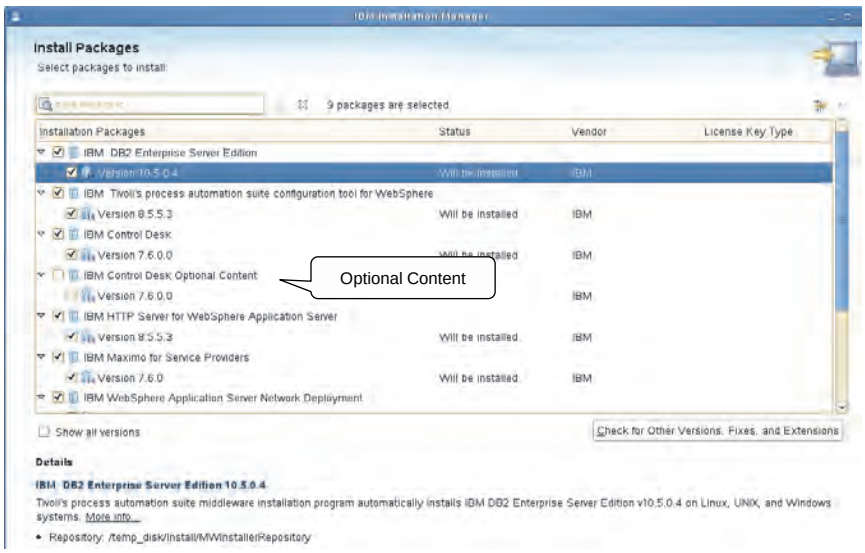
Installing the product

The Install the Product page provides launch points to the installation of the various products. You must install the middleware components first. After installing the middleware, you can install and configure IBM Control Desk. The next few slides provide more details on the installation of the products.

IBM Training

IBM Control Desk installation

- Uses the IBM Installation Manager
- Installs Tivoli's Process Automation Engine and IBM Control Desk applications
- Can automatically configure DB2 and WebSphere Application Server
- Installs language packs



IBM Control Desk installation

Two deployment types are available when installing IBM Control Desk.

- A simple deployment installs IBM Control Desk middleware on one system. All middleware that is used with IBM Control Desk must be installed on the system by using the middleware installation program with the default values. IBM Control Desk is installed with default values that are provided by the middleware installation program and IBM Control Desk installation program. If you want to override the default values used by the simple deployment type, you must use the standard deployment path instead.
- You can use the standard deployment to deploy IBM Control Desk across several systems. With this deployment type, you can install IBM Control Desk on existing middleware instances. You can also modify default installation values by using the standard installation path. This deployment option does not require that you to spread the IBM Control Desk deployment across several systems.

The IBM Control Desk installation program can automate the configuration of some middleware for use with IBM Control Desk. If you choose not to have the IBM Control Desk installation program automatically configure middleware, you must configure that piece of middleware manually before the installing IBM Control Desk.

Important: Confirm that the java `-version` command returns 1.7 or later before starting the installation. IBM Java SDK with JRE is provided on the product images.

Integration Composer installation

- Optional installation for customers who want to import discovery data
- Can be started from the launchpad or installation media directory
  Launchpad > Additional Utilities
- Launchpad installation automatically updates the IBM Control Desk database tables

Integration Composer installation

Integration Composer can be used to import inventory data from a discovery or system management tool database into IBM Control Desk. The inventory data is imported into the IBM Control Desk database tables for deployed assets or configuration items.

IBM Training

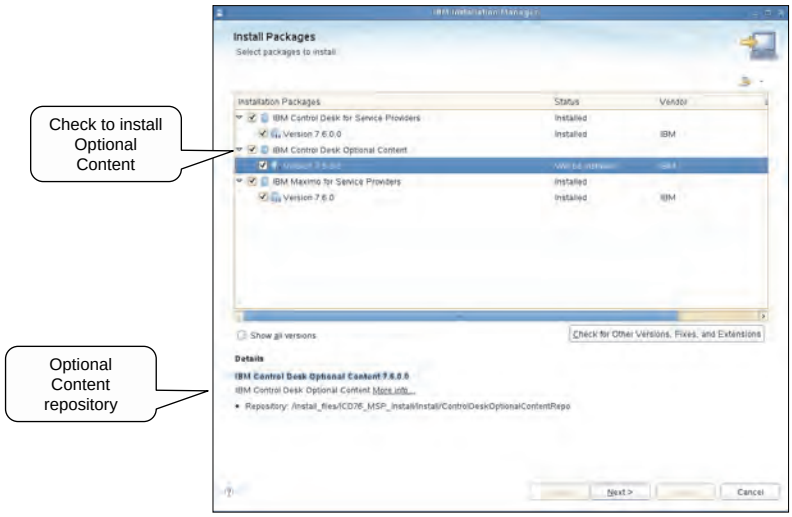
Deployer’s Workbench installation

- Optional installation for customer who needs to create authorized control item (CI) spaces for managing CIs
- Can be installed from the installation media directory

Deployer’s Workbench installation

The Deployer's Workbench is the best-practice tool for creating authorized CI spaces.

Installing the Optional Content

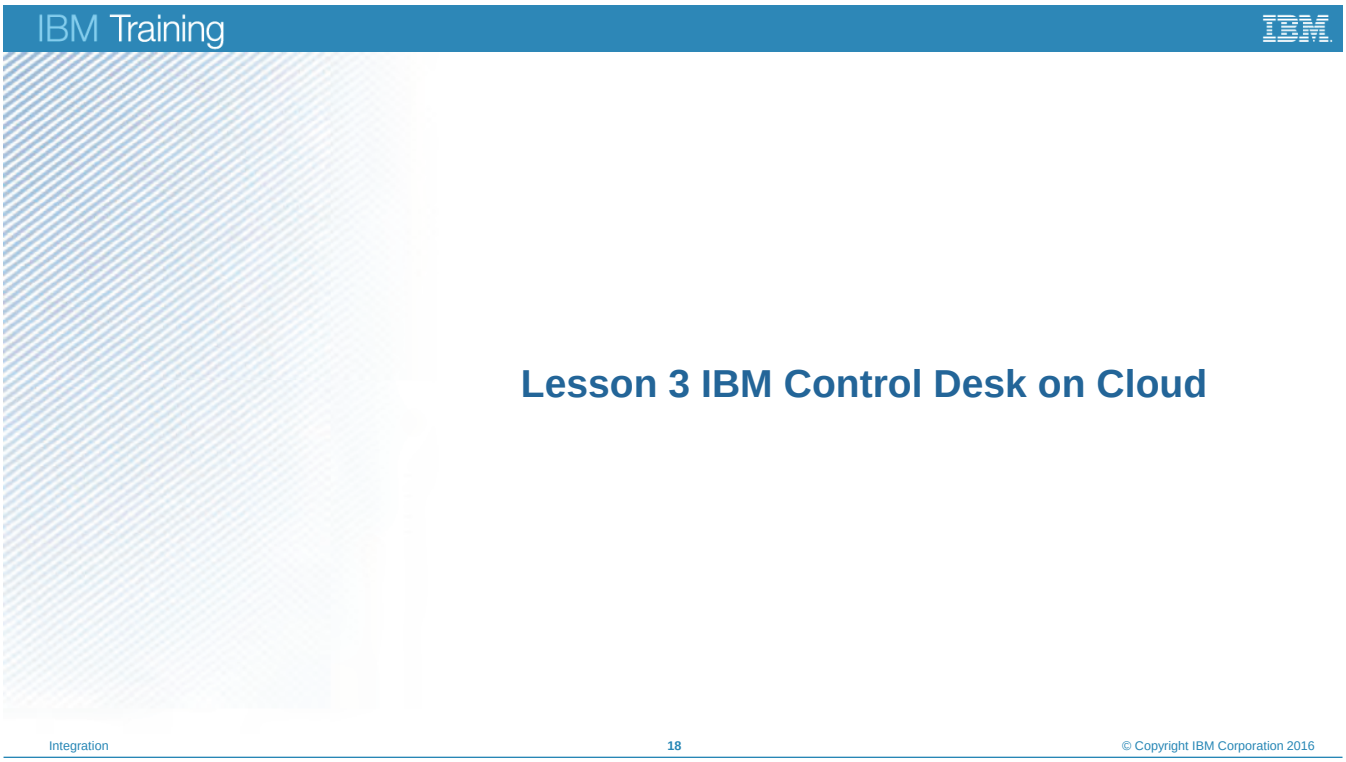


Installing the Optional Content

Optional content is often used in development environments as a way to begin developing your own content. It provides example workflows, roles, start centers, and other content.

For details about the optional content included in IBM Control Desk, go to the IBM Knowledge Center for IBM Control Desk, Reference > Optional Content.

Lesson 3 Control Desk on Cloud



IBM Control Desk on Cloud

IBM Training

Product editions

- IBM Control Desk on Cloud
  - Standard Edition
- IBM Control Desk on Cloud for Service Providers
  - All Standard Edition functions
  - Comprehensive features to manage data for multiple customers
    - Includes Customer field on records
  - Some applications not included in Standard Edition
    - Help manage customer environments
    - Application name (SP)
- IBM Control Desk on Cloud for US Federal
  - All Standard Edition functions
  - Includes extra features required for U. S. government compliance

Product editions

IBM Training

Installation options

- Basic installation
  - No optional content
  - No default Start Centers
  - Minimal number of default users and groups
- Content packages for development systems
  - Artifacts and configurations to facilitate implementation
  - Optional Content Packages
    - Demonstration data
    - Most IT Service Management functions
    - Fully supported
  - Process Content Packs
    - Provided as is
    - Currently five Process Content Packs available

Installation options

IBM Training

Onboading

- Order is submitted through Service Engage or IBM Seller or Business Partner
- Provisioned on IBM's infrastructure
- My Services page on Service Engage updated
  - Users added to SaaS Support Portal
- Project Start and Project Configure

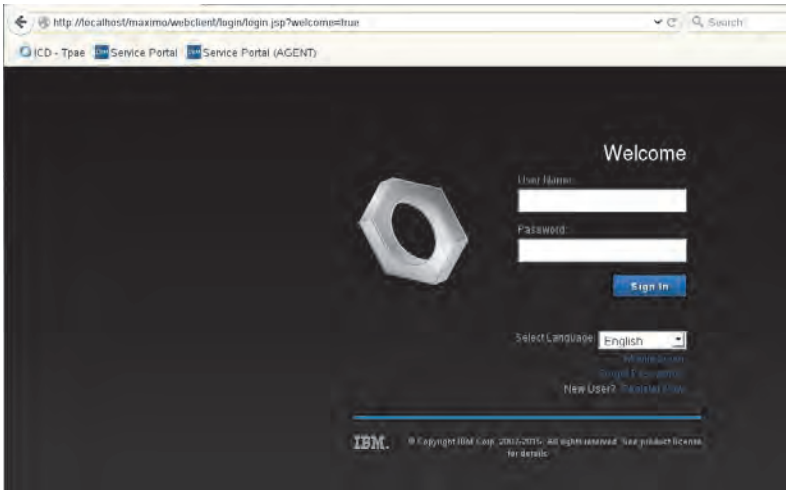
Onboarding

Lesson 4 Navigating the application user interface

Navigating the application user interface

Logging in to the console

http://*server_hostname*/maximo



Logging in to the console

The default web address for the IBM Control Desk console is (where ***host name*** is the fully qualified domain name of your IBM Control Desk server):

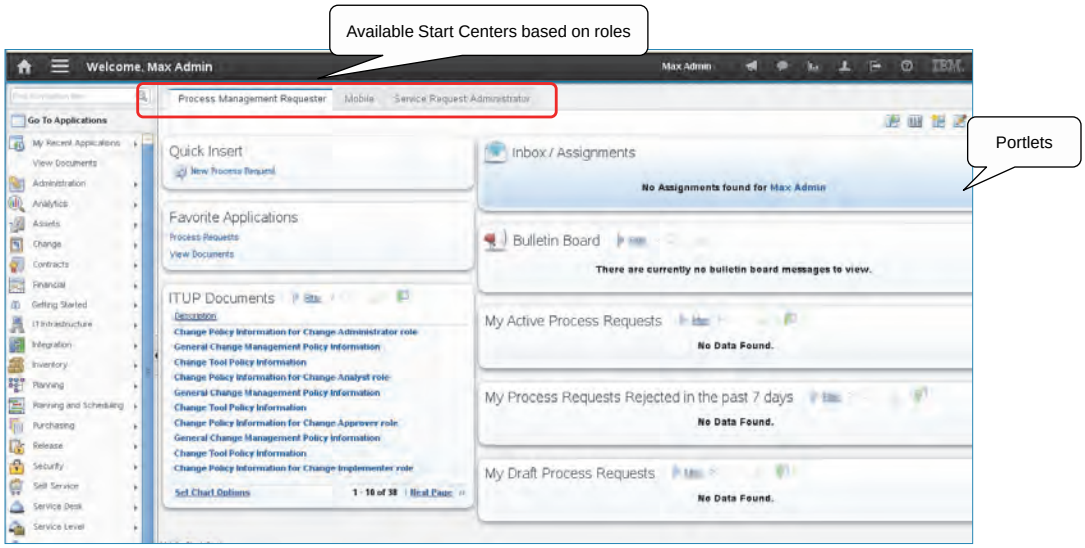
http://*hostname*:9080/maximo

The console uses forms-based login for both Lightweight Directory Access Protocol (LDAP) and local authentication.

You can initially log in to console by using the super user **maxadmin**.

IBM Training

Start Centers



Start Centers

The initial view that a user sees after logging in is their Start Center. The Start Center has the following characteristics:

- It is a template for frequently used applications for the job role of the logged on user.
- It is a configurable page that gives the user quick access to the tools and KPIs that they use most frequently through portlets.
- It is based on a template for the security group to which the user is assigned.

When you sign in, you see the Start Center. You can access all applications for which you are authorized through the Go To option on the Start Center.

Start Center templates can be created for various user groups with custom content that is most important to the users. All users start with at least one Start Center. Start Centers are assigned to security groups. Therefore, if you belong to more than one security group, you might see tabs at the top of the page, where each tab is a Start Center page for a different security group.

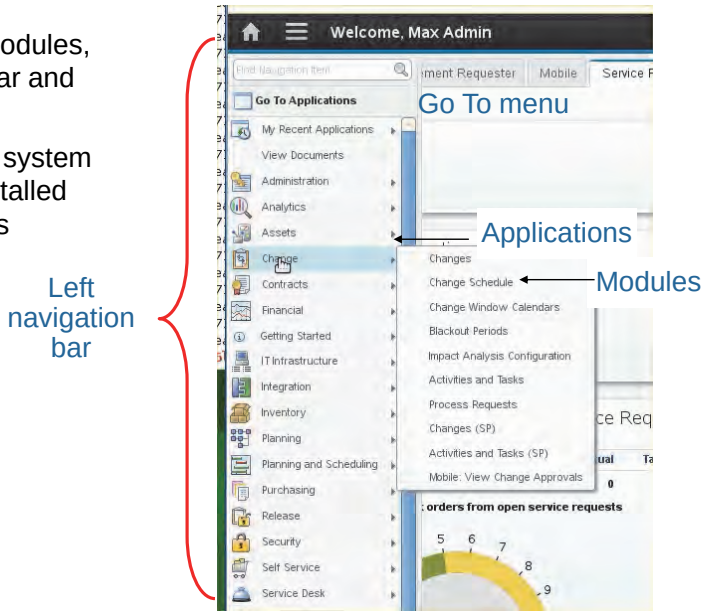
For training on creating and managing Start Centers, consider taking the *Tivoli's process automation engine 7.5 Fundamentals* course. This course is offered as instructor-led, instructor-led online, and self-paced. More information about this course can be found in the IBM training catalog:

http://www-304.ibm.com/jct03001c/services/learning/ites.wss/us/en?pageType=page&c=a0000037

IBM Training

Modules and applications

- The system groups applications into modules, which are listed in the left navigation bar and the **Go To** menu
- The modules and applications that the system displays depend upon the products installed and any extra added functions, such as Industry Solutions



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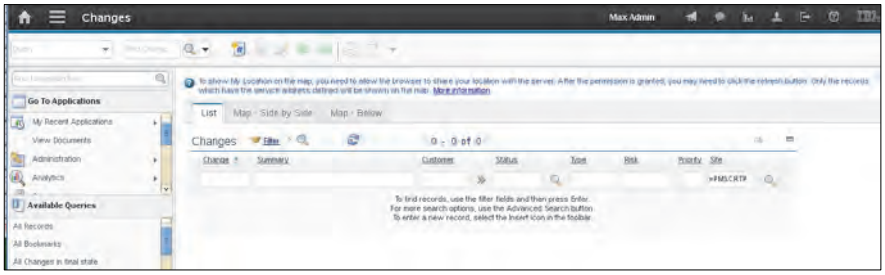
Modules and applications

IBM Control Desk applications are grouped into modules, which are listed on the **Go To** menu and left navigation bar. The modules and applications that the system displays depend upon the products that are installed and any extra added functions, such as Industry Solutions.

IBM Training

Accessing a record



Note: Equals (=) search looks for an exact match

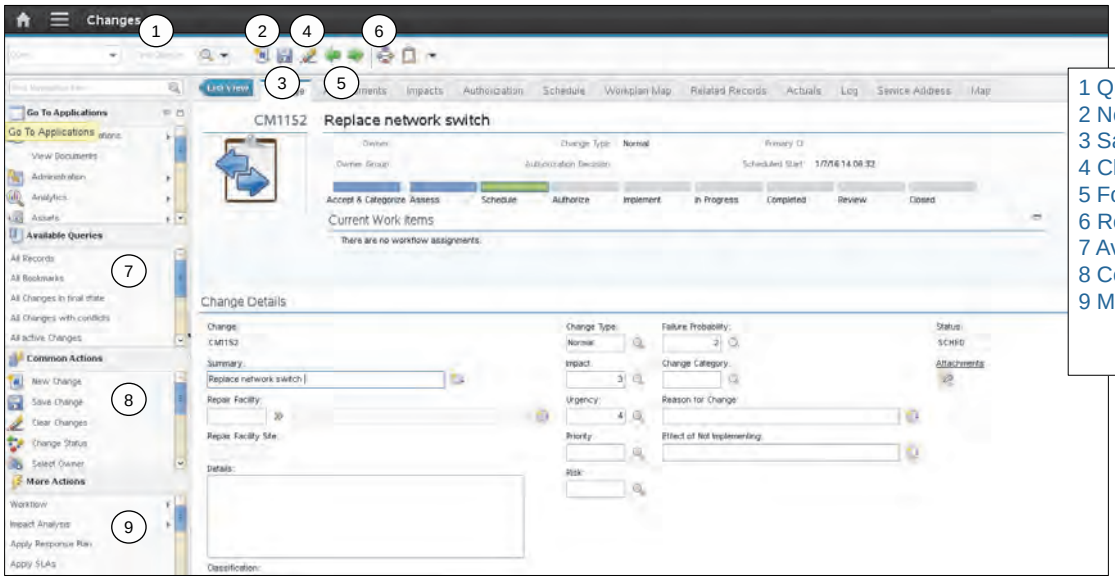
Accessing a record

A search bar and blank list is displayed when you open an application. To find a record, enter all or part of the record value in the field name. A list of all matching records is displayed. Use the equal sign (=) for an exact match. To return all records, press enter without entering any filters.

Clicking the record opens the record for editing and takes you to the tabs for the applications.

IBM Training

General interface components



1 Quick search
2 New record
3 Save record
4 Clear changes
5 Forward or backward
6 Route workflow
7 Available queries
8 Common actions
9 More actions

Integration 27

General interface components

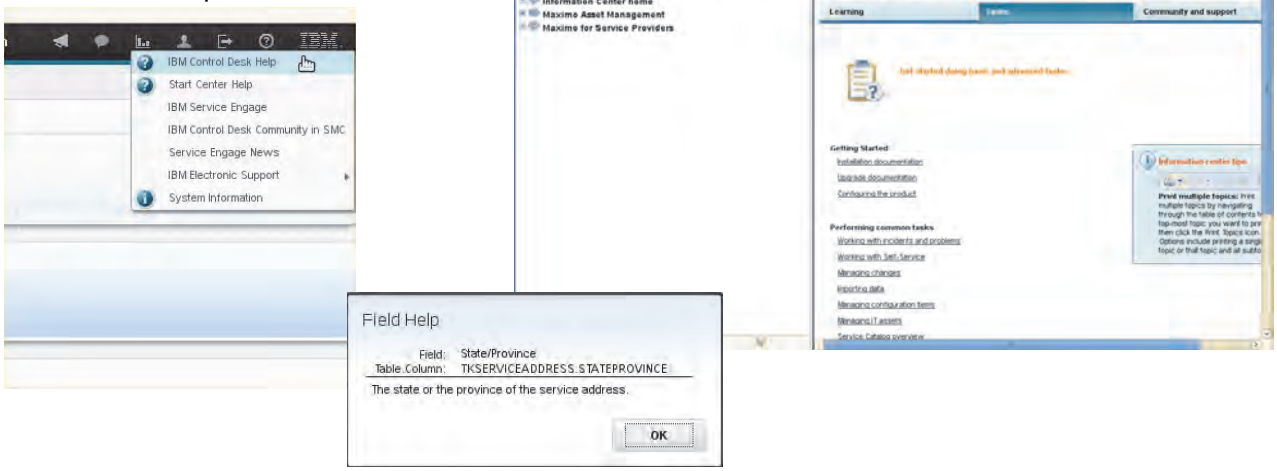
Some of the general interface components that you see in applications include:

- Quick Key Search
- Select Action
- Insert
- Save
- Clear Changes
- Previous Page and Next Page
- Change Status (where applicable)
- Reports

IBM Training

Help and the user guide

- General system help
- Application-specific help
- Field-level help



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Help and the user guide

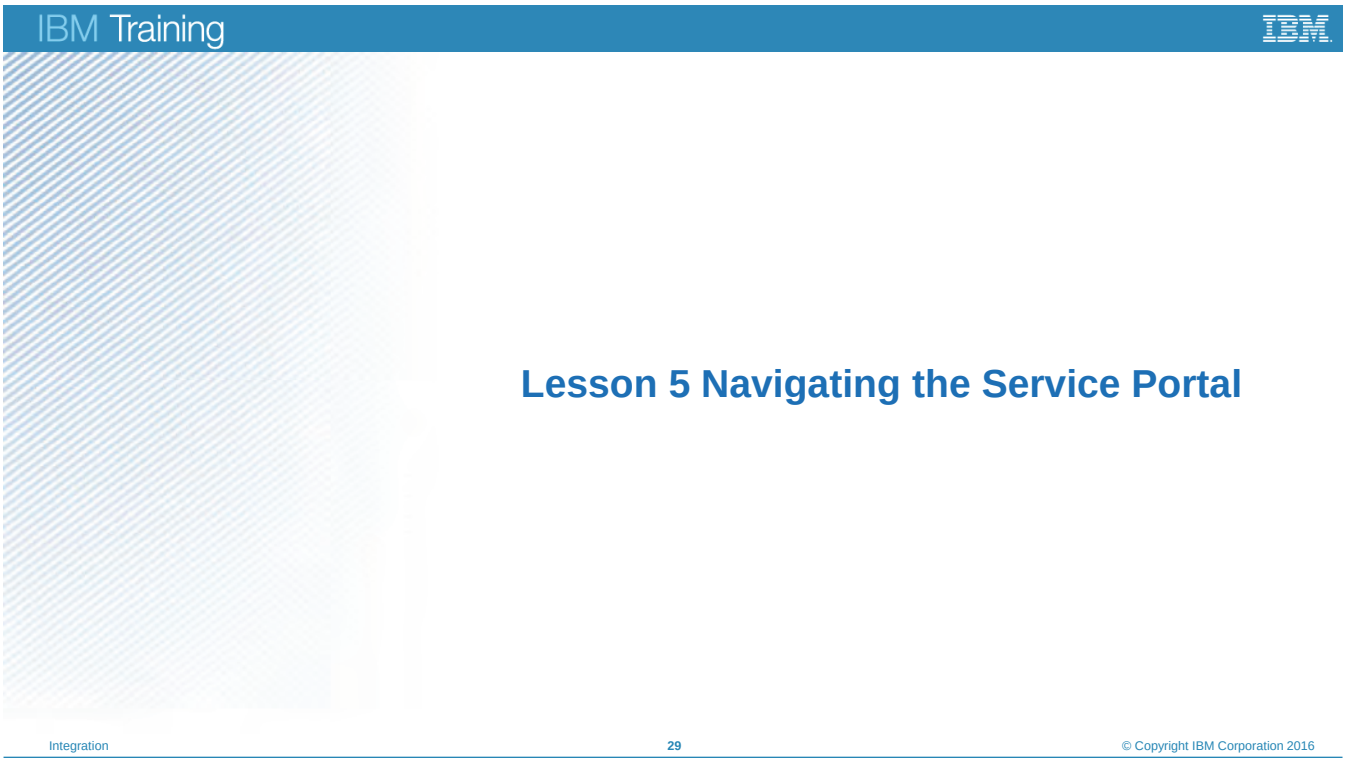
IBM Control Desk provides several ways to access help:

- General IBM Control Desk help is available from the **Help** link on the Start Center and from within applications.
- Application-specific help is available from the **Help** link only when you are in an application.
- Field-level help is available by clicking the field and then pressing ALT+F1.

The product manuals are available at the following web address:

http://www.ibm.com/support/knowledgecenter/SSWT9A7.6.0/com.ibm.sccd-adv.doc/sccdkcwelcome.html

Lesson 5 Navigating the Service Portal



Navigating the Service Portal

The Control Desk Service Portal is available as an optional user interface for IBM Control Desk. Using the Service Portal, you can manage service tickets while using the standard IBM Control Desk infrastructure.

The features that are available to you in the Service Portal are based on your user role.

Important: As of release 7.6.0.1, the Service Portal must be installed on Red Hat Linux.

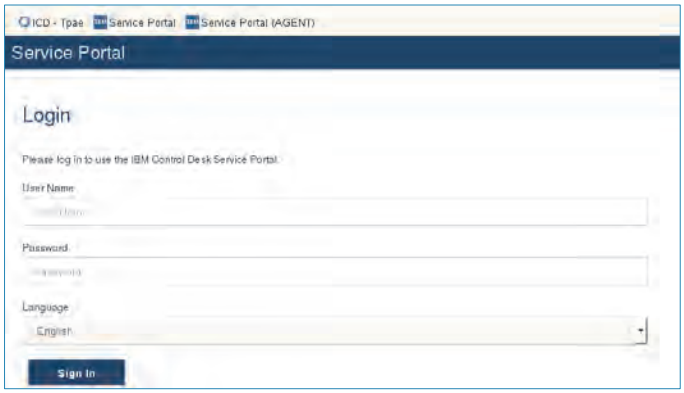
Logging in to the Service Portal

- Self Service Center (users)

  https://<host>:<port>/portal/default/self-service/#

- Ticketing dashboard (service desk agents)

  https://<host>:<port>/portal/default/agent/#

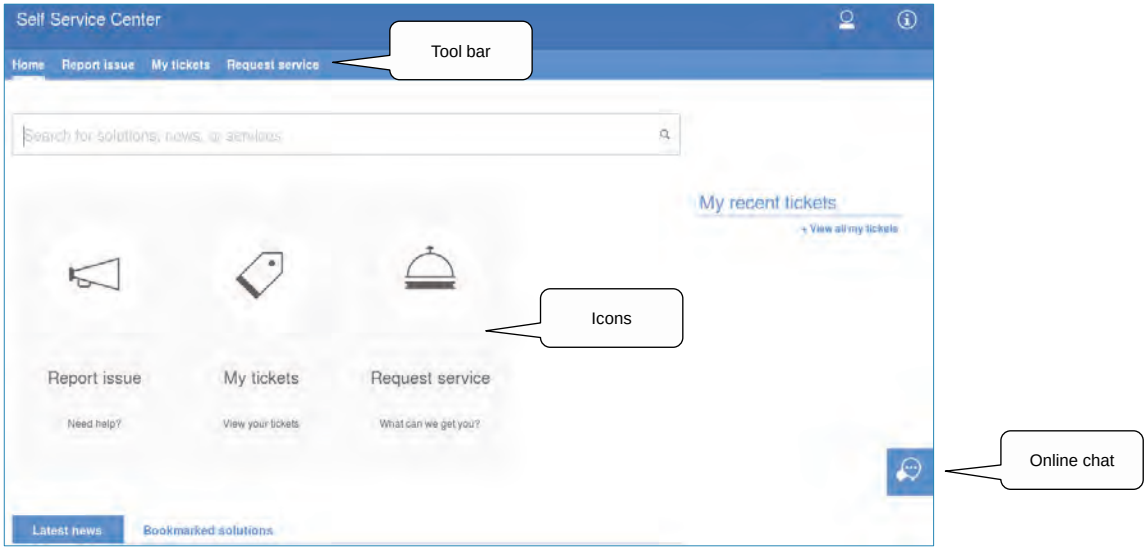


Logging in to the Service Portal

The default port for the Service Portal is 3000, but your system administrator might choose a different one. The user roles that are assigned to you determine your access rights. Users who want to enter tickets to report issues or request services can log in to the Self-Service Center. Ticketing agents and administrators can log in to the Ticketing dashboard.

IBM Training

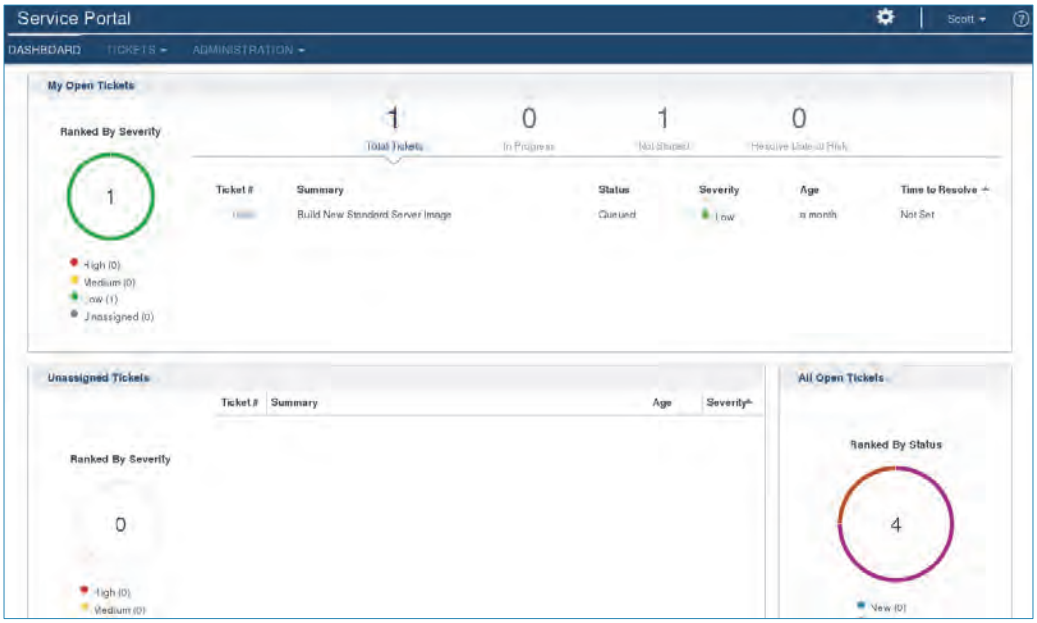
User's Self Service Center



User's Self Service Center

Users can use the portal to open tickets; monitor progress on existing tickets; search for solutions to questions or issues they might have. They can also start a chat session with a service desk agent or request hardware, software, or services through the service desk.

Agent's ticketing dashboard



Agent's ticketing dashboard

Service desk agents can use the portal to review their assigned tickets; to take ownership of tickets; or to update ticket logs with information about attempted solutions, and customer contact.

Users with administration authority can add users to the service portal. The new user is assigned one or more roles, and an email is sent to provide log in information.

Student exercise

Student exercise

Open your *Student Exercises* book and perform the exercises for this unit.

Review questions

1. Which delivery method does IBM host?
   a. IBM Control Desk on Cloud
   b. Virtual machine images
   c. Enterprise installation
   d. None of the above
2. True or False: You need the administrative workstation only to complete the initial installation.
3. Which product is used to import discovery inventory data into IBM Control Desk?
   a. Deployer’s Workbench
   b. Administrative Workstation
   c. Tivoli Integration Composer
   d. Integration modules
4. How does the system determine the Start Center or Start Centers to present to a user?
   a. It presents the Start Center or Start Centers that are saved in the profile for the user.
   b. Start Centers are assigned to security groups. Therefore, a user sees the Start Center or Start Centers for the groups they belong to.
   c. All users see the same Start Centers.
   d. The user selects the Start Center to view when they log in.

Review answers

1. Which delivery method does IBM host?
   a. IBM hosts the IBM Control Desk on Cloud service.
2. True or False: You need the administrative workstation only to complete the initial installation.
   False. The administrative workstation is used for the entire lifecycle of IBM Control Desk.
3. Which product is used to import discovery inventory data into IBM Control Desk?
   c. Tivoli Integration Composer is the tool that is used to import discovery inventory data.
4. How does the system determine the Start Center or Start Centers to present to a user?
   b. Start Centers are assigned to security groups. Therefore, a user sees the Start Center or Start Centers for the groups they belong to.

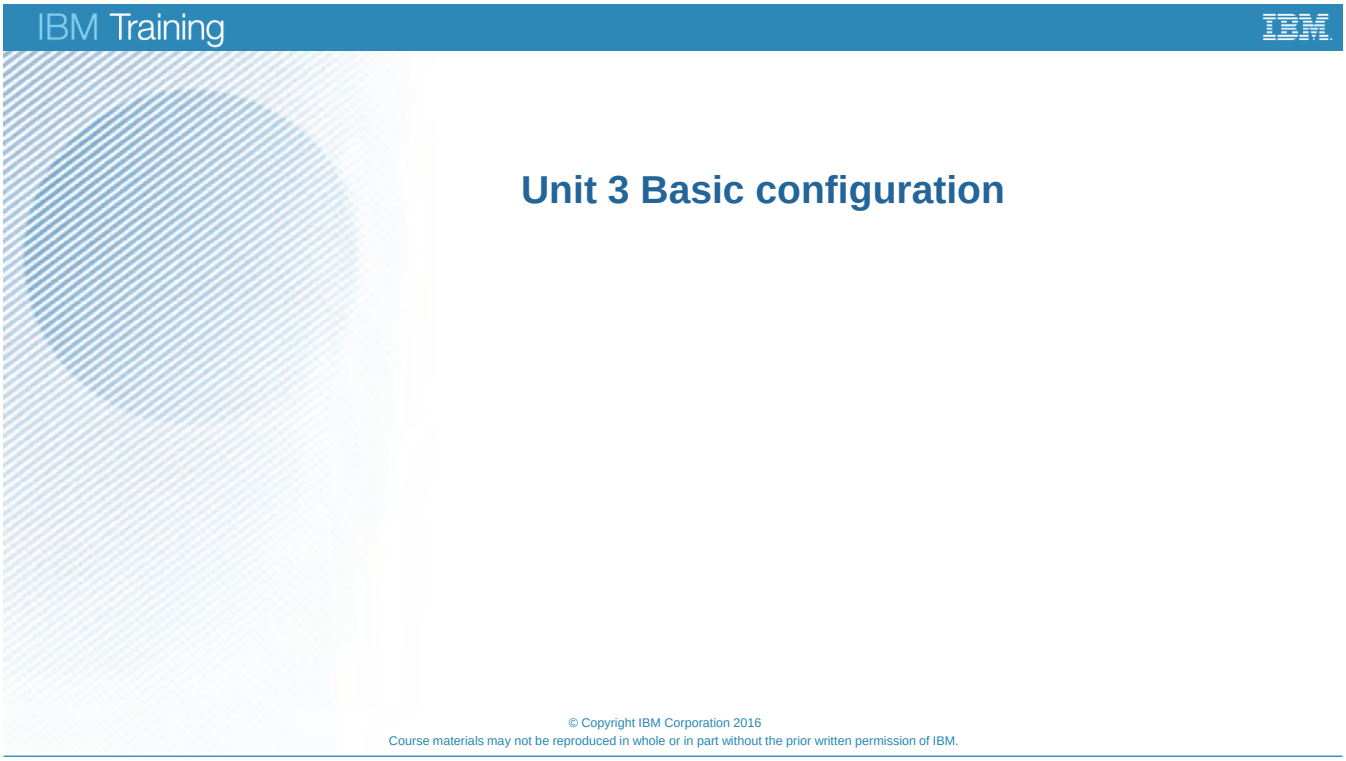
IBM Training

Summary

- Create a deployment plan
- List the basic installation steps
  - Enterprise installation
  - Cloud installation
- Navigate the user interface
  - Application user interface
  - Service Portal

Summary

Unit 3 Basic configuration



This unit covers the basic configuration that is required for an IBM Control Desk implementation. This configuration includes the creation of foundation data for IBM Control Desk. The foundation data is the software constructs that are necessary in the basic configuration of the product. These constructs include organizations, sites, locations, classifications, and various engine financial configurations.

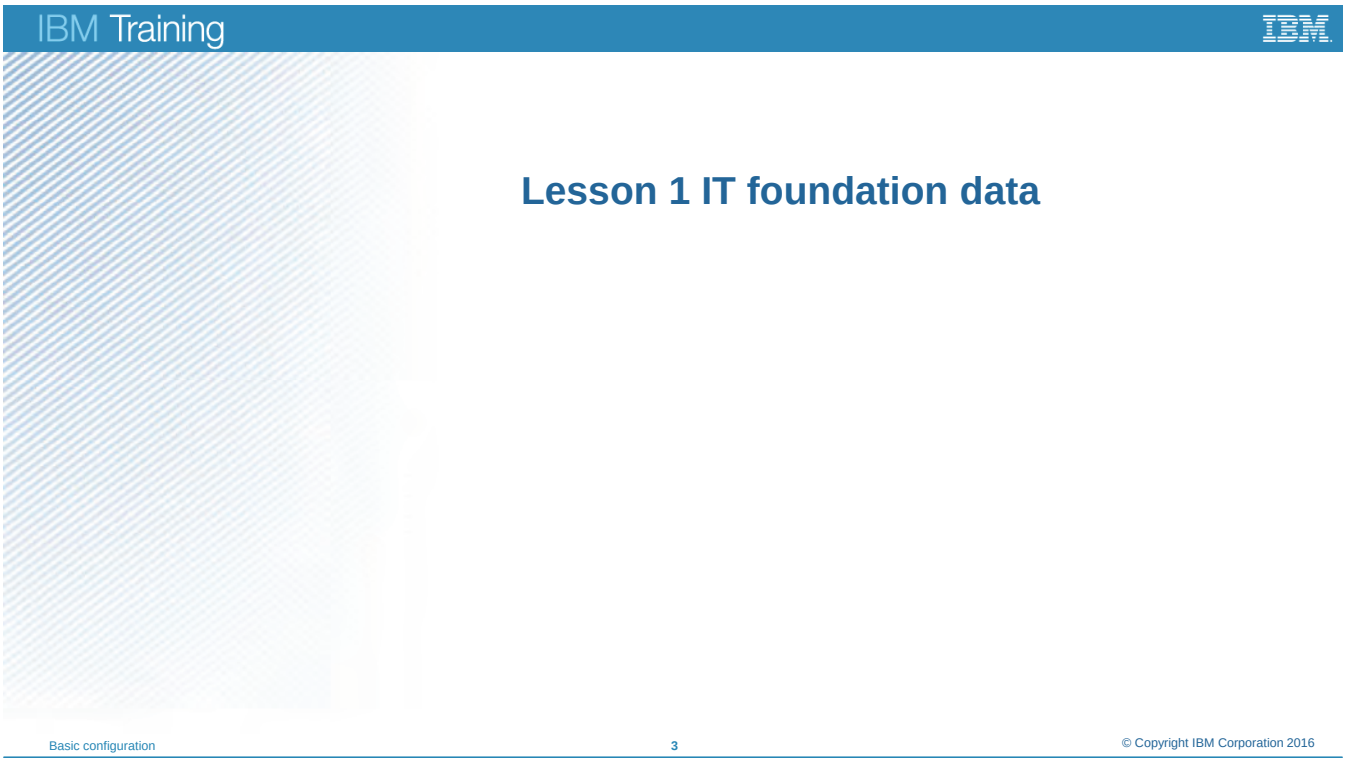
IBM Training

Objectives

- Define IT foundation data
- Perform basic configuration steps
- Use the Quick Configuration tool

Objectives

Lesson 1 IT foundation data



IT Foundation data

IBM Training

IT foundation data

- Before you can use IBM Control Desk to manage your IT environment, you must define core data:
  - Organizations and sites
    - Organization: a financial entity
    - Site: a facility
  - Item and company sets
    - Groupings of information
  - Key financial data
    - Transactions and data
  - Location hierarchies
    - Where assets are in the enterprise
  - Classification structures
    - Means of identifying or describing data
  - Security and resources
    - Authentication and authorization

IT foundation data

This lesson is intended to provide an overview of the key elements that must be considered when implementing IBM Control Desk. It is important to understand that some decisions are difficult to recant after they are made. Other decisions require forethought as to the future direction of the business. Most of these decisions must be made before or during the installation of IBM Control Desk. After data is loaded into the system, some changes to the basic configuration are not allowed.

IBM Training

Organizations, sets, and sites

- An organization is typically a financial entity within an enterprise that uses one base currency and one chart of accounts
- A site is a facility in an organization where work management activities are performed
- Sets are groupings of information that a number of organizations can mutually see and access

Organization, sets, and sites

An ***organization*** is a logical division of a company that contains one or more sites. Sites belonging to the same organization use the same currency and share options for work orders, assets, labor, and other types of data.

In a large enterprise, multiple business functions can also be configured as different organizations. For example, a company can define two organizations: one to maintain the company assets and another to maintain the assets of its clients.

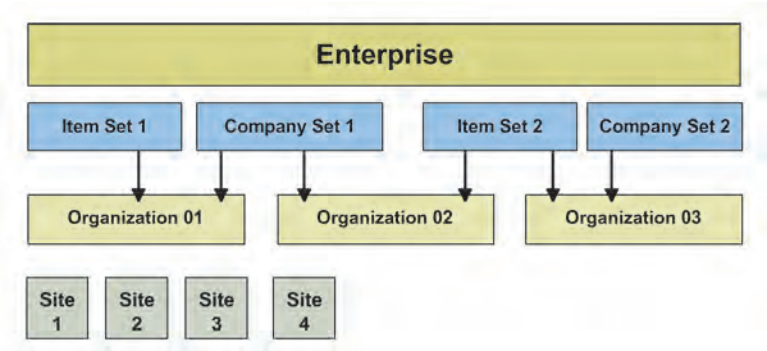
A ***site*** is a subdivision of an organization that might track inventory and other data separately from other sites. Certain site information is unique to the site and is not visible to other sites.

Note: Organizations and sites are virtual entities that are designed to accommodate many kinds of business practices. They do not necessarily correspond to physical sites or facilities.

IBM Training

Multiple organization and site setup

With a multiple organization and multiple site setup, clients can organize data into enterprise, set, organization, and site levels



Note: Multiple organizations are optional.

Multiple organization and site setup

Large businesses, government agencies, and other types of enterprises often have multiple facilities. However, these different facilities often have common business practices or share common data, and separate database instances do not meet the needs of the business or public enterprise. A few situations require multiple organizations:

- There is more than one GL Account structure.
- Tax options are handled differently within different parts of the business.
- More than two base currencies are required for monetary transactions.
- There is more than one legal entity that is represented in the database.
- Different parts of the business have different processes for the same function.

Organizations need to centralize data and software management even when an enterprise is spread over multiple locations. The multisite functions of the system provide large enterprises a way to standardize and share certain kinds of data between facilities. Other types of data, such as work management data, is unique to a particular site. You can also use the multisite capability to selectively give users access to data at different sites. A multisite implementation is about data separation in the database.

A multisite implementation is not intended to duplicate the standard organizational structure with a company that is, management levels and levels that are used for reporting purposes.

More details on planning for a multiple site implementation can be found here:

http://pic.dhe.ibm.com/infocenter/tivihelp/v50r1/topic/com.ibm.mbs.doc/gpmultiplesites/tctrplanmultisites.html

Note: You do not have to set up a multisite environment. If your business is relatively small, you can create the minimum implementation requirements with a single general ledger (GL) accounting system. The minimum requirements of the engine are a single organization with a single site, one company set, and one item set.

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System data levels

The system stores application data at one of the following four levels:

- **Enterprise**: The data is available to all organizations and sites
- **Set**: A special category. Multiple organizations can share items and vendor company data
- **Organization**: The data is available only to the specified organization and all sites in the organization
- **Site**: The data is available only to the specified site

System data levels

Data that is stored at the organization level

An organization can be a legal or logical entity, depending on the setup of the business and its requirements. One or more sites can belong to the organization. Data that is stored at the organization level has the following characteristics:

- An ORGID identifies the data.
- The chart of accounts, base currency, and financial periods are defined at the organization level.
- Vendors, items, labor, and purchase agreements are defined at this level, enabling sites that belong to that organization to share this data.
- Items and vendors (companies) at the organization level can be shared across organizations by using sets. Sets are groupings of information that multiple organizations can mutually see and access, allowing these organizations to share the data in the sets.
- Addresses for sites that are used to specify the Bill To and Ship To in the purchase orders (POs) are defined at this level with an address code.

Data that is stored at the database enterprise level (system level)

A system is a single instance of the database. A single system can contain many organizations and sites. Data that is stored at the system level has the following characteristics:

- Affects all applications in the organization and site level
- Is used across the entire enterprise

For example, security controls are set at the system level. These restrictions establish new user defaults, sign-in tracking, and password requirements.

Data that is stored at the site level

A site belongs to an organization. An organization can have more than one site. All asset management data, such as assets, locations, change work orders, release work orders, activities, incidents, and job plans, is defined at the site level. Each site has its own set of data that other sites do not share. Data that is stored at the site level has the following characteristics:

- It can identify a logical work location, such as a facility or office.
- A site belongs to an organization, and a SITEID identifies its data.
- All transactions (such as work orders, PRs, POs, invoices, issues, and transfers) are carried out within a site.
- Assets and locations must be unique within a site.
- A system user can be granted access to one or more sites within the organization.
- Transactions across sites include these examples:
  - Issues across sites
  - Centralized purchasing
  - Asset moves

IBM Training

Set types

Sets must be defined before each organization is created in the system

- Item sets are used for sharing items that are defined in the Item Master application
- Company sets are used for sharing vendors and other external entities defined in the Company Master

Set types

You use the Sets application to create a framework for sharing item and company (vendor) data across multiple organizations. You can use two types of sets in the system:

- In an item set, costs and vendor information can differ among the organizations. However, the overall item definition list (Item Master application) can be shared among all business units. Therefore, items are created in an item set. An item set consists of an item set ID that groups items. Item numbers are unique within an item set. Grouping items into sets allows users to transfer items among sites within different organizations.
- A company set establishes items at the enterprise level. It enables multiple organizations to use them for vendors and other external business entities with which organizations do business. Grouping companies into sets ensures that all sites and organizations use consistent names for vendor companies. It also allows for a centralized purchasing function and accurate consolidated vendor reporting.

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Set rules

As many item and company sets can be created as business practices require

- Each organization is associated with only one company set
- Each organization is associated with only one item set
- Multiple organizations can use the same item or company set

Set rules

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Organization rules

- At least one organization must be defined in the system
- One base currency code must be assigned to an organization
- A clearing account must be assigned to the organization before it can be activated
- At least one site must be created to activate an organization
- A company set and item set must be assigned to the organization

Organization rules

A ***clearing account*** (also called a holding account) is used for transfers between organizations. While an asset is in transit, the associated cost must be put into a clearing account because it is not being used by either organization.

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Options and settings

- System-level settings are defined in the Organization application **List** tab's **Select Action**
- Organization and site level settings are defined in the Organization application **Select Action** for each organization
- The options that are set define the business rules for how an application operates

Options and settings

Options are selected and defined by using the Select Action menu of the Organizations application. These options primarily specify business rules for how an application functions, but they also include some default settings and values.

Defaults are set for a wide variety of options that relate to applications or groups of applications, such as work orders, inventory, purchasing, PMs, and assets.

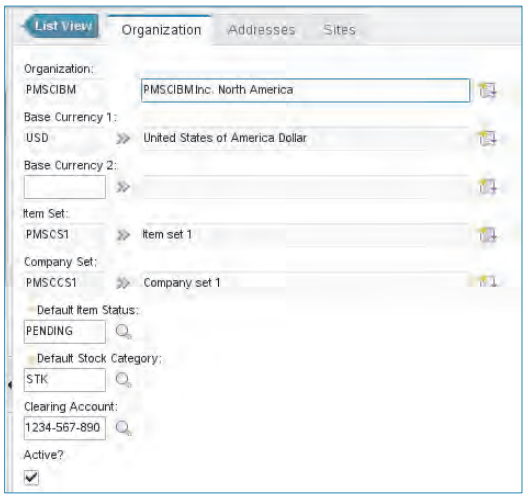
Options that are defined at the organization level apply to all sites in that organization.

Certain data options are set individually from site to site. Settings for one site do not affect data in the other sites, even if they belong to the same organization.

Note: Select Action options from the List view apply only to system-level settings. To specify site-level and organization-level settings, you must select an organization first.

Rules for how an application functions are not necessarily related to the level at which an application stores data. An application might be site-level in terms of data storage, but the settings that are specified for how it functions might apply at the organization level.

Organization application



Organization application

To set up key elements for an organization, follow these steps:

- Specify the organization name.
- Select the base currency.
- Select item sets.
- Select company sets.
- Identify the status of the default item set (Active, Pending, Planning).
- Establish the general ledger (GL) clearing account and check whether it is active or inactive. To establish a clearing account, the general ledger code format must be set up in database Configuration. This format is used system-wide and requires a common format across organizations. This format is discussed in a subsequent slide.
- Specify address codes for organizational units, including sites.

Simple organization configuration can be completed by using the Quick Configuration tool. This tool is discussed in *Lesson 2*.

IBM Training

IT financial components

- Financial transactions
- Financial options and defaults
- Financial data

IT financial components

IBM Control Desk can track costs and send financial transactions to a General Ledger application. This section focuses on identifying the information necessary for these transactions.

IBM Control Desk can produce financial information, but it is not a general ledger package. It does not include balance sheet or income statement reports, and the system does not cannot debit or credit outside of the transactions that are used in daily operation.

Note: Detailed information about the transactions is in the Finance Manager's Guide - http://www.ibm.com/support/knowledgecenter/SS2JEC7.2.2/com.ibm.itam.doc/reference/rfinancemgrguide.html.

IBM Training

IT financial overview

- IBM Control Desk is not an accounting system; it is an IT management system
- Cost tracking is provided
- You can create general ledger transactions to feed external accounting systems
- You can set up interfaces with an external accounting system by using the Integration Framework

IT financial overview

IBM Training

IT Financial transactions

- System transactions can be used to track costs and provide journal entries to an external accounting system
- Transactions can have a debit account and a credit account
  - Generated based on a predefined chart of accounts that is set up at system implementation
  - Required if transactions are sent to general ledger (GL)
- Only one GL account is required if GL Validation is disabled
  - Clearing account

IT financial transactions

The only GL Account that is required when GL Validation is disabled, is a clearing account.

IBM Training

Transactions

- Invoice
- Inventory
- Labor
- Material receipts
- Material use
- Service receipts
- Tools
- License

Transactions

Many applications generate transactions that are written to the database. These transactions can then be sent to an external accounting system. Some of these transactions are then rolled up into predefined reports. For example, Costs by System and Costs by Location can be run from the Locations application. See the Transaction Types chapter in the *Finance Manager's Guide* for details on the types of transaction that are generated in the system.

IBM Training

Financial options and defaults

- At initial implementation, you must review financial options and default requirements
  - Feeding into the general ledger(GL) or chart of accounts (CoA)
- Validation options identify how the chart of accounts is validated and used for an organization
- You can set up default accounts such as organization-level accounts and company-level accounts
- If all default accounts are set up, the user does not need to enter account information for system transactions
  - As listed on the previous slide

Financial options and defaults

IBM Training

Validation options

Financial > Chart of Accounts > More Actions > Validation Options

- Validate GL account entries against values in the Chart of Accounts application
- Validate GL component combinations
- Validate financial periods
- Require valid GL account for all transactions

Validation options

Use the Validation Options window in Chart of Accounts to specify how the system validates GL accounts. You validate GL accounts when you enter those accounts in **GL account** fields.

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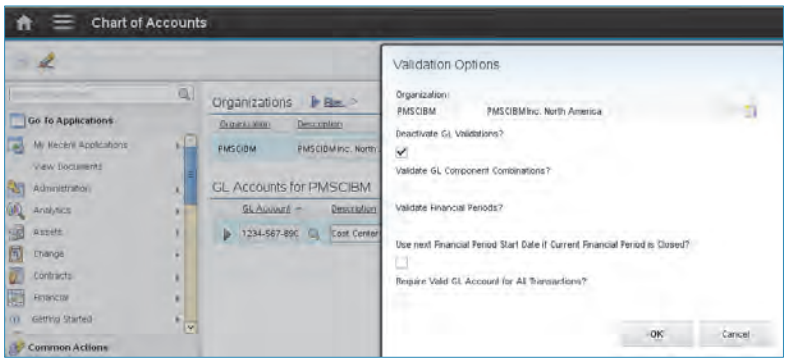
Validation options settings



Validation option settings

When the **Deactivate GL Validations?** option is cleared (the default), the system validates entries in **GL account** fields against values in Chart of Accounts. The next two options specify these values. If you select this option, the system does not validate any **GL account** fields. This selection disables the general ledger feature even though you can still enter values in **GL account** fields.

Note: If you select the **Deactivate GL Validation** option, the remaining options are cleared and cannot be selected.

When the **Validate GL Component Combinations?** option is selected (the default), the system accepts only a valid GL account entry. The GL account entry is valid if the combination of component values matches a GL account code in the GL Accounts table window. If this option is cleared, the system accepts any combination of valid component values. To be valid, a component value must match a value in the GL Component Maintenance window. However, the composite GL account code does not have to match an existing one in the GL Accounts table window.

When the **Validate Financial Periods?** is selected (the default), the system checks to make sure that a transaction falls within an open, valid financial period. This period is defined in the Financial Periods window. If this option is cleared, the system does not validate against defined financial periods.

When the **Require Valid GL Account for All Transactions?** option is cleared (the default), the system allows transactions when you do not specify a valid GL account. If this option is selected,

valid GL debit and credit accounts must be present on all transactions. In most cases, these GL accounts are defaulted from the vendor record. Therefore, the vendor record must be configured correctly.

IBM Training

Default accounts

- Organizational accounts
- Company-related accounts
- Labor-related accounts
- Inventory accounts
- Tax accounts
- Location and asset accounts

Default accounts

See the *Finance Managers Guide* for a list of the valid GL accounts that can be configured. These accounts can be set up to correspond to accounts that are used in an external accounting system. Typically, a system user does not need to know anything about these accounts. After they are configured at initial implementation along with financial validation settings, they show as defaults for all transactions that the user initiates.

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Financial data

- Currency codes
- Exchange rates
- Financial periods
- Chart of accounts

- All are in the Financial module

Financial data

After the validations options and defaults are decided for an organization, financial data needs to be entered into the system to support these options.

IBM Training

Currency codes

- Required to activate an organization
- Used in Purchase Order, Purchase Requisition, Invoice, and Company applications
- Used with exchange rates
- At least one currency code required (user defined)
- Currency Codes application is in the Financial module

Currency codes

A currency code is a short, user-defined value that is created to represent a currency, such as USD for the United States dollar or CND for the Canadian dollar.

After establishing an active currency code, you can use that currency code in any **Currency** field, such as in the Purchase Requisitions, Purchase Orders, Invoices, and Companies applications.

Although the Currency Codes application is used to define currencies, the following applications are used to perform other currency administration tasks:

- Organizations to specify the base currency for an organization
- Exchange Rates to set up exchange rates between currencies for defined periods

The Currency Codes application contains all the currency codes that are used by the system. All organizations can view and use the defined currency codes and add new ones as needed.

IBM Training

Exchange rates

- The Exchange Rates application is used to view, enter, and modify exchange rates in the system
- When a system amount is entered in a different currency, the system finds the active exchange rate for that currency to calculate the cost in the organization's base currency
- The Exchange Rates application includes **Active Date** and **Expiration Date** fields, which define when the rate can be applied

Exchange rates

When a user enters an amount in a different currency from the base, the system finds the active exchange rate for that currency to calculate the cost in the organization's base currency. If the system does not find the exchange rate between two currencies that are explicitly defined, it uses specific rules and logic to calculate the exchange rate from other exchange rates, if they exist.

The system stores exchange rates at the organization level. Therefore, each organization defines and maintains its own exchange rates.

IBM Training

Financial periods

- You can set up all transactions to have a financial period stamp when they are generated
  Default setting is off
- They must occur during an open, valid financial period
- You can define financial periods by using the Financial Period application
- You can turn off validation from the Validation Options window
- Each organization has its own set of financial periods

Financial periods

Use the Financial Periods window in the Chart of Accounts application to define and maintain financial periods. If IBM Control Desk is set up to use financial periods, then:

- The system adds a financial period stamp to all transactions when they are generated.
- The transactions must occur during an open, valid financial period.

If IBM Control Desk is to validate the data against financial periods, ensure that the Validate Financial Periods option is selected in the Validation Options window.

IBM Control Desk ensures that rows are inserted sequentially. It does not allow time gaps or overlaps between periods.

The **Accounting Close Date** field permits, but does not require, entering a closing date. The closing date is the date after which no further transactions can be charged to the accounting period. For example, the accounting period X is from 2/1/16 to 3/1/16, with an Accounting Close Date of 3/15/16. A transaction can be charged to the period X even if the transaction is reported as late as 3/14/16. After that date, no further transactions can be charged to this period.

IBM Training

General ledger (GL) accounts

- General ledger accounts can be used to collect financial data that corresponds in scope and format to an outside accounting system
  Must be generated ahead of time
- GL code format is configured in the Database Configuration application
- After formatting, account codes are set up and managed in the Chart of Accounts application
- GL accounts are set up with components that combine to make up the entire account

General ledger (GL) accounts

A GL account code typically consists of several components (or segments) that are usually separated by delimiters. For example:

6000-200-350

Placeholder characters such as the question mark represent a component that has no assigned value. For example:

6000-???-350

You define the format of the account code in the application in the following ways:

- To define the number, length, and data type of components, whether the components are required, and the delimiter (if any), use the GL Account Configuration action in the database Configuration application.
- To specify a placeholder character, use the System Settings action in the Organizations application.

IBM Training

GL account maintenance

- GL account maintenance is based on the formatting in your external accounting systems
- You define GL segments by using the GL Account Configuration Select Action in Database Configuration
- You set GL Account Configuration at the system level for all organizations
- You create GL components in the GL Component Maintenance **Select Action** in Chart of Accounts application

Note: Requires reconfiguring the database

GL account maintenance

Each general ledger account code consists of a number of distinct components (also called segments). In Database Configuration, the account code format is defined by using the GL Account Configuration window. Use this window to name each component segment and specify its characteristics.

Two steps must be completed to configure GL account codes before using them to collect data and transmit it to the financial system used by the organization:

1. Configure codes in the GL Account Configuration window in the Database Configuration application and save the changes. This step stores the configuration data in the GLCONFIGURE object.

   Recall that individual components are not GL account codes. GL account codes are a specific set of combined components. Therefore, not all combinations of components are necessarily GL account codes.

2. Reconfigure the database. This step ensures that several objects that use the data are reconfigured properly.

IBM Training

Chart of accounts

- Use the Chart of Accounts application to maintain the list of account codes
- You maintain Chart of Accounts data at the organization level
- When entering account codes, you can use placeholder characters for components that are not assigned:
  - Example: 6000-650-**???**
  - Specify the placeholder in the **System Settings** action in the Organizations application

Chart of accounts

The Chart of Accounts application includes windows for setting up default GL accounts and resource codes for a number of standard accounting functions. You typically set up these accounts and resource codes within the application to correspond with accounts that you already use in your external accounting system.

For more information about using these accounts, see the General Ledger Accounts chapter in the *Finance Manager's Guide*.

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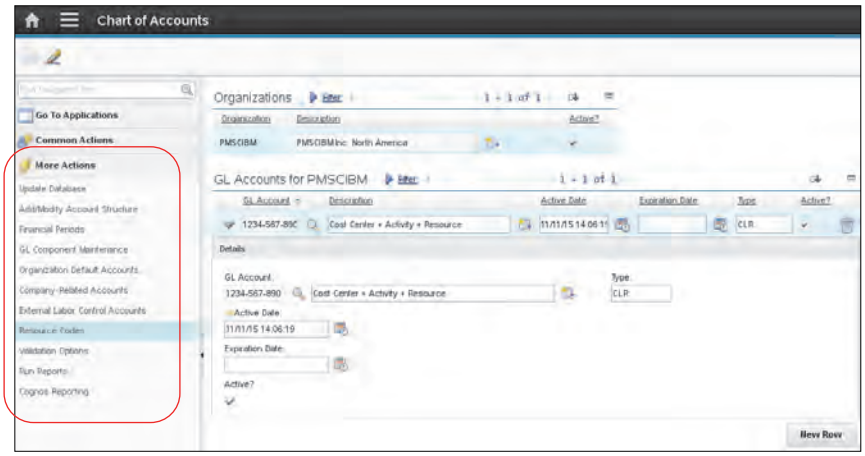
Chart of Accounts application



Go to Applications > Financial > Chart of Accounts

Chart of Accounts application

Use the Chart of Accounts application to:

- Create, view, and modify general ledger account codes and components
- Set up financial periods
- Set up a number of default GL accounts, including an organization account, company-related accounts, and external labor control accounts
- Define resource codes
- Specify GL validation options

You specify the validation rules for what users can enter by using the Validation Option window in Chart of Accounts. Among other things, the rules determine whether users can enter any combination of component values or are restricted to GL account codes stored in Chart of Accounts.

IBM Training

Locations

- You use locations to identify where assets are in the enterprise
  Location use is optional
- A location can represent a physical or virtual place
- You can build hierarchical location structures to represent the structure of a data center or office building
- A hierarchy is associated with a system, which allows costs to be rolled up to the system level and location level
- Several types of locations exist to help categorize assets

Locations

Locations are typically defined so technicians can physically find the asset that they need to work on. Locations are the places where assets operate, but they can include any building, place, or other area that contains assets. A location can be where maintenance work might need to be done. Work order costs are typically charged to the location or to the asset at a location.

Virtual locations can also be used to group like assets together for reporting and costing purposes. For example, an end of lease location might be used to hold assets that are returned to a vendor after a lease expires.

A ***System*** is a group of locations that are organized into hierarchical or network relationships. It is used to group locations for reporting and management purposes. A location can be in more than one system simultaneously.

Each site must have a ***Primary system***, which is the default hierarchy of locations. Each site can have only one primary system. The primary system must be hierarchical. A single top-level location must be the parent of all other locations in the system. If assets in different locations are part of an asset hierarchy, their locations must exist in the primary system.

IBM Training

Location types

- Operating
  Typically where assets are located and operate
- Holding
  A temporary, virtual location where assets wait to be received
- Salvage, vendor, and repair
  Other asset type locations
- Labor and courier
  Inventory types can maintain the balance of items, almost like a storeroom

- A location hierarchy and system can contain only operating locations

Location types

Assets can be stored in other asset-type locations. Other asset-type locations are vendor locations, salvage locations, and repair locations. An asset can be tracked when it moves from one location to another. It can continue to be tracked when it moves to a vendor or repair location, and eventually to salvage.

- **Courier**: Used to track assets that a courier is holding until they are received into another location
- **Holding**: Generally used to identify areas where assets are temporarily stored before tracking procedures like serialization and inspection

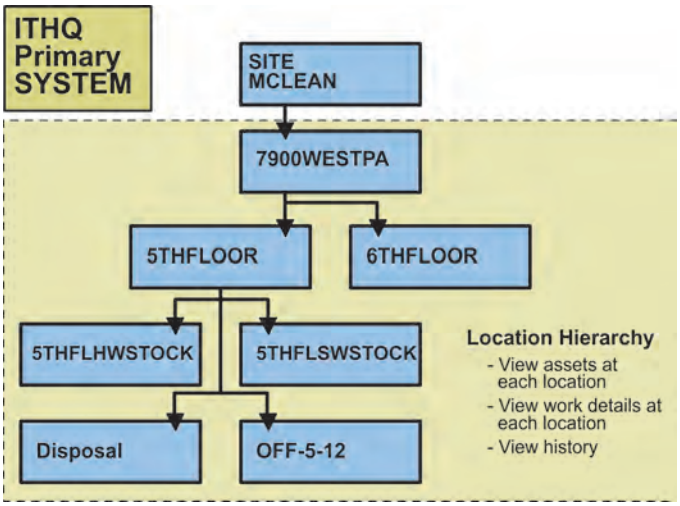
Note: If you accept the default settings for the system to validate component combinations and financial periods, a valid GL Account must be entered within the holding location for the site. This condition applies also if you receive items that need to be serialized and inspected. The holding location is automatically created when you create and activate a site. The default name for the holding location is the site name.

- **Labor**: Associated with location records, which means assets and inventory can be tracked to specific individuals
- **Operating**: Generally used to identify the spaces where the assets operate (the only type that can be a part of a system)
- **Repair**: Used to track assets when they are removed from an operating location for repair

- **Salvage**: Used to track assets when they move to a salvage location
- **Vendor**: Used to track assets when they move to a vendor location

IBM Training

Location hierarchy and systems



Location hierarchy and systems

Establishing one or more systems can build a logical model of the locations at your site by specifying their parent or parents, children, or both. Locations can be placed into more than one system. Your primary system might divide an office building into floors, and the floors into offices. An office might belong to the primary system, the heating system, and the electrical system.

You can add location records without organizing them into systems. However, organizing locations into named systems can help you manage your work more effectively. You can see how a work order can affect assets, locations, or systems beyond the specific asset or location on which the work is to be done.

With operating locations that are organized into systems, you can find a location quickly by using the Open Drilldown and identifying the asset at that location. The Drilldown window is available from the Detail Menu on the Asset, Location, and some Belongs To fields.

Note: A location hierarchy of parent, child relationships can be built only for a hierarchical system, not a network system.

Properly designed locations and systems make it easy to:

- View the history of an asset to see all current and past locations
- Compare costs between locations
- Find assets for change or release work orders

- View costs that are associated with assets at a more detailed level
- Group reporting and cost information for assets from multiple locations

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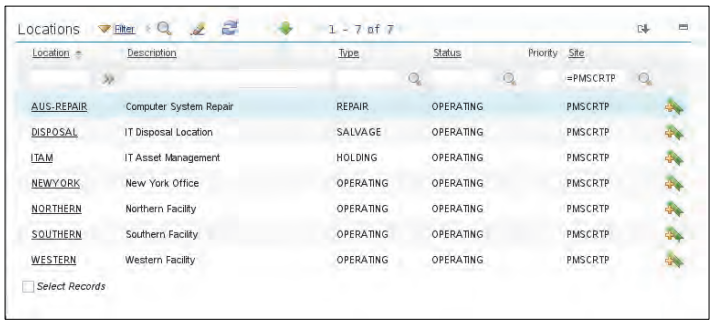
Locations in IT

- The Operating Location GL account is the default debit account for work orders, purchase orders, and other system transactions
- Costs by Locations reports and Systems reports roll up all the costs for labor, materials, tools, and services
- You use the Location application to view all the assets at the location and any work orders
- An asset move history is kept for assets that move to and from the location

Locations in IT

IBM Training

Locations application



Assets > Locations

Locations application

The time and thought you invest in planning your locations and systems simplifies creating them, and makes it easier for users to navigate the Drilldown. The Locations application is in the Assets module and contains these tabs:

- List: Enter and save searches.
- Location: Enter or view detailed information specific to a location.
- Assets: Display the assets, if any, at the selected location.
- History: Display the history of the assets' transactions into and out of the location.
- Specifications: Enter or view specifications for the location that is recorded in the Classifications application.

Initial system setup parameters include:

- Each site needs one system to be identified as the primary system.
- At least one location must exist before a system is created.

Building location structures:

- Start the configuration of the site location hierarchy of an organization by creating a location.
- Create a system.
- Create more locations.
- Associate a system to a location or associate a location to a system.

IBM Training

Storerooms

- You create and maintain storerooms in the Storerooms application in the Inventory module
  Physical location or virtual location
- Used to track inventory items
- Can have a GL account code to help track inventory costs
- Items can be received into and issued from a storeroom location
- You create storerooms at the site level
- Some enterprises might choose not to use storerooms

Storerooms

When you create a storeroom, you specify its general ledger and control accounts. You use the general ledger (GL) accounts to track financial transactions for a storeroom location.

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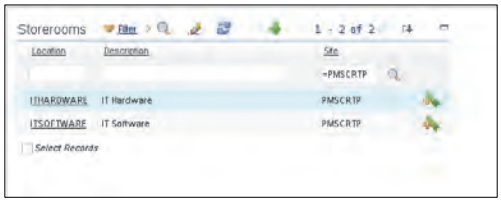
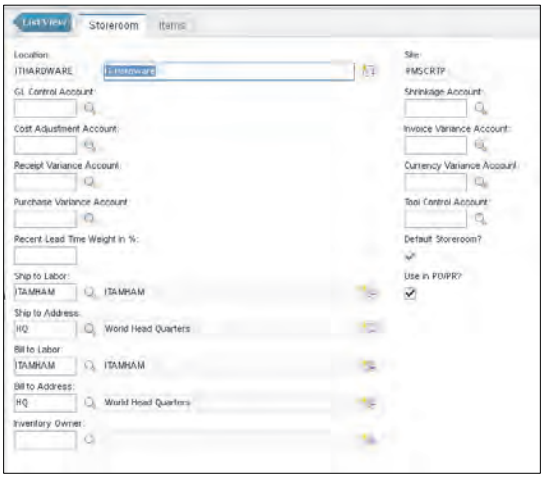
Storerooms application





Inventory > Storerooms

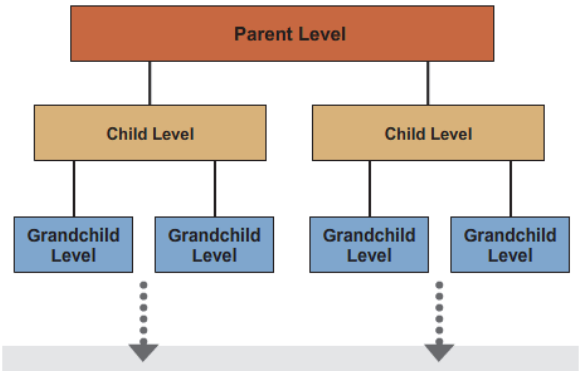
Storerooms application

Use the Storerooms application to view items in a storeroom. Click the **Items** tab to view a read-only list of items and tools that are stocked in a specific storeroom. For each item, you can view the item's name, description, stock category, cost, and balance information.

IBM Training

Classifications

- ***Classifications*** are a means of identifying and describing data
- Classifications are hierarchical and created based on user requirements
- Used to store information about assets, items, locations, service requests, configuration items, and work orders
- Used in searches and look ups, conditional user interface, reconciliation, reports, and more

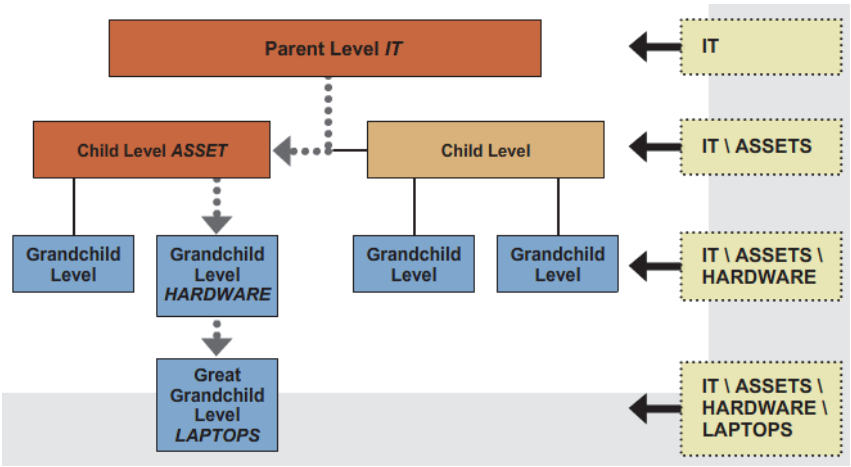


Classifications

Classifications can be used for many purposes in IBM Control Desk. They provide a mechanism for categorizing, searching, and retrieving information. For example, if you want to analyze or review data about all notebooks in your enterprise, you can search by using the classification notebook to retrieve all instances of notebooks. They can also be used to route tickets to the appropriate groups or specify attributes relevant to a request or issue. You might also use a classification to prioritize tickets.

IBM Training

Classification hierarchy



Classification hierarchy

A classification is a way to identify or describe data. A classification uses what are called hierarchies to describe the many types of data (or records) in this system.

The following list defines the terms specific to the use of classifications:

- Hierarchy: A way to organize things or people, in which each element of the system (except for the top element) is subordinate to other elements.
- Classification: A means of identifying something. For example, request, software, computer, and the number 1021 can each be a classification. A classification is a word, a number, or an alphanumeric character.
- Parent: The top level of a classification hierarchy. The associated children fall under the parent level.
- Child: A classification that falls under the parent classification.
- Classification level: The hierarchical position of a classification.

IBM Training

Attributes

- Attributes are used to describe the characteristics of the classification
- Common attributes for assets and configuration items are disk size, memory size, and processor speed
- After objects are classified, attributes become specifications for that instance and can be updated
- Specifications can be viewed and updated in many applications
- The Use With section in the Classifications application can enable specifications in several applications

Attributes

An attribute is a means of grouping characteristics of a classification. It allows for logical grouping of similar characteristics. For example, for a classification path of **IT\Assets\Hardware\Laptop**, an attribute of CPU Speed identifies the processor speed for the instance of that notebook. When you classify assets by using this classification, you can search for all notebooks with a particular processor speed. Attribute names can be numeric or alphanumeric.

IBM Training

Building classifications

- You can build classifications based on an internal hierarchy that you define or an industry standard
- A classification hierarchy can be as simple or as detailed as an enterprise requires
- Attributes can be inherited from the parent to the child, saving many key strokes

Building classifications

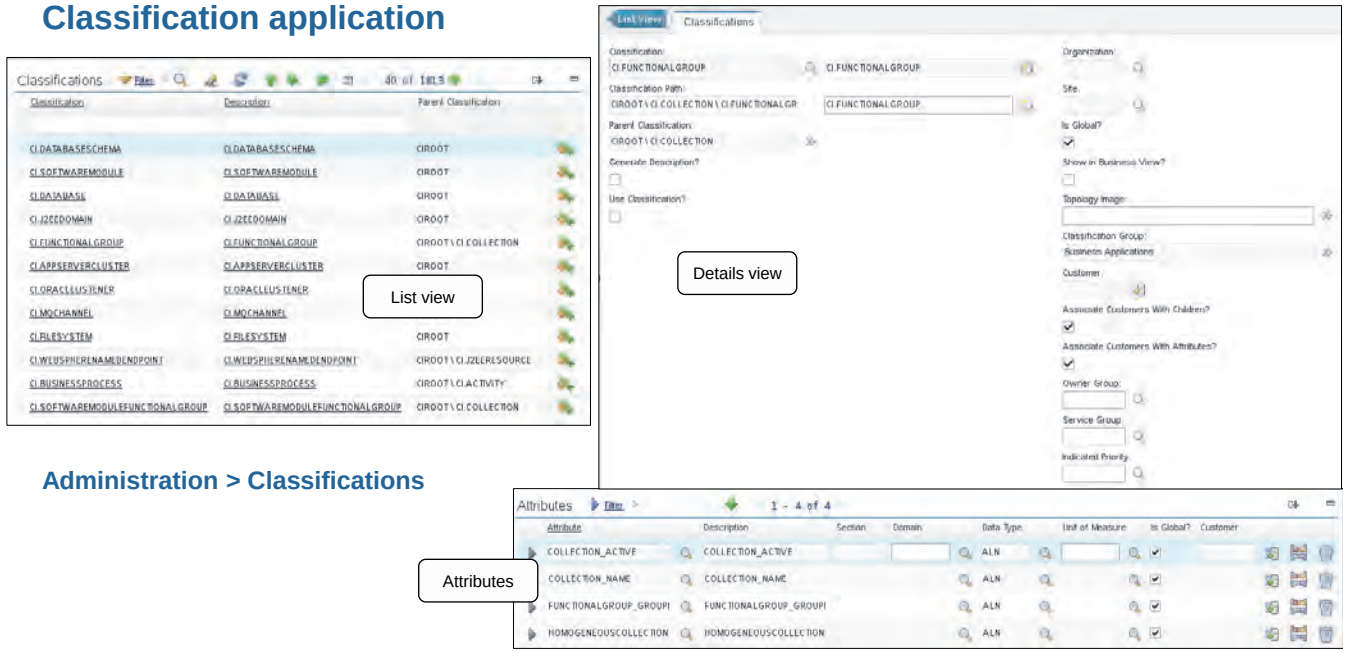
You should give careful thought to the classification structures needed for your organization to categorize service requests, incidents, problems, configuration items, changes, and assets. Classifications are important for the effective use of the Service Request Management features of IBM Control Desk. A logical set of classifications for classifying service requests, incident, problems, and solutions allow the Service Desk to:

- More efficiently sort tickets
- Prioritize tickets
- Assign tickets to correct groups
- Quickly find tickets and information to resolve user issues, queries, and questions

You can build the classification structure based on your organizations internal hierarchy or an industry standard. The optional content that is provided with IBM Control Desk contains example classifications that you can start with. This content is loosely based on the United Nations Standard Products and Services Code (UNSPSC), which is an internationally adopted set of product codes that are created by the United Nations. The UNSPSC provides an open, standard coding system to classify both products and services for use throughout the global marketplace. It is not a product code (describing the product and specifications), but rather a hierarchical classification system that consists of five levels. An organization can use as many or as few of the hierarchy levels as needed. Using the codes can provide a more efficient way to organize and define a classification structure.

However, No solution or recommendation for classification structure works for every organization. Each organization has a different data and reporting requirements. Therefore, these requirements must be considered carefully when deciding on a structure.

When defining your classification structure, create a diagram that depicts the hierarchy before you enter and build a classification hierarchy. When creating this diagram, start at the top and work down to the detailed levels. Keep the classification names simple and understandable. Also, start with a few classifications and build more as needed. If too many classifications exist, users do not take the time to search through them all to find the right one.



Classification application

The **Classifications** tab is used to add, modify, duplicate, or delete classifications. Create a classification by clicking the **New Classification** icon in the Classifications application. Enter the first branch of the structure in the **Classification** field. If the name of a classification does not exist, the system displays a prompt, which indicates that the entered data does not exist. Clicking **Yes** creates the classification and then you can enter more information.

The following list describes some of the fields and options on the **Classifications** tab:

- Classification: The name of the classification.
- Description: A description of the classification.
- Organization: The **Organization** and **Site** fields are null by default. If a node is for a specific organization, it can be defined with that organization in the **Organization** field. Any time a node is defined for an organization, all of its children must be in the same organization. The same is true for sites. After a site is defined, everything under it must be for the same site.
- Classification Path: Lists the name of the classification with parent and children classifications.
- Site: The site to which the classification is applied. The Classification structure exists at the system level but allows optional organization or site definition.
- Parent Classification: The name of the parent of the current classification.
- Generate Description: The site to which the classification is applied. The Classification structure exists at the system level but also allows optional organization and site definition.

- Use Classification: When selected, this check box causes a classification to be inserted in any generated description.
- Use With: Indicates what the classification path can be used with. This function allows for the creation of one classification path that can be enabled for multiple uses, such as assets, locations, and solutions.

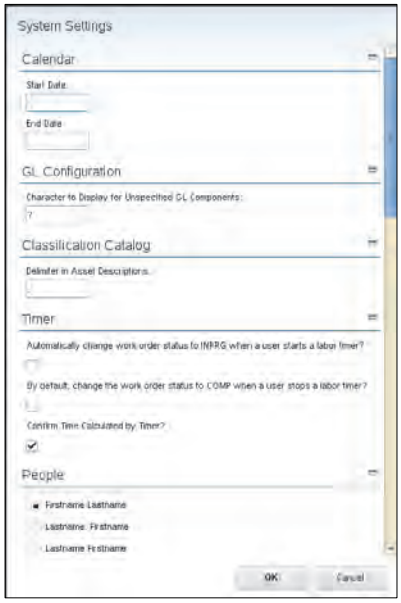
When classifying a location, the lookup shows only classifications with the Use With set to **Y**. A classification use case that is set to N must have all of its children set to **N** also. A **Y** can have a child of **N**, but an **N** cannot have a child of **Y**.

By clicking the **Detail Menu** icon for the **Parent Classification** field, you can view and select various classification hierarchies. To add the subordinate levels to the structure (IT), click **New Row** in the **Children** section of the Classifications application.

IBM Training

IT top-level classifications

Administration > Organizations > Select Action > System Settings



IT top-level classifications

The IT Asset Top-Level class identifies the top-level parent classification for all the IT assets. The IT Asset Top-Level Class is used in reconciliation and many applications in the system to identify an asset as an IT asset. In order for the Assets application to display IT-specific data in the conditional **IT Details** tab, the asset must be classified as an IT asset, with its top-level IT class identified here. This setting must be configured at initial implementation after you identify your classification hierarchy for IT assets.

You must also define the top-level CI classes (actual and authorized). Any CI that has a classification that occurs in the hierarchy below the top-level CI class is a CI for purposes of reconciliation.

IBM Training

Security and resources

- Use local or LDAP security for user authentication
  - If you use using LDAP, it requires Security Groups and Users
- Identify system users, people, and labor
- Create users and groups
- Specify application access by using groups
- Create people and labor records
- Consider multiple site implementation when creating security group methods for application access

Authentication = Identity

Authorization = Access to resources

Security and resources

Authentication is the process of validating the identity of users by providing proof that users are who they claim to be. Different methods can be used to authenticate users. These methods share a common trait: authentication is always provided by a user ID and password. This process is distinct from authorization; authentication is not concerned with granting or denying access to system resources.

In local authentication, a user types a login ID and password on the Welcome page. The security functions validate whether the user ID and password exist in the database. Users are granted access to applications, actions, and data based on the security groups with which their user ID is associated.

If LDAP is used, then security Groups and users must be created in the LDAP application. A synchronization cron task must be configured to import the user and group records from the LDAP to the IBM Control Desk database. This step is required because authorization is still controlled in the system; only authentication is handled in LDAP.

IBM Training

How access is determined

- When a user tries to access an application, the security objects check the maximum access based on combining the user's group memberships:
  - Application access types
  - Access to options (select action and toolbar)
  - Site component
- Database access, unless explicitly granted to a user, goes through the business objects and their rules

How access is determined

Application access types include these examples:

- Read
- Insert
- Save
- Delete

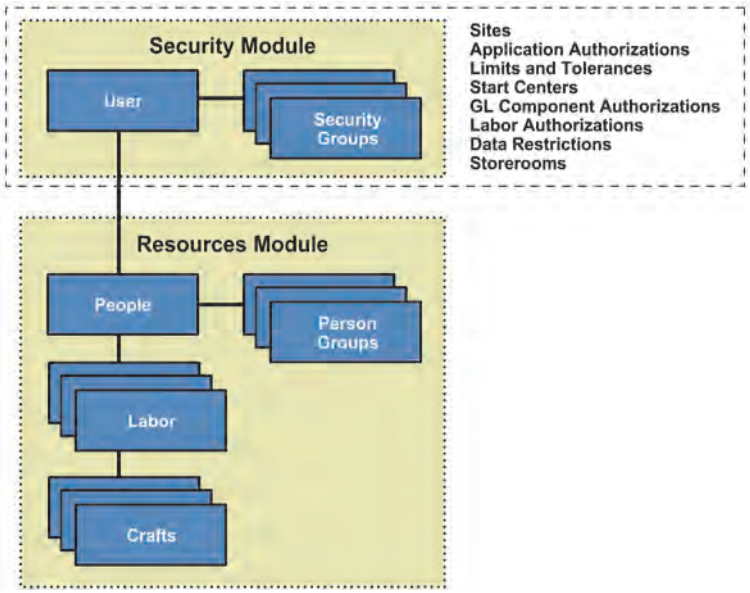
Site component access types include these examples:

- All sites
- Specified sites
- No sites specified

Note: Organization access is derived from the site access and is not specified.

IBM Training

Security overview



Security overview

The following applications are key to security:

- The People application in the Resources module
- The Users application in the Security module
- The Security Groups application in the Security module

The People application captures common personal information for labor, users, asset custodians, asset owners, and help desk callers.

The Users application identifies system users and features user status with history, user default updates, and group assignment.

The Security Groups application is a single point of entry for group-dependent settings such as site access, application authorizations, purchasing limits, and invoice tolerances. It can be used to control Start Center templates, GL component authorizations, labor authorizations, storeroom authorizations, data restrictions, and group restrictions.

A labor record contains information about the skills and qualifications of a laborer. All users and labor must have a person record.

A Person Group consists of people, who might or might not be workers. A person group can be a workgroup, an owner group on a work order, or an owner group on a ticket. A person group can also be the recipient of a document that is routed by a workflow process.

For a deeper understanding of security, consider taking the *Tivoli's process automation engine 7.5 Fundamentals* course. This course is offered as instructor-led, instructor-led online, and self-paced. More information about this course can be found in the IBM training catalog:

http://www-304.ibm.com/jct03001c/services/learning/ites.wss/us/en?pageType=page&c=a0000037

IBM Training

Security groups and users

- Use the Security Groups application and the Users application together
- You can create security groups based on asset management-type roles, such as software asset managers, purchasing agents, inventory administrators
- You make user records and then assign them to groups to provide access to applications
- Multiple site implementations use a site component to control access to applications from one to many sites

Security groups and users

A system user must have a:

- User name, also called a sign-in name
- Password
- Security group
- Default insert site

Characteristics of users and security groups include:

- All security access is based on security groups.
- When setting up a security group, you define access capabilities to applications and their menus.
- The settings for one group can be independent of settings for other groups.
- A user can be a member of multiple groups.
- Any user can have administrative rights within a group.
- Any system user can be assigned as a system administrator.

A system administrator can add or delete users in security groups at any time.

When you first implement the system, the Security Groups application has four groups:

- MAXDEFLTREG: Allows users to change their passwords when they expire. It contains no other rights. When you insert a new user record, the system places the user in this default group. A different group can be specified as the default by using the Security Controls window.
- MAXADMIN: Provides enough access to the system to add users and groups.
- MAXREG: A group that allows users self-register. You can use MAXREG to start a workflow process in which the system alerts an administrator to assign new users to the appropriate security groups.
- MAXEVERYONE: Used for global settings that apply to all users in the system.

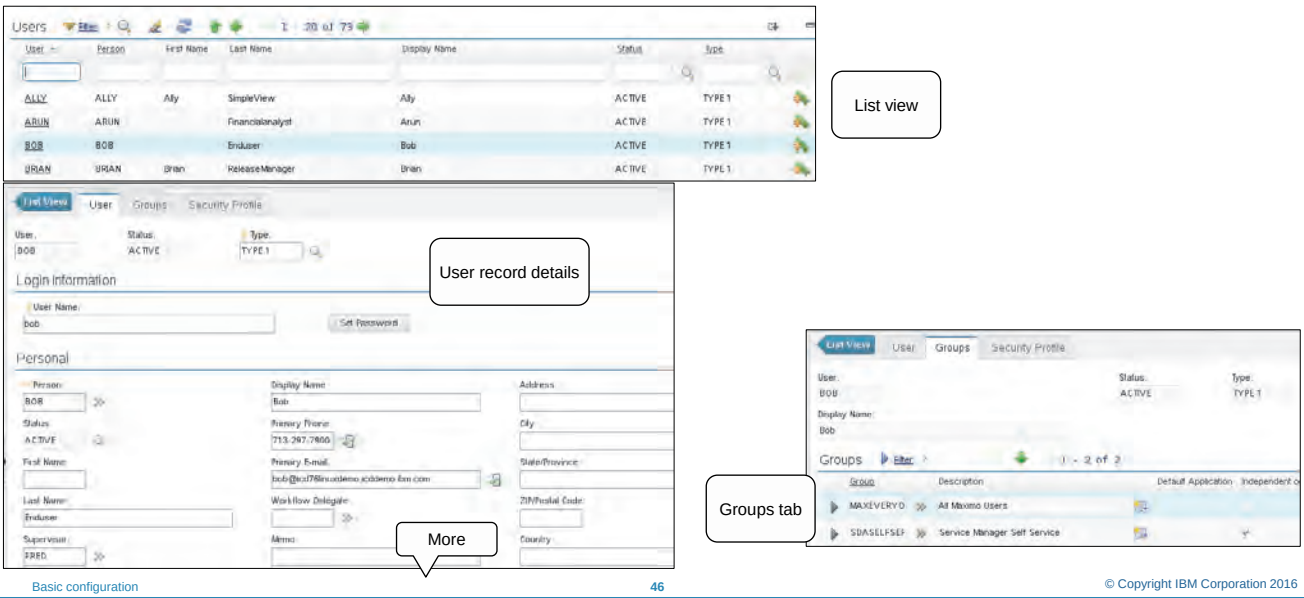
You must create more groups with different sets of rights to be able to assign users different sets of privileges.

The optional content includes more security group examples.

IBM Training

User records

Security > Users



Basic configuration 46 © Copyright IBM Corporation 2016

User records

Most organizations secure their IBM Control Desk installation with an LDAP repository such as Active Directory or Tivoli Directory Server. With this configuration, users are managed within the LDAP repository and synchronized with IBM Control Desk by using a cron task. User records are rarely entered manually in IBM Control Desk.

Two cron tasks are available to synchronize your LDAP repository with your IBM Control Desk database:

- VMMSYNC
- LDAPSYNC

Which synchronization method to use can depend on the LDAP server, web application server, and the directory size. Some general guidelines are:

- With WebSphere Application Server with any LDAP repository other than Active Directory, it is best to use VMMSYNC.
- With WebSphere Application Server with a mix of LDAP repositories, it is best to use VMMSYNC.
- With Active Directory as the repository, it is best to use LDAPSYNC.
- With WebLogic as the web application server, you must use LDAPSYNC.
- For environments with a large directory, you might consider LDAPSYNC for performance. The VMMSYNC cron task synchronizes all information every time and can be a performance concern. After the first run of the LDAPSYNC cron task, it synchronizes only changes.

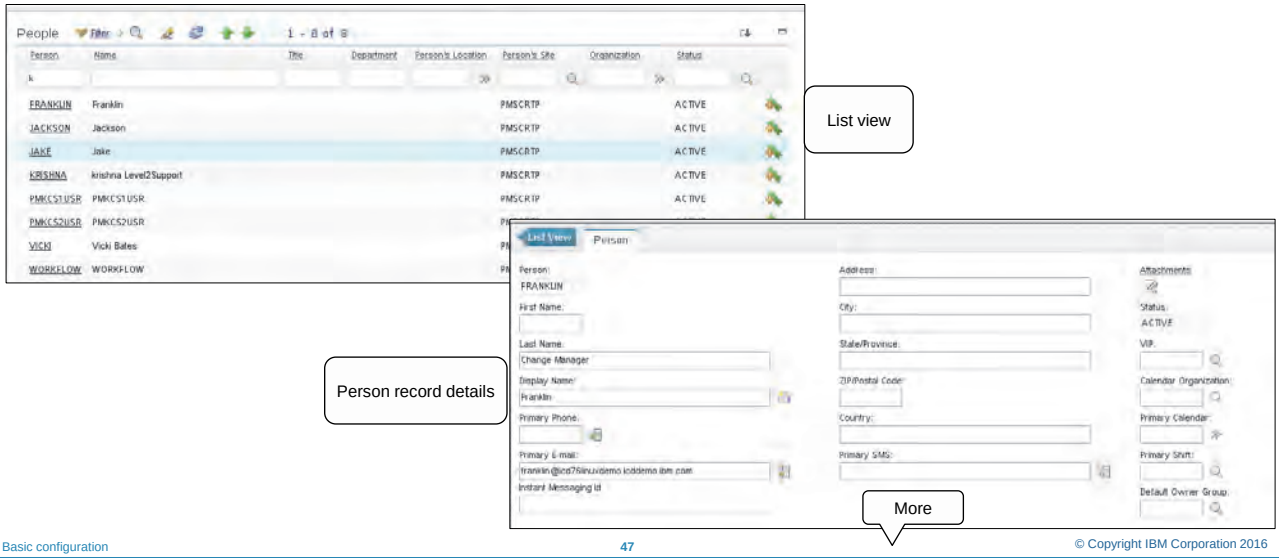
The following IBM Support site search provides links to various articles about LDAP synchronization with Tivoli's Process Automation Engine:

https://www-304.ibm.com/support/search.wss?rs=3214&tc=SSLKT6&q=TPAELDAPSYNC&ibm-go.x=8&ibm-go.y=16&ibm-go=Go&ibmprd=tivmx6

IBM Training

Person records

Administration > Resources > People



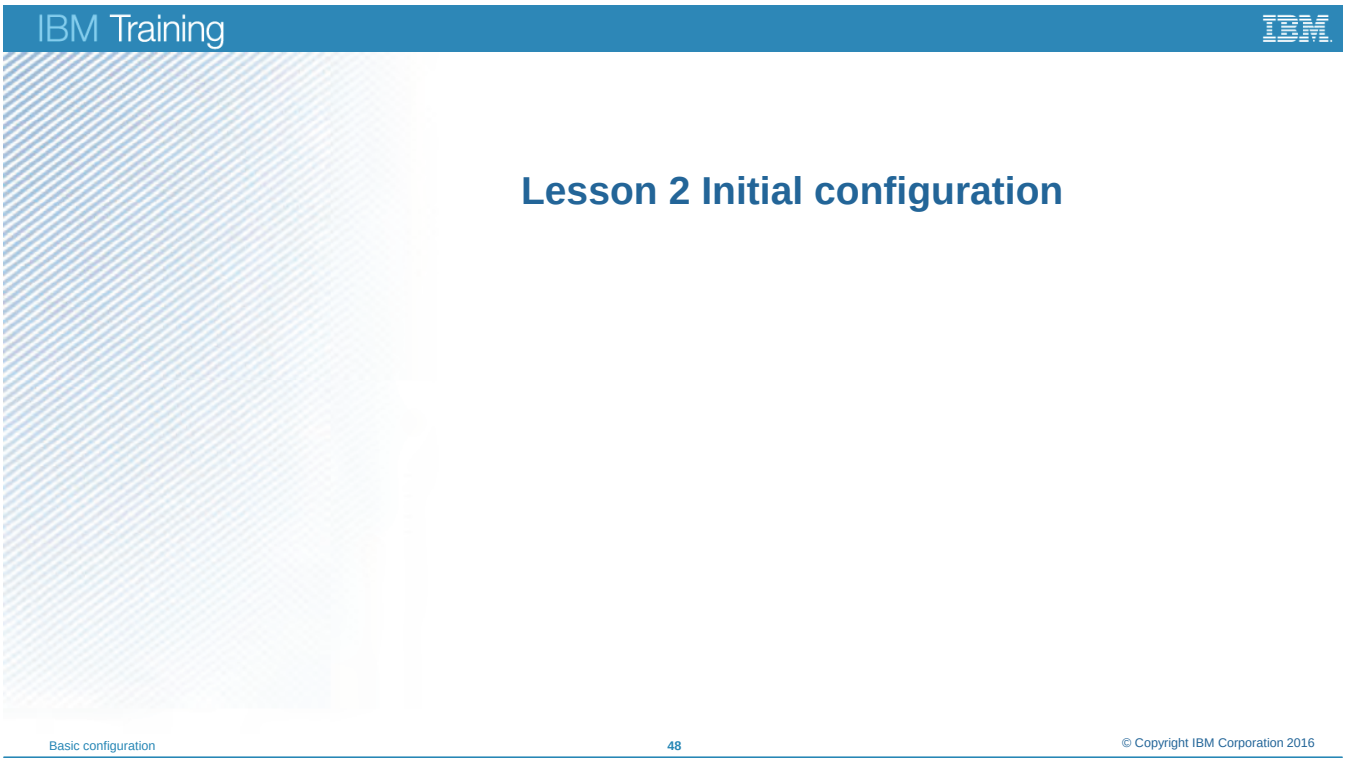
Basic configuration 47 © Copyright IBM Corporation 2016

Person records

The following rules apply to security and resource relationships:

- A person in the People application does not have to be a user, labor, or member of a person group.
- A user record can be associated with only one person record.
- A person record can be associated with only one user record.
- Within one organization, a labor record can be associated with only one person record.
- A person record can be associated with multiple labor records, providing that each labor record is in a different organization.
- A user and labor can be associated with the same person record.

Lesson 2 Initial configuration



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Quick Configuration tool

- Functions that are available in all delivery models
  - Organization and Site Configuration
  - Data Loading
- Functions that are available only on Software as a Service (SaaS) delivery model
  - Service Catalog Content Configuration
  - Server Control

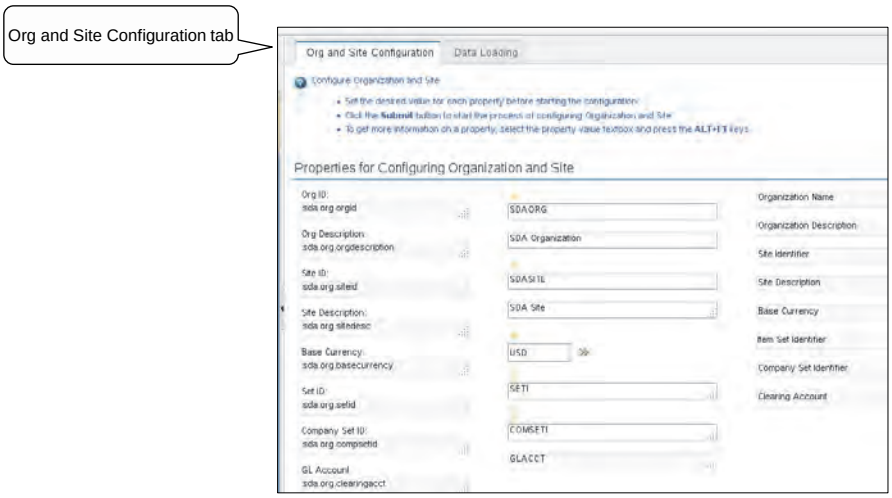
System Configuration > Platform Configuration > Quick Configuration

Quick Configuration tool

Use the **Organization and Sites** tab to create specified objects, IDs, and descriptions, and enable them for use in Service Requests and other artifacts that reference organizations and sites. In addition, use this tab to configure the structural changes that are needed in the database to store the General Ledger (GL) account code in various artifacts. Use the **Data Loading** tab to import users, assets, and configuration items (CIs) into the product database.

The Service Catalog Content Configuration and Server Control tasks are only available in the Software as a Service (SaaS) delivery model because it IBM hosts the environment. In hosted environments, administrators might not have operating system level access to the installation. Use the Service Catalog Content Configuration task to specify the organization, site, set, and vendor that you want to associate with Service Catalog content. Service Catalog content is an optional package that includes base content such as security groups, users, and persons, and service-specific content such as catalogs, fulfillment options, and job plans. The Server Control task provides administrators the ability to restart the web application server and the database.

Defining organization and site configuration



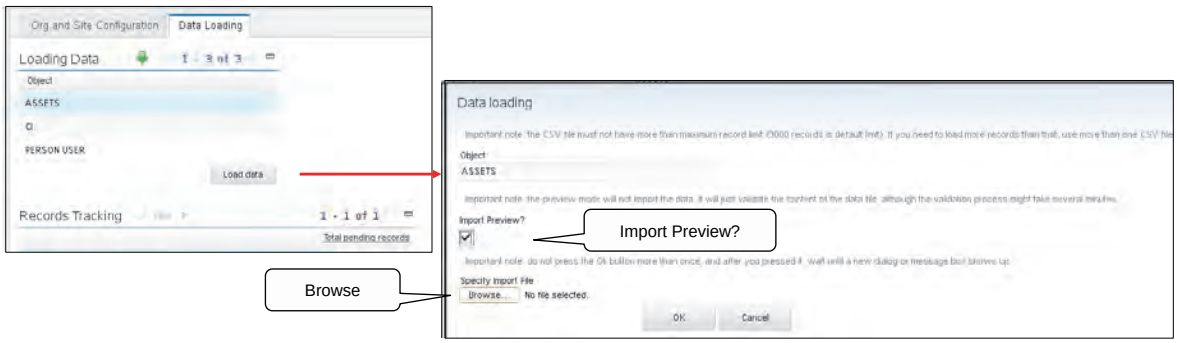
Defining organization and site configuration

Create a backup of the database before updating the organization and site configuration.

IBM Training

Importing data

- Requires activation and reloading of the JMSQSEQCONSUMER.SEQQIN cron task
- Supports users, assets, and configuration items
- Imported as comma-separated values (CSV) that are correctly formed and contain the correct attributes
- Can use the preview function to verify the data file



Importing data

On Enterprise installations, you can use the Data Loading tab to import objects such as XML files from the file system. You must start the JMSQSEQCONSUMER.SEQQIN cron task before the load job starts.

Check the Import Preview box to scan the input for errors or formatting problems. After you get an error-free scan, clear the box to run the load job.

IBM Training

Student exercise

Student exercises

Open your *Student Exercises* book and perform the exercises for this unit.

Review questions

1. What must be created before you can activate an organization?
   a. Locations
   b. Classifications
   c. A clearing account
   d. Financial periods
2. An IT asset is not displaying the **IT Details** tab. What is wrong?
   a. The asset is not classified under the top-level IT asset classification
   b. The asset type is not set to IT
   c. The asset is in the wrong location
   d. The clearing account is not set
3. True or False. A user does not have to have a person record.
4. What cron task must be activated for the Quick Configuration data loading.
   a. JMSQSEQCONSUMER.SEQQOUT
   b. JMSQSEQCONSUMER.SEQQIN
   c. JMSQSEQDATALOAD.SEQQIN
   d. JMSQSEQDATALOAD.SEQQOUT

Review answers

1. What must be created before you can activate an organization?

   c. A clearing account must be created before you can activate an organization.

2. An IT asset is not displaying the IT Details tab. What is wrong?

   a. An asset must be classified under the Top-Level IT Asset classification that is defined for the organization.

3. True or False. A user does not have to have a person record.

   False. All users must have a person record.

4. What cron task must be activated for the Quick Configuration data loading.

   b. The JMSQSEQCONSUMER.SEQQIN cron task must be active to import data.

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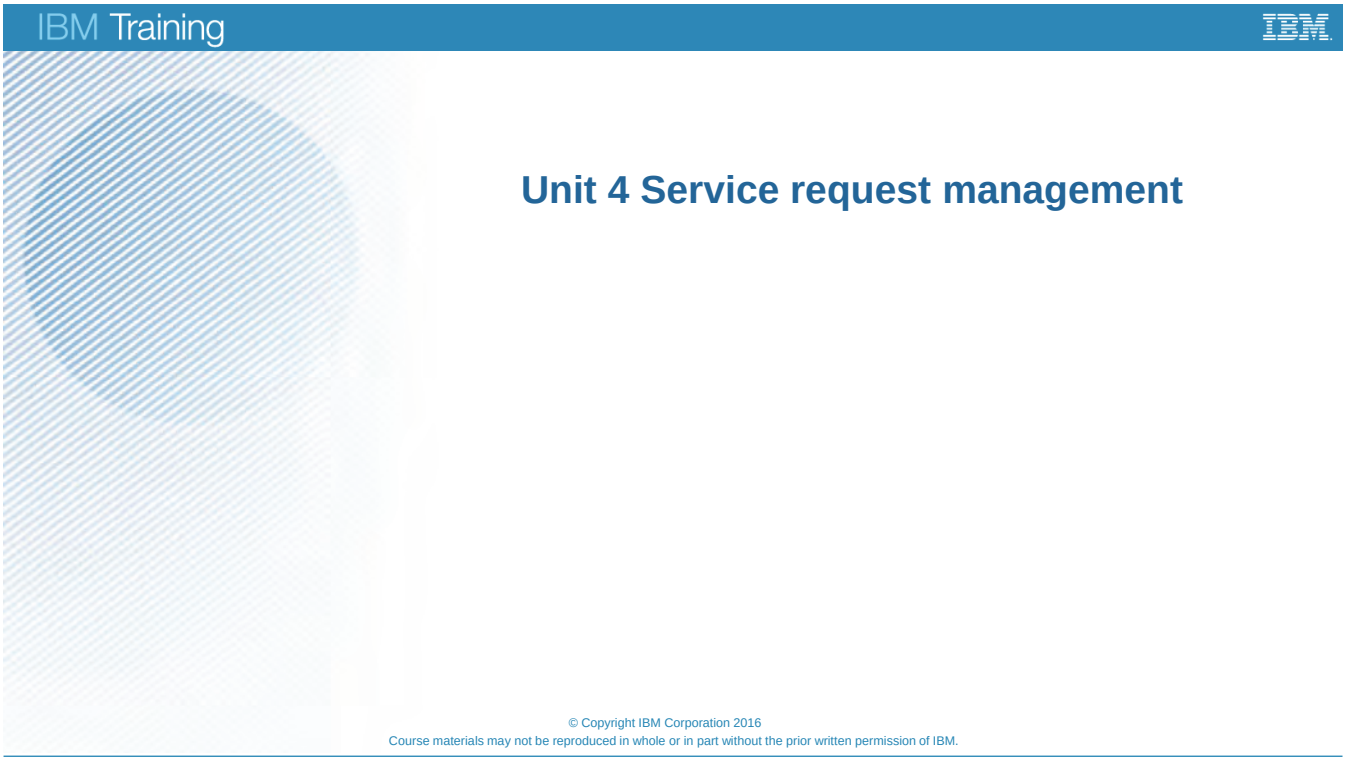
Summary

- Define IT foundation data
- Perform basic configuration steps
- Use the Quick Configuration tool

Summary

Unit 4 Service request management



This unit provides an overview of the service request management features in IBM Control Desk. You learn the high-level flow of the Service Desk to manage service requests, incidents, and problems. You are also introduced to the concept of a service catalog.

This unit is only an overview. To gain a deeper knowledge of service request management feature in IBM Control Desk, consider taking the *IBM Control Desk 7.5 Service Request Management Fundamentals* course.

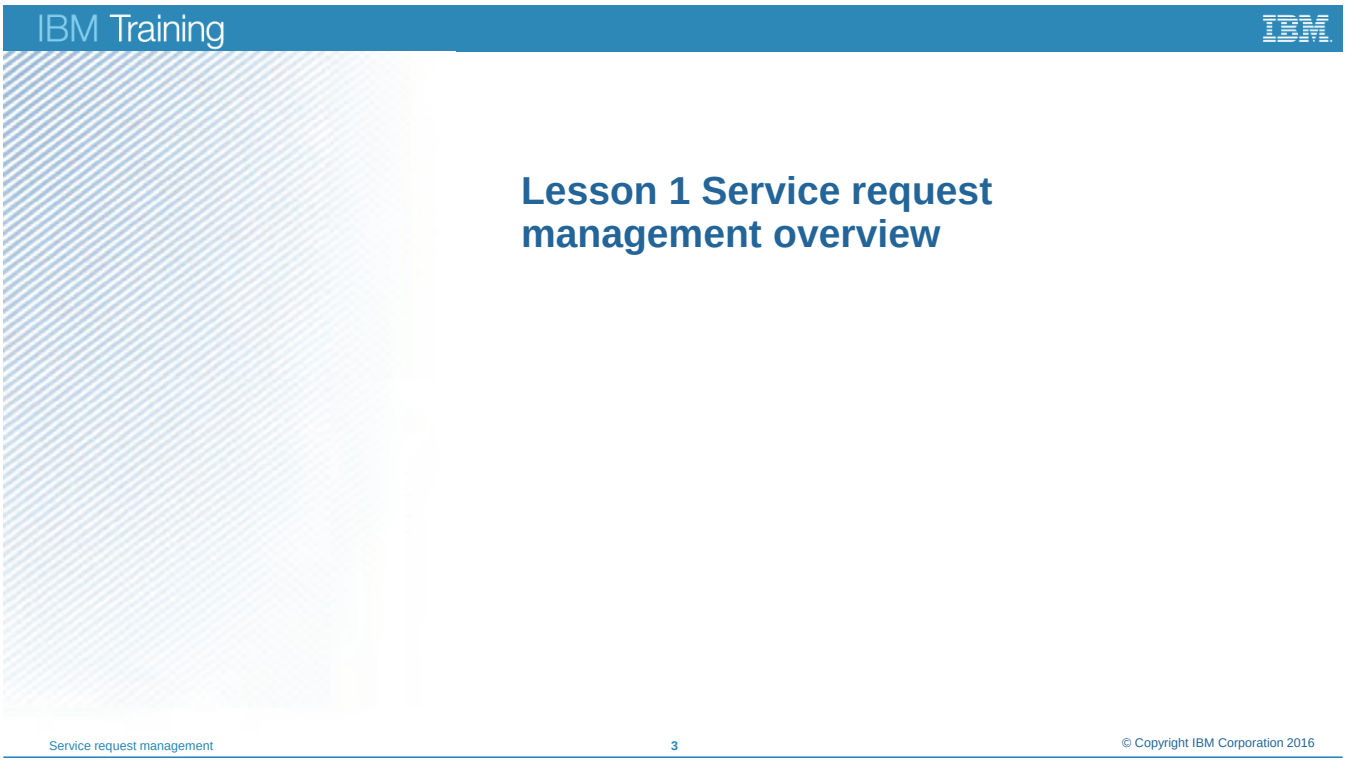
IBM Training

Objectives

- Define a service request
- List the service request management processes that can be managed with IBM Control Desk
- Explain the Service Desk process flow
- Define a Service Catalog
- Navigate the Self Service Center

Objectives

Lesson 1 Service request management overview



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What is a service request

- A *service request* is a communication from an internal or external customer that reports an issue, asks for information, or requests a service
- The goal of *service request management* is to ensure that these service requests are managed through the processes

What is a service request

IBM Training

How are service requests submitted

- Service Desk
  - The Service Desk is a central point of contact between service providers and users daily
  - It is where issues can be reported, information can be asked for, and services be requested
    - Typically unstructured requests
  - It facilitates the restoration of normal operational service with minimal business impact on the customer within agreed-upon levels and business priorities
    - Service level agreements (SLAs)
- Service Catalog
  - From the Service Catalog, users can obtain IT services through published service offerings
    - Standard, existing service offerings

How are service request submitted

Though related, the Service Desk and Service Catalog differ in one fundamental way how customers interact with each component.

- Service Desk: Needs are unspecific. Usually something is broken and needs fixing. Service Desks usually deal with existing services.
- Service Catalog: Needs are specific. Users know what they want, need to know what is available, and are able to place an order. Service catalogs usually deal with new services.

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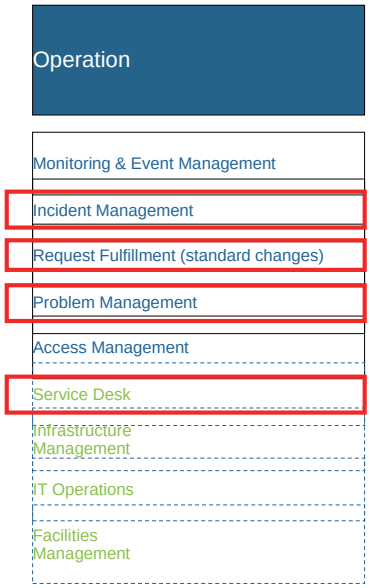
IBM Control Desk service request management

- IBM Control Desk is concerned with three service request management processes under service operations:
  - Request fulfillment
  - Incident management
  - Problem management
- IBM Control Desk also includes these items:
  - A Service Desk function to facilitate these processes
  - A Service Catalog to offer services
  - A self-service interface to enable users access to common service management features
  - Knowledge management features to provide common solutions
  - Remote diagnostics to help with troubleshooting
  - Surveys to rate the quality of service



Service request management 6

IBM Control Desk service request management

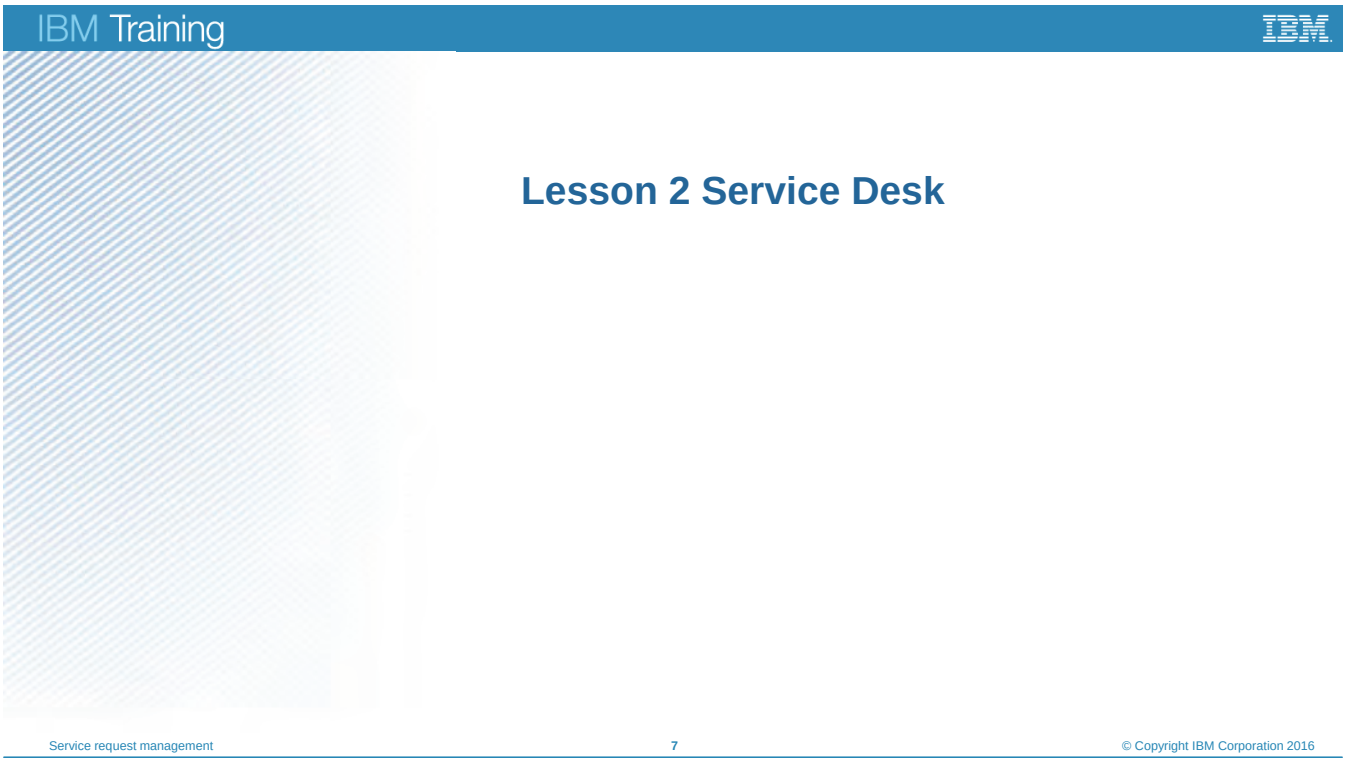
The purpose of service operations in ITIL terms is to coordinate and to perform activities and processes that are required to deliver and manage services at agreed-upon levels to business users and customers.

Request fulfillment is the process of dealing with service requests from users.

Incident management concentrates on minimizing business impact by restoring unexpectedly degraded or disrupted services to users as quickly as possible. Incident management is often done through workarounds or temporary fixes, rather than by trying to find a permanent solution.

Problem management is the process of diagnosing the root cause of an incident and arranging for a permanent correction.

Lesson 2 Service Desk



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Service Desk overview

The ***Service Desk*** is an IT function (not a process) that is responsible for providing initial responses to any user issue

It is the central point of contact between service providers and users daily

The Service Desk facilitates the restoration of normal operational service with minimal business impact on the customer within agreed-upon SLA levels and business priorities

Service Desk overview

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Service Desk functions

- Receiving calls, acting as a first-line customer liaison, and dealing directly with simple requests and complaints
- Keeping customers informed on request status and progress
- Making an initial assessment of requests, attempting to resolve them or to refer them to someone who can
- Providing initial assessment of all incidents, making first attempt at incident resolution, referral to second-line support, or both, based on agreed-upon service levels
- Coordinating second-line and third-line support

Service Desk functions

Other functions include these examples:

- Receive and record all Incidents from monitoring systems
- Enforcing Service Level Agreements
- Produce Management reports

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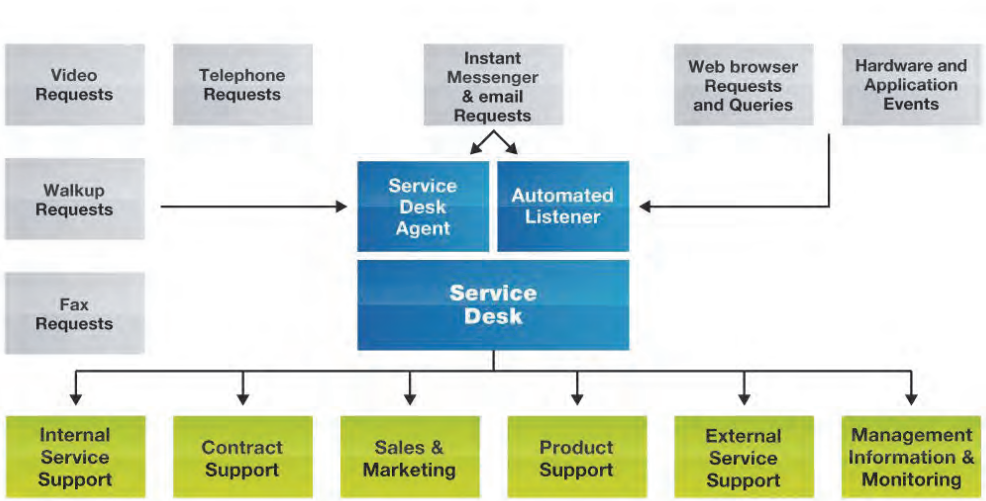
Service Desk interactions



Service Desk interactions

This diagram shows how information can be sent to the Service Desk, and where it goes when it leaves the Service Desk. Outputs can be in the form of actions, alerts, email communications, and reports.

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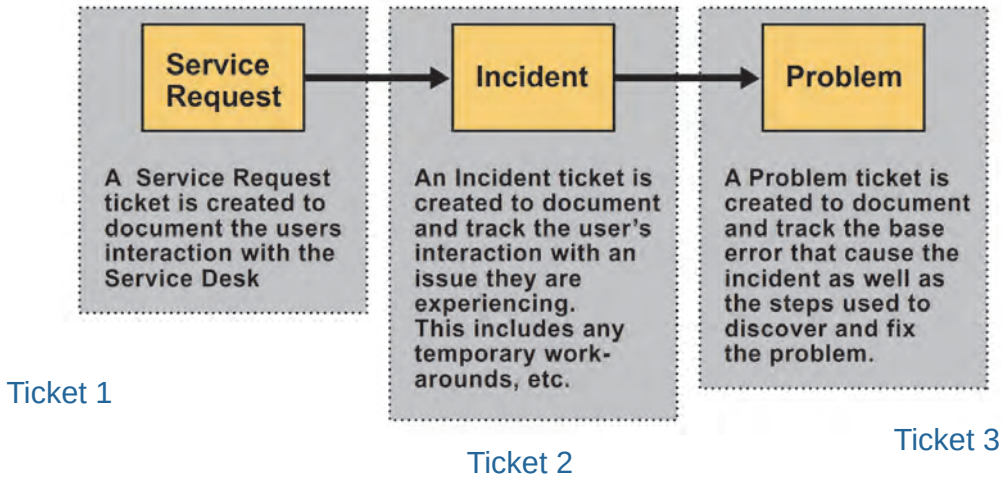
Service Desk process flow overview



Service Desk process flow overview

Most interactions with the Service Desk follow the flow in this diagram. However, the needs of the business can change the flow.

Service request is created

Service request is created

The first step in any contact with the Service Desk is the creation of a service request ticket. This contact can come in many forms, including these examples:

- A person who calls and asking how to order toner
- An instant message from a user who is experiencing an issue with a notebook
- An automated communication from a hardware monitoring application

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Type of service request is determined

Type of service request is determined

Contact with the Service Desk is typically due to one of two reasons:

- To request information
- To report an issue

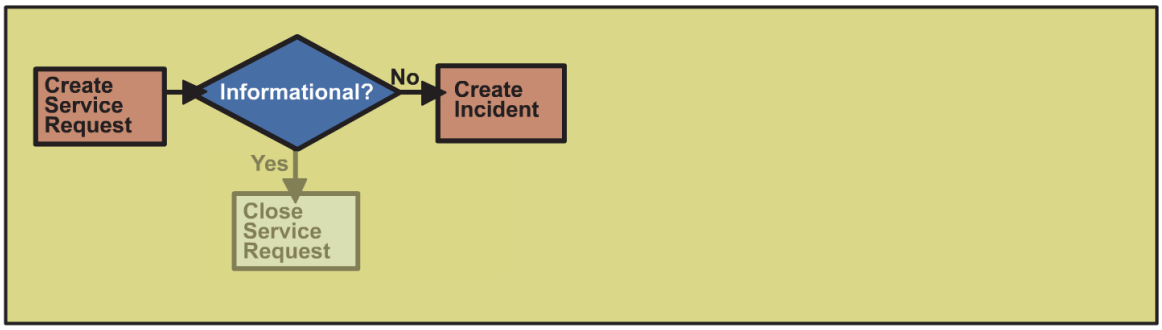
If informational, service request is closed

If informational, service request is closed

If the requested service was for information only, the information is given, the service request ticket is closed, and the interaction with the Service Desk ends. No further action is required to satisfy the request.

For example, a caller wants to know where to order toner because the printouts from the department printer are light.

If noninformational, an incident is created

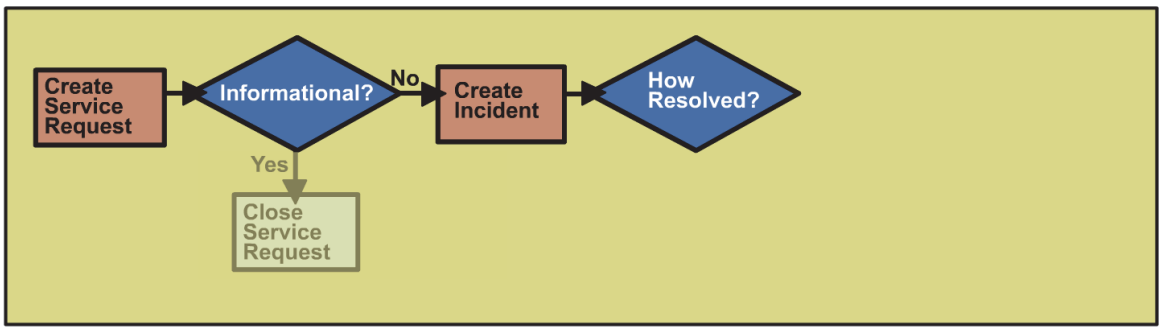


If non-informational, an incident is created

If the service request does involve an issue that must be resolved, an incident ticket is created to track the issue. A relationship is then formed between the two tickets.

A service request ticket details the contact between the Service Desk and the requester. The incident ticket is created to detail the issue that is raised by the request.

Incident resolution is determined



Incident resolution is determined

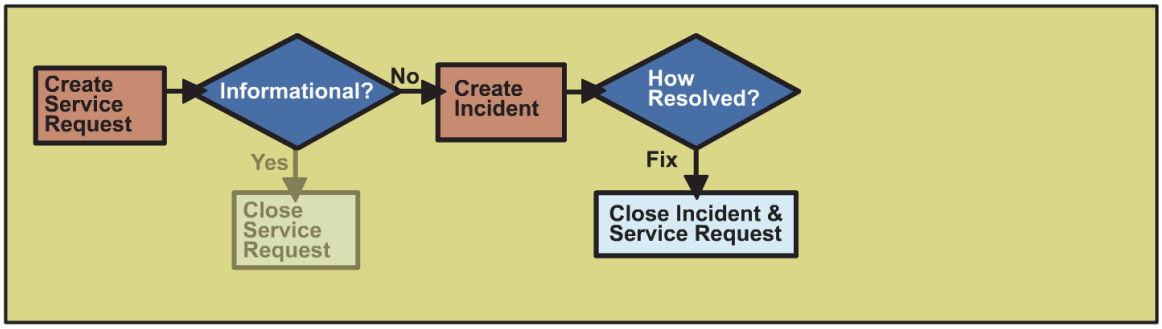
The Service Desk tries to resolve the issue through investigation and diagnosis.

One of two things can happen:

- A fix (permanent solution) is discovered. It proves to be simple (or involves as much work as a workaround [temporary solution]) and can be handled at the current level of support.
- A fix is not known, or if known, turns out to be a complex one that might take a long time to implement, or is not known at the time. In this case, the requester is provided with a workaround and a problem ticket is created to track the underlying cause.

Although service restoration has the highest priority, consider the risk that a workaround might exacerbate the original incident. For example, certain virus infections might spread beyond their initial scope if a simple service restoration is put into effect.

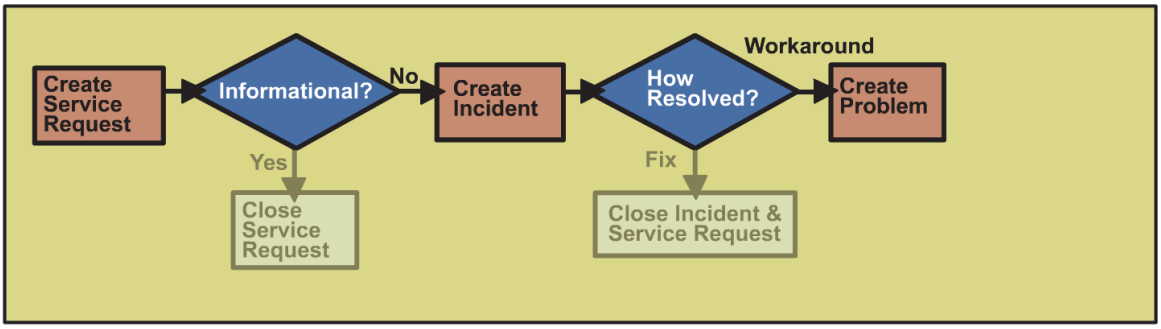
If fixed, incident and service request are closed



If fixed, incident and service request are closed

If the incident and the underlying cause of the incident are resolved, then both the incident and service request tickets are closed.

If workaround was used, a problem is created



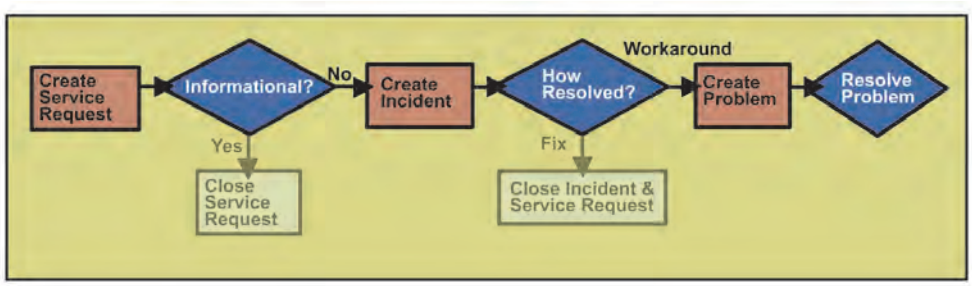
If a workaround was used, a problem is created

Because the focus of incident management is to get the requester back to work as soon as possible, the Service Desk devises a temporary workaround. A problem ticket is created to track the permanent fix.

It is important to think of the incident and problem as separate entities. Think of the incident and service request as being connected because they both deal with the requester, while, the problem deals strictly with the issue.

For example, the requester is temporarily switched over to another printer (the incident is resolved through a workaround). A problem ticket is created to repair the broken printer.

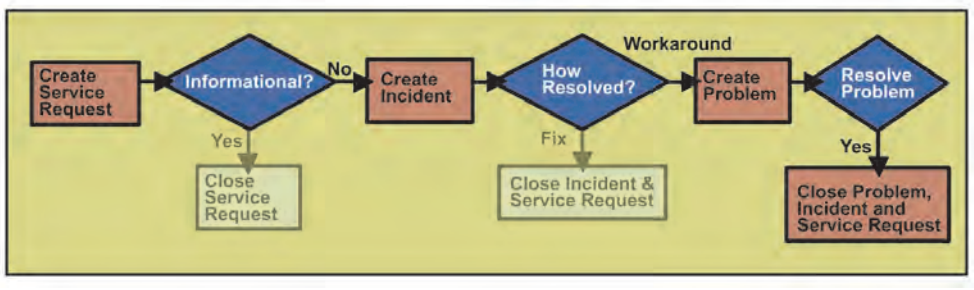
Problem is resolved



Problem is resolved

The problem is fixed. Any temporary workarounds are reversed, and everything is functioning correctly again.

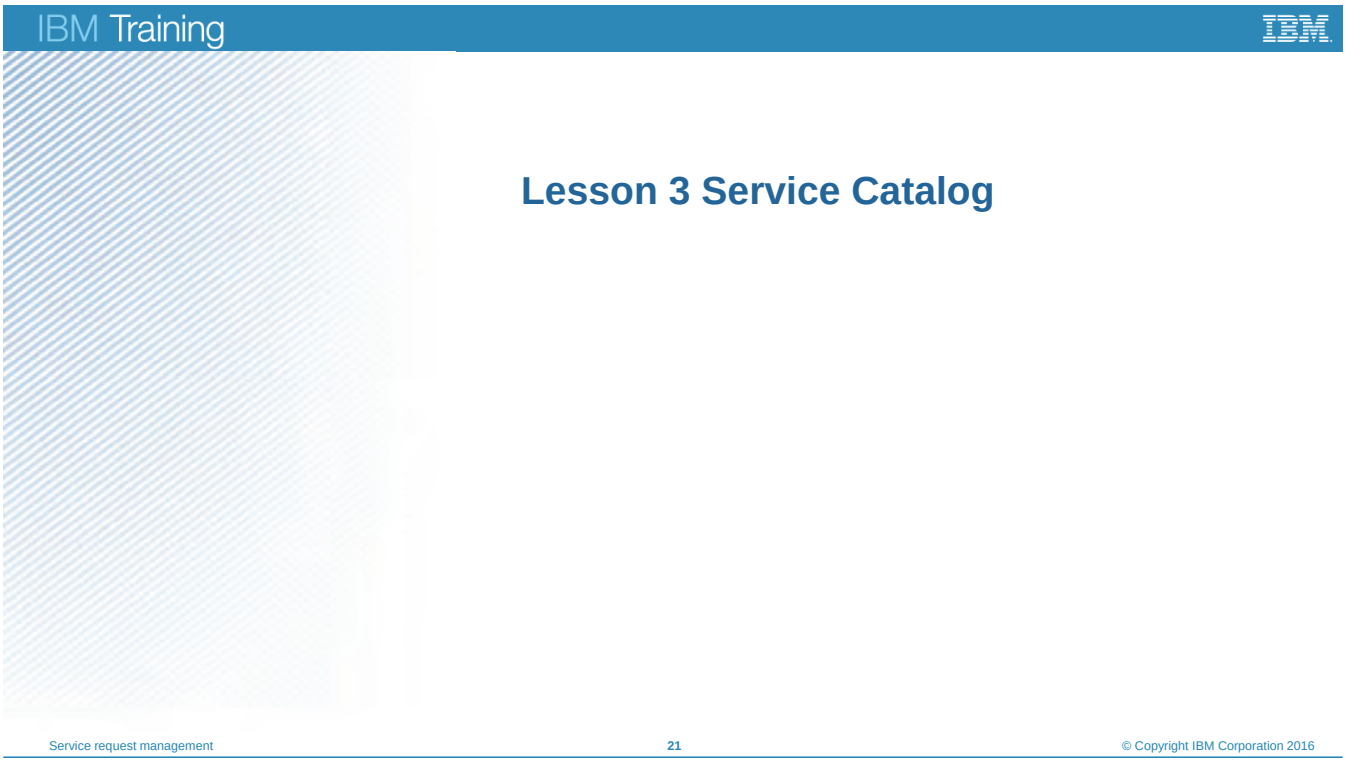
All tickets are closed



All tickets are closed

When everything is resolved, all the tickets can be closed.

Lesson 3 Service Catalog



Service Desk versus Service Catalog

- The Service Desk works well for one time requests or issue reporting, but that is only half of the picture
- How do the employees of a company know all the services their IT department provides?
- How does the IT department know what services they provide and the best way to provide them?
- A Service Catalog can bridge this gap

Service Desk versus Service Catalog

As mentioned earlier, the Service Desk and Service Catalog are related but differ in how the customer interacts with them. Service Desk needs are unspecific. Usually something is broken and needs fixing. Service desks usually deal with existing services. While Service Catalog needs are specific, users know what they want, need to know what is available, and are able to place an order. Service catalogs usually deal with new services.

There are two ways of looking at what a service catalog is:

- Service Catalog from the perspective of a user:

  A user goes to a website to search for a specific service. This service might be requesting a new notebook, requesting a change in benefits, or adding an employee to a department. The service catalog site groups services by category and provides search functions (especially when hundreds or thousands of services are available). The user selects a service and sees the description and details. The user enters any pertinent information (contact information, service-specific questions) and submits the request for service. The request requires approval, and goes through routing, service level management, and other processes necessary to fulfill the request.

  The user might return to the site later to check on the status of a request. The user might also want to view overall metrics on how well the organization is performing the services that it provides.

- Service Catalog from the perspective of IT:

  The IT department determines what services to publish to its customers who use the Service Catalog. IT managers and analysts determine what questions to ask the user, any approvals

necessary for requests, and what other systems or processes are needed to fulfill the request. After defining the service and the fulfillment process, these people or more technical employees build the required functions into the service definition. They then publish this offering to the Service Catalog.

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Service Catalog overview

- The Service Catalog enables requesters to shop for published IT and other service offerings in an easily accessible and searchable manner
- It works like many of the online shopping sites where a product can be selected, added to a shopping cart, and purchased
- Internally, the catalog contains structured processes that manage the manner in which each service is delivered

Service Catalog overview

A Service Catalog has the following characteristics:

- Clarifies and defines services that the IT organization offers.
- Can help to align what customers want with what IT organization offers.
- Allows the IT organization to define its roles and responsibilities.
- Helps to envision impact of service disruptions.
- Can help to define service level agreements.
- Strengthens relationship between customers and the IT organization.

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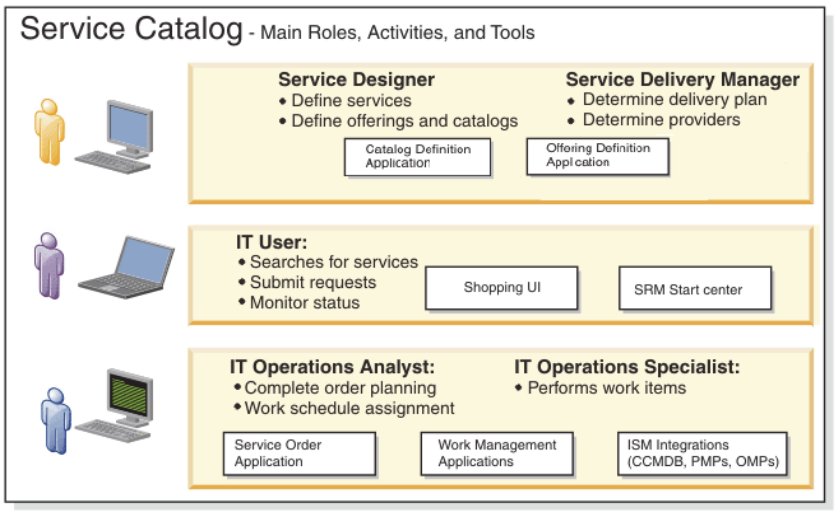
Roles and tools



Roles and tools

In addition, if needed for approval, a Service Requisition User Manager approves offerings that the Service Requisition User (IT User) orders.

Objects

Offering: An item that a user can order. Offerings can initiate a workflow, launch another application, or display information to a user

Catalog: A container for one or more offerings that a user can request. Catalogs are created to help organize offerings

Shopping Cart: Container that is used to hold offerings the user intends to order

Catalog Request: One or more offerings that a service requester orders

Work Order or **Process Objects**: The service request can generate work orders with predefined job plans for service requests. It can also generate objects such as incidents, problems, change and release requests, and more service requests

Objects

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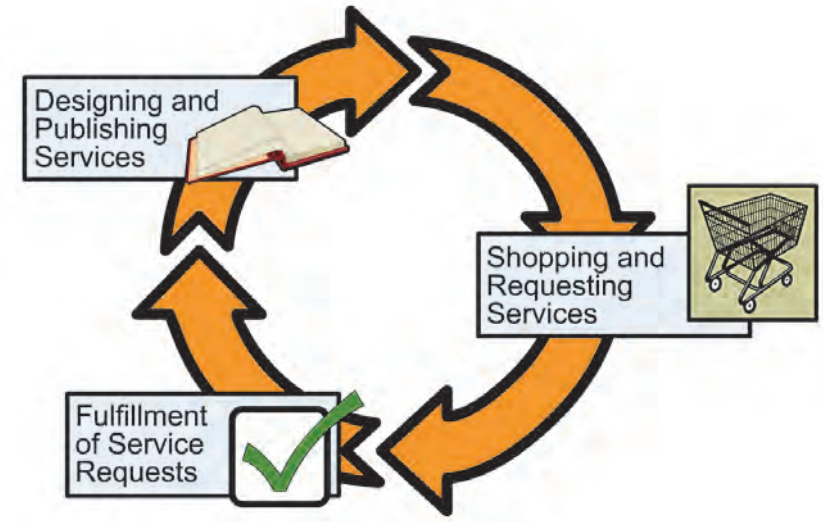
The Service Catalog process



The Service Catalog process

The Service Catalog process is composed of three steps:

- Designing and Publishing Services: Offerings and catalogs are created and published.
- Shopping and Requesting Services: The shopping experience.
- Fulfillment of Service Requests: The selected offerings are approved and fulfilled.

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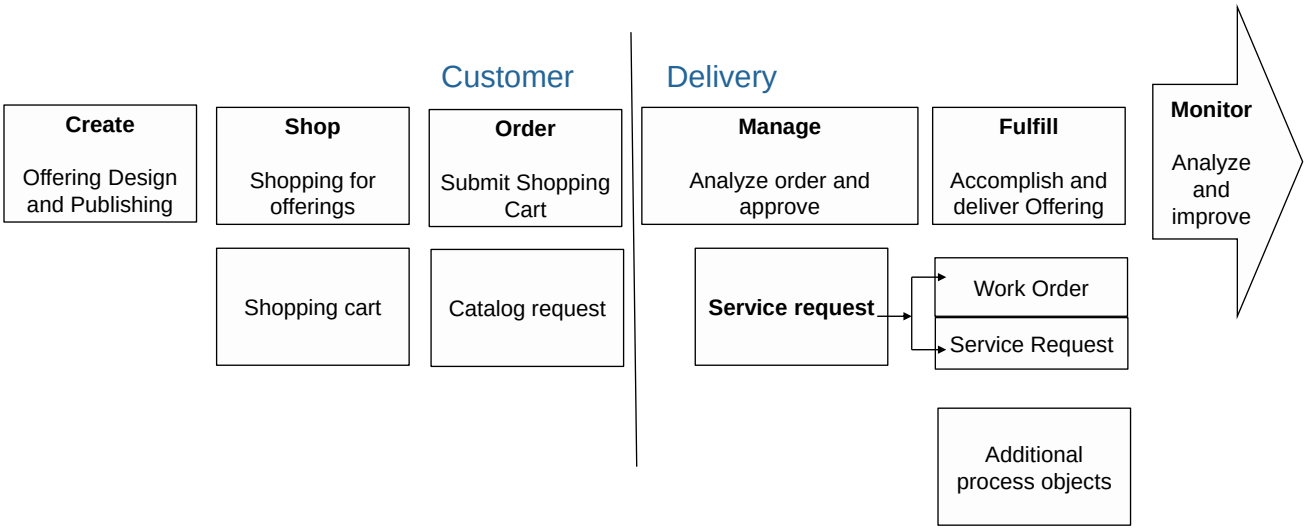
Service Catalog flow



Service request management 27 © Copyright IBM Corporation 2016

Service Catalog flow

A user goes to a website to search for a specific service, such as a requesting a new notebook, requesting a change in benefits, or adding an employee to a department. The service catalog site groups services by category and allows for searching (especially when hundreds or thousands of services are available).

The user selects a service that they want and sees the description and details. The user enters any pertinent information (contact information, service-specific questions) and submits the request for service.

The request requires approval, and goes through routing, service-level management, and other processes necessary to fulfill the request. The user might return to the site later to check on the status of a request, or to view overall metrics on how well the organization is performing the services that it provides.

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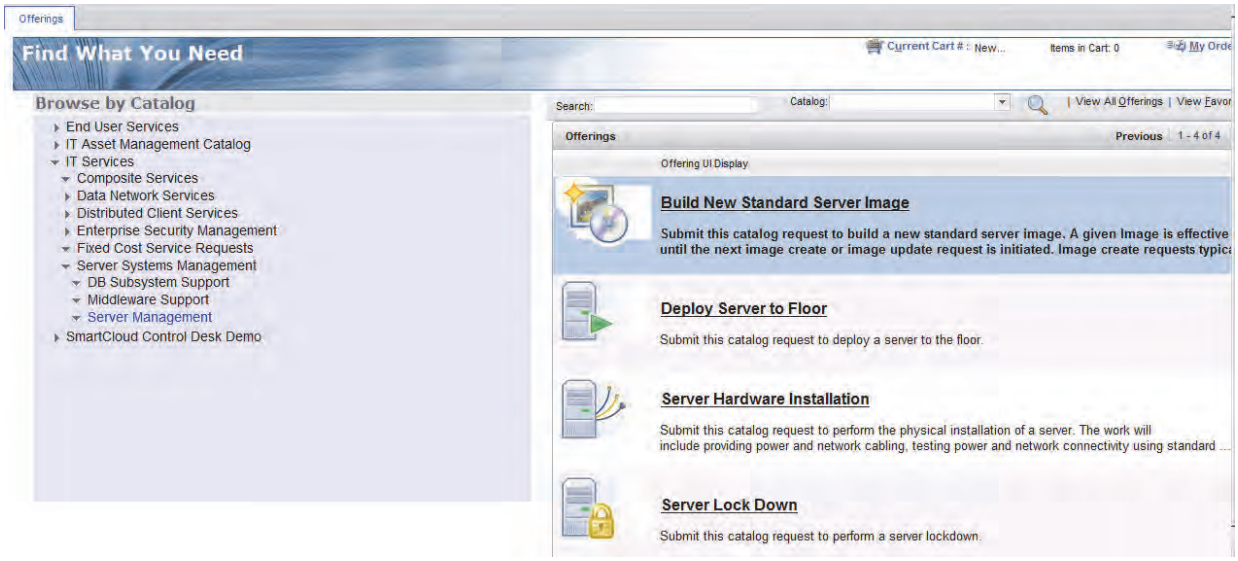
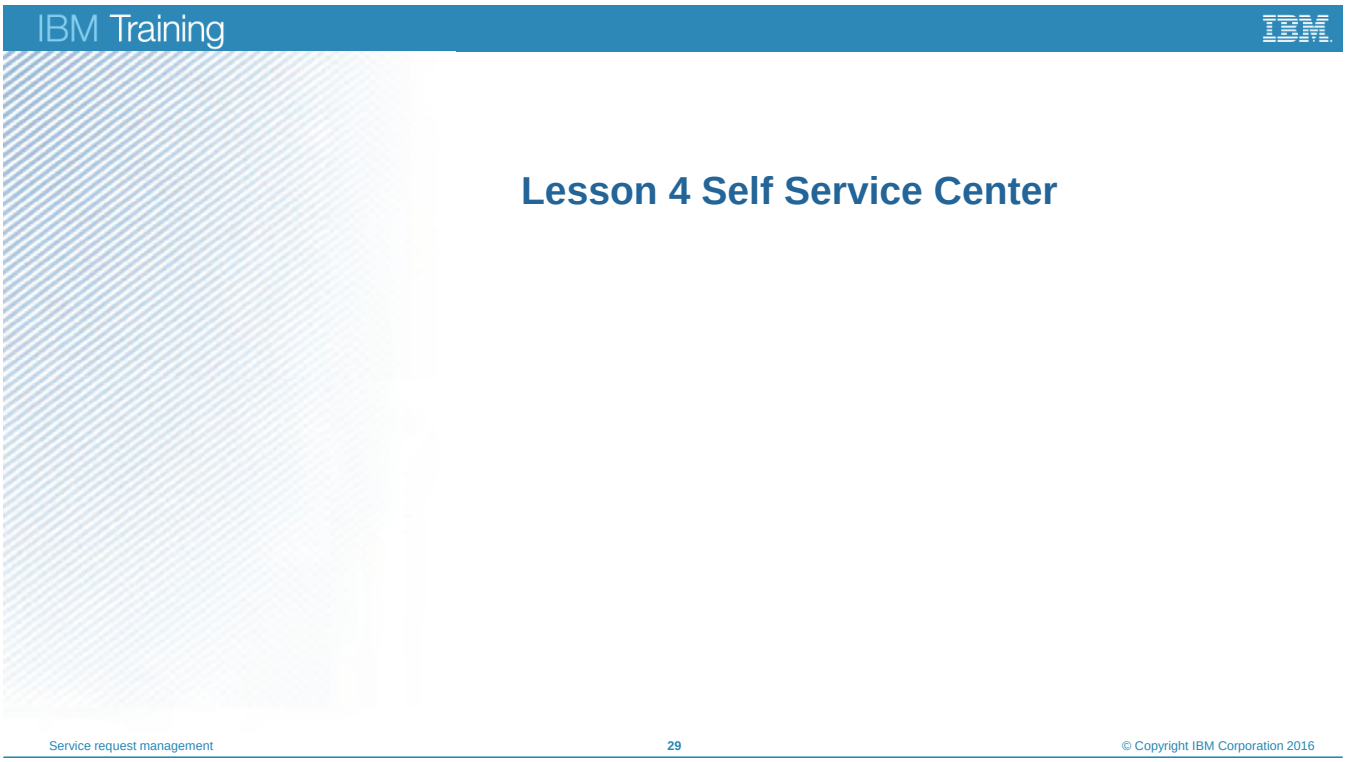
Service Catalog application



Service Catalog application

Lesson 4 Self Service Center



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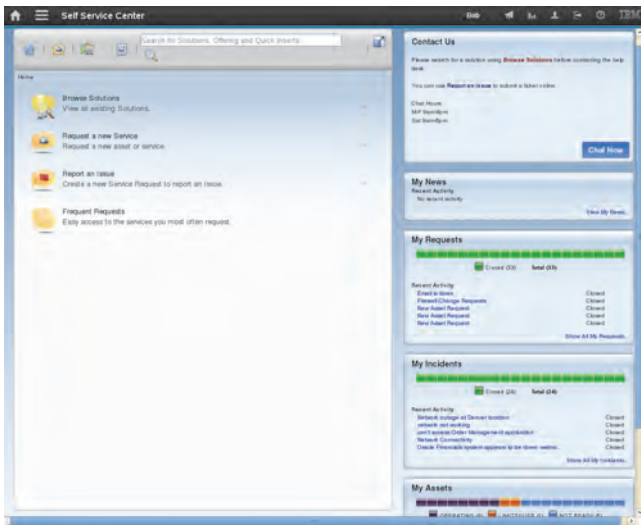
Self Service Center



Self Service Center

The Self Service Center is an easy to use application where self service users can perform self-service tasks.

Typically self-service tasks include these examples:

- Ordering from the Offering Catalog
- Searching for solutions to problems
- Reporting a problem
- Viewing the status of previously submitted requests
- Viewing news bulletins
- Viewing assets

The Self Service Center guides the user through these common tasks, and aligns the creation, updating, and tracking of Service Desk and Service Catalog service requests in a common manner.

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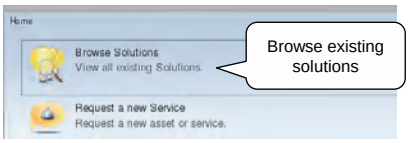
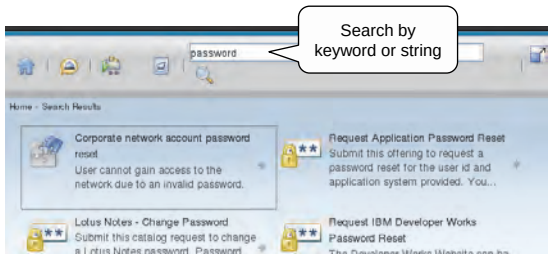
Searching for solutions





Note: Results are filtered to authorized solutions, based on security groups

Searching for a solution

You can use the **Search for Solution** option to find a solution to resolve an issue.

To search for a solution, click the **Search for Solution** link. A Search for Solutions window is displayed. Enter one or more key words to describe your issue.

The Search application uses the Lucene search engine to search all solutions by using the following attributes:

- Description
- Long Description
- Classification
- Symptom
- Cause
- Resolution
- Type
- Keywords
- Solution ID
- Class
- CI
- Asset Number

The search results are limited to solutions to which the user has access (based on their security groups) and solutions that have the **Self Service Access** option enabled. Solution search results are displayed in order of most **Applied by Self Service** and with their star ranking.

After you have a list of solutions, you can click a solution to view the details. If the search results do not provide any applicable solutions, you can modify your search by using the Search bar at the top of the Navigator. If you still do not find a solution, you can create a service request by clicking the **Create Service Request** link.

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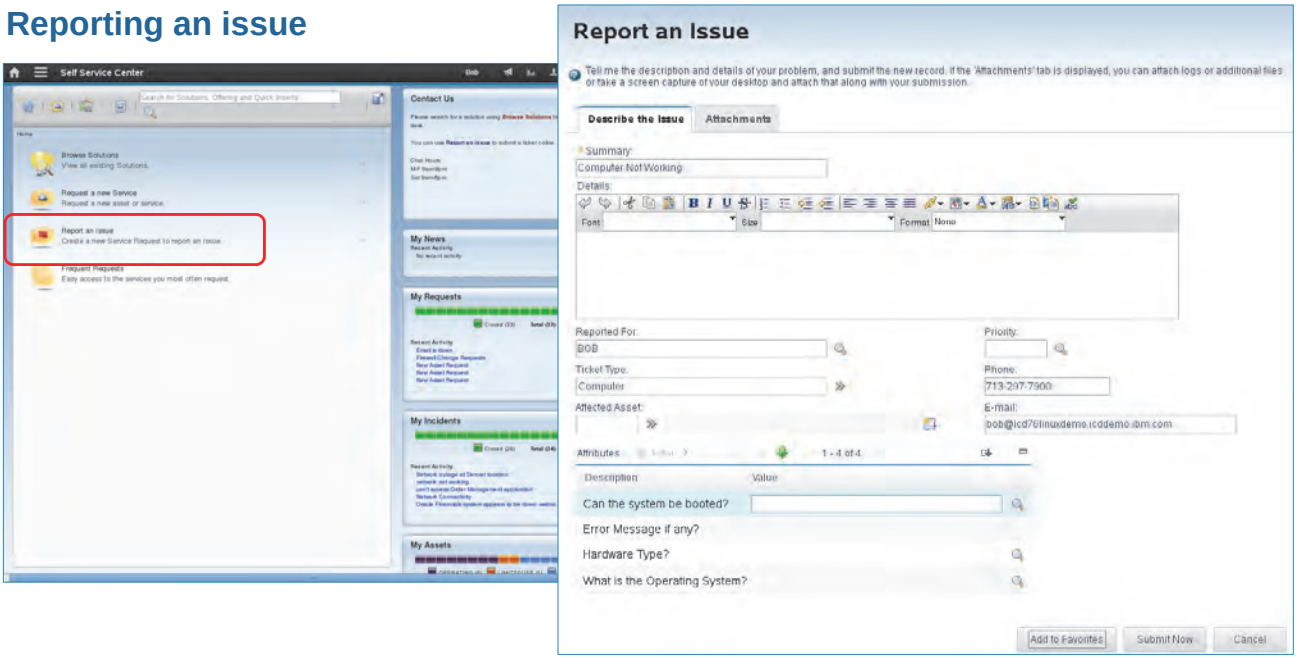
Reporting an issue



Reporting an issue

You can use the **Report an Issue** option to open a service request for an issue. Common issues can be displayed in the Self Service Center. In this example, you can see that the common issues are categorized. When you click **Report an Issue**, a list of issue categories is presented. Clicking a category produces a list of issue or other subcategories. After you find the issue that you want to report, click the description. A Report an Issue window is presented where you can enter the details of the issue.

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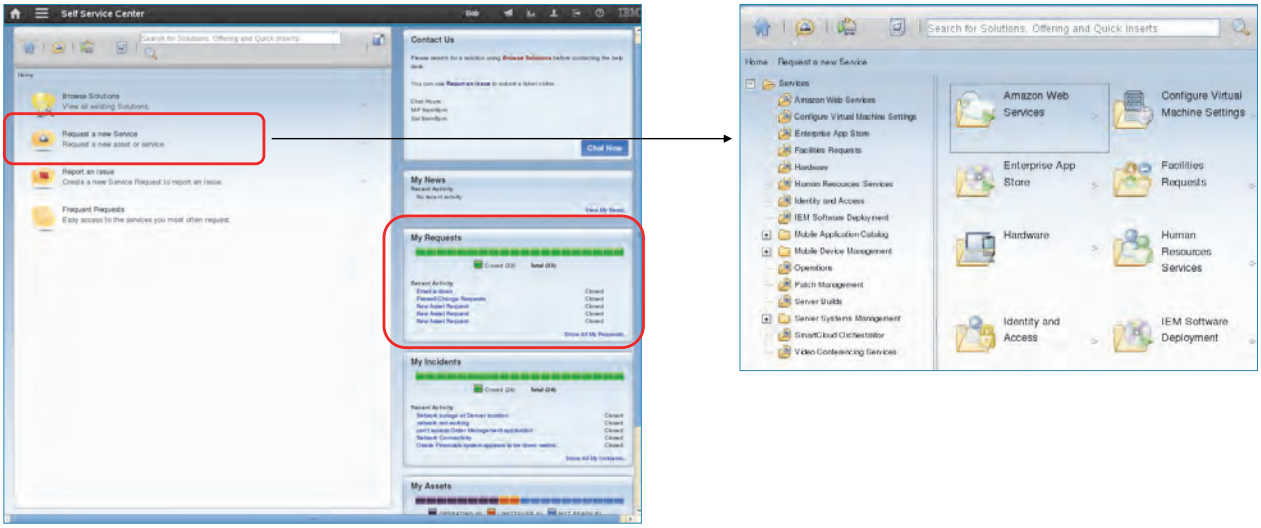
Requesting a new service



Requesting a new service

You can use the **Request a new Service** option to open a service request for a new service. This option is linking the Self Service Center with the Service Catalog. When you click **Request a new Service**, you are given a list of Service Catalog categories. Under each category, you can find the services that you can order.

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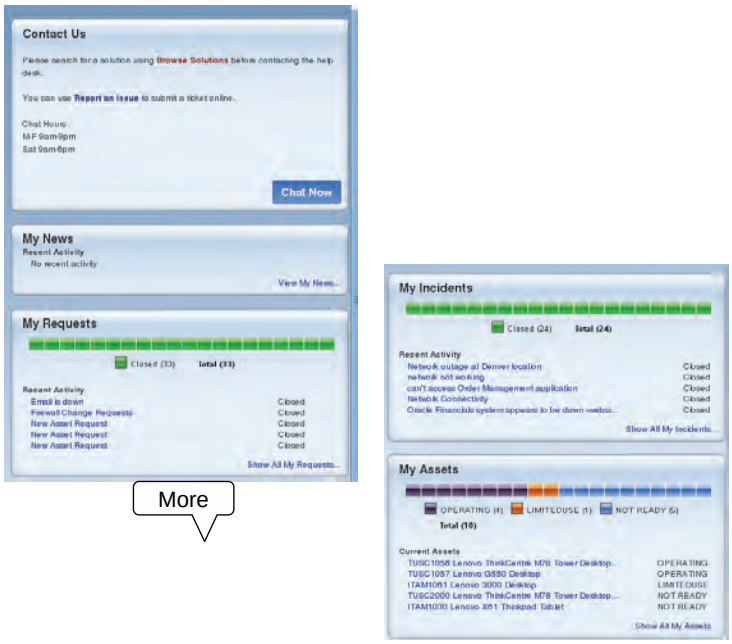
Pods



Pods

The Self Service Center has several pods:

- Contact Us has a live chat if configured.
- My News pod is similar to the Bulletin Board. It shows the latest messages about critical problems and incidents, and information that is broadcast throughout the environment.
- My Requests pod shows all service requests created for or by the current user.
- My Incidents shows all incident tickets for the current user.
- My Assets pod shows the status of assets for the current user.

Note: When using Internet Explorer, Microsoft Silverlight must be installed on the clients computer in order for the My Requests and My Assets status bars to display.

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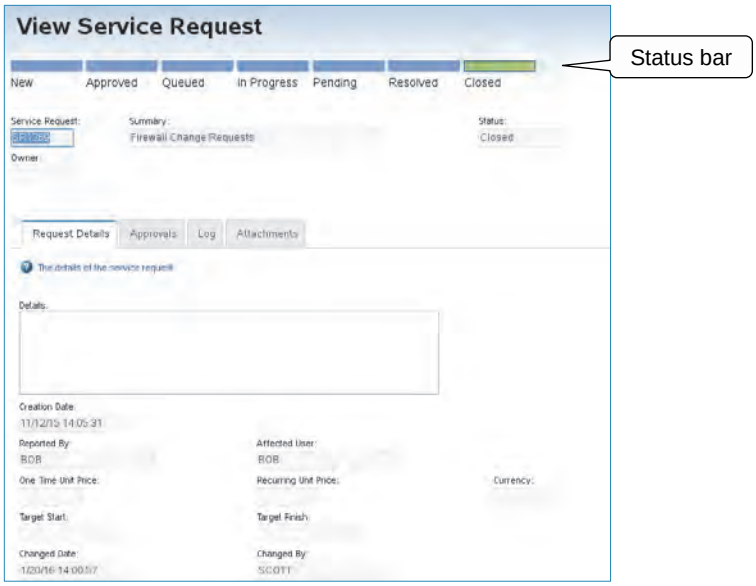
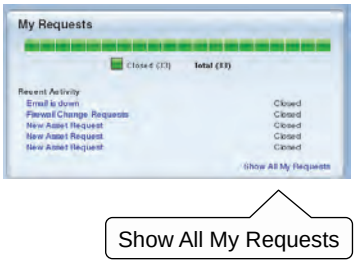
Viewing a request from the My Requests pod

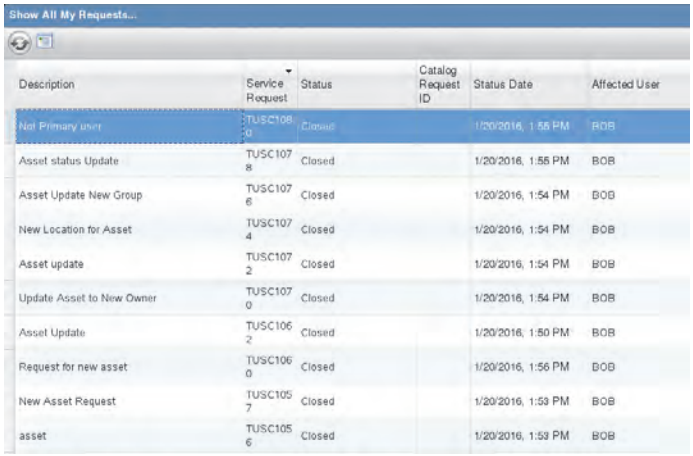


Viewing a request from the My Requests pod

Clicking a request that is listed in the My Requests pod opens the details of the service request. Here you can review the status, read the log, review the solutions, and view any attachments.

Showing all requests from the My Requests pod





Showing all requests from the My Requests pod

The My Requests pod might show a subset of requests. To view all request for the current user, you can click **Show All My Requests** in the My Requests pod.

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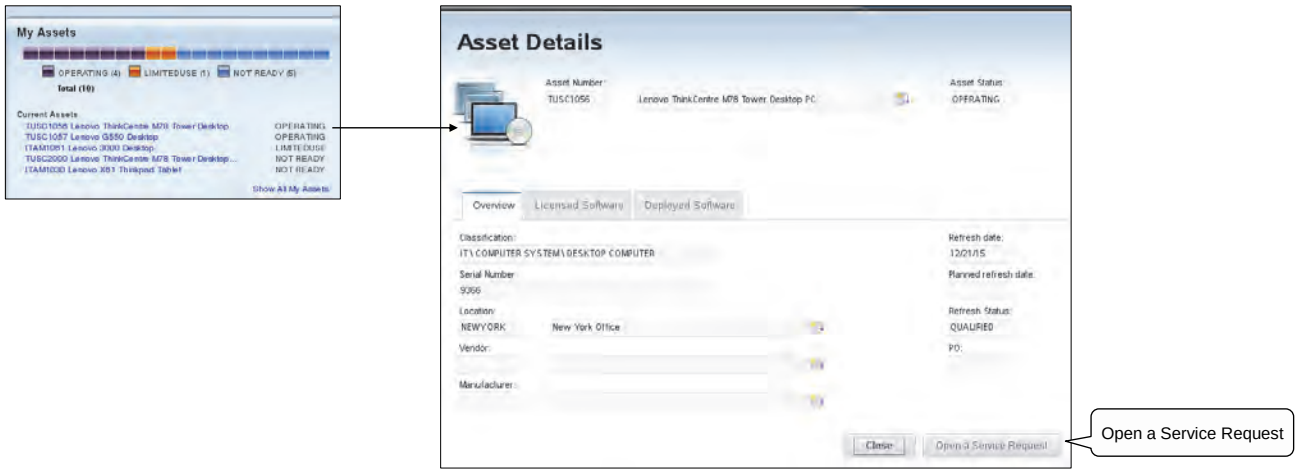
Viewing asset details in the My Assets pod



Viewing asset details in the My Assets pod

Clicking an asset that is listed in the My Assets pod opens the details of the asset. Here you can view the asset details and open a service request against the asset.

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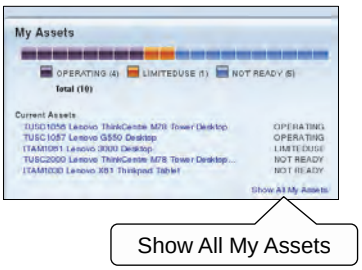
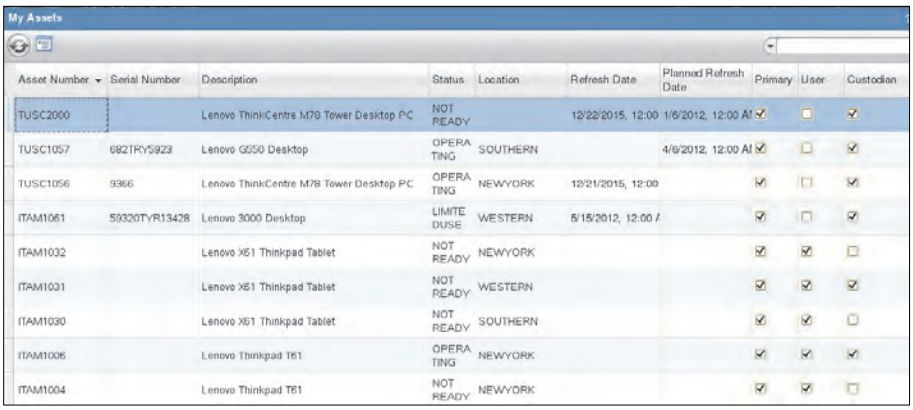
Viewing a list of assets in the My Assets pod



Show All My Assets



Viewing a list of assets in the My Assets pod

The My Assets pod might show a subset of assets. To view all assets that are assigned to the current user, you can click **Show All My Assets** in the My Assets pod. The list indicates the relationship that the user has to the asset. The user can be the primary user, a user, or a custodian of the asset.

Student exercise

Student exercises

Open your *Student Exercises* book and perform the exercises for this unit.

Review questions

1. Which ITIL practice contains the basic Service Request Management processes?
   a. Transition
   b. Service Operation
   c. Strategy
   d. Continual Improvement
2. True or False: Service Desk is a process.
3. What is the typical process flow of a service desk?
   a. Service Request, Incident, Problem
   b. Service Request, Problem, Incident
   c. Problem, Service Request, Incident
   d. Incident, Problem, Service Request
4. True or False: The Service Desk enables requesters to shop for published IT and other service offerings.

Review answers

1. Which ITIL practice contains the basic Service Request Management processes?

   b. The basic service request management processes such as request fulfillment, incident management, and problem management fall under Service Operation.

2. True or False: Service Desk is a process.

   False. Service Desk is a function not a process.

3. What is the typical process flow of a service desk?

   a. The typical flow is Service Request, Incident, Problem.

4. True or False: The Service Desk enables requesters to shop for published IT and other service offerings.

   False. The Service Catalog, not the Service Desk, allows users to search for services.

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Summary

- Define a service request
- List the service request management processes that can be managed with IBM Control Desk
- Explain the Service Desk process flow
- Define a Service Catalog
- Navigate the Self Service Center

Summary

Unit 5 IT asset management

This unit provides an overview of the IT asset management features in IBM Control Desk. You learn what the IT asset lifecycle is and the basic components of the lifecycle. You also learn the basic requirements for software management.

This unit is only an overview. To gain a deeper knowledge of the IT asset management features in IBM Control Desk, consider taking the *IBM Control Desk 7.5 IT Asset Management Fundamentals* course.

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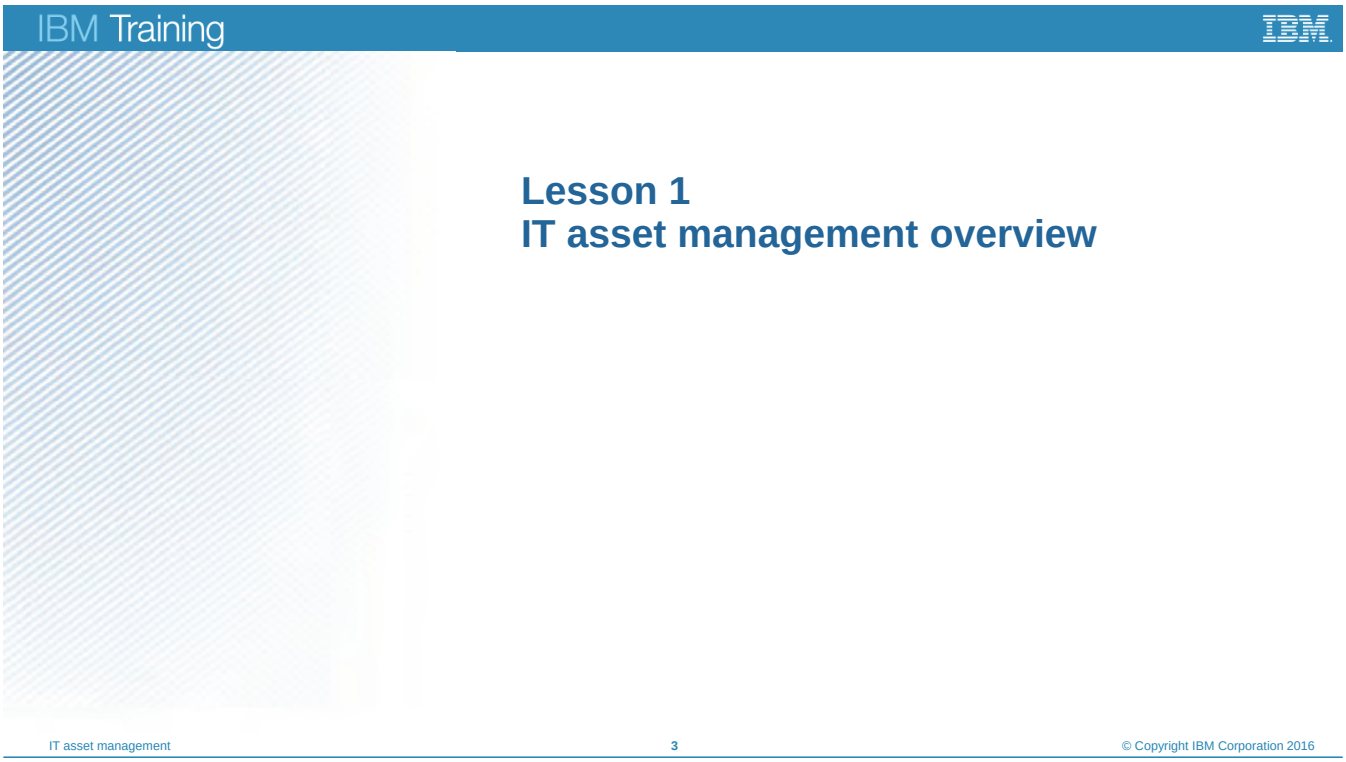
Objectives

- Define an IT asset
- List the IT asset management business priorities
- Explain the IT asset lifecycle stages
- List the components of software management

Objectives

Lesson 1 IT asset management overview



What is an IT asset

- An ***IT asset*** is any purchased, leased, or licensed hardware device, software product, or related contract service that is involved in supporting business services
- IT assets include financial and legal obligations
- The goal of ***IT asset management*** is to manage these IT assets through their lifecycle

What is an IT asset

IT asset management is critical to the business

IT asset management is critical to the business

The primary goal of IT asset management is to control costs.

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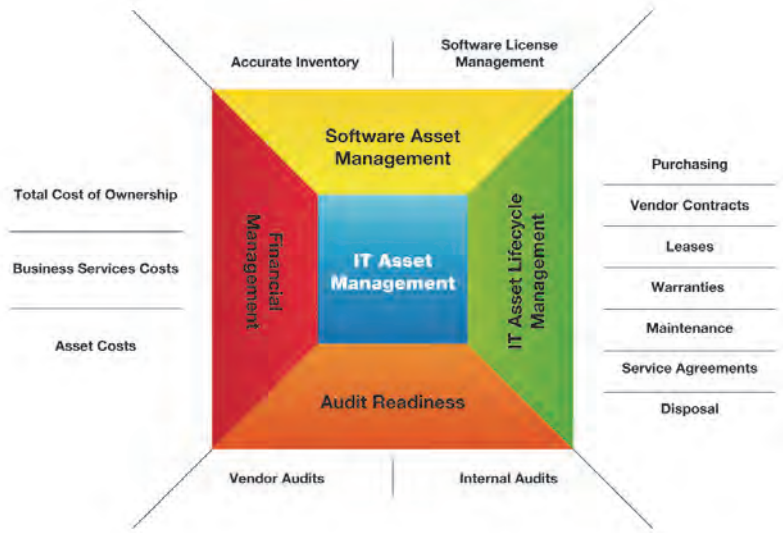
IT asset management business priorities



IT asset management business priorities

IBM Control Desk facilitates many tasks that are performed by people in traditional business process roles. In many ways, it functions as a bridge and common tool for traditional business process roles and traditional IT process roles.

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IBM Control Desk IT asset management

- Full asset lifecycle management support for hardware and software license management
- Identifies underused or overused software to reduce costs due to overpurchasing and to reduce risk of underpurchasing
- Tight integration with IBM Integration Composer, with the following available discovery tools:
  - IBM Bigfix (Endpoint Manager)
  - IBM Tivoli Asset Discovery
  - IBM Tivoli Application Dependency Discovery Manager (TADDM)
  - IBM Tivoli Network Manager
  - IBM Tivoli Provisioning Manager
  - Microsoft System Center Configuration Manager
- Discovery and identification services for distributed systems, virtual environments, z/OS systems
  - Monitors software usage and trends
  - Provides reporting for inventory and usage
- Software Knowledge Base Toolkit
  - A collection of information about software products, their components, dependencies between them and the means to discover them
  - Shared component that is used by all related IBM products

IBM Control Desk IT asset management

IBM Control Desk provides these features:

- Full asset lifecycle management support
- Support for software asset management that includes full support for software license management
- A list of underutilized or overutilized software to reduce costs from overpurchasing and to reduce risk to underpurchasing

Tight integration with discovery tools such as IBM Tivoli Asset Discovery for Distributed and z/OS provides complete software license management. With this integration, you can compare what you purchased (tracked as licenses within IBM Control Desk) to what you deployed (discovered by the discovery tools). The Software Knowledge Base Toolkit enhances this portfolio by providing an authoritative catalog of software products, relationships, and signatures.

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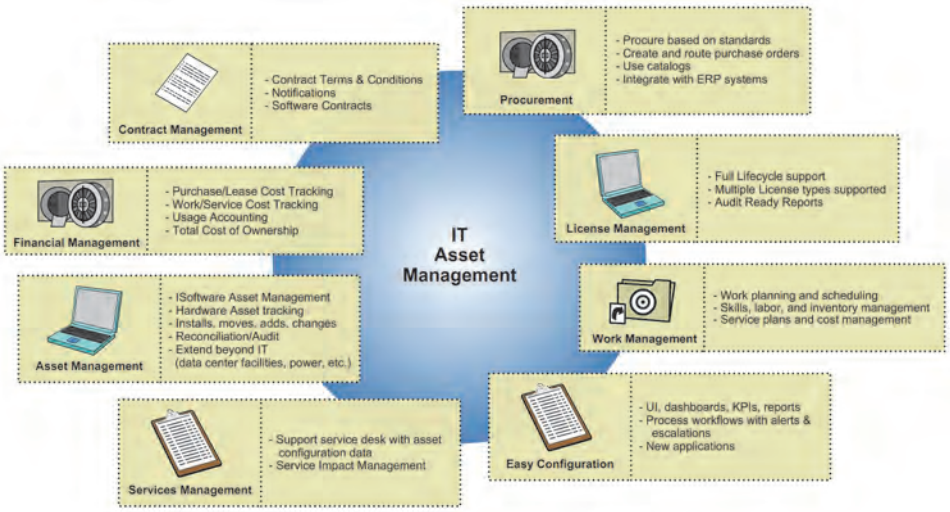
IT asset management capabilities



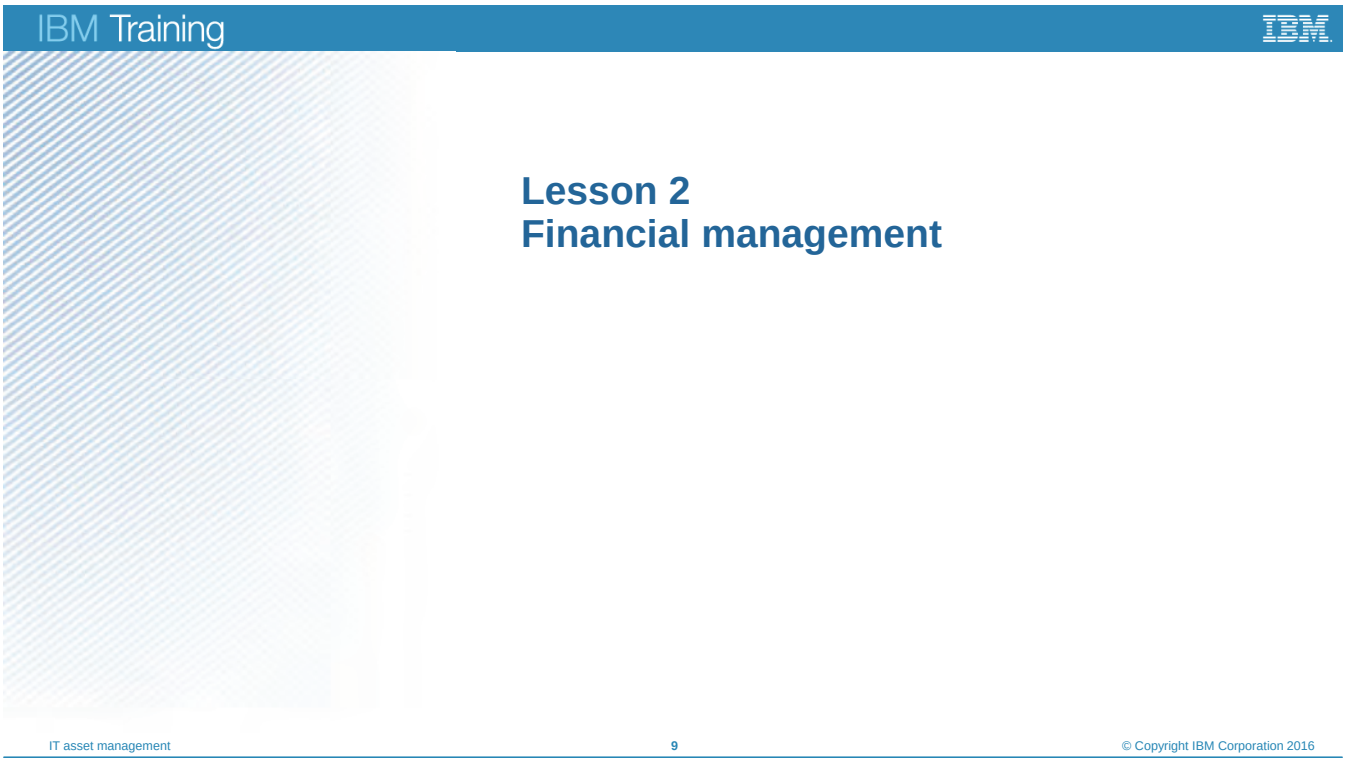
IT asset management capabilities

IBM Control Desk provides several key IT asset management capabilities, which include these examples:

- Contract management: IBM Control Desk has a comprehensive contracts module to manage items such as hardware and software purchases, lease, and warranties. IBM Control Desk includes product-provided capabilities, but is also configurable. Customers can configure (customize) the applications according to their own contract definitions by changing fields, labels, and other objects).
- Financial management: IBM Control Desk tracks procurement cost (for example a purchase or lease cost). It tracks how an asset was purchased and with work and service cost tracking how much it costs to maintain it.
- Asset management: IBM Control Desk, tracks assets, installs, moves, adds, and changes, and also reconciliation of authorized (what you contracted for) and actual deployed or discovered assets. With the integration of Tivoli Asset Discovery products, IBM Control Desk provides the complete end-to-end software asset management functions.
- Procurement: IBM Control Desk brings the ability to manage procurement of assets.
- Asset discovery integration: IBM Control Desk integrates with Tivoli’s broad and deep discovery products.
- Work management: For example, a new notebook is purchased and needs to be configured. Work management can show exactly who needs to do what task, can plan and schedule the work, and can account for cost of work.

- Easy configuration: IBM Control Desk has flexible configuration tools for database configuration and applications design enable users to easily and quickly configure the UI, dashboards, KPIs, reports, workflows, and more, dynamically. No development custom coding is required.
- Service management: IBM Control Desk brings true ITIL-based infrastructure on which you can conduct full service management with tightly integrated Service Desk features.

Lesson 2 Financial management



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IT financial management

- Business need
  - Visibility and control over IT operating and capital costs
  - Reduce total cost of ownership of IT assets
  - Understand IT costs to determine line of business, product, and service profitability
- Business drivers
  - Optimize the lifetime value of mission critical assets
  - Financial management approval of shared technology investments, such as virtualization
  - Chargeback for business services delivered, such as Cloud Computing
  - Reduce costs through using energy efficient assets
- Business value delivered
  - Align IT spending with business objectives
  - Increase return on assets
  - Lower infrastructure costs
- Main questions:
  - What are the asset costs?
    - Total cost of ownership
    - Current asset value
- By asset
    - By department
    - By individual
  - How much do contracts cost?
  - Can costs be allocated fairly and effectively?

IT financial management

The primary goal of IT financial management is to reduce asset costs and the total cost of ownership.

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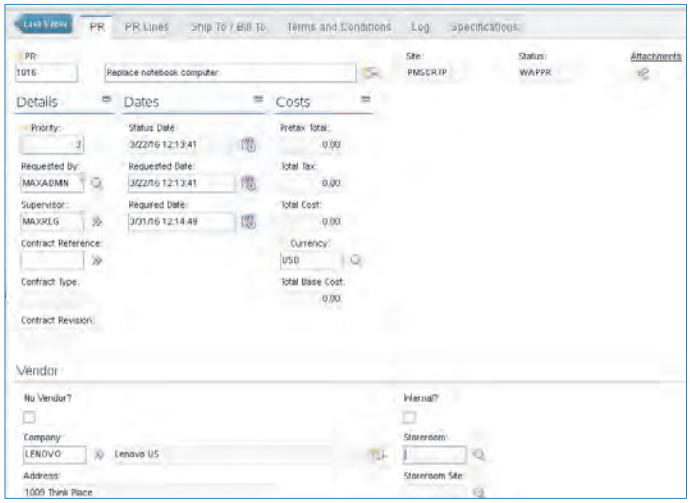
Purchase requisitions

- Internal request to order materials or services
- Generated in several ways:
  - Manually
  - Reordering from inventory
  - Request for quotation awarding



Purchasing > Purchase Requisitions

Purchase requisitions

A ***purchase requisition*** (PR) is a request that is issued internally to a purchasing department to order materials or services. With IBM Control Desk, you can create two types of PRs:

- Internal PRs request the transfer of materials from one storeroom to another.
- External PRs request the purchase of the necessary materials from an outside vendor.

Within IBM Control Desk, you have several ways to generate a PR record:

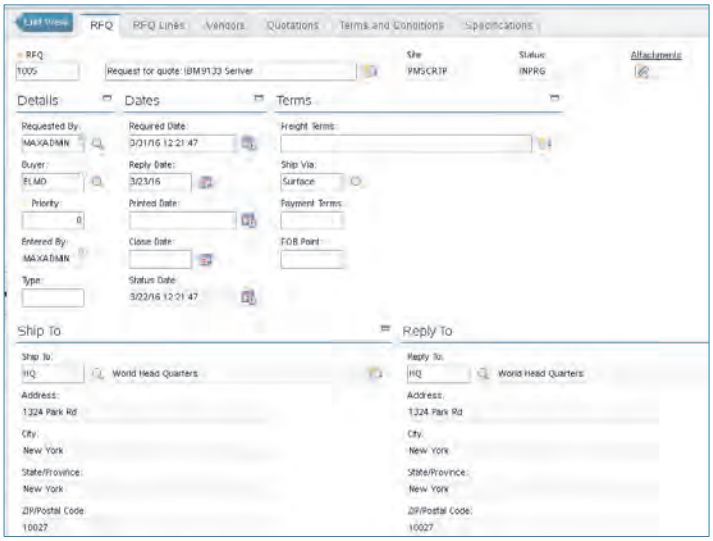
- Manually
- Reordering from inventory
- Request from quotation awarding

The PR Lines are used to specify the items or services you want to order. They can be used for any of the following types:

- Item: Items from inventory.
- Material: Items not from inventory.
- Service: Services that are not associated to service items.
- Standard Service: Services that are associated to service items.
- Tool: Items belonging to the TOOLS commodity group.

Request for quotations

- Used to request price quotations from vendors for items or services
- Can create a purchase order when awarding the quotation to a vendor



Purchasing > Request for Quotations

Request for quotations

Use a ***request for quotations*** (RFQ) to store vendor quotations so that you can assess which vendor best meets your needs.

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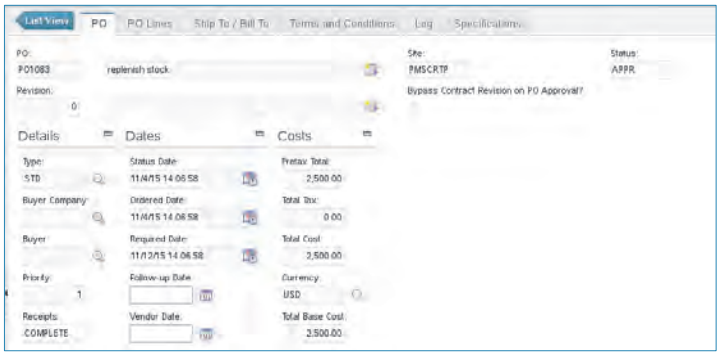
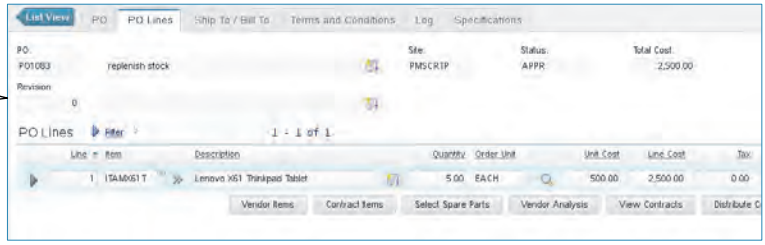
Purchase orders

- Authorized order of hardware, software, or services
- Created from a purchase request, awarded quotation, or directly in the Purchase Order application



PO Lines tab

Lists each item, material, service, or tool to be purchased



Purchasing > Purchase Orders

Purchase orders

A ***purchase order*** (PO) is an authorized order of hardware or software from a purchasing agent or department to an internal supplier or external vendor.

Use the Purchase Orders application to create POs either from Purchase Requisitions (PRs), Requests for Quotation (RFQs), or the PO itself. Use the PO Lines tab to list individual items, materials, services, or tools to be purchased.

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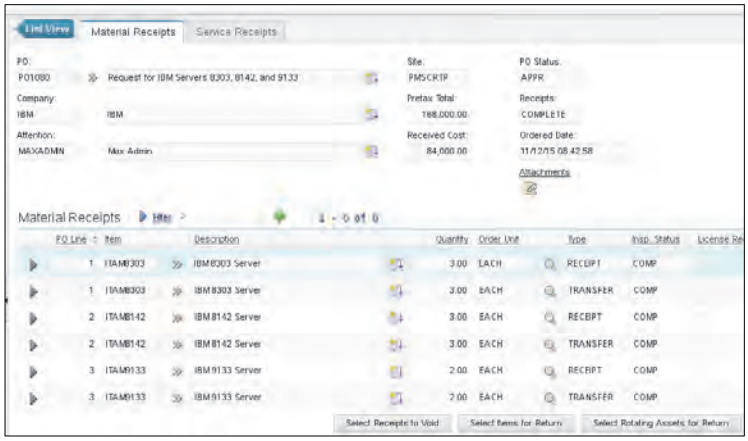
Receiving

Use the Receiving application to receive materials (software and hardware) and services from purchase orders



Purchasing > Receiving

Receiving

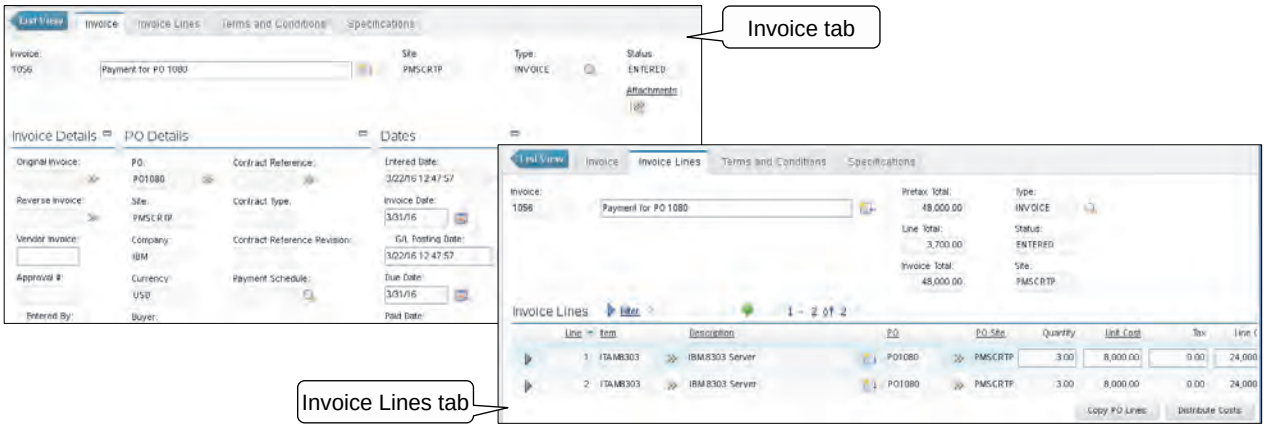
Use the Receiving application to receive materials (software and hardware) and services from purchase orders.

IBM Control Desk has two kinds of receipts:

- ***Material receipts*** refer to data associated with items that are used for work that is done on site by your company's employees, for example, quantities and lot numbers. When inventory items are received against a PO, the quantities in inventory are updated and an inventory transaction is generated.
- ***Service receipts*** refer to data associated with any service that is provided by a vendor or contractor, such as asset repairs. The service can be performed on site or off site. You specify service purchases in terms of a quantity and a unit cost or as a single lump-sum amount.

Invoices

- Bills from a vendor for delivered products or services
- Use the Invoices application to record invoices, debit notes, and credit notes from vendors and to match invoice details against POs and receipts



Invoices

An ***invoice*** is a bill from a vendor for delivered products or services.

Use the Invoices application to record invoices, debit notes, and credit notes from vendors and to match invoice details against POs and receipts. You can copy purchase order lines to the Invoice Lines tab.

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External purchasing system interfaces

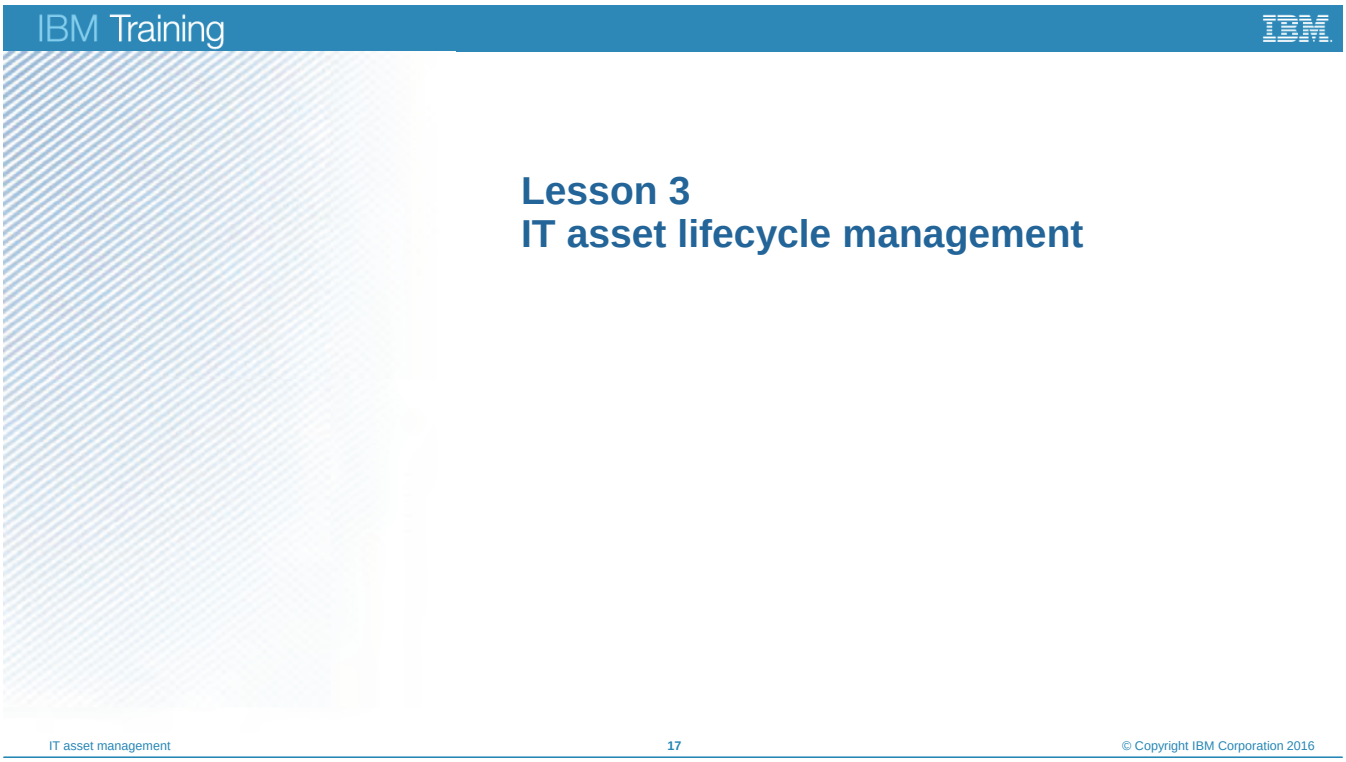
- Many companies integrate external purchasing systems with IBM Control Desk
  - Items
  - Vendors
  - Contracts
  - Purchase Requisitions
  - Purchase Orders
  - Receiving
  - Invoicing
- You can integrate them using customized Integration Framework solution or IBM Maximo Enterprise Adapters

External purchasing system interfaces

The Maximo Enterprise Adapters are available for both SAP and Oracle. For more information about these adapters, go to the following web address:

http://www.ibm.com/support/knowledgecenter/SSLKYL7.6.0/com.ibm.mea.nav.doc/welcome.html

Lesson 3 IT asset lifecycle management



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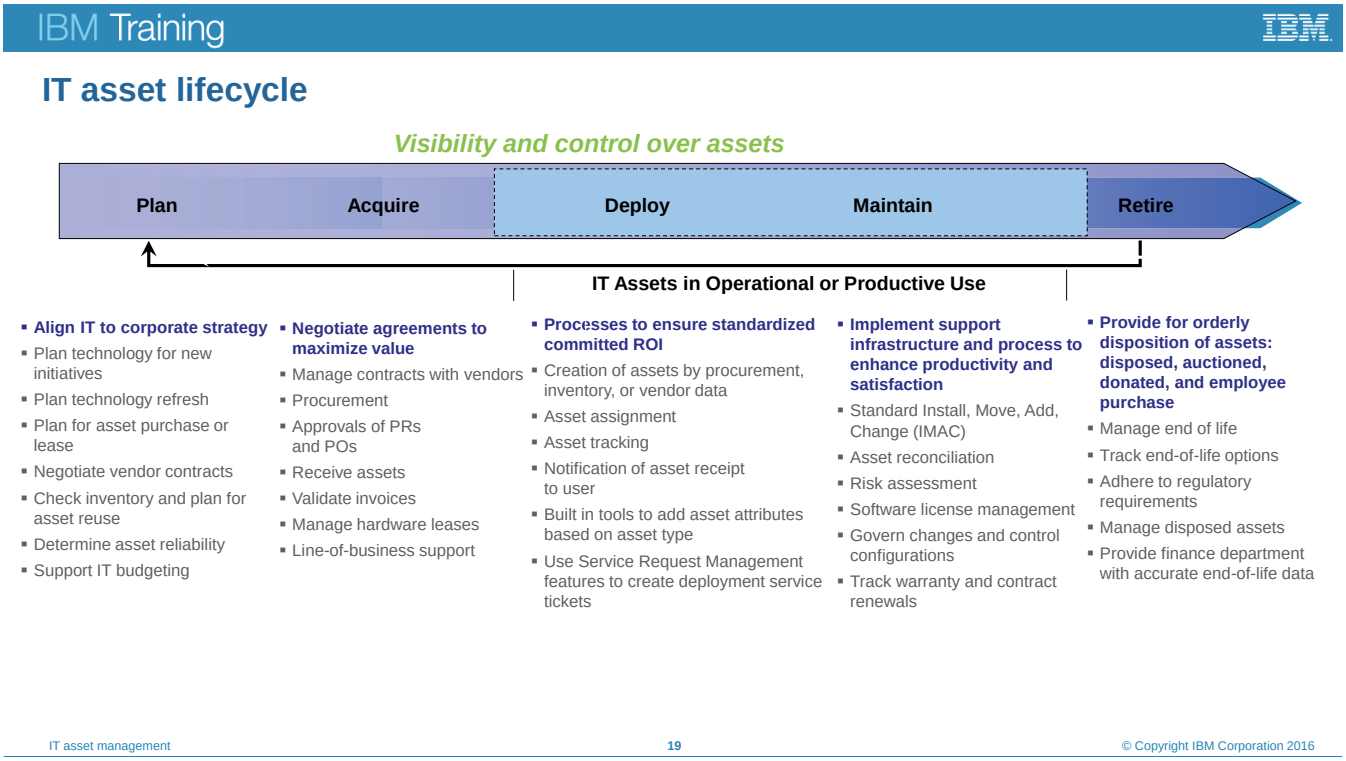
IT asset lifecycle management

- Business need
  - Improve visibility and control of all IT assets through their lifecycle
  - Obtain accurate asset data to enable appropriate and timely action across the business
- Business drivers
  - Streamline purchasing and contract management
  - Improve planning capability
  - Improve asset use by extending its life
  - Improve employee/customer service
  - Optimize energy efficiency of assets
- Business value delivered:
  - Reduce IT asset cost through visibility and control
  - Increase time-to-value with IT asset management best practices
  - Maximize lifetime productive value of assets
  - Improve efficiency through role drive UI and workflow
  - Better IT service that meets increasing business demand
- Main questions:
  - Does the company know what assets they own?
  - Where are they located?
  - Is the organization tracking IMACs?
  - Are assets being maintained and is maintenance being done properly?
  - Is the company abiding by corporate and governmental procedures and standards?

IT asset lifecycle management



IT asset lifecycle

IBM Control Desk can manage hardware and software assets by using the IT asset management lifecycle from planning to retirement. Managing the lifecycle with the IBM Control Desk aligns IT with your company strategy, cost savings, and improved business processes.

Lifecycle phases include these examples:

- **Plan**: In the Plan phase, a company formulates a budget and an associated schedule for hardware and software acquisitions. The technology refresh cycle indicates when existing assets need to be replaced based on company policy. Stockrooms are used to keep spares and check inventory before a purchase is made.
- **Acquire**: In the Acquire phase, the asset is purchased and created in the application. An established purchase order approval process expedites and controls purchasing. Assets can be created from a PO, receipt of an asset into inventory, or directly from a vendor.
- **Deploy**: In the Deployment phase, assets are assigned to an employee, project, or business unit. Employee information, including location, is received from Human Resources (HR). The status of the asset is tracked as it moves throughout the IT asset management lifecycle. Communication with the user provides a smoother deployment. Integration with the Service Desk can generate service tickets for the technician.
- **Maintain**: In the Maintain phase, asset reconciliation occurs between what is discovered and what was purchased. Installations, moves, additions, and changes (IMAC) must be recorded. Integration with Change Manager provides more robust change management processes, such as requests for change (RFC) to be implemented.

During the Maintain phase, you manage asset costs by software license compliance, monitoring stock rooms, and viewing software use.

- **Retire**: In the Retire phase, an asset reached its end of life. The asset can be disposed of, auctioned, donated, sold to an employee, returned to a leasing company, or purchased.

The IT asset management lifecycle is an endless loop. When an asset is retired, the planning phase determines how to replace the asset. The stages do not have to be done in order.

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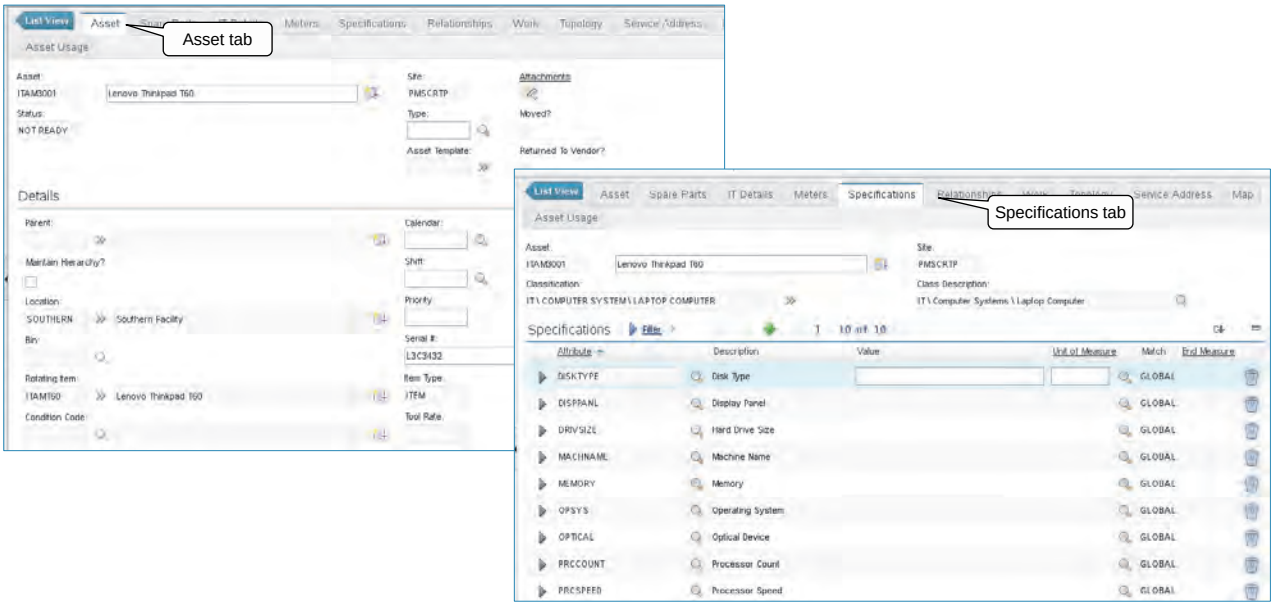
Assets



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Assets

An ***asset*** is any equipment or technology the company owns or leases that is managed and maintained by using IBM Control Desk. You can use the Assets application to serialize these objects and maintain relationships among them. With the Assets application, an organization can create and store asset numbers and corresponding information, such as parent, location, and vendor.

Use the Assets application to perform these tasks:

- Serialize assets
- Build an asset hierarchy and subassemblies
- Maintain relationships among assets
- Manage assets throughout the IT asset lifecycle

You can initially populate the Asset table, also called Authorized Asset, in four ways:

- Manual data entry of the asset records
- Promotion of a Deployed Asset to an Authorized Asset
- Asset initialization by using Integration Composer and an Integration Composer Adapter

  This method includes a Mass Promotion of Deployed Assets to Authorized Assets.
- Importing assets by using the Quick Configuration tool

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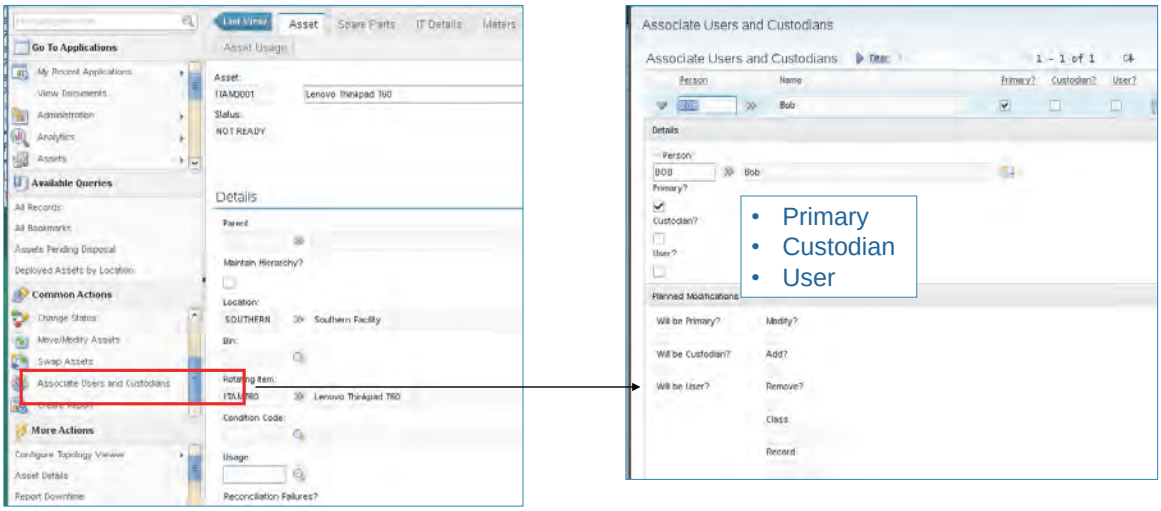
Associating people to assets



Common Actions > Associate Users and Custodians

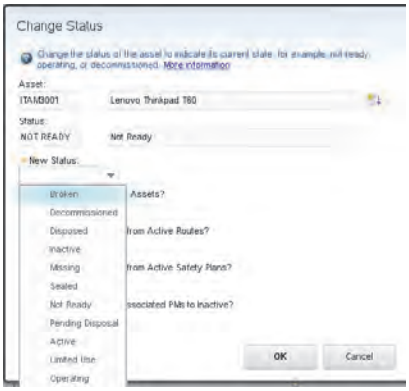
Associating people to assets

People or Person Groups can be associated with an asset. Three types of user associations are available:

- Primary
- Custodian
- User

In the previous unit on service request management, you learned that a user can view their assets in the Self Service Center. You must perform this asset association for that linkage to occur.

Asset statuses



Common Actions > Change Status

Asset statuses

Every asset has a status. You can customize the application to add statuses that are applicable to your organization. The asset status typically reflects where the asset is within the IT asset lifecycle.

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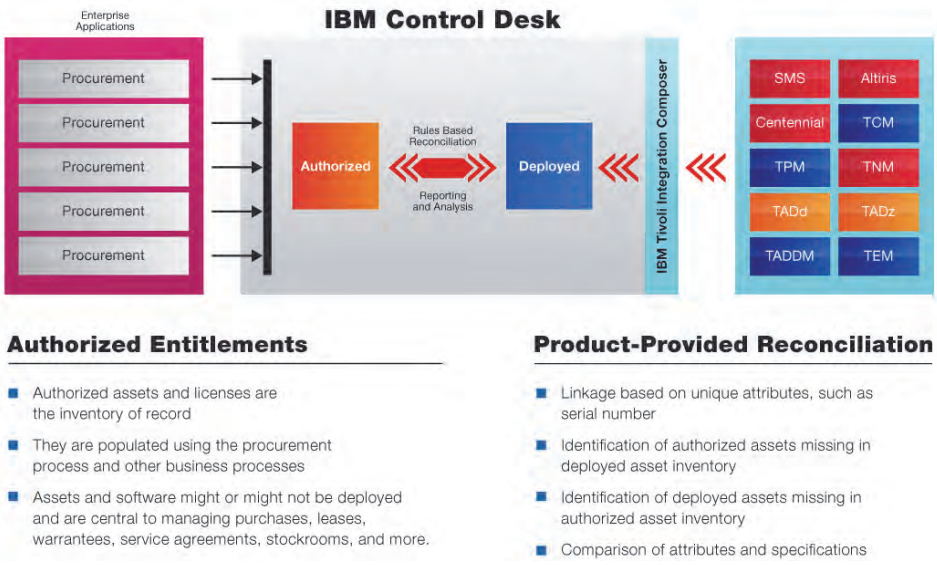
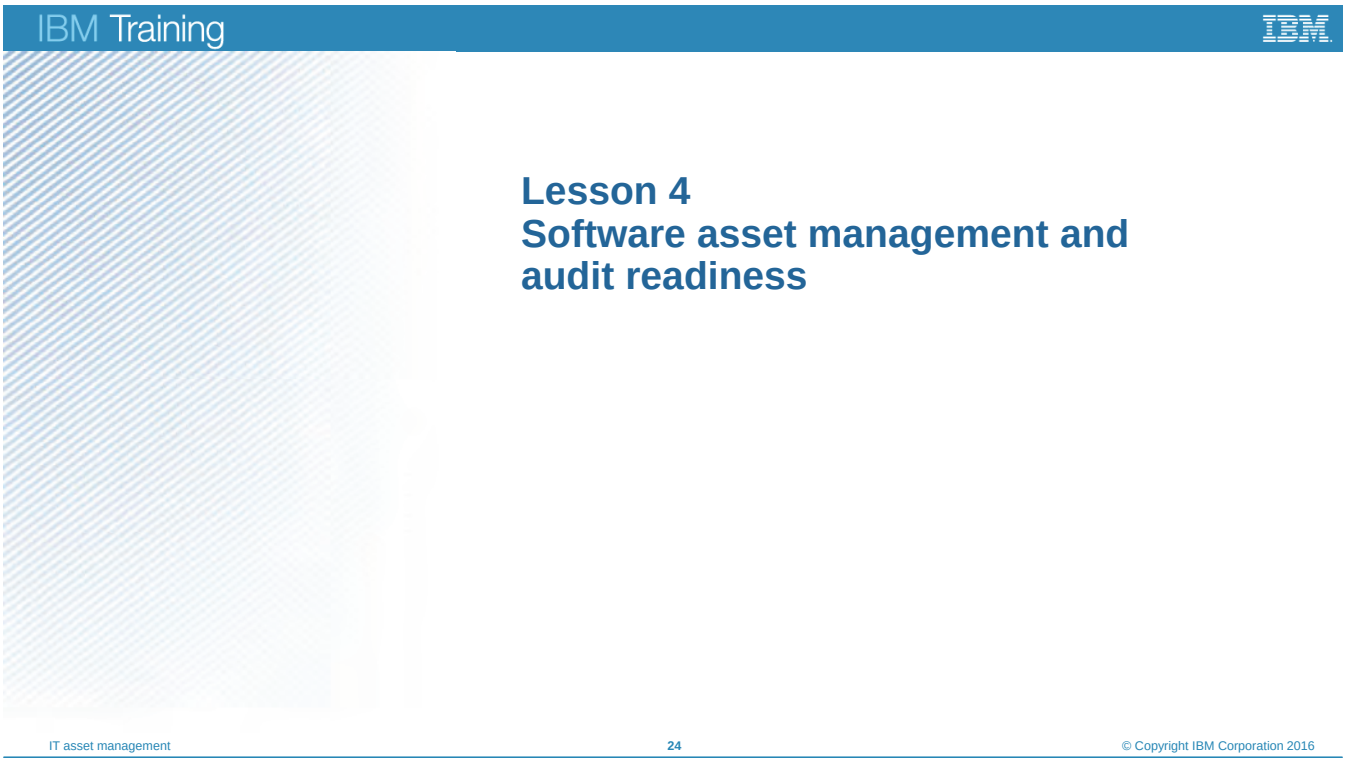
Asset validation by reconciliation



Asset validation by reconciliation

When authorized assets and deployed assets are compared, you can find discrepancies between what was authorized and what was deployed. Various factors cause the discrepancies, including incorrect data entry or reconfigured hardware or software that is not in the IBM Control Desk system.

Lesson 4 Software asset management and audit readiness



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Software asset management and audit readiness

- Business need
  - Gain visibility on:
    - Purchased software contracts, agreements, and license entitlements
    - Deployed software inventory, software usage, and associated hardware environment
  - Be prepared for software audits at any time
  - Understand licenses and their relationship to contracts
  - Accurate information about software inventory and usage in both distributed and mainframe environments
- Business drivers
  - Identification and reduction of no and low use software
  - Comply with Sarbanes-Oxley Section 404
  - Vendor or Application Portfolio Rationalization
  - Strong vendor contract negotiation leverage
  - Use new technologies without increasing business expense or risk:
    - Multicore processors
    - Virtual machines
    - Cloud computing
- Business value delivered:
  - Reduce software budget
  - Mitigate audit risk
  - Cost avoidance of unplanned license compliance penalties
  - Reduce costs to conduct internal or vendor audits
- Main questions:
  - Is the organization using the software that is deployed?
  - Are the contracts and purchase agreements efficient?
  - When do leases, warrantees and support agreements expire?
  - What is the organization entitled to?
  - What is deployed in the environment?
  - Is the company over or under purchased?

Software asset management and audit readiness

Is the software used to add business value to the organization?

When do leases and warranties expire?

Can processor value unit (PVU) licenses lower the cost of ownership?

Can You reduce the cost of an audit by having this information readily available?

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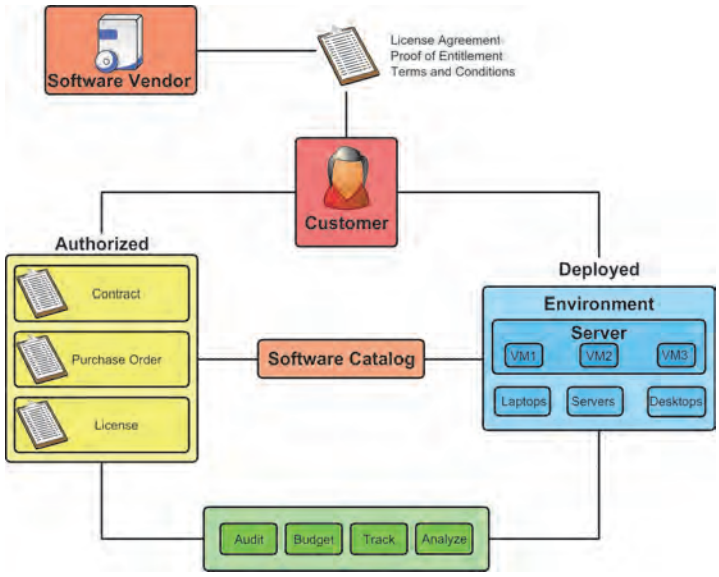
Software asset management



Software asset management

A few of the main questions that drive software asset management are these examples:

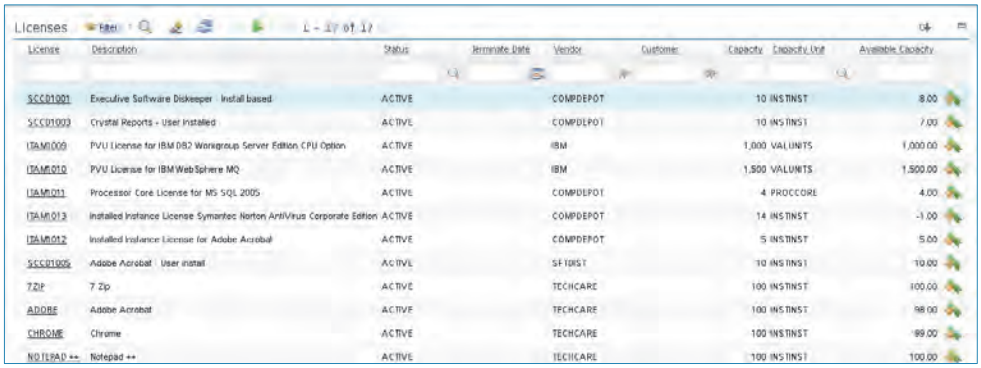
- Are you using the software that you deployed?
- Are your contracts and purchase agreements efficient?
- When do your leases, warranties and support agreements expire?

Business organizations need greater visibility into their purchased software contracts, agreements, and license entitlements. They must compare what they purchased to their deployed software inventory, software usage, and associated hardware environment. This comparison allows them to perform these tasks:

- Identify and reduce use of no-use and low-use software
- Comply with Sarbanes-Oxley Section 404
- Rationalize their Vendor and Application Portfolio
- Strengthen vendor contract negotiation
- Use new technologies such as multi-core processors, wirtual machines, and cloud computing without increasing business expense or risk.

License application

- The licenses identify the entitlements for software within the enterprise
- When creating a license, an associated software product is specified
- This associated software product provides the linkage that is necessary to run license audit reports



Assets > Licenses

License application

The License application creates and manages entitled licenses by using various criteria including type, scope, software products, and allocations.

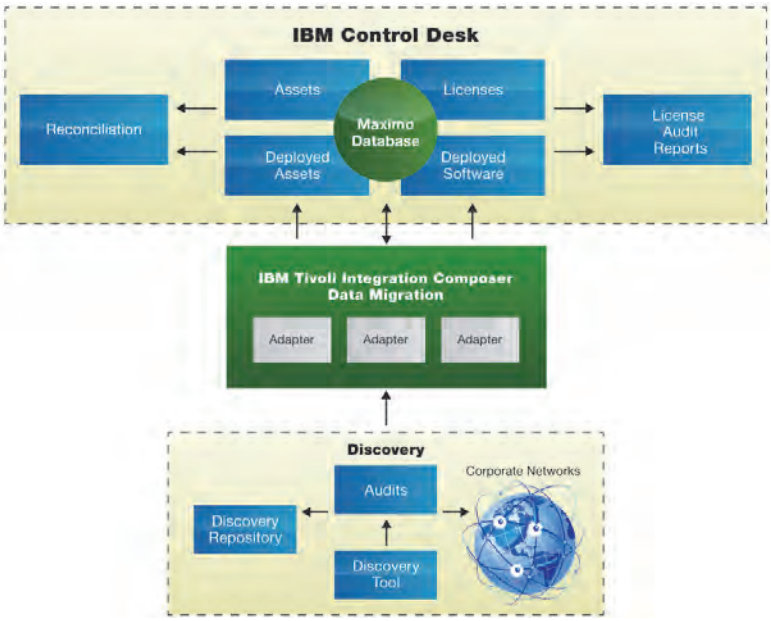
- Reconciliation for software

Applications that reference licenses include these examples:

- PR and PO Applications: Link to procurement cycle
- Deployed Software Application: Discovered instances associated
- Software Contracts Application: Link to contract cycle

IBM Training

Discovery and data migration process



IT asset management 28 © Copyright IBM Corporation 2016

Discovery and data migration process

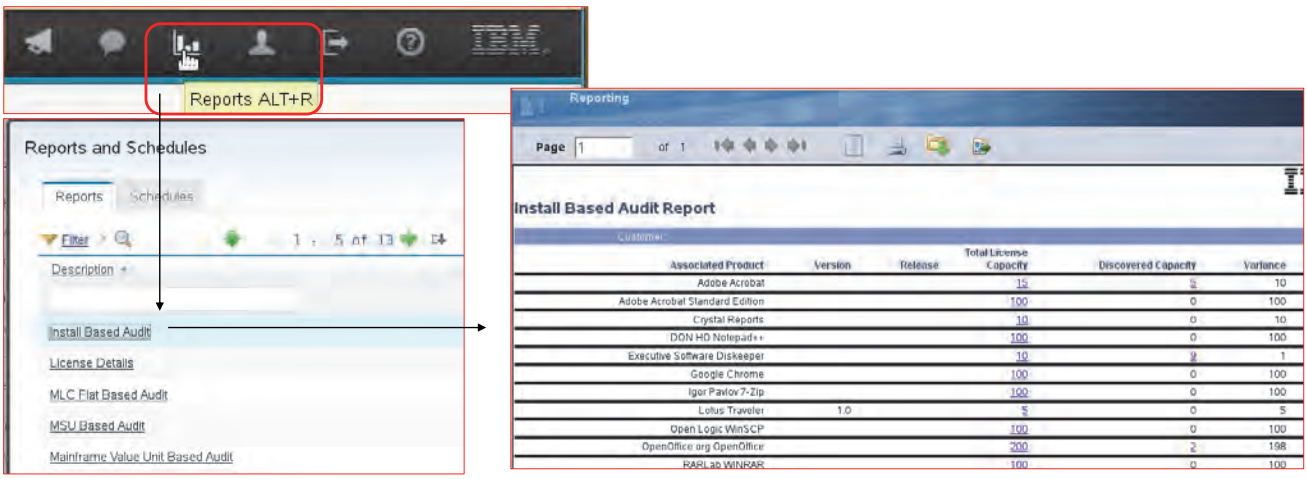
The discovery and migration of software and hardware data is a process that requires planning and setup by administrators who understand the corporate enterprise infrastructure. Data is discovered by using agent-based or agentless discovery tools.

This data is aggregated and then written to the IBM Control Desk Deployed Assets tables. The migration process must use IBM Tivoli Integration Composer, whereas various IBM and third-party tools handle the discovery. These discovery tools must have a supported Tivoli Integration Composer adapter. Otherwise, you need to create a custom adapter to migrate the discovered data.

After the data is migrated to deployed assets, you can run reconciliation tasks to compare what was discovered to what authorized assets are in the system. License Audit reports compare authorized capacity to the discovered capacity for installation, points, and processor and PVU-based licenses. Reconciliation and license audit reporting requires setup and administrative tasks in the system. Some of the setup was already covered in the Planning and IT foundation units, including the IT Asset Top-Level Class, the Software Catalog, Licenses, and Item Master.

License audit reports

- Compare what you purchased to what you deployed
- Require accurate license records and discovered data
- Product provided reports for distributed and mainframe licenses



License audit reports

The following reports are provided with IBM Control Desk:

- Install Based Audit
- PVU Based Audit
- PVU subcapacity Based Audit
- Points Based Audit
- Processor Based Audit
- Processor Core Based Audit
- MLC Flat Based Audit
- MSU Based Audit
- Mainframe Value Unit Based Audit

IBM Training

Student exercise

Student exercises

Open your *Student Exercises* book and perform the exercises for this unit.

Review questions

1. True or False: The IT asset management lifecycle is linear.
2. What is a purchase request?
   a. An authorized order of hardware or software from a purchasing agent or department to an internal supplier or external vendor.
   b. A bill from a vendor for delivered products or services.
   c. A request to vendors for a list of purchase that is made over a period.
   d. A request issued internally to a purchasing department to order materials or services
3. True or False: Every asset has a status.
4. License audit reports:
   a. Provide a report of all licenses that you purchased.
   b. Provide a report of all software products that are installed.
   c. Compare what you bought to what is installed.
   d. Compare what you allocated to what is installed.

Review answers

1. True or False: The IT asset management lifecycle is linear.

   False. The IT asset lifecycle is an endless loop. As you retire an asset, you are planning for the replacement.

2. What is a purchase request?

   d. A purchase request is a request that is issued internally to a purchasing department to order materials or services.

3. True or False: Every asset has a status.

   True. Every asset has a status. The asset status typically reflects where the asset is within the IT asset lifecycle.

4. License audit reports:

   c. License audit reports compare what you bought to what is installed.

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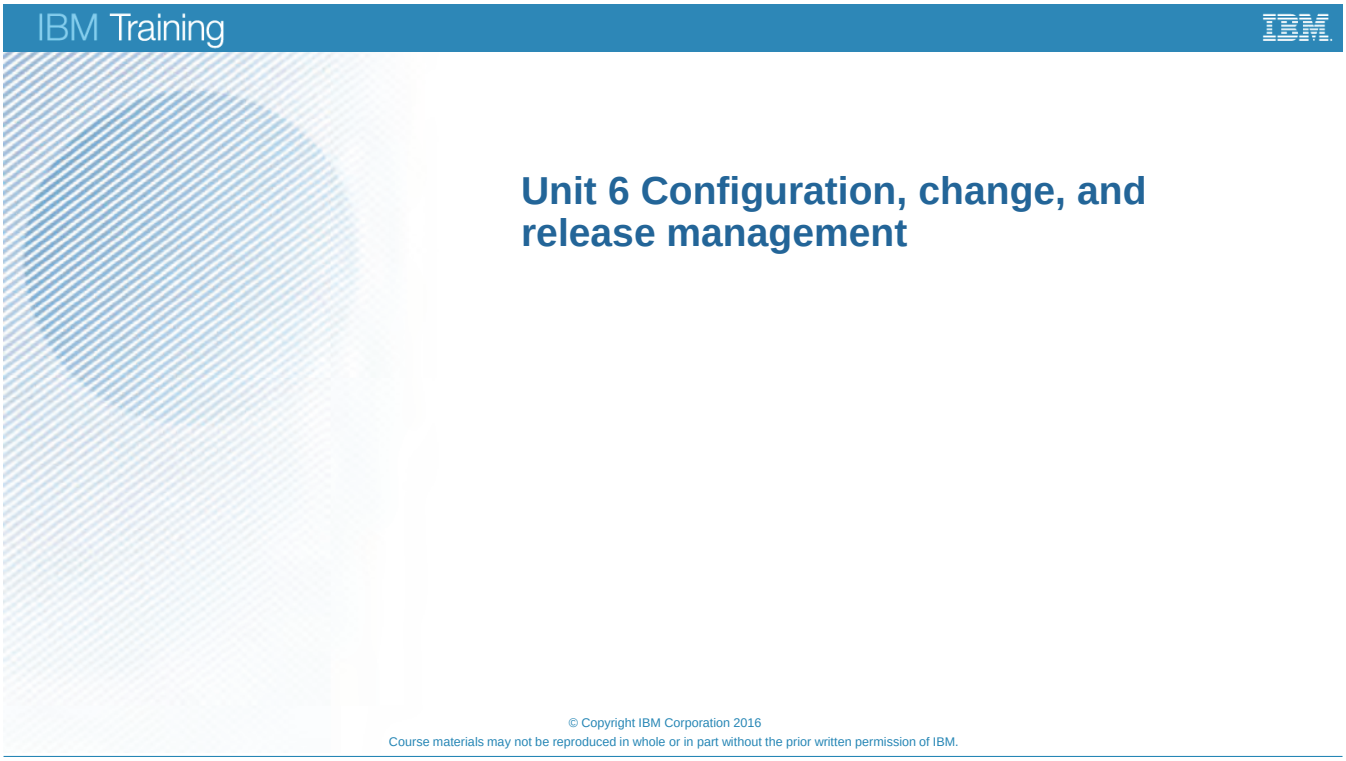
Summary

- Define an IT asset
- List the IT asset management business priorities
- Explain the IT asset lifecycle stages
- List the components of software management

Summary

Unit 6 Configuration, change, and release management



This unit provides an overview of the configuration, change, and release management features in IBM Control Desk. Business processes are most successful and efficient when they are running in a trusted environment. To ensure trust, you must control the components that support the business process. You learn how configuration, change, and release management are integral to controlling these components.

This unit is only an overview. To gain a deeper knowledge of configuration, change, and release management features in IBM Control Desk, consider taking the *IBM Control Desk 7.5 Configuration, Change, and Release Fundamentals* course.

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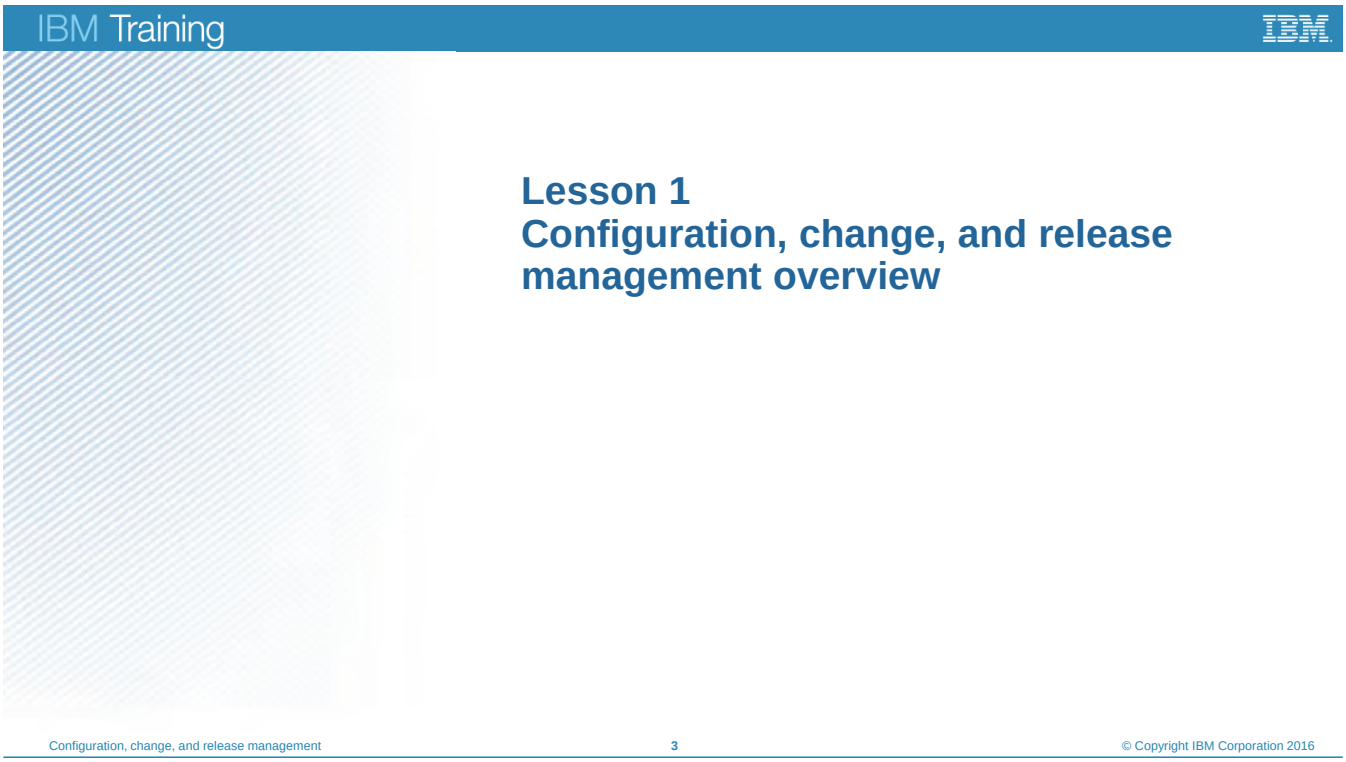
Objectives

- Define a configuration item (CI)
- Define a configuration management database (CMDB)
- Explain the purpose of configuration, change, and release management
- List the key IBM Control Desk functions that support configuration, change, and release management

Objectives

Lesson 1 Configuration, change, and release management overview



What is a configuration item (CI)

- A *CI* is any component that must be managed to deliver an IT service
- Details for a CI are recorded in a configuration record that is maintained throughout its lifecycle by configuration management
- CIs are under the control of change management

What is a configuration item (CI)

What is the difference between assets and CIs

- Assets are IT objects managed from the *financial* perspective
- CIs are IT objects managed from the *operational* perspective
- Assets and CIs can point to the same IT object, but highlight different aspects of it
- Assets are usually created before the CIs and live longer than the CIs

What is the difference between assets and CIs

Activities that are performed on an IT object:

- Financial control and risk such as:
  - Budget
  - Purchase
  - License
- Operational control such as:
  - Install
  - Upgrade
  - Change
  - Deploy

When you manage an IT object from the aspect of financial value, you usually apply asset management functions on it. Therefore, you would refer to the IT object as an asset. More specifically, it is an IT asset because an enterprise has other financial assets. When you use or need to control an IT object in a more operational management manner, you would refer to and maintain it as a Configuration Item (CI).

Assets are usually created before the CIs and live longer than the CIs because:

- You need money to buy the server; and only after installation can you offer services on it
- The moment services that are no longer run on the server, it still costs money, at least for disposal

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What is a configuration management database (CMDB)

- A CMDB is database that is 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 (dependencies) with other CIs
- Business processes are most successful and efficient when they are running on top of a trusted (accurate) CMDB

What is a configuration management database (CMDB)

The configuration management database (CMDB) is a database that stores information about configurations items (CIs) for use in change, release, incident, service request, problem, and configuration management processes. The CMDB is a key element of ITIL based service management. The CMDB might be part of a larger Content Management System (CMS).

The CMDB stores sufficient information about objects so that you can work productively. For example, the information that is stored for a CI includes its type, or classification; it attributes, which describe the characteristics of the particular CI instance; and its relationships with other CIs. All this information is structured according to the Tivoli Common Data Model, an information model that is used to define and share data about configuration items and other artifacts across several Tivoli management products. The CMDB is maintained by the configuration management component of this product. But, other components such as change management, service request management, asset management, also use it.

The CMDB also stores information about process artifacts that are used while managing the configuration items. These artifacts are linked to CI records. For example, a record of a request for change (RFC) would be linked to the CIs that were its targets.

Configuration management

- The process that is used to identify, control, maintain, and verify the versions of configuration items (CIs) and their relationships in a logical model of the infrastructure and services
- Ensures that selected components of a complete service, system, or product are identified, baselined, maintained, and audited, and that changes to them are controlled

Configuration management

A standard implementation of configuration management includes:

- Discovering relevant items in your infrastructure
- Determining which items and which of their attributes and relationships to manage
- Establishing procedures for change, and auditing the actual and authorized versions of each item.

By maintaining a complete and accurate configuration management system, you can ensure the integrity of the components that are required to provide the business services.

Change management

- The process that controls changes to all configuration items (CIs) in the managed infrastructure:
  - Using standardized methods, processes, and procedures all changes
  - Facilitating the quick processing of all changes
  - Minimizing the impact of change-related incidents
  - Ensuring that all changes are assessed, authorized, implemented, and reviewed in a controlled manner
- Responsible for controlling and managing requests for change (RFCs) in the IT environment

Change management

A primary goal of change management is to ensure that each change is completed efficiently with the least amount of impact.

Release management

- Responsible for planning, scheduling, and controlling the deployment of releases to IT environments such as mass updates or transition from test to production
- Ensures that the integrity of the production environment is protected and that the correct components are released

Release management

Release management is responsible for planning, designing, building, deploying, and testing releases in your data center. For each phase of a release, you perform key operations to ensure that each release is managed efficiently and effectively.

IBM Training

Configuration, change, and release management

- Together these processes manage the technical aspects of the IT infrastructure:
  - Ensure a trustworthy CMDB
  - Reduce impact of changes by defining standard, workflow-driven change procedures
  - Ensure integrity of existing infrastructure during release of new hardware, software, or business applications
- Tight integration is required

Configuration, change, and release management

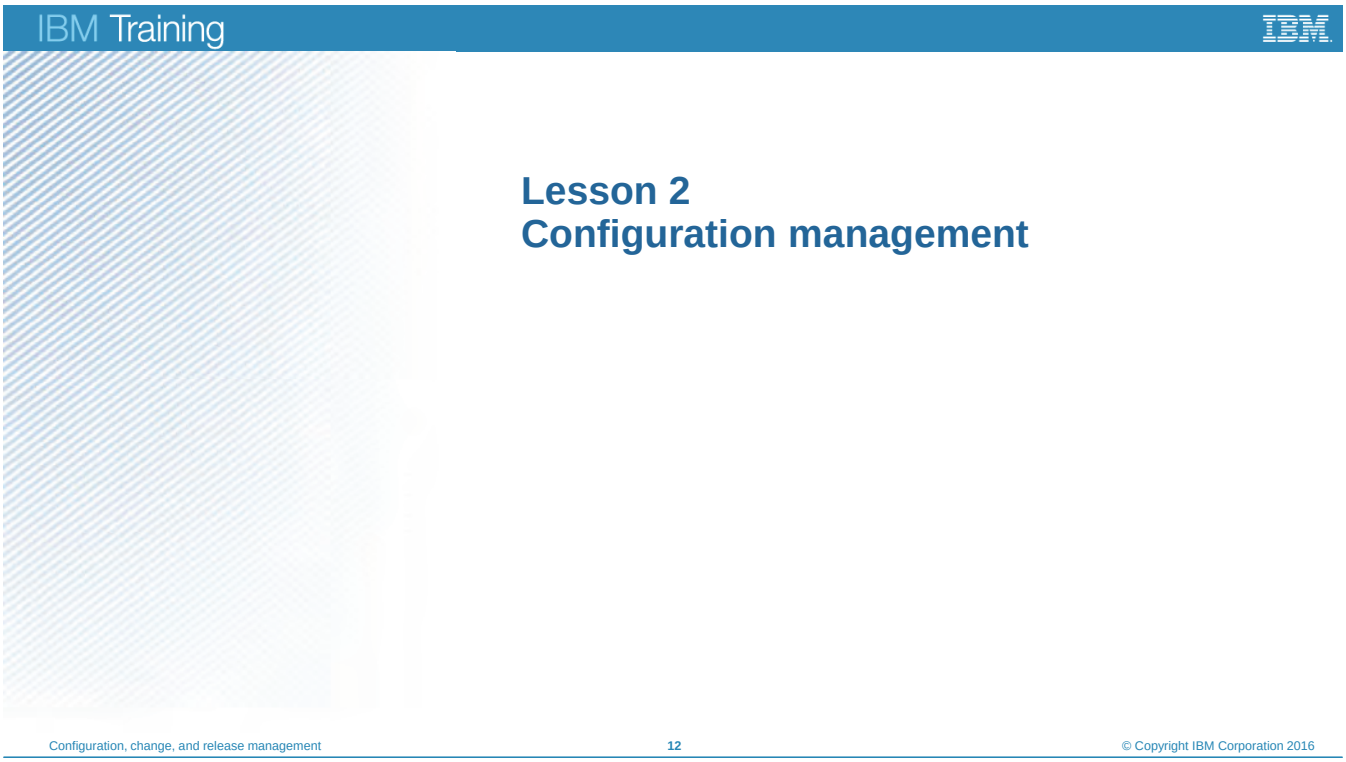
IBM Training

IBM Control Desk configuration, change, and release management

- Configuration management
  - Topology visualization to help understand complex relationships
  - CI auditing to ensuring a trustworthy CMDB
  - CI baselines to provide IT standardization by easily taking a snapshot, at any time, of CIs to produce an approved configuration and identity drift
- Change management
  - Business impact analysis to understand what business services a change affects
  - Change scheduling and authorization
  - Automated process flows that leverage scheduling analytics
  - Integration with deployment tools such as Tivoli Provisioning Manager and Tivoli Configuration Manager, and to repositories like the Rational Asset Manager
- Release management
  - Ability to plan and oversee the successful deployment of new and changed business applications, software, and associated hardware, including documentation and training
  - Integration with deployment tools such as Tivoli Provisioning Manager and Tivoli Configuration Manager, and to repositories like the Rational Asset Manager

IBM Control Desk configuration, change, and release management

Lesson 2 Configuration management



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Configuration management overview

Plan	Define **discovery** scope Define CI data model Define lifecycle states
Identify CIs	Discover CIs in the IT environment View CIs and the **relationships** between them
Verify and audit CIs	Know what changes occurred to the CIs over time Know what **CI updates** are currently being processed in the organization Know how many approved and unapproved CI updates were made Know where the CIs do not match their **appropriate state**
Control CIs	Know what states are the CIs currently in, and whether they are **protected** from unauthorized changes **Control** the most critical CIs in the CMDB **Notify** CI owners of CI changes
Integrate	Integrate with Change Management to require RFCs for CI updates Integrate with IT Service Management processes to use CIs

Configuration management overview

Configuration management, working with other processes, creates a logical model of the configuration items in your environment, controls changes to these items, and automates processes to make controlling your infrastructure more efficient.

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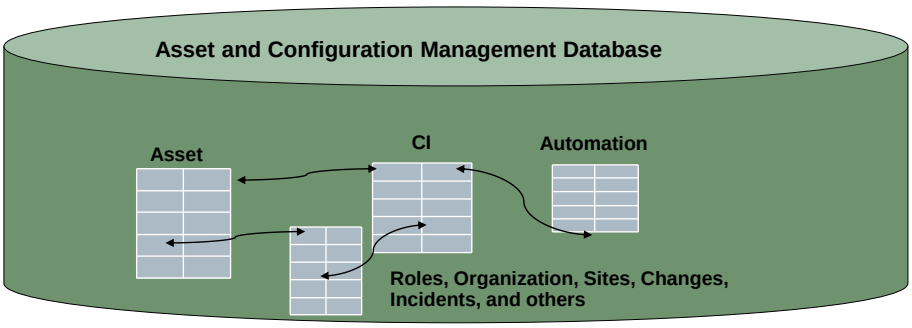
Data layer considerations

- The data layer is the base of IBM Control Desk
- It is a CMDB that centralizes all configuration items into one place
  - Authorized configuration items
  - Actual configuration items
- Relationships are built between CIs in the CMDB



Data layer considerations

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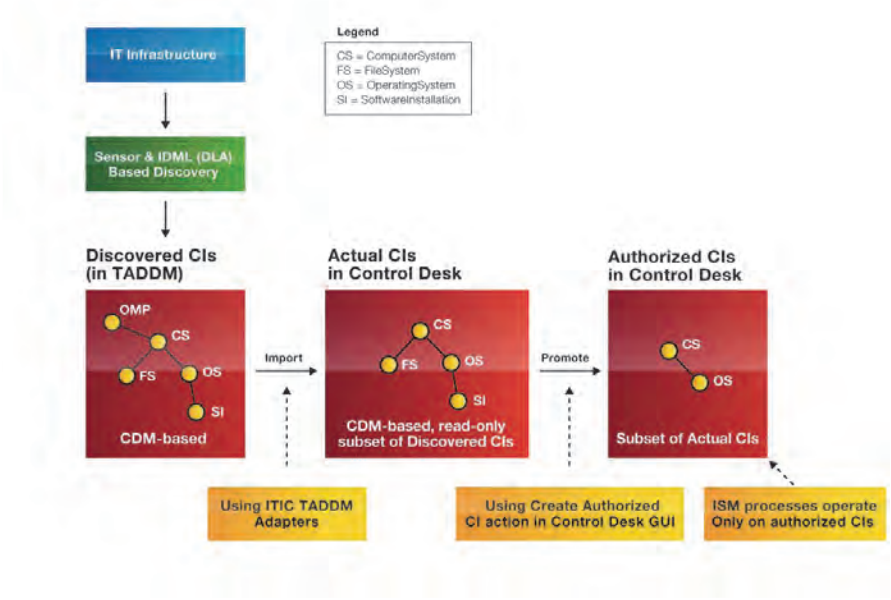
Data layer elements



Data layer elements

IBM Control Desk has three distinct CI types:

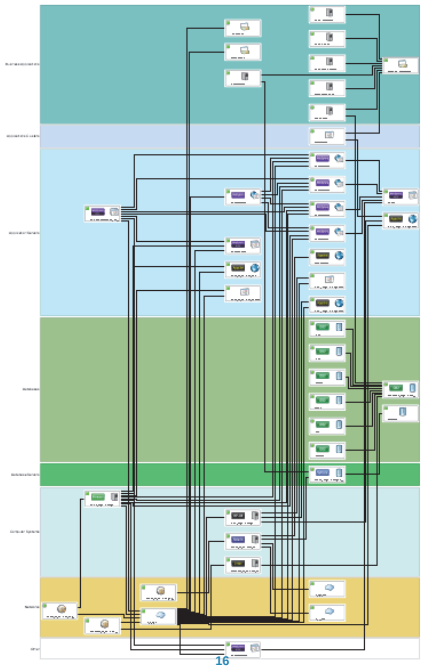
- Discovered CIs: CIs that were discovered in an IT environment. Typically, this discovery is done by Tivoli Application Dependency Manager and stored in its own data store. Tivoli Application Dependency Discovery Manager is sold separately, but is the only discovery tool that is supported for CIs.
- Actual CIs: These CIs are a subset of discovered data. The discovered CI information is copied or imported from Tivoli Application Dependency Discovery Manager into IBM Control Desk as read-only.
- Authorized CIs: These CIs are CIs that are subject to control and modification by the Configuration and Change Management processes in IBM Control Desk. They are the target object for many operations within the overall IBM Service Management solution. They are a subset of the actual CIs that are stored in the CMDB.

IBM Tivoli Integration Composer loads IBM Control Desk with the actual CIs. The CI types that are active and the depth setting in the Integration Composer properties file control it.

Within IBM Control Desk, you typically promote actual CIs to authorized CIs. The authorized CI hierarchy controls this process.

IBM Training

CI topology viewer



CI topology

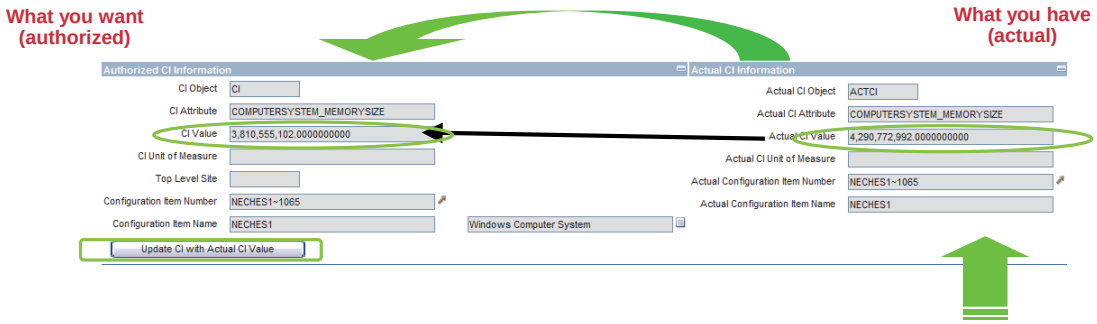
After you define your CIs, you can use the CI topology view as a graphical representation of the CIs and their relationships with other CIs.

Lines that connect the CIs indicate the relationships between them. All CIs of the same classification are grouped into swimlanes (configurable colored and labeled bands).

This view can help users understand complex relationships when working incidents and problems.

IBM Training

CI auditing



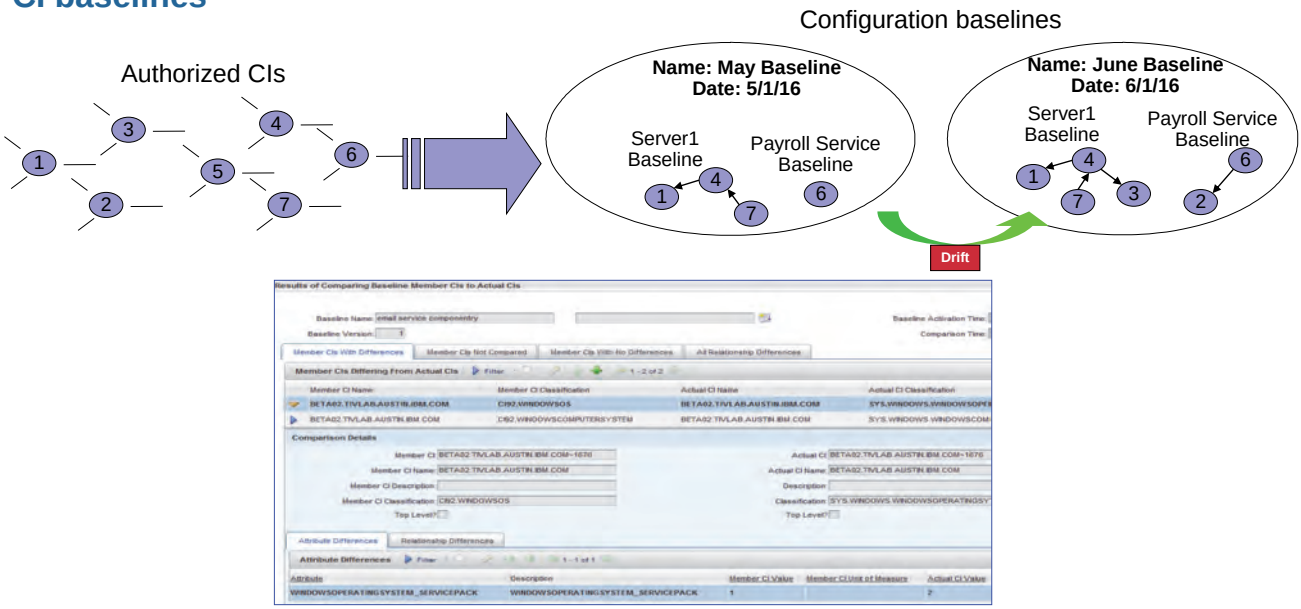
CI auditing

CI auditing can be used to ensure accurate Authorized CIs to allow business processes to run successfully and efficiently. Using CI auditing you can:

- Immediately remediate an audit variance by updating authorized with actual value.
- Create a change, incident, or problem to remediate an audit variance.
- Browse approved changes, attribute history, and audit results for a CI
- Identify unauthorized changes before they cause problems

IBM Training

CI baselines



CI baselines

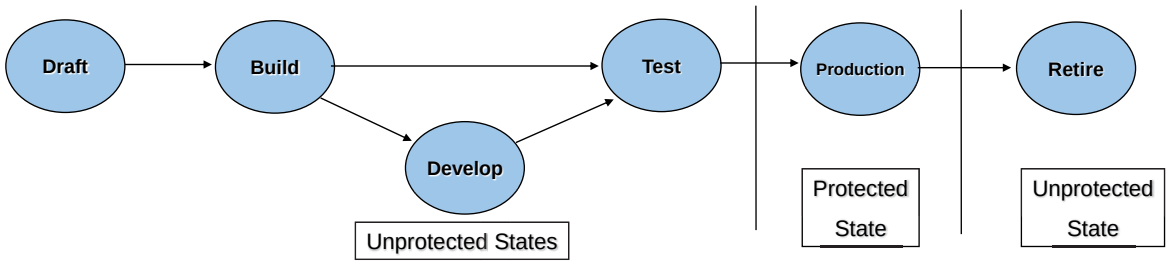
A configuration baseline is a snapshot that represents an approved configuration at a particular time that people can reference, compare to, and apply changes to in a manner that is understandable.

It provides IT standardization by easily taking a snapshot, at any time, of CIs to produce an approved configuration. You can use configuration baselines to quickly detect changes to those approved configurations.

IBM Training

CI lifecycle state management

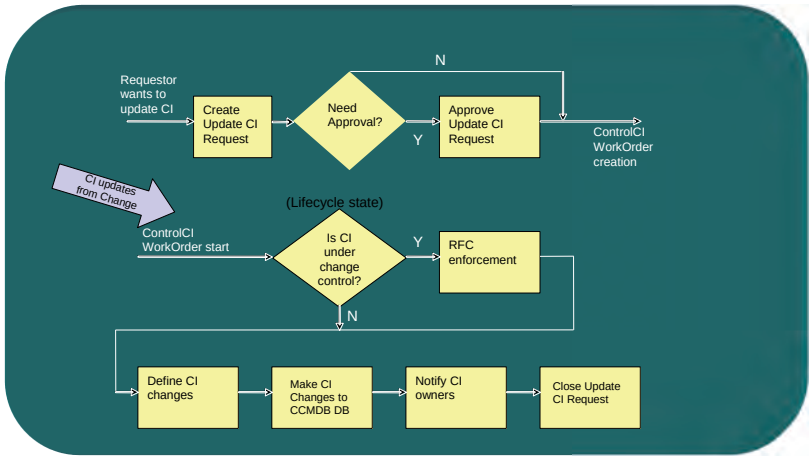
- CI lifecycle management to prevent unauthorized changes on protected CIs
- Ability to define and manage different states associated with CIs
  - States and transition graphs are fully configurable by customers
- Ability to have processes interact with states of CIs
  - Check validity of state
  - Protection against promoting to an out-of-sequence state
  - Protected versus unprotected states
- Can be applied to any CI



CI lifecycle state management

IBM Training

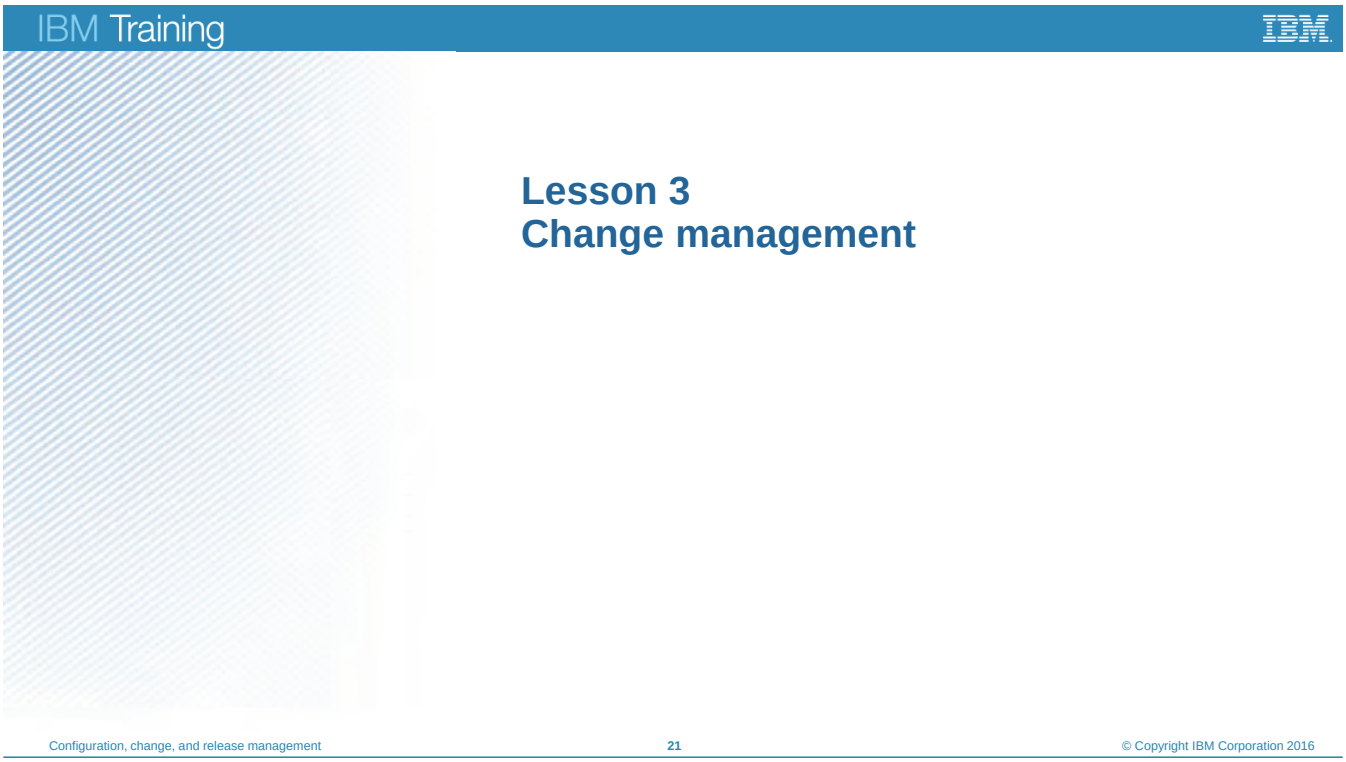
CI control



- Controls changes to CIs in the CMDB
- Ensures that all CMDB additions, updates, and deletes have the appropriate controlling documentation
- If CI is in a protected lifecycle state, a valid RFC is required
- Can use CMDB changes identified in the change process

CI control

Lesson 3 Change management



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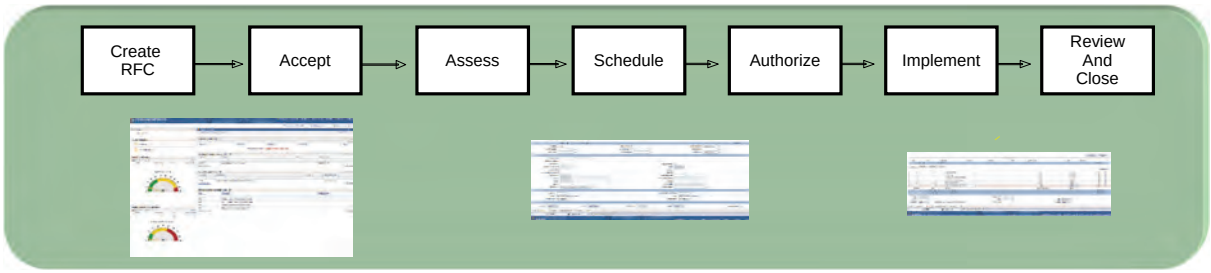
Change management overview

Plan	Define change types and tasks for each type (or use OOTB types) Define automated tasks (optional)
Control changes	Require **RFCs** for CI changes and ensure compliance Ensure that Changes get proper authorization **Notify** all stake holders of changes **Reduce cost** by using an efficient change process **Control** when changes occur to minimize disruption of services Perform assessment and **impact analysis** to minimize risk Use change windows and blackout periods to efficiently use resources
Report and verify changes	Know what changes occurred to the CIs over time View **forward schedule of changes** to see changes that are occurring Use key performance indicators to determine what changes cost the most
Integrate	Integrate with operational management products (OMPs) to deploy changes Integrate with Configuration Management to automate and control CI updates Create RFCs from Incident and Problem Management

Change management overview

IBM Training

Change process

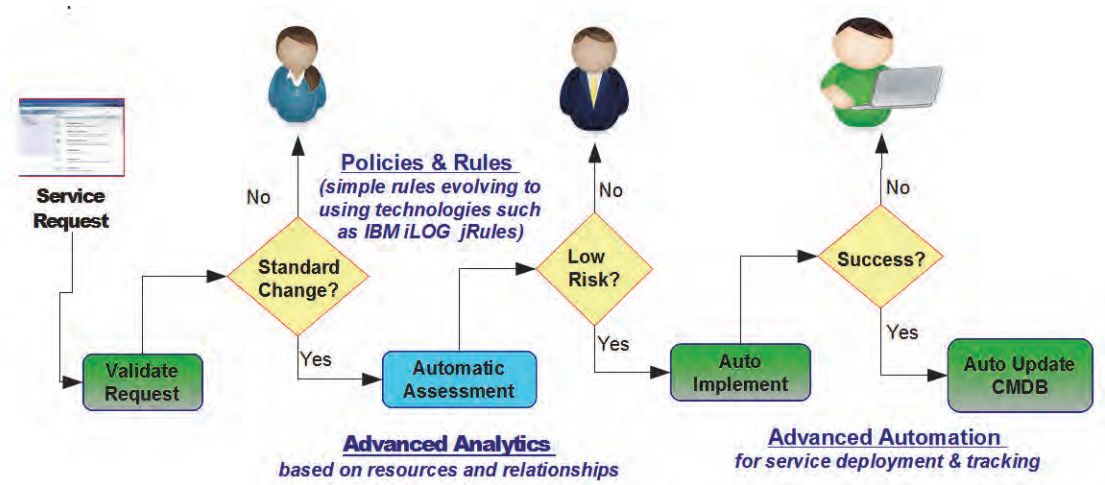


- Changes are introduced in a timely and controlled manner
- Changes are assessed and approved
- Minimize service disruptions due to changes

Change process

IBM Training

Change standardization and automation



Change standardization and automation

IBM Control Desk change management supports three types of changes:

- **Standard changes** are relatively low-risk and understood. Standard changes are performed frequently. These changes do not have wide-ranging impacts on business-critical CIs, and they are processed so often that they do not need to be assessed, scheduled, approved, or reviewed.
- **Normal changes** require that all of the change process steps be completed. These changes require a full range of assessments and authorizations to ensure completeness, accuracy, and the least possible disruption across the data center.
- **Emergency changes** must be done immediately. They are of a high priority, and are typically not performed often. An emergency change contains all of the process steps that are followed for a normal change, but some of the steps might be abbreviated and occur more quickly. For example, you might specify fewer assessments or approvals.

IBM Training

Business impact analysis

- Determining the impact of a proposed change
- Conducted by a change analyst
- Impacts identified by the impact analysis engine
  - Automatically by a workflow
  - Manually if a workflow is not applied
- Results are analyzed to determine the disruption

Business impact analysis

Business impact analysis is the process of identifying and analyzing which systems, applications, or other configuration items (CIs) that a proposed change affects. For example, if the change is to add memory to an application server, the applications that use that server have an outage when the server is offline. Many other CIs might also be impacted.

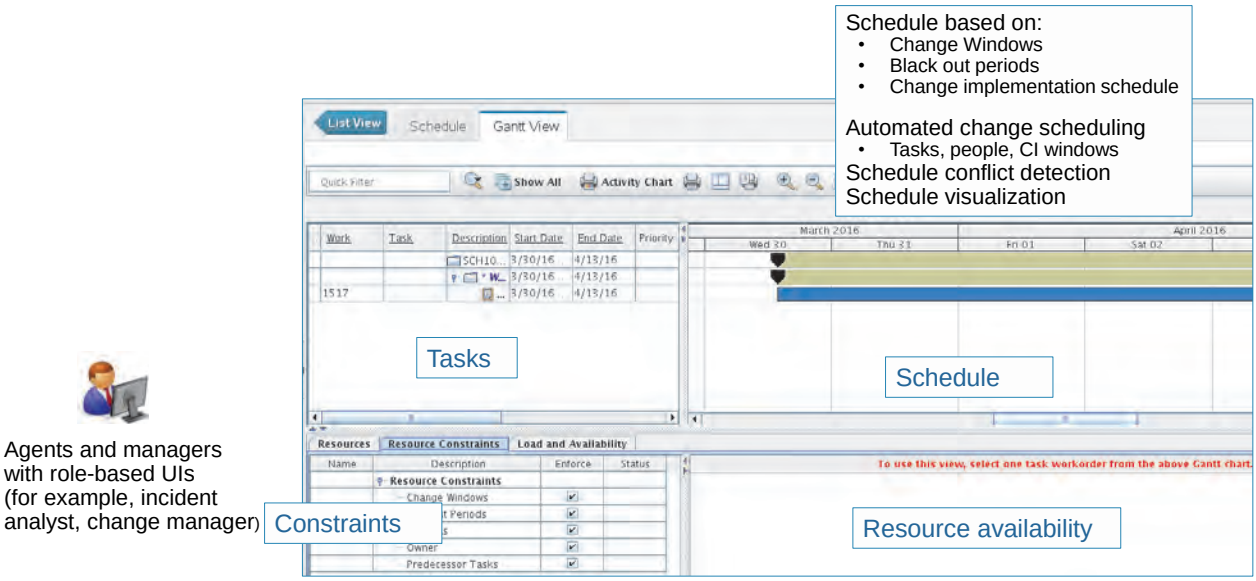
Business impact analysis has two primary steps:

- The impact analysis engine runs Impact analysis. A workflow can trigger this analysis automatically after you create the implementation tasks and attach target CIs to the task. Alternatively, a Change Analyst can manually start the impact analysis in the Change application. They might run an analysis manually to quickly obtain a view of the impact.
- After the analysis is complete, the Change Analyst must examine the results of the business impact analysis to determine the disruption that might result from the change. Several operations can be performed during the analysis such as:
  - Identify impacts task by task,
  - Identify the impacts of a single target
  - Add impacts to a task based on historical knowledge

Based on this analysis, the Change Analyst can recommend for or against approval of a change, adjust the change to minimize disruption, or otherwise modify the change.

IBM Training

Change scheduling

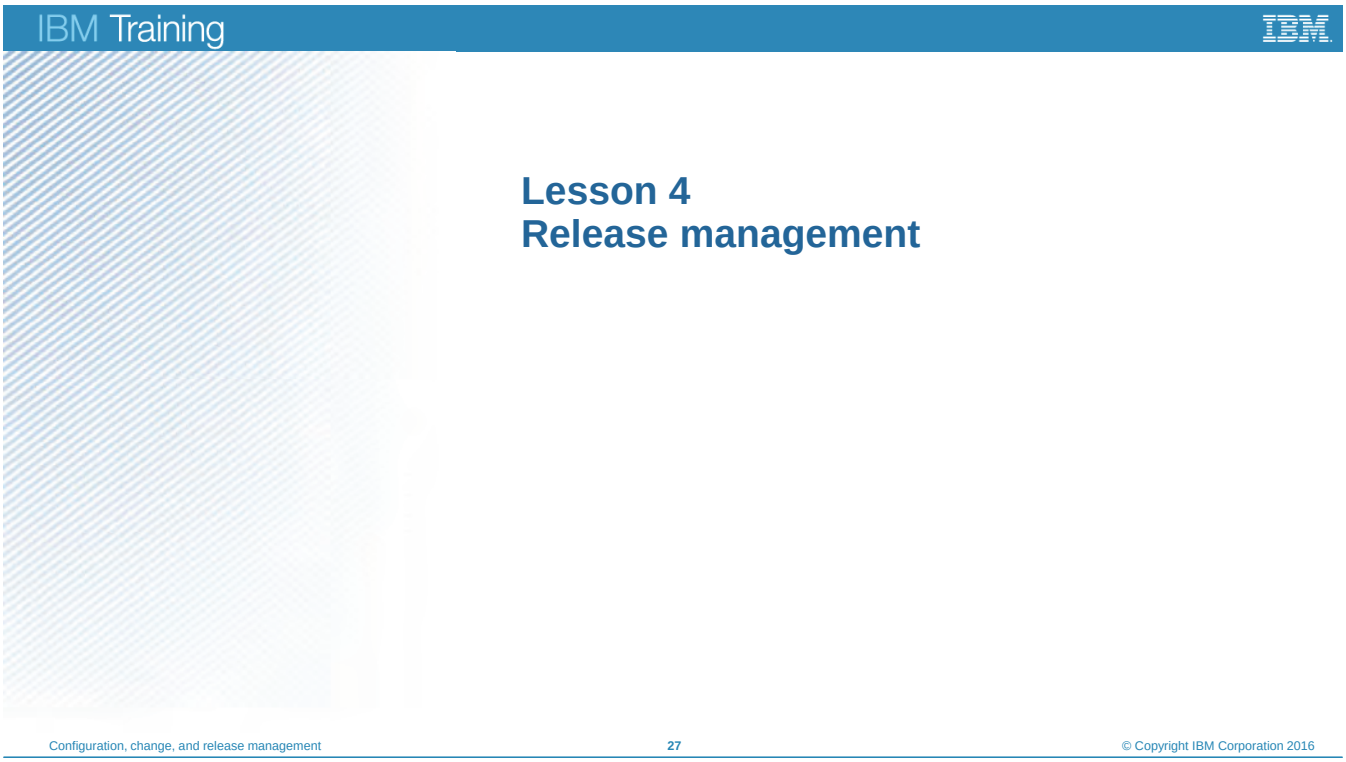


Change scheduling

Changes can be scheduled to ensure that the tasks are completed in the correct order, by the appropriate people, and with minimal disruption. Schedules are created in the Scheduler application.

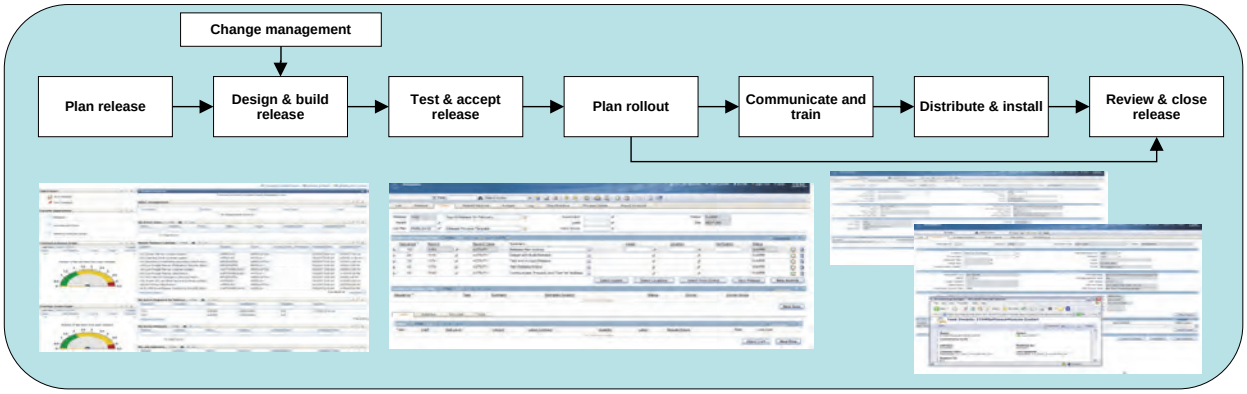
You start the Schedule application from the **Schedule** tab of a change record or from the **Go To** menu. When you start directly from the change record, the Scheduler application is automatically populated with information that is needed to identify the change.

Lesson 4 Release management



IBM Training

Release management flow



Release management flow

Comprehensive tools are provided to help you manage, audit, and coordinate simple and complex releases. Activities in a release job plan can be customized to ensure that the steps are completed in the correct order by the appropriate people.

Your primary goal during the planning phase is to develop an overall release structure with the appropriate approved changes where CI relationships and dependencies are identified.

During the design and build release phase, you build the packages to deploy and design the mechanism that is used to deploy the packages. You also create communication and education plans and define any back out procedure.

The testing and accepting phase is where you test the release package that is created in the design and build phase. Copies of the package are then added to the Definitive Media Library.

During the plan rollout phase, you create a list of tasks that represent each unique step that must be completed for the release.

At the communicate and train stage, you inform stakeholders and users about the new release. You also deliver any required training.

Next, you distribute and install the release by following the tasks that are determined in the plan rollout phase.

Finally, when the release is deployed, you must verify that the release was successful.

IBM Training

Student exercise

Student exercises

Open your *Student Exercises* book and perform the exercises for this unit.

Review questions

1. Which objects are managed from an operational perspective?
   a. Assets
   b. CIs
   c. Locations
   d. Items
2. True or False: Assets typically live longer than CIs.
3. Which process is used to identify, control, maintain, and verify the versions of configuration items (CIs)?
   a. Configuration management
   b. Change management
   c. Release management
   d. IT asset management
4. True or False: Changes must be validated before they are closed.

Review answers

1. Which objects are managed from an operational perspective?

   b. CIs are managed from an operational perspective.

2. True or False: Assets typically live longer than CIs.

   True. Assets are usually created before the CIs and live longer than the CIs.

   You need money to buy the server; and only after installation you can offer services on it

   The moment that no services run on the server, it can still cost money, at least for disposal.

3. Which process is used to identify, control, maintain, and verify the versions of configuration items (CIs)?

   a. Configuration management is used to identify, control, maintain, and verify the versions of configuration items (CIs).

4. True or False: Changes must be validated before they are closed.

   True. The last step of the change management process is to review and close the change request.

IBM Training

Summary

- Define a CI
- Define a CMDB
- Explain the purpose of configuration, change, and release management
- List the key IBM Control Desk functions that support configuration, change, and release management

Summary

IBM Training