

Service operation

HP University Electives



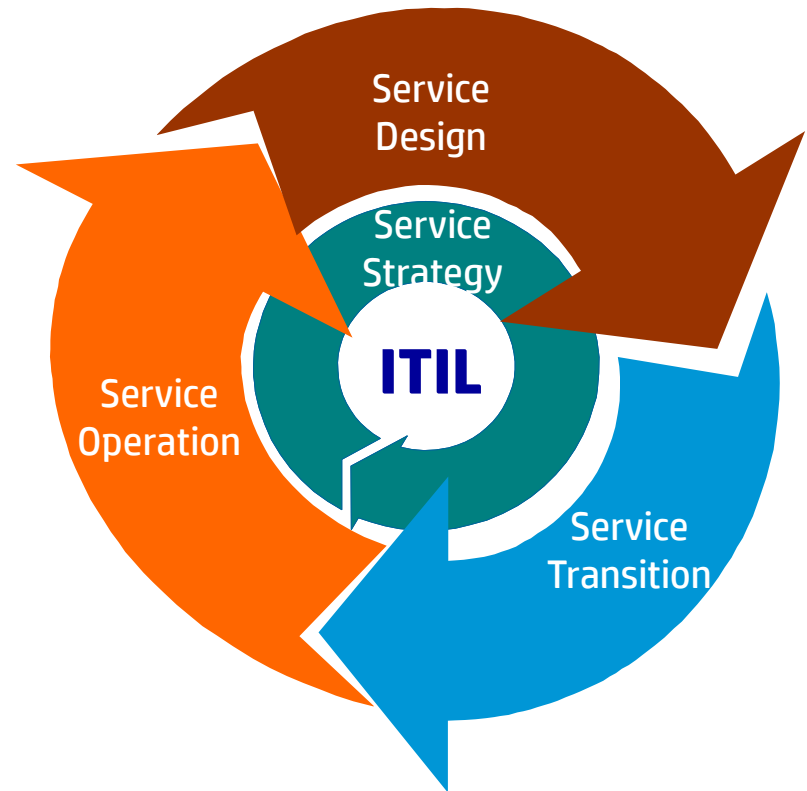
Service Operation

Processes

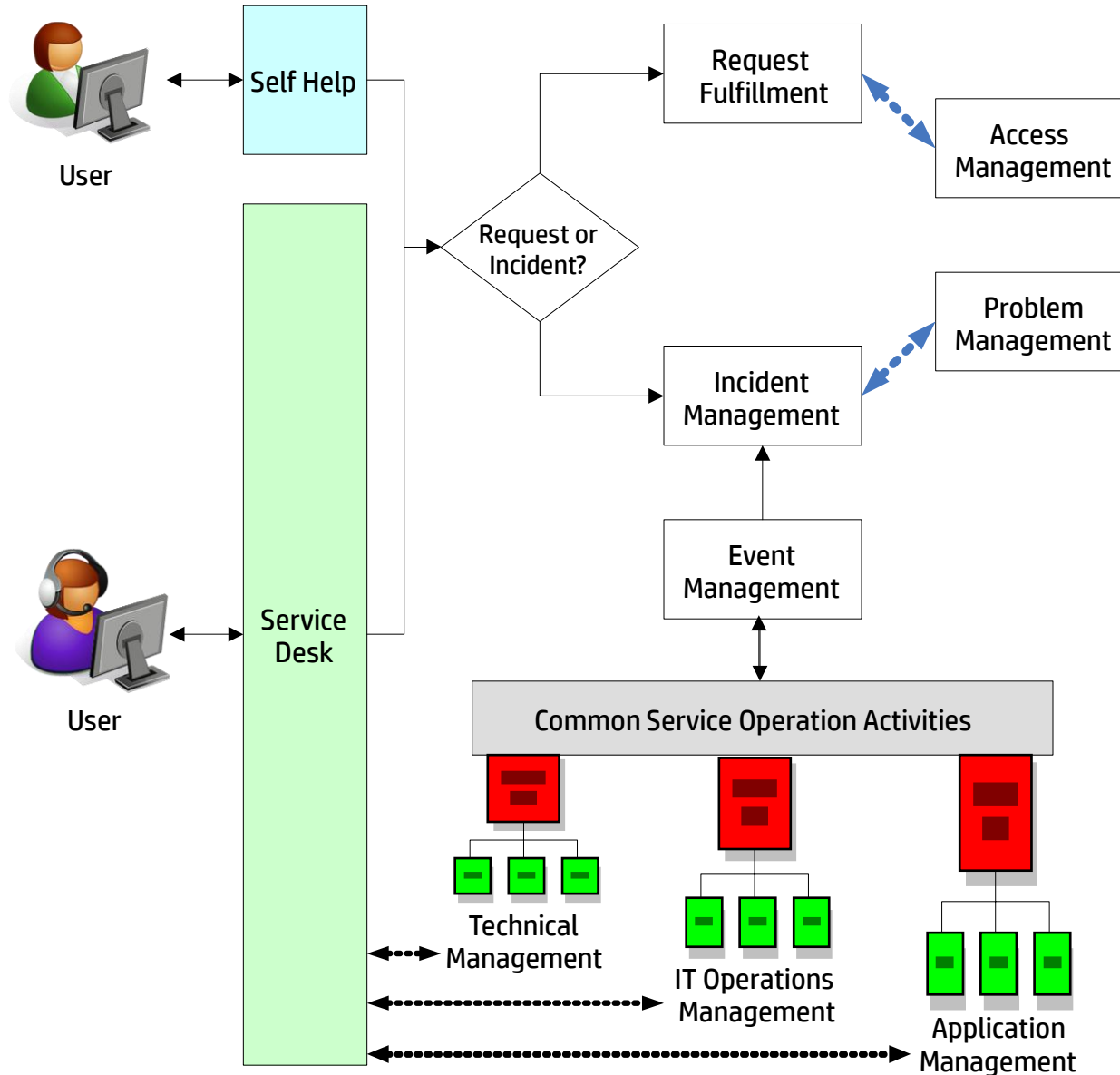
- **Event Management**
- **Incident Management**
- **Problem Management**
- Request Fulfillment
- Access Management
- Operations Management

Functions

- Service Desk
- Technical Management
- IT Operations Management
- Application Management



Service Operation Processes and Functions



Functions, Groups, Teams, Departments, Divisions

- **Function**

- Refers to the people and automated measures that execute a defined process, and activity or a combination of processes or activities
- May be broken out and performed by several departments, teams and groups, or it may be embodied within a single organizational unit (e.g. Service Desk).

- **Group**

- people who perform similar activities – even though they may work on different technology or report into different organizational structures or even in different companies.

- **Team**

- People who work together to achieve a common objective, but not necessarily in the same organization structure.
- Team members can be co-located, or work in multiple different locations and operate virtually.
- Teams are useful for collaboration, or for dealing with a situation of a temporary or transitional nature.

Functions, Groups, Teams, Departments, Divisions

- **Department**

- Performs a specific set of defined activities on an ongoing basis.
- Departments have a hierarchical reporting structure with managers who are usually responsible for the execution of the activities and also for day-to-day management of the staff in the department.

- **Division**

- Refers to a number of departments that have been grouped together, often by geography or product line.
- A division is normally self-contained and is able to plan and execute all activities in a supply chain.

- **Role**

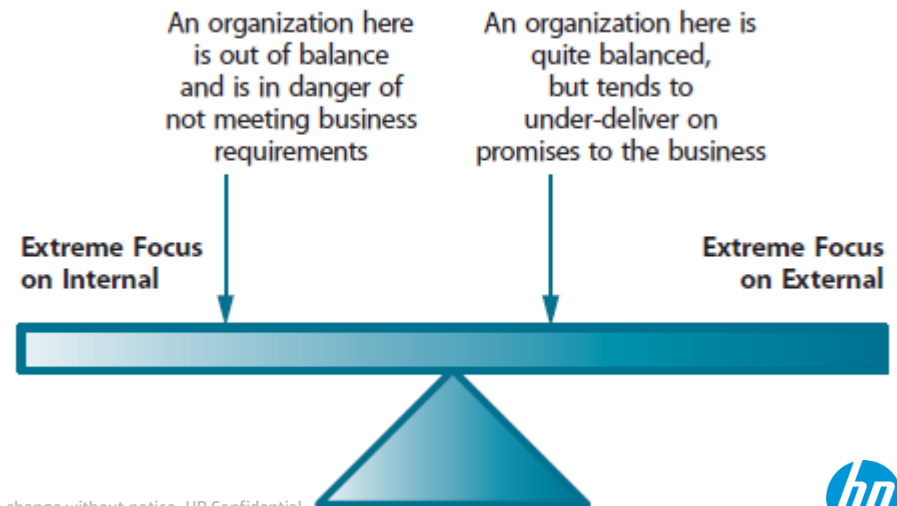
- set of connected behaviors or actions that are performed by a person, team or group in a specific context

Balancing Potential Conflicts

•External (Service) vs. Internal (Technology) view of IT

- External view of IT: way in which services are experienced by its users and customers.
- internal view of IT: way in which IT components and systems are managed to deliver the services.

Building Service Operation with a balance between internal and external focus requires a long-term, dedicated approach reflected in all phases of the ITSM Service Lifecycle.

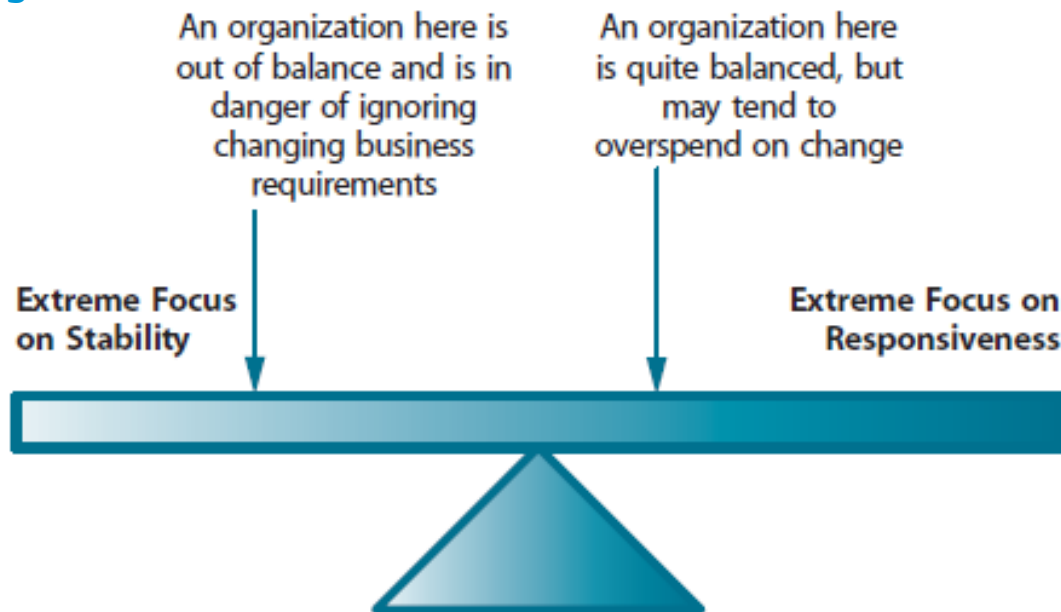


Balancing Potential Conflicts

•Stability vs. Responsiveness

- Many IT organizations are unable to achieve this balance and tend to focus on either the stability of the IT Infrastructure or the ability to respond to changes quickly.

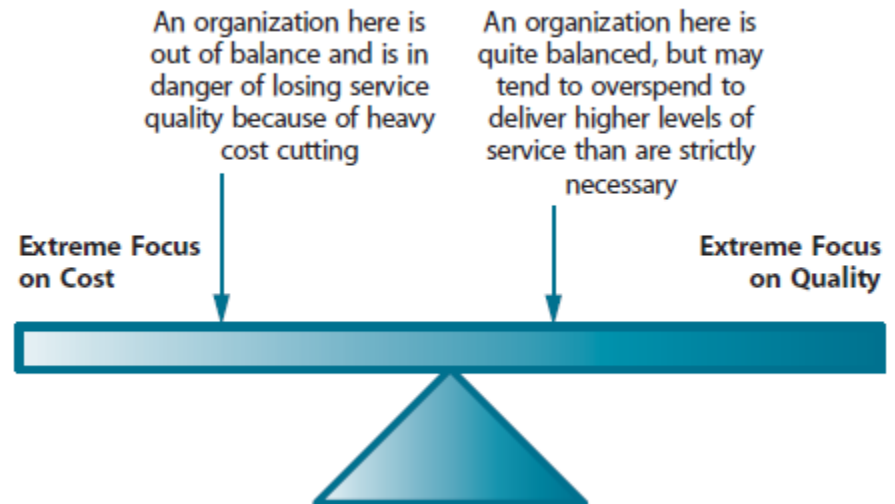
Service Operation needs to ensure that the IT Infrastructure is stable and available as designed. At the same time, Service Operation needs to recognize that business and IT requirements change.



Balancing Potential Conflicts

•Quality of Service vs. Cost of Service

Too much focus on quality will result in IT services that deliver more than necessary, at a higher cost, and could lead to a discussion on reducing the price of services. Too much focus on cost will result in IT delivering on or under budget, but putting the business at risk through substandard IT services.

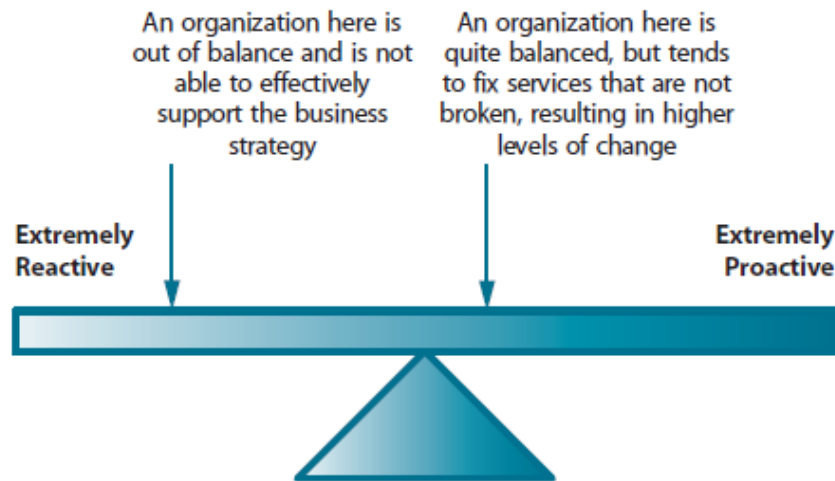


Balancing Potential Conflicts

•Reactive vs. Proactive

- Reactive Organizations: one which does not act unless it is prompted to do so by an external driver
- Proactive Organizations: always looking for ways to improve the current situation; continually scan the internal and external environments, looking for signs of potentially impacting changes.

While proactive behavior in Service Operation is generally good, there are also times where reactive behavior is needed. The role of Service Operation is therefore to achieve a balance between being reactive and proactive



Event Management

Objectives

Basic concepts

Roles



Event Management — Objectives

- Detect Events, make sense of them, and determine the appropriate control action
- Event Management is the basis for Operational Monitoring and Control



Event Management — Basic concepts

Event

A change of state that has significance for the management of a Configuration Item or IT Service. For example a batch job has completed. Events typically require IT Operations personnel to take actions, and often lead to Incidents being logged.

Event Management

The Process responsible for managing Events throughout their Lifecycle.

•Alert

A warning that a threshold has been reached, something has changed, or a Failure has occurred.

Events can be: **Exceptions, Warnings, or Informational**

Event Management – Basic Concepts

- **Active Monitoring**

- poll key CIs to determine their status and availability

- **Passive Monitoring**

- detect and correlate operational alerts or communications generated by CIs.



Event Management



Policies, principles and basic concepts

There are many different types of events:

signify regular operation **(INFORMATIONAL)**

- Notification that a scheduled workload has completed
- An e-mail has reached its intended recipient

signify an exception **(EXCEPTION)**

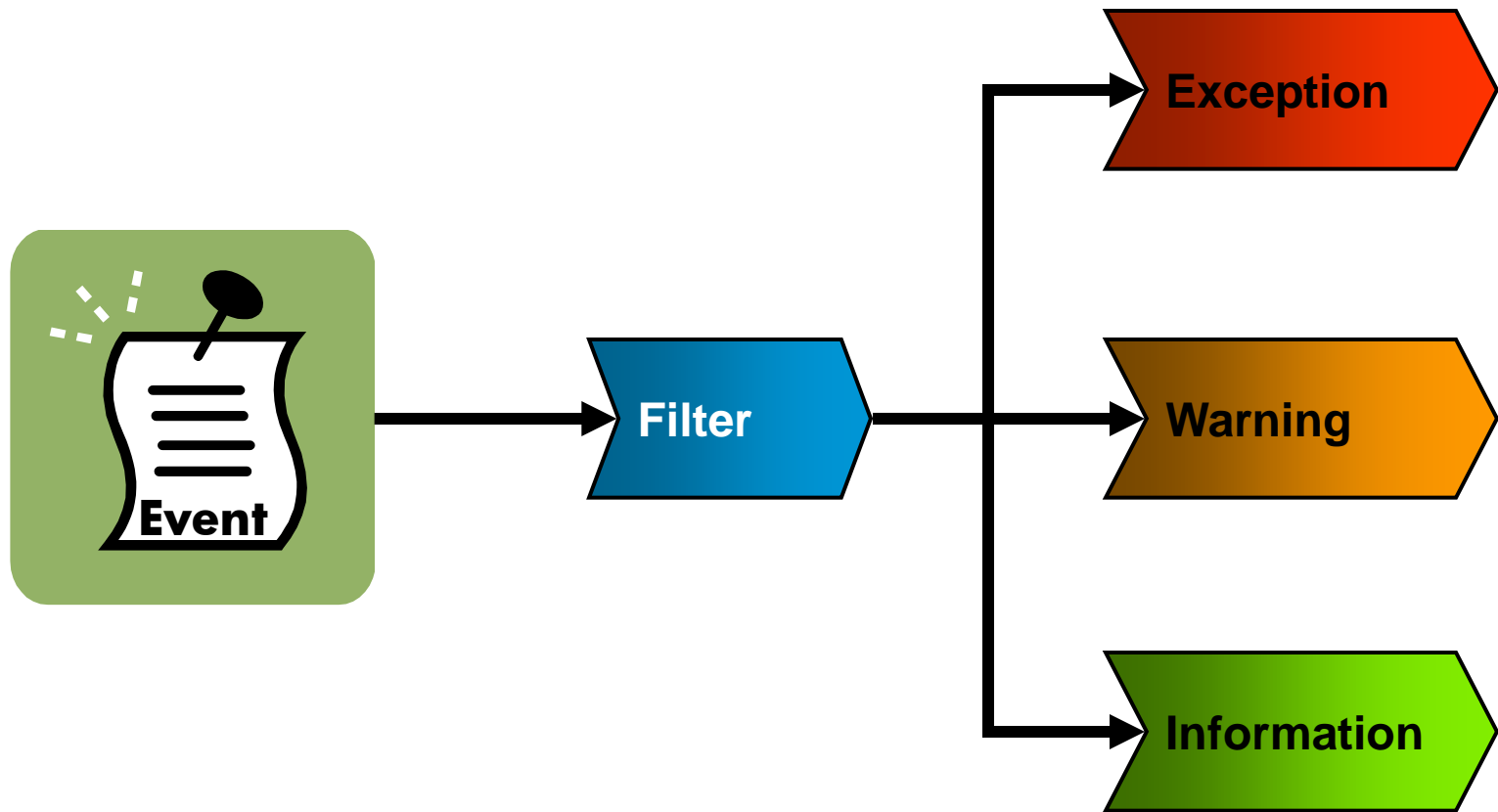
- A user attempts to log on to an application with the incorrect password
- A device's CPU is above the acceptable utilization rate

signify unusual, but not exceptional, operation. **(WARNING)**

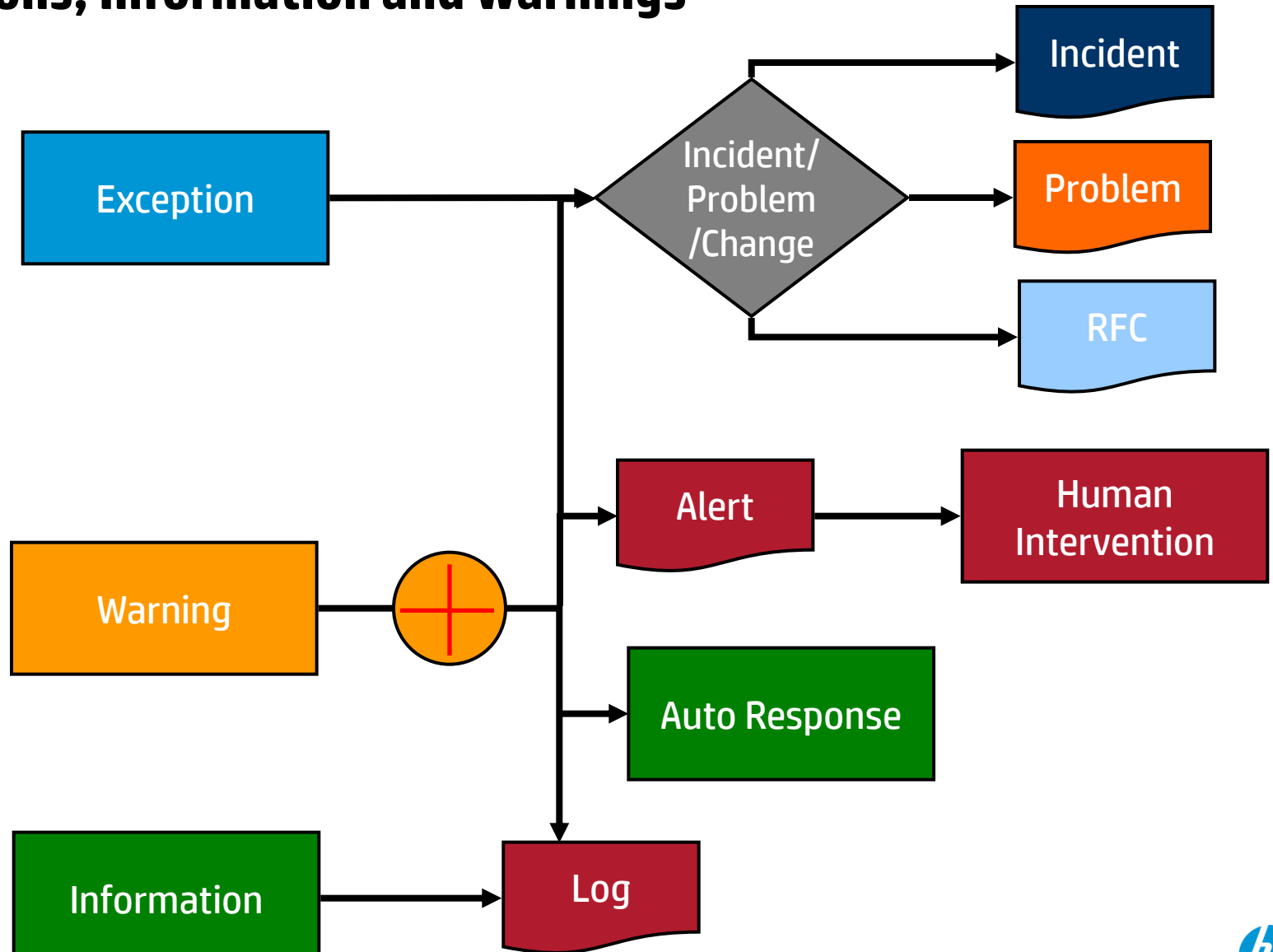
- A server's memory utilization reaches within 5% of its highest acceptable performance level

Event Management

Logging and Filtering



Event Management — Exceptions, Information and Warnings



Event Management – Value to Business

- Early detection of incidents
- Basis for automation of work



Event Management — Roles

Event management roles are filled by people in the following functions

- Service Desk
may respond to an event
- Technical Management
define alerts/notifications
- Application Management
- IT Operations Management
monitor events



Incident Management

Objectives

Scope

Business value

Basic concepts

Activities

Interfaces

Key metrics

Roles

Challenges



Incident Management — Objective

- To restore normal service operation as quickly as possible and minimize adverse impact on the business

**“Normal service”
is defined as service operation within limits in
Service Level Agreements (SLAs)**



Incident Management — Scope

Managing any disruption or potential disruption to live IT services

Incidents are identified

- Directly by users through the Service Desk
- Through an interface from Event Management to Incident Management tools

Reported and/or logged by technical staff

Question: Do incidents include potential disruptions which have not yet occurred?

Question: Must a user contact the Service Desk in order for an incident to be identified? Or can incidents be identified in other ways?

Question: Is the Service Desk the only group allowed to log incident records, or can technical IT staff also log?



Incident Management — Business value

- Quicker incident resolution
- Improved quality
- Reduced support costs



Incident Management — Basic concepts

- **Incident**

- An unplanned interruption or reduction in the quality of an IT Service
- Any event which could affect an IT Service in the future is also an Incident

- **Timescales**

- must be agreed for all incident-handling stages (these will differ depending upon the priority level of the incident) – based upon the overall incident response and resolution targets within SLAs – and captured as targets within OLAs and Underpinning Contracts (UCs).



Incident Management — Basic concepts

- **Incident Models**

- Way of pre-defining the steps that should be taken to handle a process (in this case a process for dealing with a particular type of incident) in an agreed way.

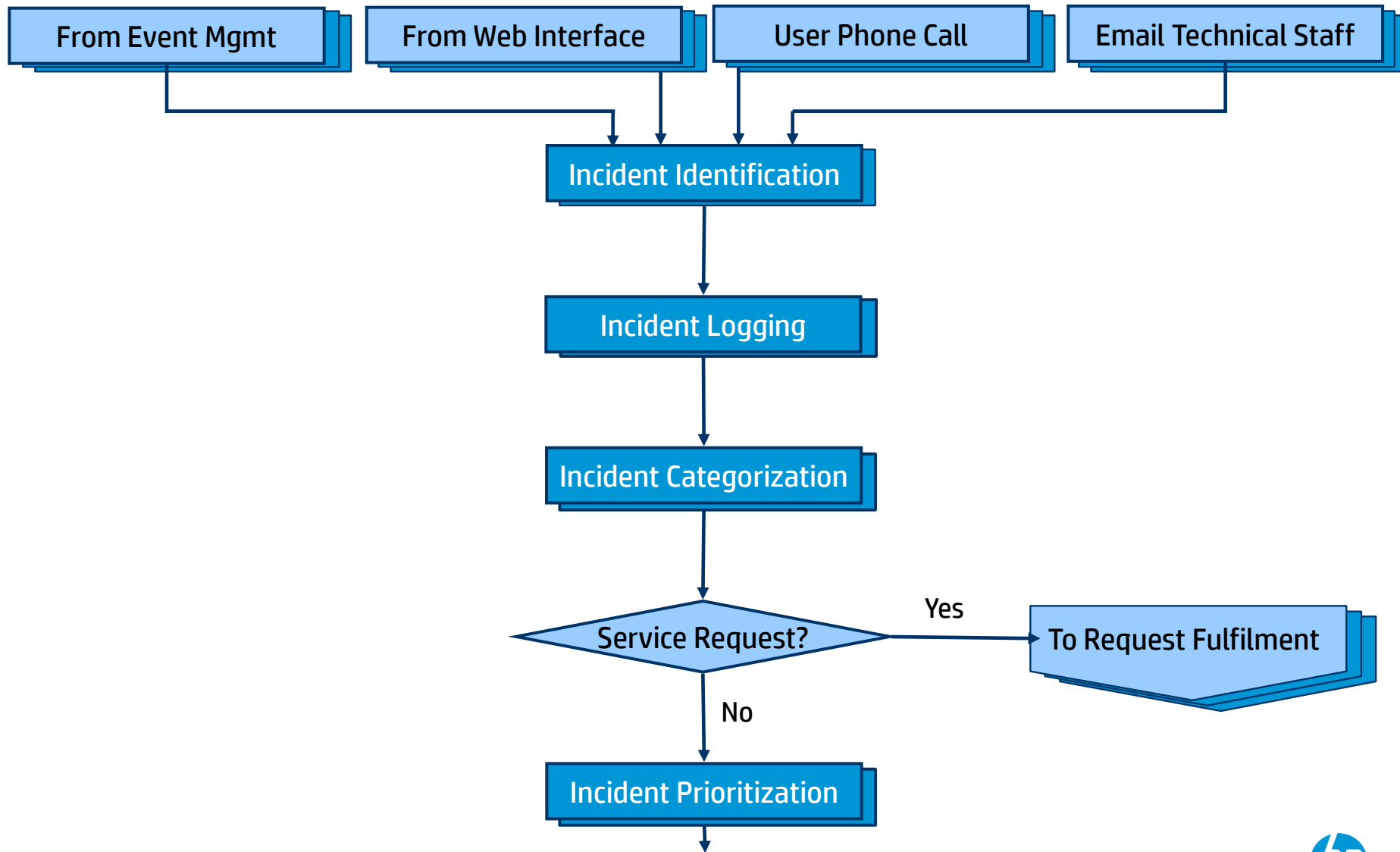
- **Major Incidents**

- separate procedure, with shorter timescales and greater urgency, definition of what constitutes a major incident must be agreed and ideally mapped on to the overall incident prioritization system – such that they will be dealt with through the major incident process

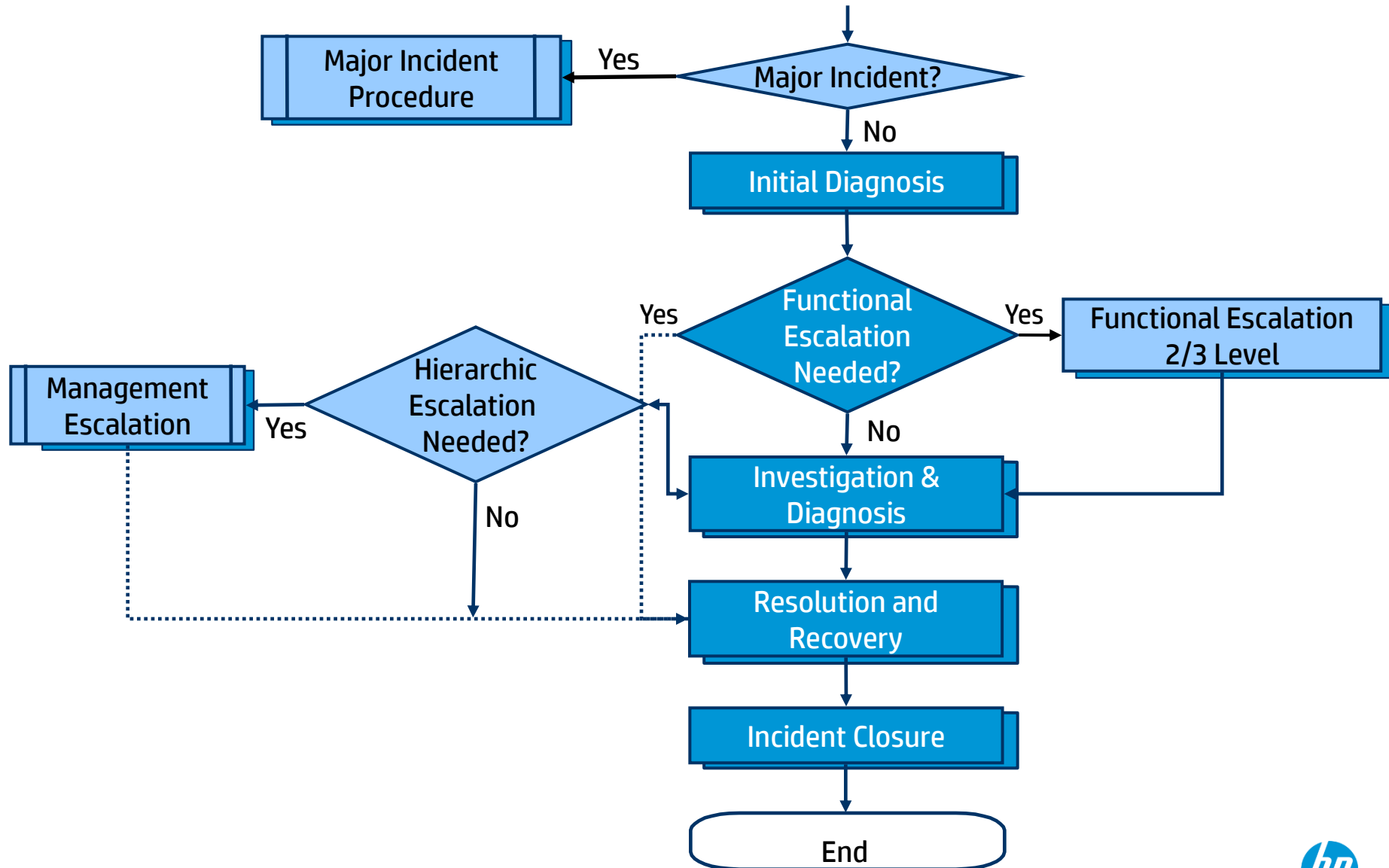
Are these incidents?

- A user is unable to access a service during service hours.
- A network segment fails and the user is not aware of any disruption to service.
- A user contacts the Service Desk about slow performance of an application.

Incident Management — Activities (1 of 2)



Incident Management — Activities (2 of 2)



Incident Identification

INCIDENT IDENTIFICATION

Work cannot begin on dealing with an incident until it is known that an incident has occurred. It is usually unacceptable, from a business perspective, to wait until a user is impacted and contacts the Service Desk.

- LEARN TO BE PROACTIVE! 😊

INCIDENT LOGGING

All incidents must be fully logged and date/time stamped, regardless of whether they are raised through a Service Desk telephone call or whether automatically detected via an event alert.

Incident Management — Interfaces

- Problem Management Known Error Database
- Service Asset and Configuration Management (SACM) CMDB
- Change Management Change Schedule
- Capacity Management Capacity issues
- Availability Management Availability issues
- Service Level Management SLAs, business escalation procedures, priority schedule
- Event Management Notifications and thresholds



Incident Management — Key metrics

- Total number of incidents (as a control measure)
- Breakdown of incidents at each stage (for example, logged, WIP, closed, etc.)
- Size of incident backlog
- Mean elapsed time to resolution
- % resolved by the Service Desk (first-line fix)
- % handled within agreed response time
- % resolved within agreed Service Level Agreement target
- No. and % of Major Incidents
- No. and % of incident correctly assigned
- Average cost of incident handling



Incident Management — Roles

- Incident Manager
 - May be performed by Service Desk Supervisor
- Super Users, First-Line Support
 - Usually Service Desk Analysts
- Second-Line Support
- Third-Line Support (Technical Management, IT Operations, Application Management, Third-party suppliers)



Incident Management — Challenges

- Ability to detect incidents as quickly as possible (dependency on Event Management)
- Ensuring all incidents are logged
- Ensuring previous history is available (Incidents, Problems, Known Errors, Changes)
- Integration with Configuration Management System, Service Level Management, and Known Error Database (CMS, SLM, KEDB)



Request Fulfillment

Objectives

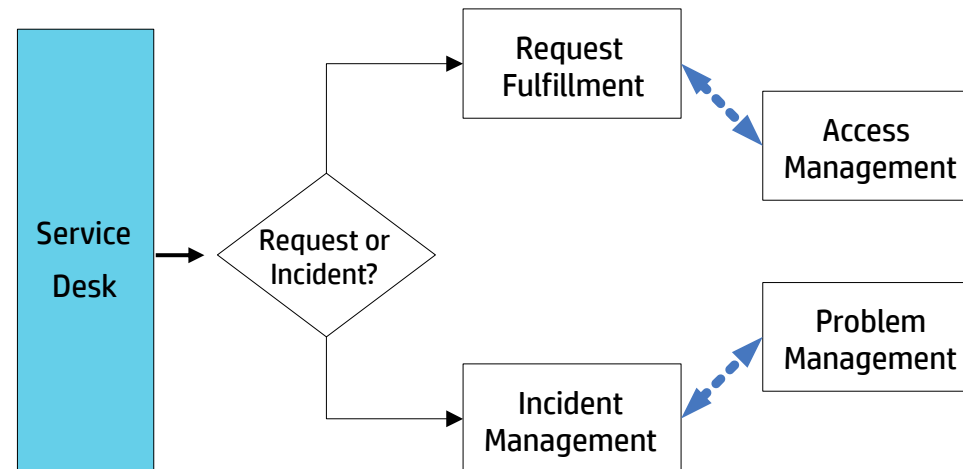
Basic concepts

Roles



Request Fulfillment — Objectives

- To provide a channel for users to request and receive standard services for which a pre defined approval and qualification process exists
- To **provide information** to users and customers about the availability of services and the procedure for obtaining them
- To **source and deliver** the components of requested standard services (for example licenses and software media)
- To assist with general information, complaints or comments



Request Fulfillment — Basic concepts

- **Service Request**

- A request from a User for information or advice, or for a Standard Change.
For example
 - To reset a password, or to provide standard IT Services for a new User

- **Request Model**

Examples:

- new employee
- download software patches
- laptop upgrade

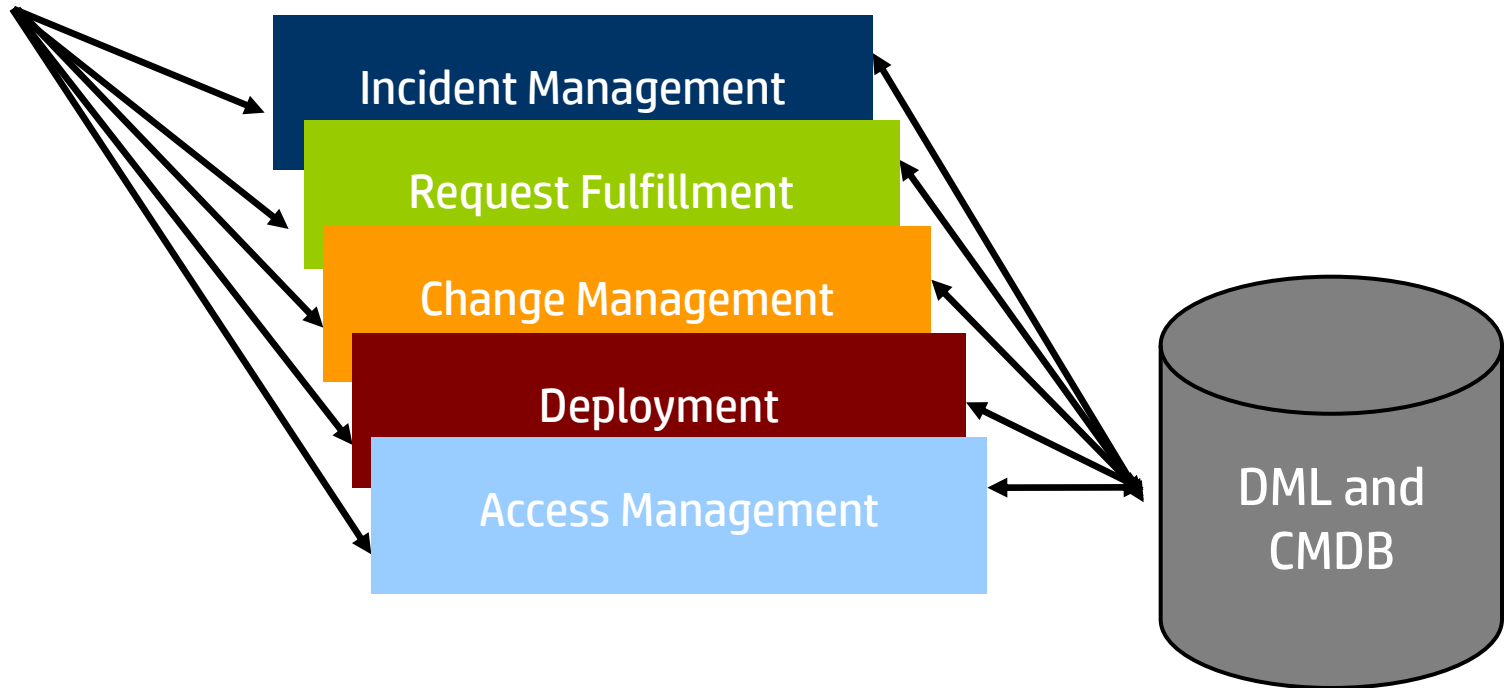


Self Help

Significant opportunity to:

- Improve responsiveness
- Reduce costs
- Extend hours of service
- Reduce demand on IT staff
- Improve quality

Web based front end
menu driven shopping
cart experience



Request Fulfillment — Roles

- Not usually dedicated staff
- Service Desk staff
- Incident Management staff
- Service Operations teams



Request Fulfillment - Interfaces

- **Service Desk/Incident Management:**
- **Request Fulfillment, Release, Asset and Configuration Management**
 - some requests will be for the deployment of new or upgraded components that can be automatically deployed.



Request Fulfillment – Key Metrics

- The total number of Service Requests (as a control measure)
- Breakdown of service requests at each stage (e.g. logged, WIP, closed, etc.)
- The size of current backlog of outstanding Service Requests
- The mean elapsed time for handling each type of Service Request
- The number and percentage of Service Requests completed within agreed target times
- The average cost per type of Service Request
- Level of client satisfaction with the handling of Service Requests (as measured in some form of satisfaction survey).



Request Fulfillment - Challenges

- Clearly defining and documenting the type of requests that will be handled within the Request Fulfillment process
- Establishing self-help front-end capabilities that allow the users to interface successfully with the Request Fulfillment process.



Problem Management

Objectives

Basic concepts

Roles



Problem Management — Objectives

- To prevent problems and resulting Incidents from happening
- To eliminate recurring incidents
- To minimize the impact of incidents that cannot be prevented

Create cost justified change requests to improve the applications and infrastructure

Define workarounds, improve speed of detection, diagnosis, repair and recovery



Problem Management – Scope

- Diagnose the root cause of incidents and to determine the resolution to those problems
Resolution implemented through appropriate control procedures, especially Change and Release Management
- Maintain information about problems and the appropriate workarounds and resolutions
Strong interface with Knowledge Management



Problem Management — Basic concepts (1 of 2)

- **Problem**

- Is an unknown underlying cause of one or more Incidents
- All Incidents have an underlying cause but not all require investigation by Problem Management
- Multiple occurrences of the same Incident and single, significant Incidents are always candidates for Problem Management

- **Problem Model**

- Similar to Incident Models

- **Workaround**

- Way of temporarily restoring the service



Problem Management — Basic concepts (1 of 2)

- **Known Error**

- Is a Problem that is successfully diagnosed and for which a circumvention identified
- Circumvention may be:
 - A temporary workaround awaiting a structural fix
 - A permanent resolution applied by a structural fix (RFC)
 - Known error status is retained until underlying cause permanently resolved by a Change

- **Known Error Database**

- allow storage of previous knowledge of incidents and problems – and how they were overcome – to allow quicker diagnosis and resolution if they recur.

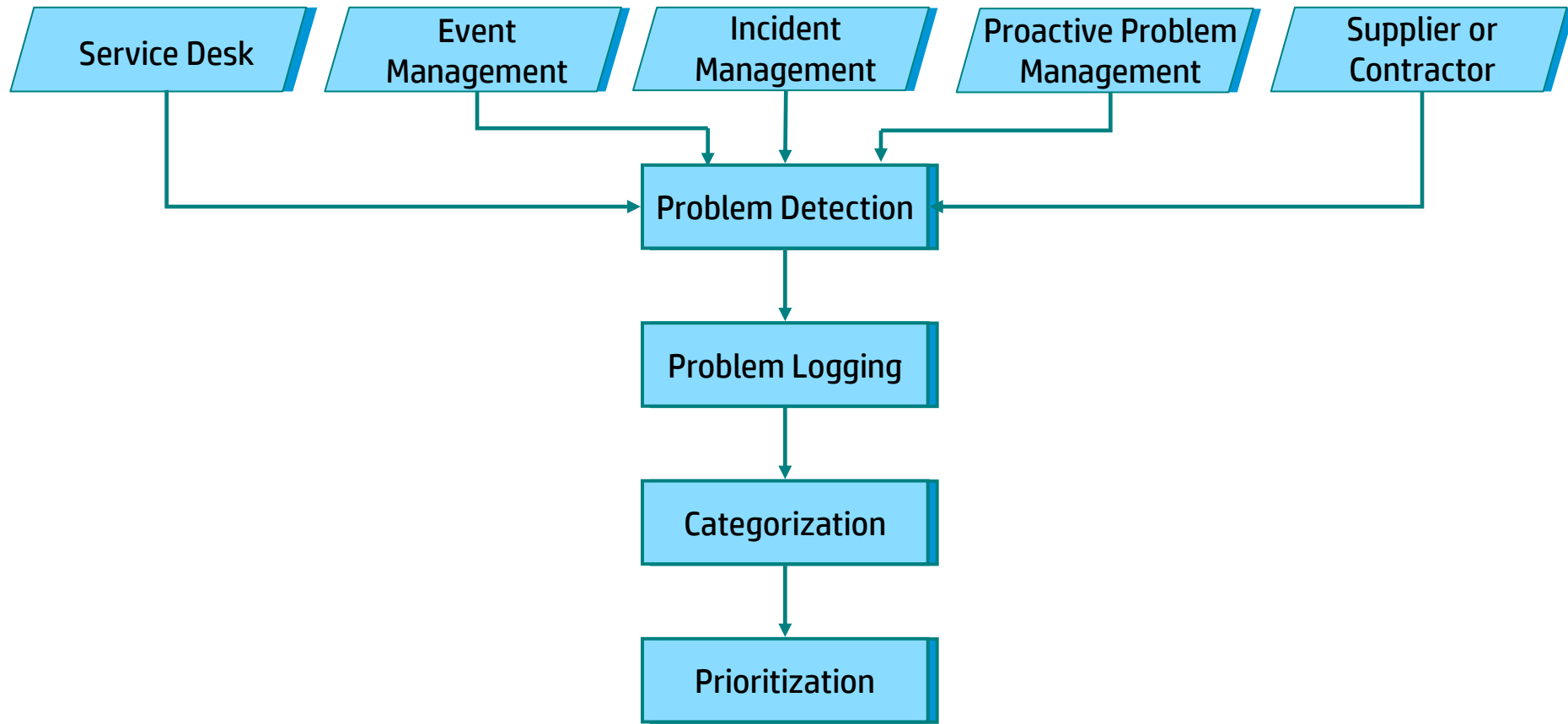
Problem Management — Basic concepts (2 of 2)

- **Reactive Problem Management**
 - Resolution of underlying cause(s)
 - Covered in Service Operation
- **Pro-active Problem Management**
 - Prevention of future problems
 - Generally undertaken as part of CSI



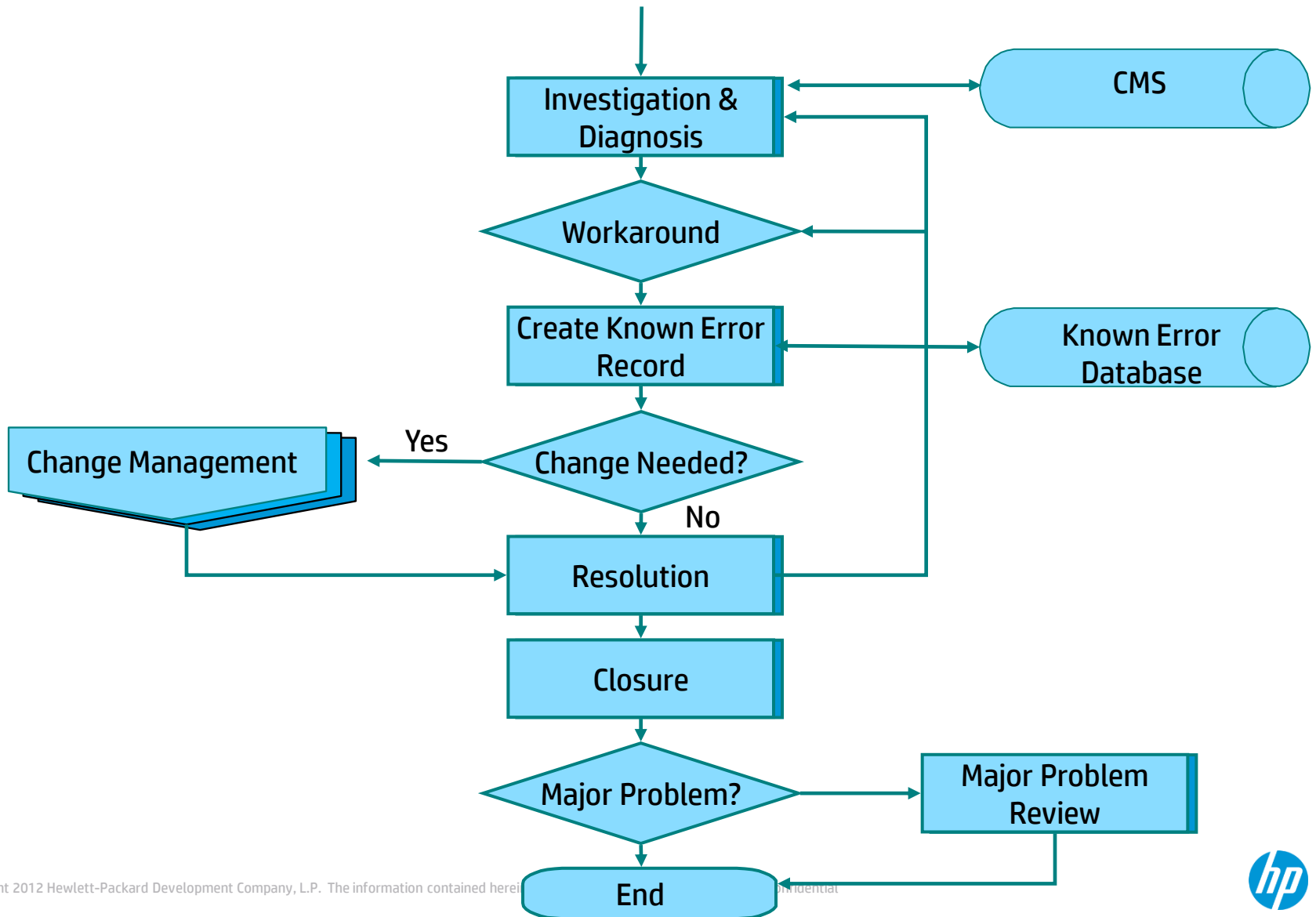
Problem Management —

Reactive Problem Management Process (1 of 2)



Problem Management —

Reactive Problem Management Process (2 of 2)



Problem Management — Roles

- **Problem Manager**
- **Supported by technical groups**
 - Technical Management
 - IT Operations
 - Application Management
 - Third-party suppliers



Problem Management - Metrics

- The total number of problems recorded in the period (as a control measure)
- The percentage of problems resolved within SLA targets (and the percentage that are not!)
- The number and percentage of problems that exceeded their target resolution times
- The backlog of outstanding problems and the trend (static, reducing or increasing?)
- The average cost of handling a problem
- The number of major problems (opened and closed and backlog)
- The percentage of Major Problem Reviews successfully performed
- The number of Known Errors added to the KEDB
- The percentage accuracy of the KEDB (from audits of the database)
- The percentage of Major Problem Reviews completed successfully and on time.



Problem Management - Interfaces

- **Change Management**

- ensures that all resolutions or workarounds that require a change to a CI are submitted through Change Management through an RFC.
- Problem Management is also involved in rectifying the situation caused by failed changes.

- **Configuration Management**

- uses the CMS to identify faulty CIs and also to determine the impact of problems and resolutions.

- **Release and Deployment Management**

- responsible for rolling problem fixes out into the live environment.
- assists in ensuring that the associated known errors are transferred from the development Known Error Database into the live Known Error Database.
- Problem Management will assist in resolving problems caused by faults during the release process.

- **Availability Management**

- Is involved with determining how to reduce downtime and increase uptime.



Problem Management - Interfaces

- **Capacity Management**

- Some problems will require investigation by Capacity Management
- also assist in assessing proactive measures.

- **IT Service Continuity**

- Problem Management acts as an entry point into IT Service Continuity Management where a significant problem is not resolved before it starts to have a major impact on the business.

- **Service Level Management**

- Problem Management contributes to improvements in service levels
- used as the basis of some of the SLA review components.
- provides parameters within which Problem Management works

- **Financial Management**

- Asses financial impact of proposed resolutions/workarounds

