Service transition

HP University Electives

Service Transition

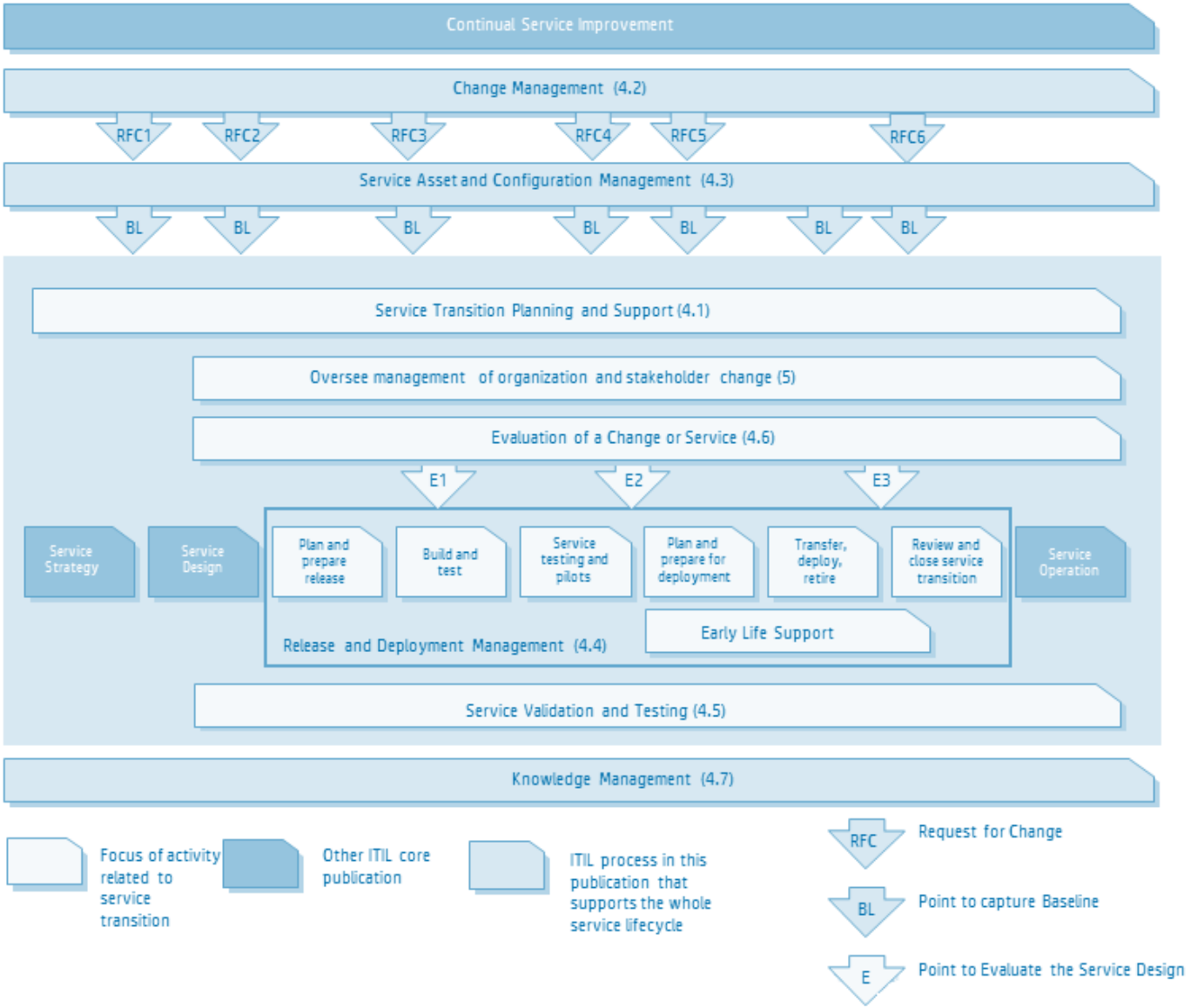
Concepts

- V Model
- Configuration Item
- Configuration Management System
- Knowledge Management
- Data Information Knowledge Wisdom
- Service Knowledge Management System
- Definitive Media Library

Processes

- Service Asset & Configuration Management
- Change Management
- Release Management

Scope of Service Transition



Service Transition processes

Transition Planning and Support

Change Management

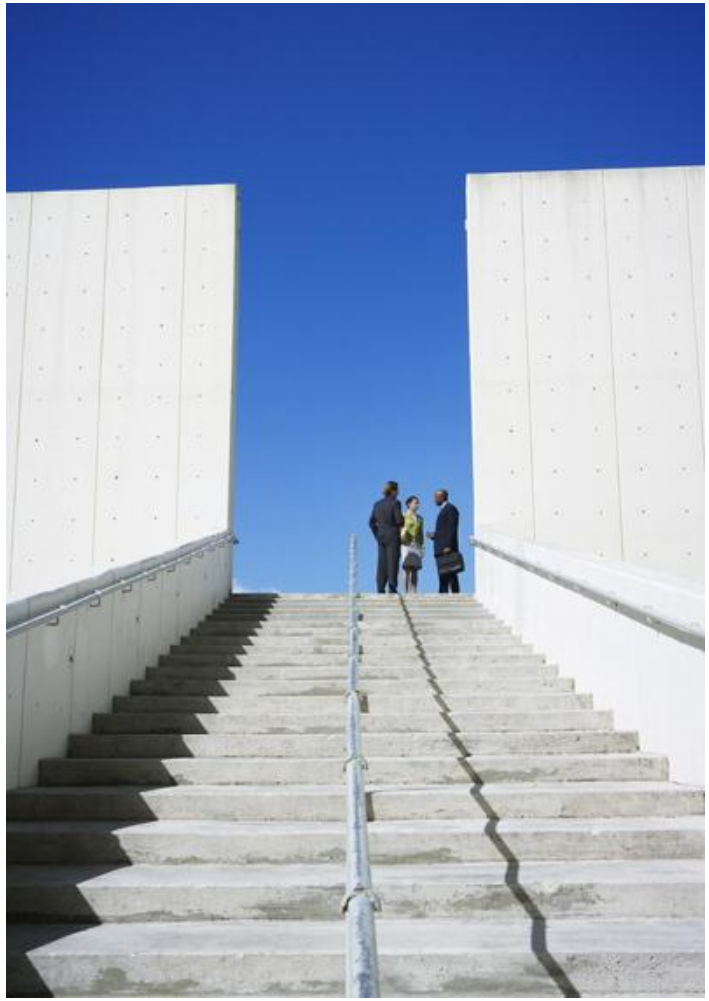
Service Asset and Configuration Management (SACM)

Release and Deployment Management

Service Validation and Testing

Evaluation

Knowledge Management



Change Management

Change Management

- Goals, objectives and purpose
- Scope
- Value to the business
- Basic concepts
- Activities
- Roles
- Interfaces
- Key metrics
- Challenges

Change Management - Goal

The primary goal of change management is to **respond to change** coming from

- Customers - maximizing value and reducing incidents, disruption and re-work
- Organization & Stakeholders - align the services with the business needs.

Change Management - Objective

Ensure that all changes are handled in a **controlled** manner.

Includes: recording, evaluation, authorization, prioritization, planning, testing, implementation, documentation and reviewing of changes.

60% of all service outages are due to poorly implemented changes

Change Management - Purpose

- Use standardized methods and procedures to efficiently and effectively handle all changes
- Ensuring that overall business risk is optimized, and that the CMS is used to record all changes to service assets and configuration items.

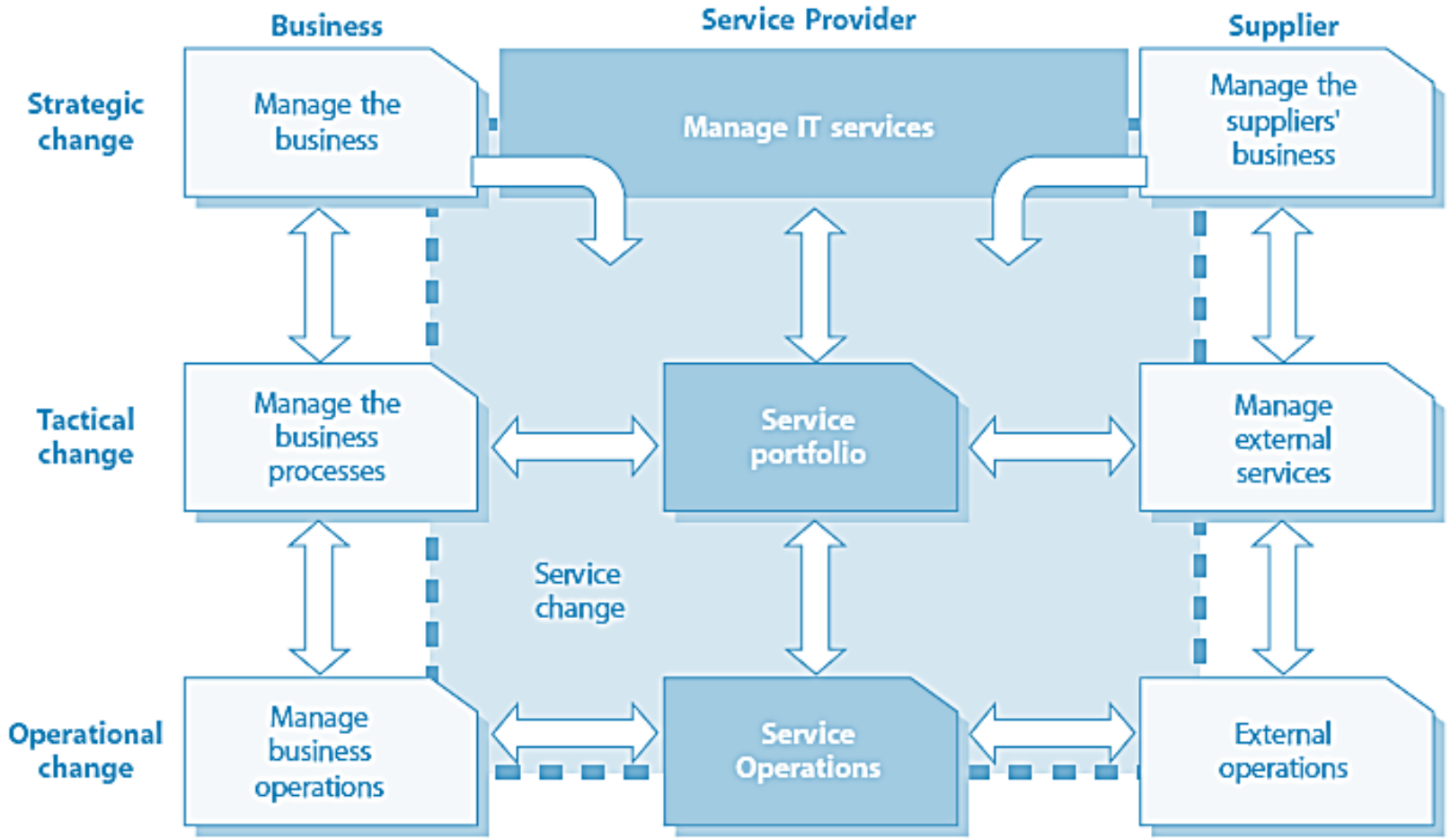
Service Change

Defined as: the addition, modification or removal of authorized, planned or supported service or service component

- Including
  - Strategic change e.g. introduction of self-service website
  - Tactical change e.g. creation of new change model
  - Operational change e.g. corrective change to faulty hardware CI

- Excluding
  - Business strategy and process
  - Anything documented as out of scope

Scope of Change & Release Management for Services



Change — Value to the business

- Prioritizing and responding to requests
- Implementing changes in required times
- Meet agreed service requirements while optimizing costs
- Reducing failed changes and rework
- Correctly estimating quality, time and cost
- Assessing and managing risks
- Managing staff time

Get the change right the first time

Right change, Right Time

Change Types

- **Normal changes**
  - addition, modification or removal of authorized, planned or supported service or service component that is not part of the pre-approved list (standard changes)
  - Types are specific to the organization
  - Type determines what assessment is required
  - Approval is obtained from the Change Advisory Board (CAB)

Change Types

- **Standard changes**
  - change to a service or infrastructure for which the approach is pre-authorized by Change Management that has an accepted and established procedure to provide a specific change requirement.
  - Should be/have:
    - a defined trigger to initiate the RFC
    - tasks that are well known, documented and proven
    - Authority is effectively given in advance
    - Pre-ordained or controlled budgetary approval (c/o the change requester)
    - Low Risk, and is always well understood

Change Types

- **Emergency changes**
  - Business criticality means there is insufficient time for normal handling
  - Should be reserved for changes intended to repair an error in an IT service that is negatively impacting the business to a high degree
  - Should use normal process but speeded up
  - Approval is obtained from the Emergency CAB

Note: *Changes intended to introduce immediately required business improvements are handled as normal changes, assessed as having the highest urgency.*

Always have a Plan B and an Exit Strategy

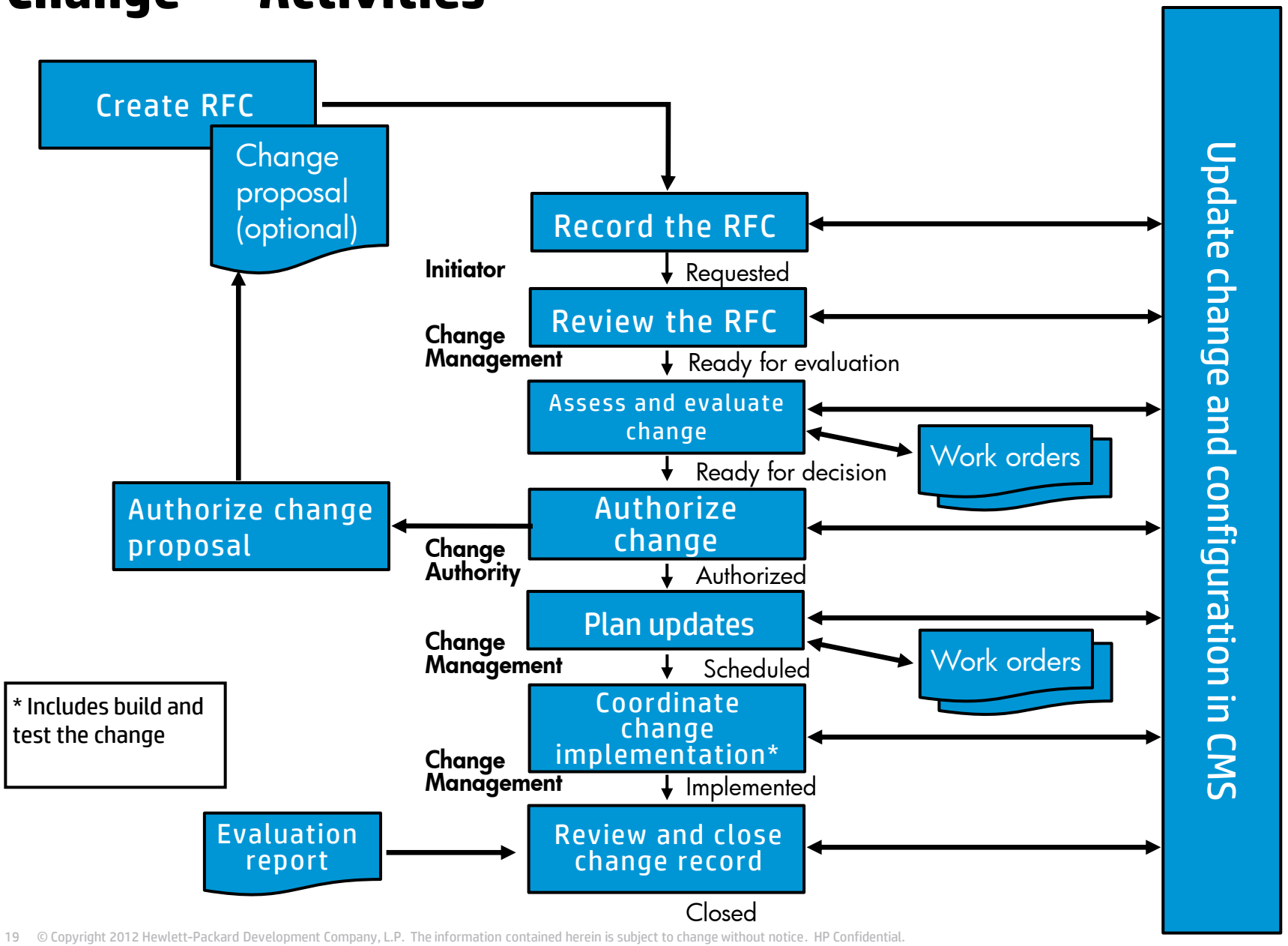
Backup plans

- Prepare a backup plan in case of obstacles during actual change implementation

Remediation plans

- Every change should have a backout plan
- Backout plans should only be invoked based on pre-defined triggers aligned with all stakeholders
- Sometimes a change can't be backed out - Must still have a plan for what to do

Change — Activities



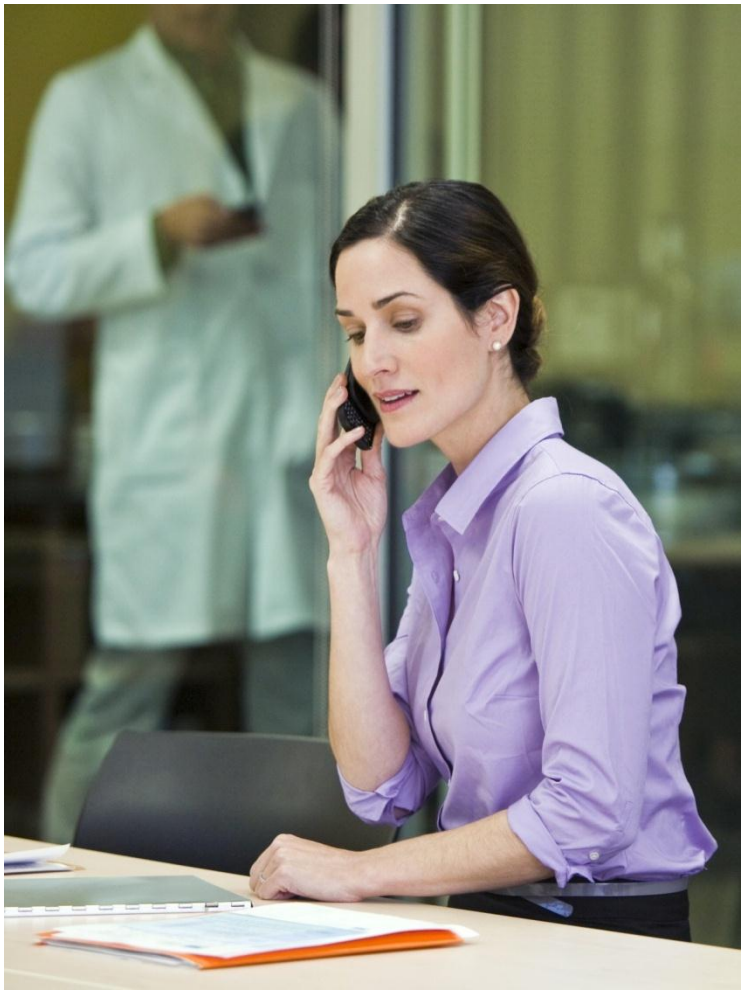
7 Rs of Change Management

Who RAISED the change?
What is the REASON for the change?
What is the RETURN required from the change?
What are the RISKS involved in the change?
What RESOURCES are required to deliver the change?
Who is RESPONSIBLE for the build, test and implementation of the change?
What is the RELATIONSHIP between this change and other changes?

Change — Roles (1 of 2)

Change Manager

- Process owner
- Ensures that process is followed
- Usually authorizes minor changes
- Coordinates and runs CAB meetings
- Produces change schedule
- Coordinates change/built/test/implementation
- Reviews/Closes Changes



Change — Roles (2 of 2)

Change Advisory Board (CAB)

- Supports the change manager
- Consulted on significant changes
- Business, users, application/technical support, operations, service desk, capacity, service continuity, third parties…

Emergency CAB (ECAB)

- Subset of the standard CAB
- Membership depends on the specific change

Change — Inputs

- Change policy and strategy
- RFCs
- Change Proposals
- Service Management Plans
- Assets and configuration items
- Existing change management documents
  - Change schedule
  - Projected Service Outage (PSO)

Change — Outputs

- Rejected and approved RFCs
- Changes to services and CIs
- Updated
  - Change schedule
  - Projected Service Outage (PSO)
- Change plans, decisions, actions…
- Change documents and records
- Management reports

Change — Process interfaces

- Service Asset and Configuration Management
  - Enables the correct asset and service component versions to be released to the appropriate party or into the correct environment
  - May also identify related CI/assets that will be affected by the change, but not included in the original request, or in fact similar CI/assets that would benefit from similar change.
- IT Service Continuity Management
  - IT Service Continuity has many procedures and plans should be updated via Change Management to ensure that they are accurate, up to date and that stakeholders are aware of changes.
- Capacity and Demand Management
  - individual changes but the total impact of changes on service capacity
  - Changes arising from Capacity Management, including those set out in the capacity plan, will be initiated as RFCs through the change process.

Change — Process interfaces

- Release and Deployment Management
  - Implements the changes
- Security Management
  - changes required by security will go via the Change Management process and security will be a key contributor to CAB discussion on many services.
  - Every significant change will be assessed for its potential impact on the security plan.
- Problem Management
  - Changes are often required to implement workarounds and to fix known errors. Problem Management is one of the major sources of RFCs and also often a major contributor to CAB discussion.

Change — Key Performance Indicators

Compliance

- Reduction in unauthorized changes
- Reduction in emergency changes

Effectiveness

- Percentage of changes which met requirements
- Reduction in disruptions, defects and re-work
- Reduction in changes failed/backed out
- Number of incidents attributable to changes

Efficiency

- Benefits (value compared to cost)
- Average time to implement (by urgency/ priority/type)
- Percentage accuracy in change estimates

Change — Challenges

- People who ignore the process
- Inadequate Configuration Management
- Business pressure to “just do it”
- Lack of “Standard Changes”
- Scalability across large organizations

Some things to consider

The top five risk indicators of poor Change Management are:

1. Unauthorized changes (above zero is unacceptable)
2. Unplanned outages
3. A low change success rate
4. A high number of emergency changes
5. Delayed project implementations.

By managing changes, you manage much of the potential risk that changes can introduce

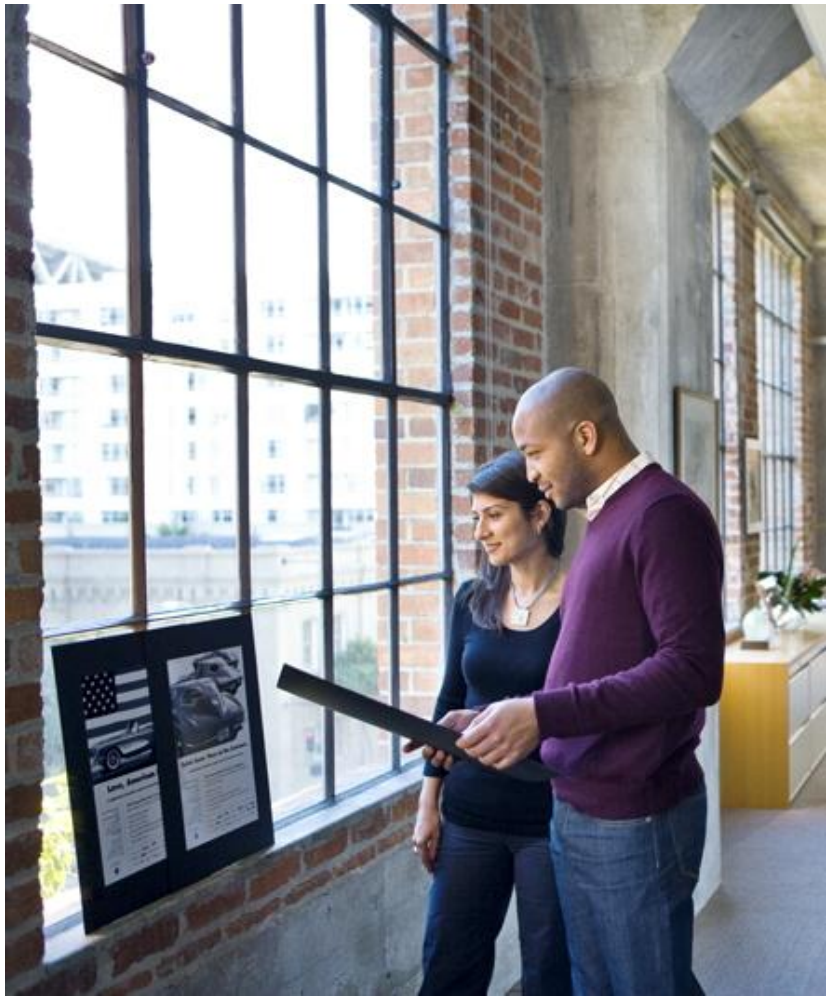
Release & Deployment Management

Release and Deployment Management

Purpose, Goals, Objectives

Basic concepts

Roles



Release and Deployment — Purpose

- Define and agree upon release and deployment plans with customers and stakeholders
  - Ensures that each release package consists of a set of related assets and service components that are compatible with each other.
- Ensure that the integrity of a release package and its components is maintained and recorded accurately in the CMS
- Record and manage deviations, risks, and issues related to new or changed services, and where necessary, take corrective actions.

Release and Deployment — Goal

- Distribute releases into production
- Establish effective use of services so that value can be delivered to the customer and the service can be handed over to service operations.

Release and Deployment — Objectives

- Comprehensive release and deployment plans
- Efficient deployment of release packages
- Delivery of agreed service requirements
- Minimal unpredicted impact
- Satisfaction with Service Transition practices and outputs

Release and Deployment—Basic concepts (1 of 3)

Release Unit

- The portion of a service or IT infrastructure that is normally released together
- Typically includes sufficient components to perform a useful function. For example
  - Fully configured desktop PC, payroll application
- Considerations include
  - Ease and amount of change needed to deploy
  - Resources needed to build, test and deploy
  - Complexity of interfaces

Release and Deployment— Basic concepts (2 of 3)

Release Approaches

- Big bang versus phased approach
  - Big bang' option – the new or changed service is deployed to all user areas in one operation. This will often be used when introducing an application change and consistency of service across the organization is considered important.
  - Phased approach - the service is deployed to a part of the user base initially, and then this operation is repeated for subsequent parts of the user base via a scheduled rollout plan (ie by users, locations, functionality)

Release and Deployment—Basic concepts (2 of 3)

Release Approaches

- Push versus Pull deployment
  - Push deployment: used where the service component is deployed from the centre and pushed out to the target locations.
  - Pull Deployment: used for software releases where the software is made available in a central location but users are free to pull the software down to their own location at a time of their choosing or when a user workstation restarts.

Release and Deployment—Basic concepts (2 of 3)

Release Approaches

- Automated versus manual deployment
  - Automated: helps to ensure repeatability and consistency.
  - Manual: important to monitor and measure the impact of many repeated manual activities as they are likely to be inefficient and error-prone.
  - Note: Too many manual activities will slow down the release team and create resource or capacity issues that affect the service levels

Release and Deployment—Basic concepts (2 of 3)

Release Package

- Single release or many related releases
- Can include hardware, software, utility, warranty, documentation, training…

Release and Deployment — Basic concepts (3 of 3)

Release and deployment model

- Standard approach for a release
- Overall structure for building the release
- Exit and entry criteria for each stage
- Build and test environments to use
- Roles and responsibilities
- Configuration baseline model
- Template schedules
- Release and deployment steps
- Supporting systems
- Handover activities

Types of Models

- Incident
- Request
- Problem
- Change

...

Release and Deployment — Roles (1 of 2)

Release package and build manager

- Establishes final release configuration
- Builds final release
- Tests final delivery prior to independent testing
- Establishes and reports known errors and workarounds
- Provides input to final implementation sign-off

Release and Deployment — Roles (2 of 2)

Deployment manager

- Final physical delivery of the service implementation
- Co-ordinates documentation and communications
  - Including training and customer, service management and technical release notes
- Plans deployment with Change, SKMS and SACM
- Technical and application guidance and support
  - Including known errors and workarounds
- Feedback on effectiveness of the release
- Records metrics for deployment
  - To ensure within agreed SLAs

Service Validation and Testing

Service Validation & Testing - Purpose

- Plan and implement a structured validation and test process that provides objective evidence that the new or changed service will support the customer's business and stakeholder requirements, including the agreed service levels
- Quality assure a release, its constituent service components, the resultant service and service capability delivered by a release
- Identify, assess and address issues, errors and risks throughout Service Transition.

Service Validation & Testing - Goal

- To assure that a service will provide value to customers and their business.

Service Validation & Testing - Objectives

- Provide confidence that a release will create a new or changed service or service offerings that deliver the expected outcomes and value for the customers within the projected costs, capacity and constraints
- Validate that a service is 'fit for purpose' – it will deliver the required performance with desired constraints removed
- Assure a service is 'fit for use' – it meets certain specifications under the specified terms and conditions of use
- Confirm that the customer and stakeholder requirements for the new or changed service are correctly defined and remedy any errors or variances early in the service lifecycle as this is considerably cheaper than fixing errors in production.

Scope

- Service Validation and Testing can be applied throughout the service lifecycle to quality assure any aspect of a service and the service providers' capability, resources and capacity to deliver a service and/or service release successfully.

- Testing directly supports the release and deployment process by ensuring that appropriate levels of testing are performed during the release, build and deployment activities.

- It evaluates the detailed service models to ensure that they are fit for purpose and fit for use before being authorized to enter Service Operations, through the service catalogue.

- The output from testing is used by the evaluation process to provide the information on whether the service is independently judged to be delivering the service performance with an acceptable risk profile.

Value to business

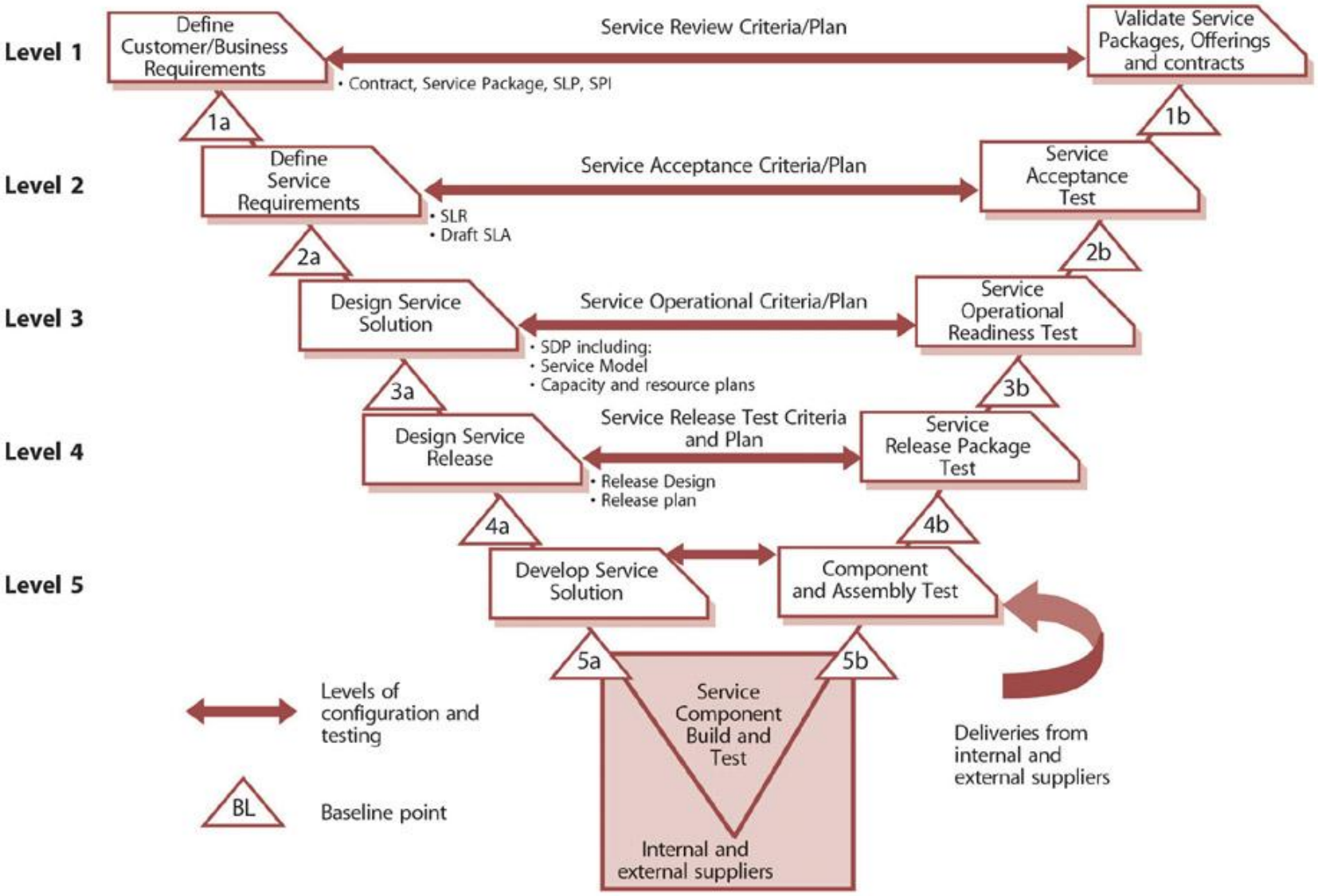
- The **key value** to the business and customers from Service Testing and Validation is in terms of the established degree of confidence that a new or changed service will deliver the value and outcomes required of it and understanding the risks.

- Successful testing depends on all parties understanding that it cannot give, indeed should not give, any guarantees but provides a measured degree of confidence. The required degree of confidence varies depending on the customer's business requirements and pressures of an organization.

Policies, principles and basic concepts

- **Service Transition V-Model**
- **Entry Criteria and Exit Criteria**
- **User Acceptance Test**

Service Transition V Model



Entry Criteria and Exit Criteria

- Effective validation and testing focuses on whether the service will deliver as required. This is based on the perspective of those who will use, deliver, deploy, manage and operate the service.

- The test entry and exit criteria are developed as the Service Design Package is developed.

- These will cover all aspects of the service provision from different perspectives including:
  - Service Design – functional, management and operational
  - Technology design
  - Process design
  - Measurement design
  - Documentation
  - Skills and knowledge.

User Acceptance Test

- *User testing – application, system, service*
- determine whether the service meets the functional and quality requirements of the end users (customers) by executing defined business processes in an environment that, as closely as possible, simulates the live operational environment. This will include changes to the system or business process.
- Full details of the scope and coverage will be defined in the user test and user acceptance test (UAT) plans.
- The end users will test the functional requirements, establishing to the customer's agreed degree of confidence that the service will deliver as they require.
- They will also perform tests of the Service Management activities that they are involved with, e.g. ability to contact and use the service desk, response to diagnostics scripts, incident management, request fulfillment, change request management.

Evaluation

Evaluation - Purpose

- To provide a consistent and standardized means of determining the performance of a service change in the context of existing and proposed services and IT infrastructure.
- Actual performance of a change is assessed against its predicted performance and any deviations between the two are understood and managed.

Evaluation - Goal

- To set stakeholder expectations correctly and provide effective and accurate information to Change Management to make sure changes that adversely affect service capability and introduce risk are not transitioned unchecked.

Evaluation - Objective

- Evaluate the intended effects of a service change and as much of the unintended effects as is reasonably practical given capacity, resource and organizational constraints
- Provide good quality outputs from the evaluation process so that Change Management can expedite an effective decision about whether a service change is to be approved or not.

Scope

- Specifically in this section we consider the evaluation of new or changed services defined by Service Design, during deployment and before final transition to service operations.

- The importance of evaluating the actual performance of any service change against its anticipated performance is an important source of information to service providers to help ensure that expectations set are realistic and to identify that if there are any reasons that production performance does not meet what was expected.

Value to business

- Establish the use made of resources in terms of delivered benefit and this information will allow a more accurate focus on value in future service development and Change Management.

- There is a great deal of intelligence that Continual Service Improvement can take from evaluation to analyze future improvements to the process of change and the predictions and measurement of service change performance.

Policies

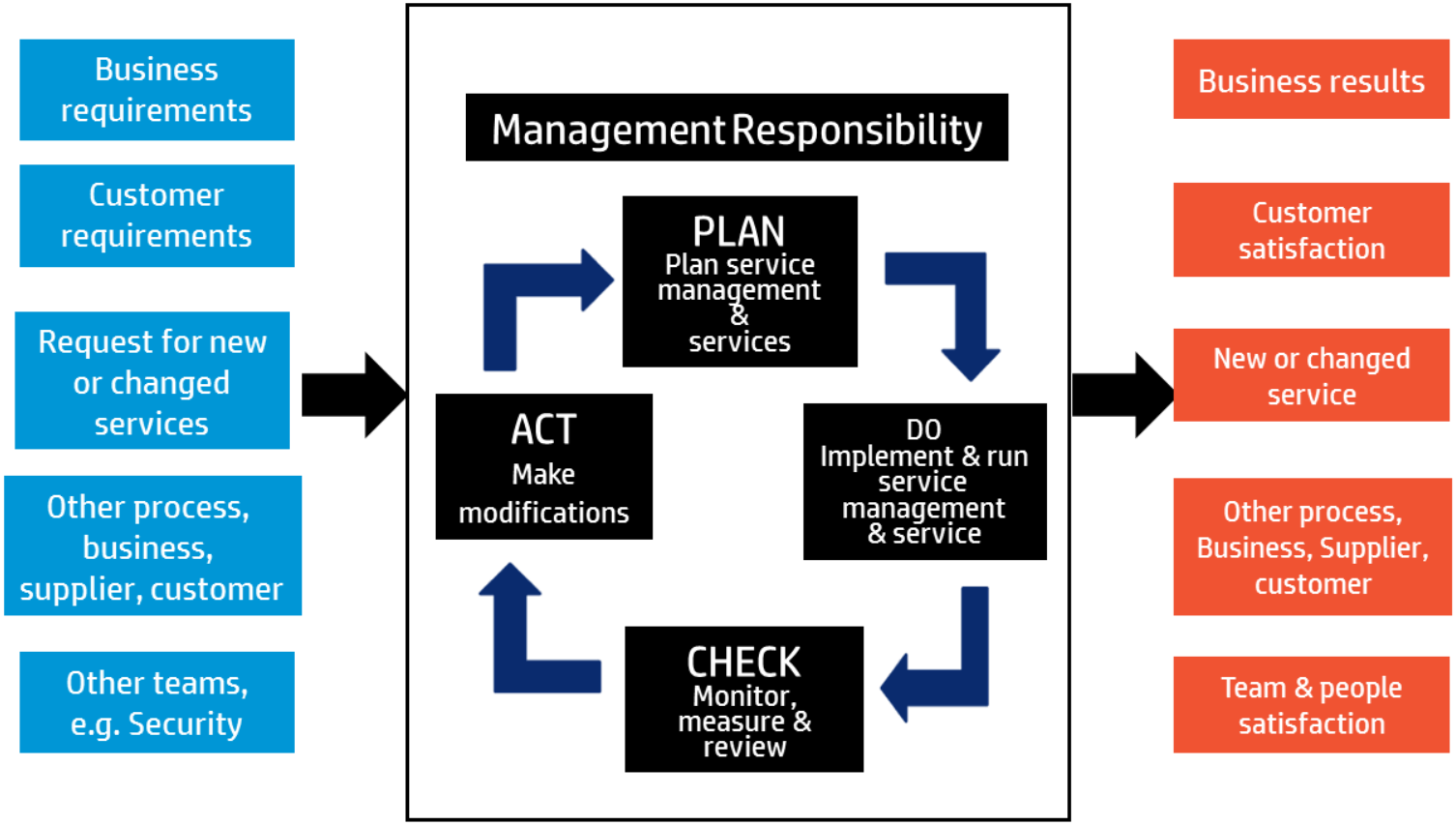
- Service Designs or service changes will be evaluated before being transitioned.
- Any deviation between predicted and actual performance will be managed by the customer or customer representative by accepting the change even though actual performance is different to what was predicted; rejecting the change; or requiring a new change to be implemented with revised predicted performance agreed in advance. No other outcomes of evaluation are allowed.
- An evaluation shall not be performed without a customer engagement package.

Principles

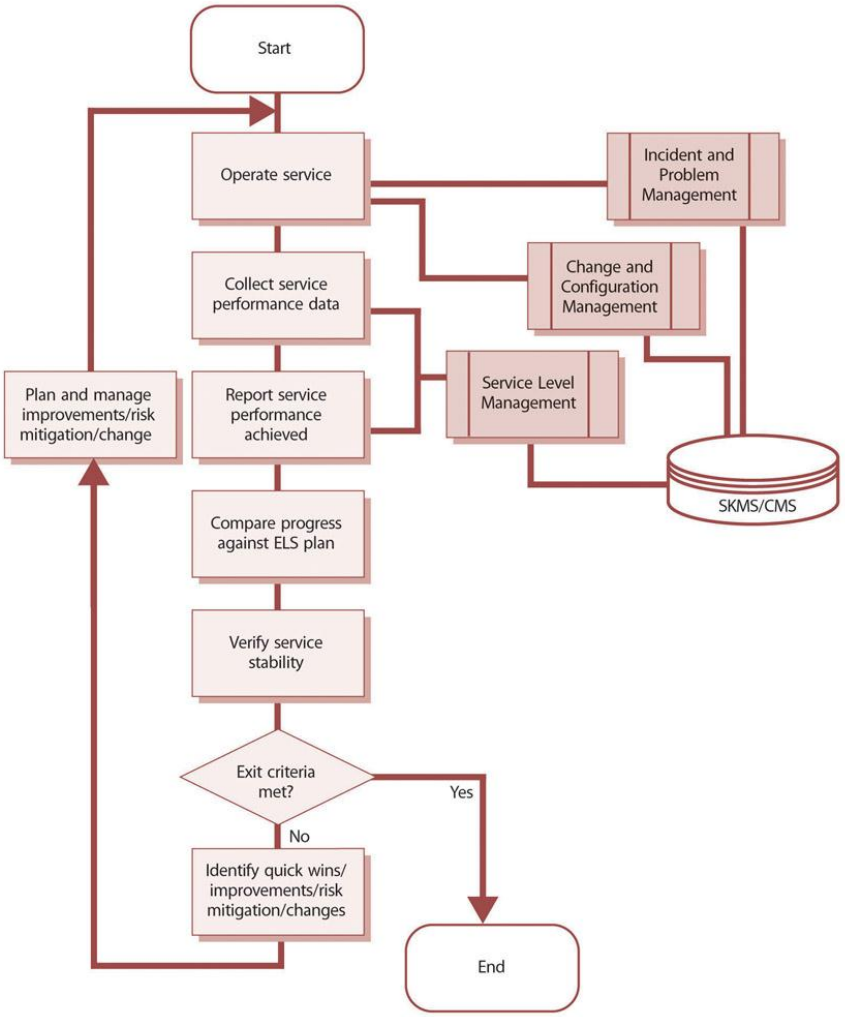
- As far as is reasonably practical, the unintended as well as the intended effects of a change need to be identified and their consequences understood and considered.
- A service change will be fairly, consistently, openly and, wherever possible, objectively evaluated.

Basic Concepts

- The evaluation process uses the Plan–Do–Check–Act (PDCA) model to ensure consistency across all evaluations.



Evaluation Process



Knowledge Management

Knowledge Management (KM)

“The process responsible for gathering, analyzing, storing and sharing knowledge and information within an organization.

The primary purpose of Knowledge Management is to improve efficiency by reducing the need to rediscover knowledge.”

Knowledge Management – Purpose

- To ensure that the right information is delivered to the appropriate place or competent person at the right time to enable informed decision.

Knowledge Management – Goal

- To enable organizations to improve the quality of management decision making by ensuring that reliable and secure information and data is available throughout the service lifecycle.

Knowledge Management – Objectives

- Enabling the service provider to be more efficient and improve quality of service, increase satisfaction and reduce the cost of service
- Ensuring staff have a clear and common understanding of the value that their services provide to customers and the ways in which benefits are realized from the use of those services
- Ensuring that, at a given time and location, service provider staff have adequate information on:
  - Who is currently using their services
  - The current states of consumption
  - Service delivery constraints
  - Difficulties faced by the customer in fully realizing the benefits expected from the service.

Scope

- Knowledge Management is a whole lifecycle-wide process in that it is relevant to all lifecycle sectors and hence is referenced throughout ITIL from the perspective of each publication.

- It is dealt with to some degree within other ITIL publications but this chapter sets out the basic concept, from a Service Transition focus

Value to business

- Knowledge Management is especially significant within Service Transition since relevant and appropriate knowledge is one of the key service elements being transitioned.
- Examples where successful transition rests on appropriate Knowledge Management include:
  - User, service desk, support staff and supplier understanding of the new or changed service, including knowledge of errors signed off before deployment, to facilitate their roles within that service
  - Awareness of the use of the service, and the discontinuation of previous versions
  - Establishment of the acceptable risk and confidence levels associated with the transition, e.g. measuring, understanding and acting correctly on results of testing and other assurance results.

Policies, principles and basic concepts

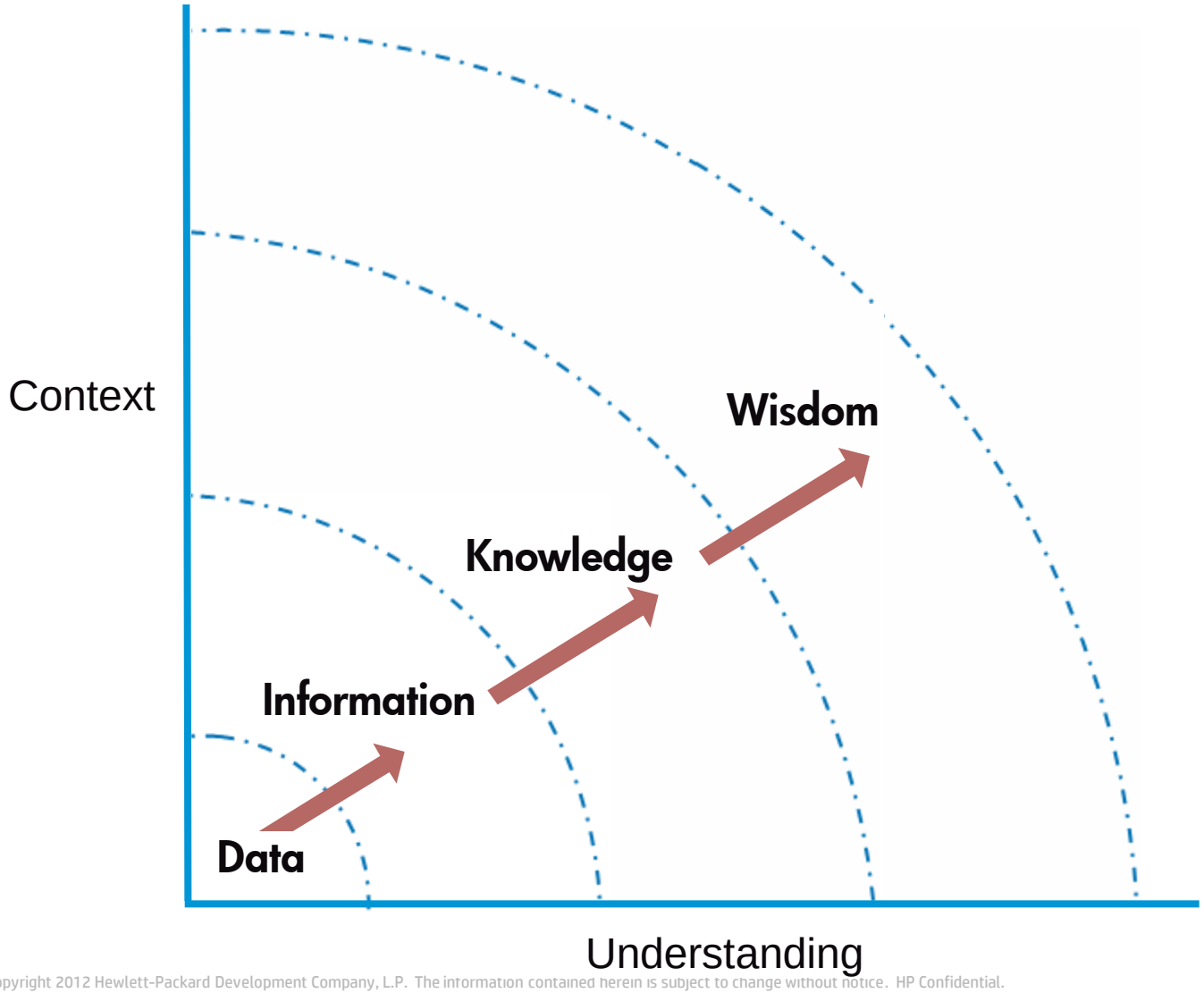
- Knowledge Management is typically displayed within the Data–to–Information–to–Knowledge–to–Wisdom (DIKW) structure. The use of these terms is set out below.

- The key Knowledge Management activities around data are the ability to:
  - Capture accurate data
  - Analyze, synthesize, and then transform the data into information
  - Identify relevant data and concentrate resources on its capture.

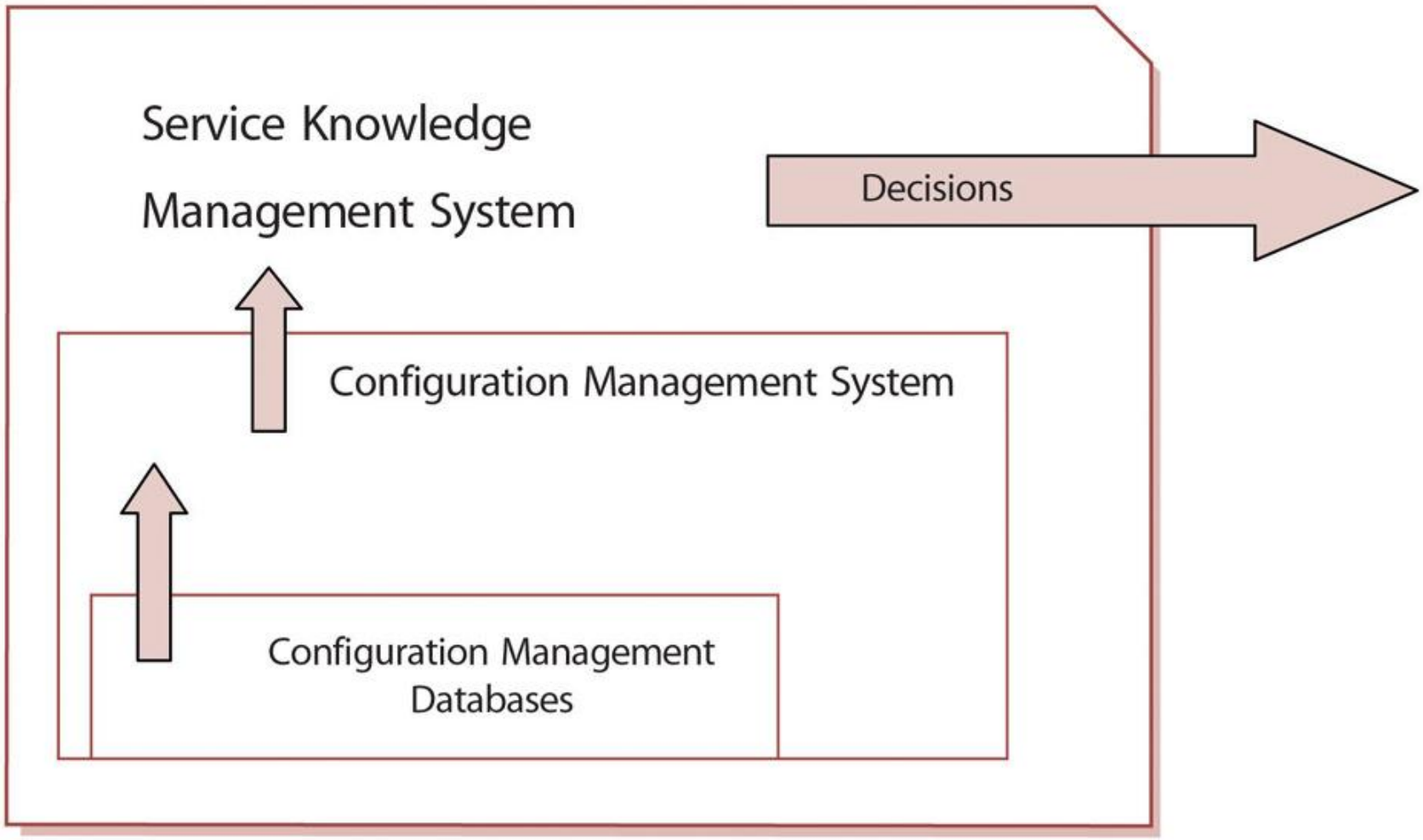
D-I-K-W Structure

- **Data:** set of discrete facts about events
- **Information:** provide context to data
- **Knowledge:** tacit experiences, ideas, insights, values and judgments of individuals
- **Wisdom:** ultimate discernment of the material and having the application and contextual awareness to provide a strong common sense judgment

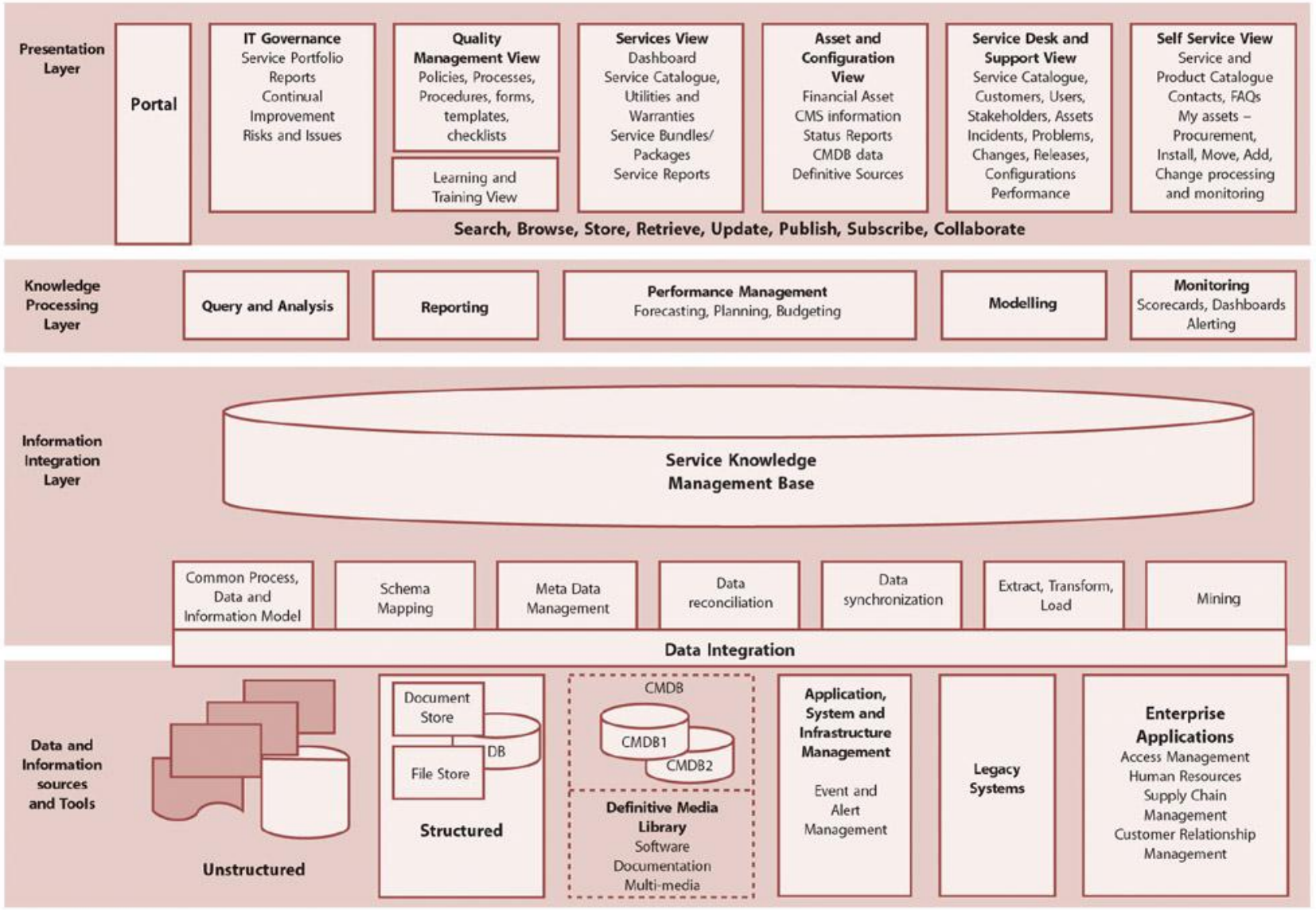
Data, Information, Knowledge and Wisdom (DIKW)



Relationship of CMDB, CMS & SKMS



Service Knowledge Management System (SKMS)



Release & Deployment Management

Which of the following is not an approach to release deployment?

a. Big Bang versus phased approach
b. Automated versus manual
c. Push versus pull
d. Package versus bundle

Change Management

What is the role of the Emergency Change Advisory Board (ECAB)?

a. To assist the Change Manager in ensuring that no urgent Changes are made during particularly volatile business periods

b. To assist the Change Manager in implementing Emergency Changes

c. To assist the Change Manager in evaluating Emergency Changes and to decide whether the Change should be approved

d. To assist the Change Manager in speeding up the Emergency Change Process so that no unacceptable delays occur

Appendix

Detailed Change Activity

Record the RFC

- Change is raised by requestor by submitting a Request for Change documentation
- Change is documented – level of detail depends on impact and size of change
- Change record holds the full history of the change, incorporating information from the RFC and subsequently recording agreed parameters such as priority and authorization, implementation and review information.
- There may be many different types of change records used to record different types of change.
- All RFCs received should be logged and allocated an identification number (in chronological sequence). Where change requests are submitted in response to a trigger such as a resolution to a problem record (PR), it is important that the reference number of the triggering document is retained to provide traceability.

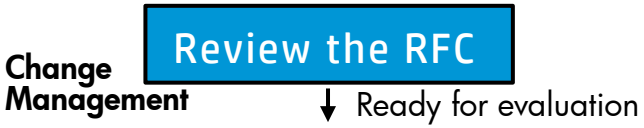
Detailed Change Activity

Update change and configuration information in CMS

- As an RFC proceeds through its lifecycle, the change document, related records (such as work orders) and related configuration items are updated in the CMS, so that there is visibility of its status.
- Estimates and actual resources, costs and outcome (success or failure) are recorded to enable management reporting.

Update change and configuration in CMS

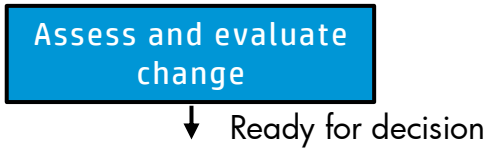
Detailed Change Activity



Review the RFC

- Review each request and filter out any that seem to be:
  - Totally impractical
  - Repeats of earlier RFCs, accepted, rejected or still under consideration
  - Incomplete submissions, e.g. inadequate description, without necessary budgetary approval.
- These should be returned to the initiator, together with brief details of the reason for the rejection, and the log should record this fact.
- A right of appeal against rejection should exist, via normal management channels, and should be incorporated within the procedures.

Detailed Change Activity



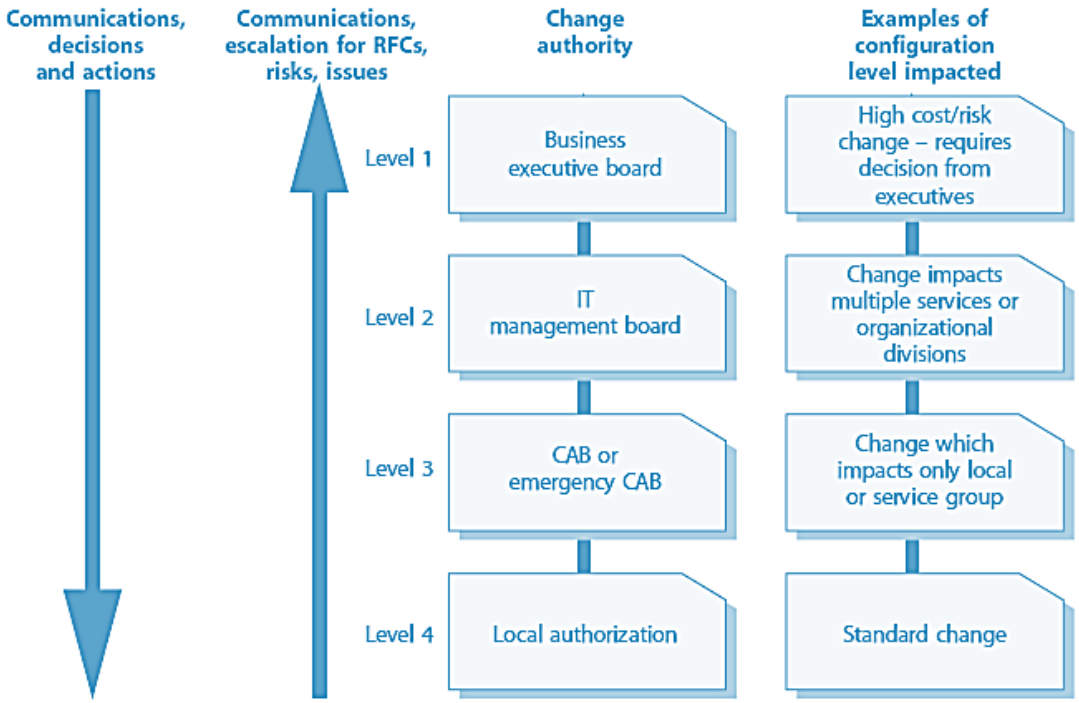
Assess and Evaluate Change

- consider relevant items, including:
  - Impact on customer's business operation
  - Effect on infrastructure and customer service based on current SLAs
  - Effect of not implementing the change
  - Impact on other projects (either running in parallel, using the same infrastructure, or using the same component)
  - Resources and costs needed to implement the change
  - Impact on current plans (Availability, Business Continuity, Disaster Recovery, etc)
  - Impact on current support team
- Best practice: use a risk-based assessment
- Evaluate information at hand and does the assessor support the change
- Prioritize the change
- Plan and schedule changes

Detailed Change Activity

Authorize Change

- Either via CAB or whoever is the designated Change Authority



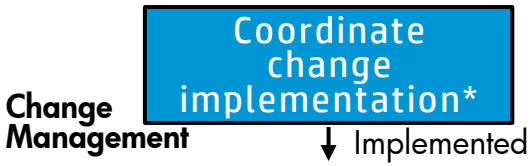
Example of a Change Authorization Model

Detailed Change Activity

Plan Updates

- Determine communication plan, etc

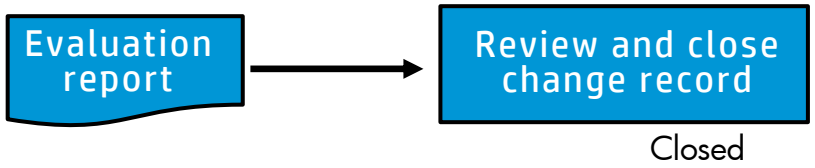
Detailed Change Actvity



Coordinate Change Implementation

- Authorized RFCs should be passed to the relevant technical groups for building of the changes.
- Change Management has responsibility for ensuring that changes are implemented as scheduled. Actual implementation will be the responsibility of others.
- Remediation procedures should be prepared and documented in advance, for each authorized change, so that if errors occur during or after implementation, these procedures can be quickly activated with minimum impact on service quality.
- Authority and responsibility for invoking remediation is specifically mentioned in change documentation.
- Change Management has an oversight role to ensure that all changes that can be are thoroughly tested. In all cases involving changes that have not been fully tested, special care needs to be taken during implementation.

Detailed Change Actvity



Review and Close Change Record

- On completion of the change, the results should be reported for evaluation to those responsible for managing changes, and then presented as a completed change for stakeholder agreement
- Should also include any incidents arising as a result of the change
- Establish that:
  - The change has had the desired effect and met its objectives
  - Users, customers and other stakeholders are content with the results, or to identify any shortcomings
  - There are no unexpected or undesirable side-effects to functionality, service levels, warranties, e.g. availability, capacity, security, performance and costs
  - The resources used to implement the change were as planned
  - The release and deployment plan worked correctly (so include comments from the implementers)
  - The change was implemented on time and to cost
  - The remediation plan functioned correctly, if needed.