Service Strategy - Recap

Main Issues

- IT Governance
- Financial Management
- Sourcing Structures
- Demand Management

Gap Analysis on Service Strategy against ITIL

- Any IT Steering Committee to advise on the direction and help prioritize projects?
- Is budgeting process centralized/de-centralized? Any mechanism to align the budget with business needs?
- Accounting of IT services (e.g. know the expense by user groups, by projects and even by activities)

Gap Analysis (Cont'd)

- Service Accounting issues: e.g. how much spent on providing help desk/application development/infrastructure support, which department consumes a lot of IT resources) Accounting policies
- Documented Service Policies (e.g. Security Policy)
- Charge-back to users on selected service (if there is no charge-back and the services are free to users, are there strategies to manage the demand?)

Clarification on ITIL framework

- ITIL framework introduces some new roles such as incident manager, availability manager etc.
- It should be clarified that these roles are more on the co-ordination. So incident manager ensures that the incidents are handled and escalated according to procedures. Availability manager ensures that system availability is properly monitored and deviation cases are escalated properly. It doesn’t mean that availability manager will be held responsible for all incidents failing to meet the availability requirements set in the service level agreement.

1. Service Operation Overview

By Dr. Franklin Leung

Achieving Balance in Service Operation

- Internal IT view versus External business view
- Stability versus Responsiveness
- Quality of service versus Cost of service
- Reactive versus proactive

Common Service Operation Activities

- IT Operations (Console Management, Job scheduling, Backup and Restore, Desktop Support, Server Management, Network Management, Database Management, Facilities Management, Information Security Management)
- Monitoring and Control

2. Service Operation
- Event Management

Event Management

- An event is a change of state that has significance for the management of a configuration item or IT service (just like an alarm). An event may indicate that something is not functioning correctly.
- Event Management is the ability to detect events, make sense of them and determine the appropriate control action.

Event Management (Cont'd)

- Effective service operation is dependent on knowing the status of the infrastructure and detecting any deviation from normal operation via good monitoring systems (active or passive monitoring tools)
- Event management depends on monitoring by generating notifications (alarms) for abnormal state, e.g. server running out storage space, network is slow

Event Management (Cont'd)

- Event management usually employs monitoring system which has a central console and has software agents installed in servers and network equipment to generate alarms when necessary. BMC, HP, CA are selling such monitoring software.

3. Service Operation – Incident Management

Goal of Service Operation

- Deliver agreed levels of service to internal and external customers, and to manage the applications, technology and infrastructure that support delivery of the services.
- Service Operation staff ensure that value to the business is delivered

Definitions of Incident Management

- An incident is any event which is not part of the standard operation of a service & which causes, or may cause, an interruption to, or a reduction in quality of that service.
- The process responsible for managing an incident throughout its lifecycle is Incident Management.

Incident Management

Goal

- Restore normal service operation (as outlined in the SLA) as quickly as possible and minimize adverse impact on business operations, thus ensuring that the best possible levels of service quality & availability are maintained
- Basically this means using all available resources to get the user back to a productive state as quickly as possible

Incident Management

Benefits

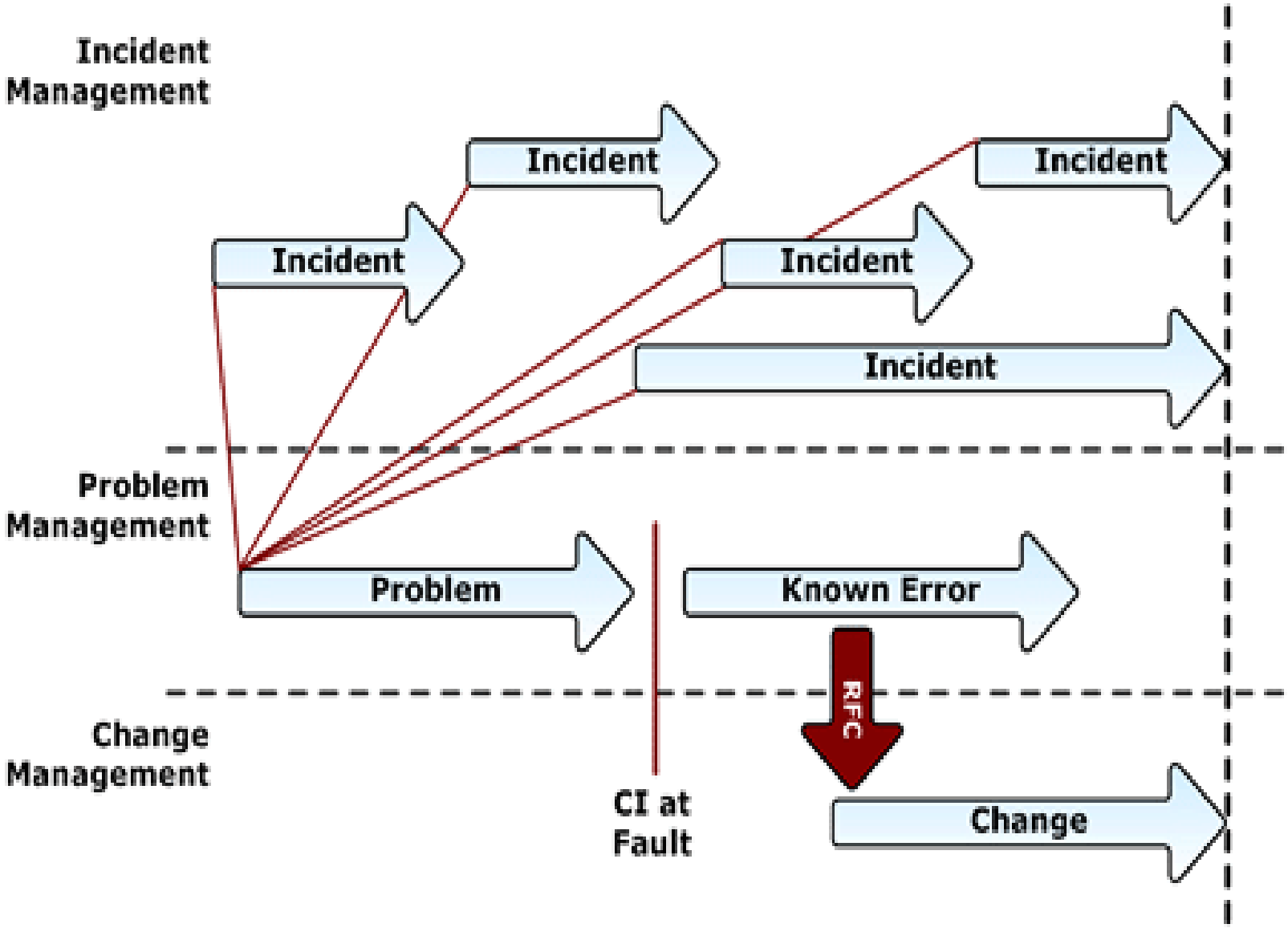
- Minimize the disruption and downtime for our users
- Maintain a record during the entire Incident life-cycle. (This allows any member of the service team to obtain or provide an up-to-date progress report)
- Building knowledgebase of known issues to allow quicker resolution of frequent Incidents

Terminology

- **Incident** - any event which is not part of the standard operation of a service and which causes, or may cause, an interruption to, or a reduction in, the quality of that service
- **Service Request** - request for increased functionality for new services, not a failure in the IT infrastructure.
- **Major Incident** – an Incident for which the degree of impact on the User community is extreme, and which requires a response that is above and beyond that given to normal incidents.
- **Problem** - A condition identified by multiple incidents exhibiting common symptoms, or from one single significant incident, indicative of a single error, for which the cause is unknown
- **Known Error** – A problem that is successfully diagnosed & for which a work-around is known
- **RFC** - A Request for Change to any component of an IT infrastructure or to any impact of IT services

Scope of Incident Management

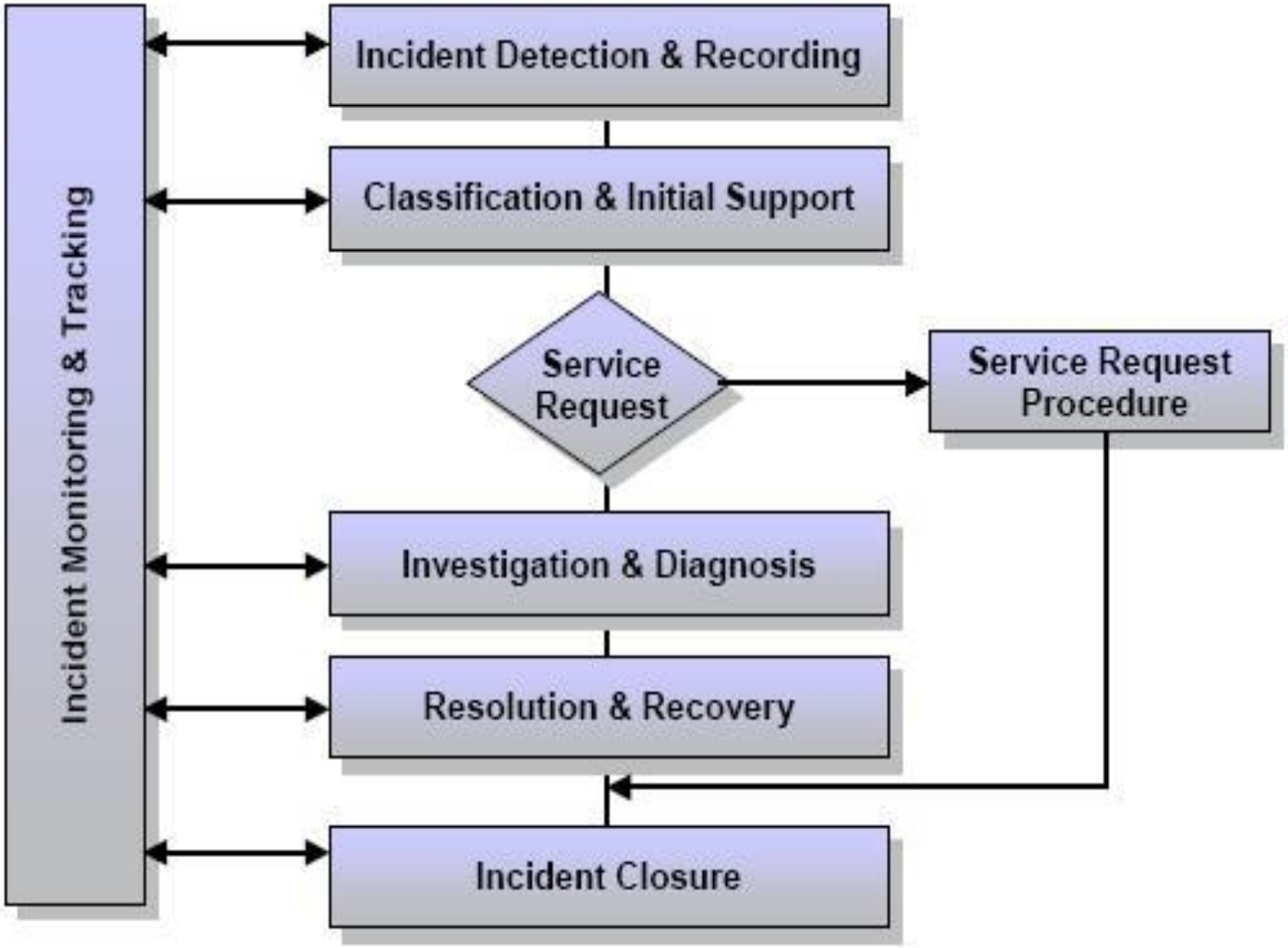
- Categories of Tasks to be handled by Service desk
  - Application (Incident)
  - Hardware (Incident)
  - Service Request
- A request for new or additional service is not an Incident but a Request for Change
- Handling of both failures in the infrastructure & of service requests are similar & are sometimes (but not always) both handled by Service Desk.


Incident Management
Incident
Incident
Incident
Incident
Incident
Problem Management
Problem
Known Error
RFC
Change Management
CI at Fault
Change

Role of Service Desk

- The Service Desk will usually play the key role in the Incident Management process, recording & monitoring the progress of incidents & retaining ownership of them.

Incident Lifecycle



Incident Management Activities

- Incident detection & recording
  - Record basic details
  - Link to CI (Configuration Item) in CMDB (Configuration Management Database)
- Classification & Initial Support
  - Assign classification code
  - Match against known errors and problems
  - Assign impact & urgency thereby defining priority
  - Provide initial support

Incident Management Activities (Con’td)

- Investigation & diagnosis (interactive process)
  - Offer a temporary work-around (service desk)
  - Collection & analysis of all related information
- Resolution & recovery
  - Incident resolved using the solutions or Work-around or raise an RFC

Incident Management Activities (Cont'd)

- Incident Closure
  - Confirmation of the resolution with the originator
  - 'Close' category
  - Check all actions taken are concise & readable
- Incident ownership, monitoring, tracking & communication
  - Monitor & Escalate Incident & Inform orginator

If you work in 999 call centre, what will you ask if someone reports a traffic accident?

I+U=P

Impact + Urgency = Priority

	LOW URGENCY	MEDIUM URGENCY	HIGH URGENCY
LOW IMPACT	LOW PRIORITY	LOW PRIORITY	MEDIUM PRIORITY
MEDIUM IMPACT	LOW PRIORITY	MEDIUM PRIORITY	HIGH PRIORITY
HIG H IMPACT	LOW PRIORITY	HIGH PRIORITY	HIGH PRIORITY

I+U=P

Impact is defined as the number of people affected by a service outage.

- **Low Impact**: One customer affected, where no executive or executive staff are involved.
- **Medium Impact**: Several customers are affected, or an executive or executive staff are involved.
- **High Impact**: Whole organization, complete department or building affected, or revenue/financial systems affected.

I+U=P

Urgency is defined as the affect of the event on a customer's ability to work. This is not to be confused with how urgent the requestor believes the incident to be.

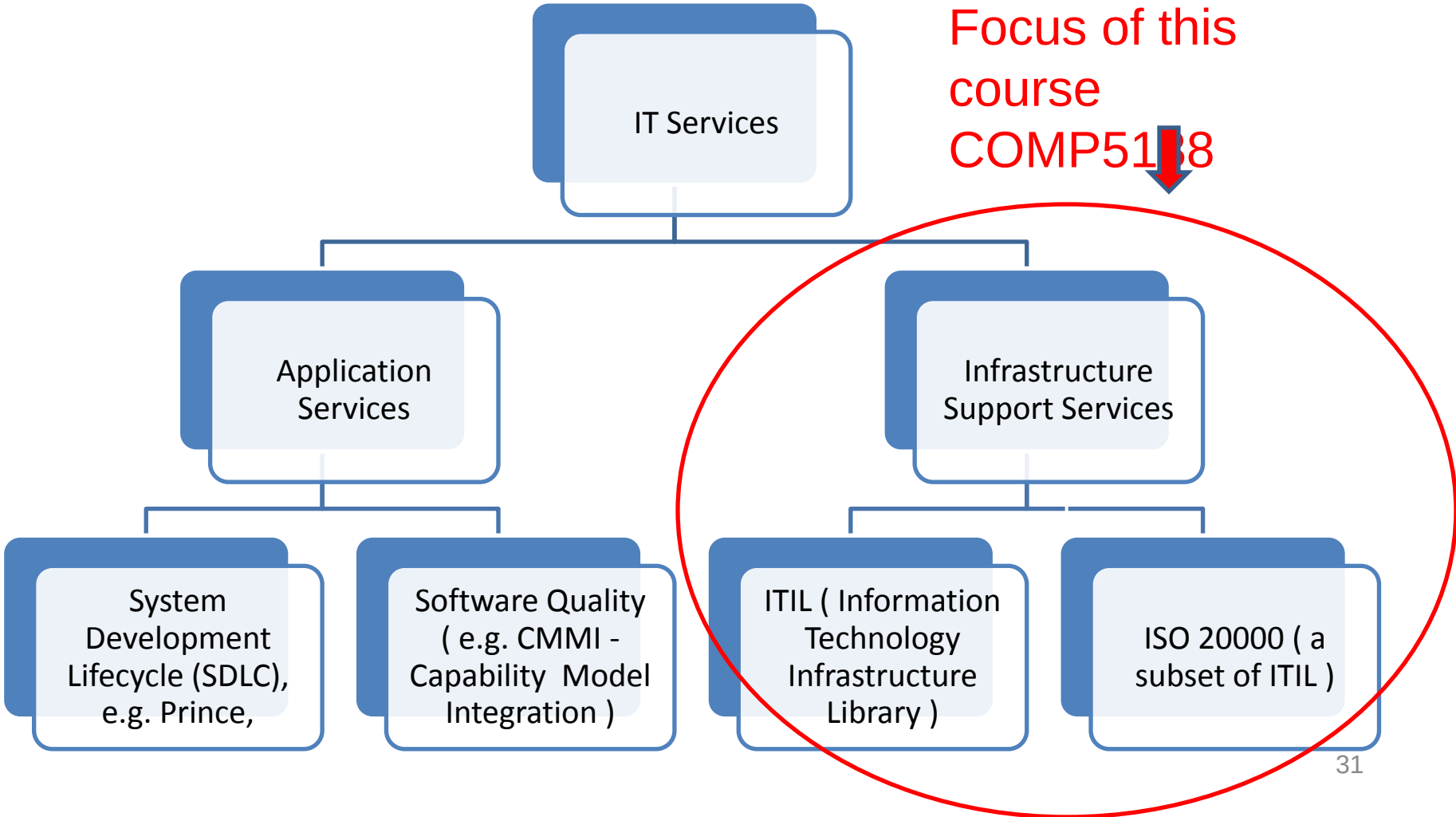
- **Low Urgency**: Ability not impaired, the customer is requesting extra or additional functions or services *(a service request).*
- **Medium Urgency**: Abilities are partially impaired, and customers cannot use certain functions or services.
- **High Urgency**: Abilities are completely impaired and customers cannot work.

I+U=P

- Priority based on Impact and Urgency

- Low Priority: Work to be completed in 4 business days.
- Medium Priority: Work to be completed in 2 business days.
- High Priority: Work to be completed in 4 hours.
- Urgent Priority: Work to be completed in 2 hours.

Priority in incident management refers to priority of the incidents related to infrastructure support services (e.g. hardware, user support) but not on the priority of service requests (e.g. application development).



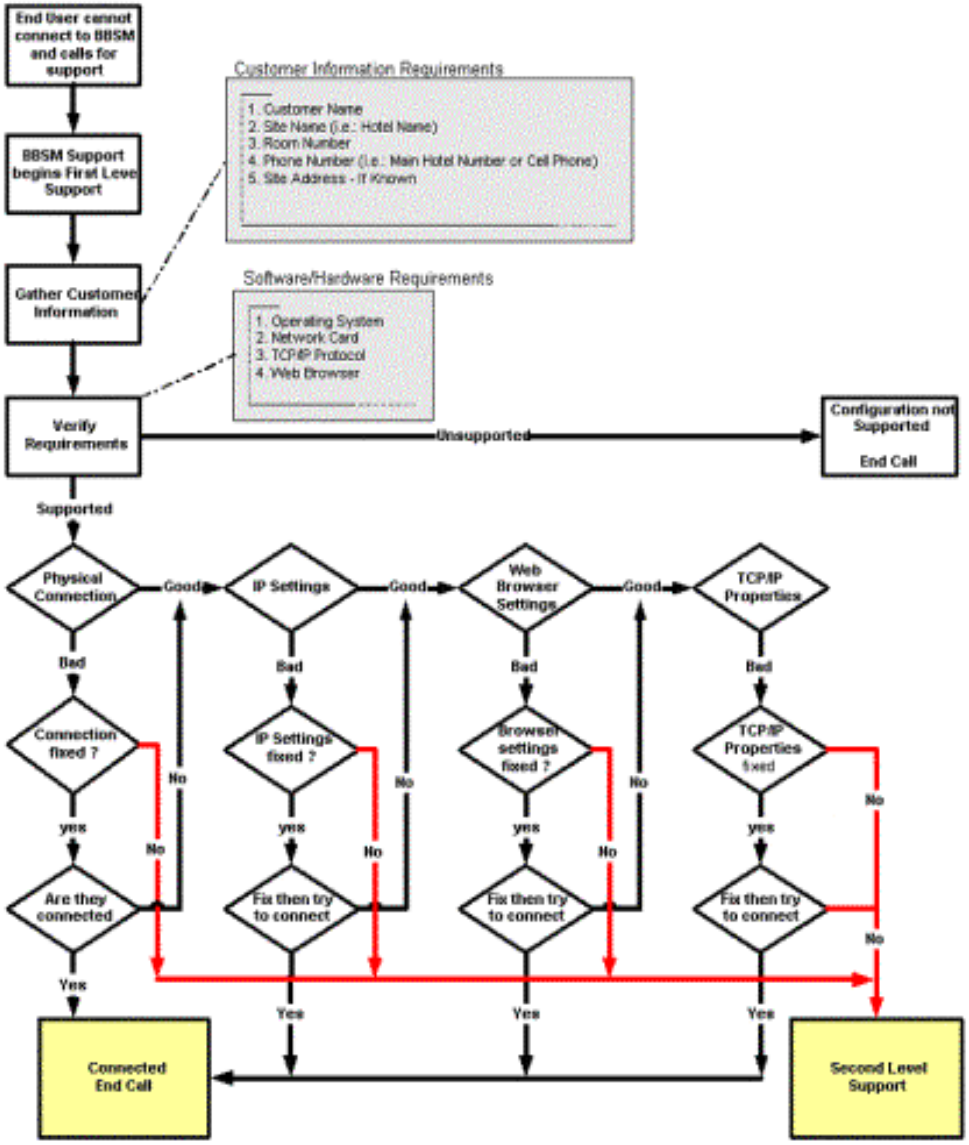
Major Incident

- the highest category of impact for an incident which results in significant disruption to our business
- Major Incident Manager may be appointed to manage such major incidents

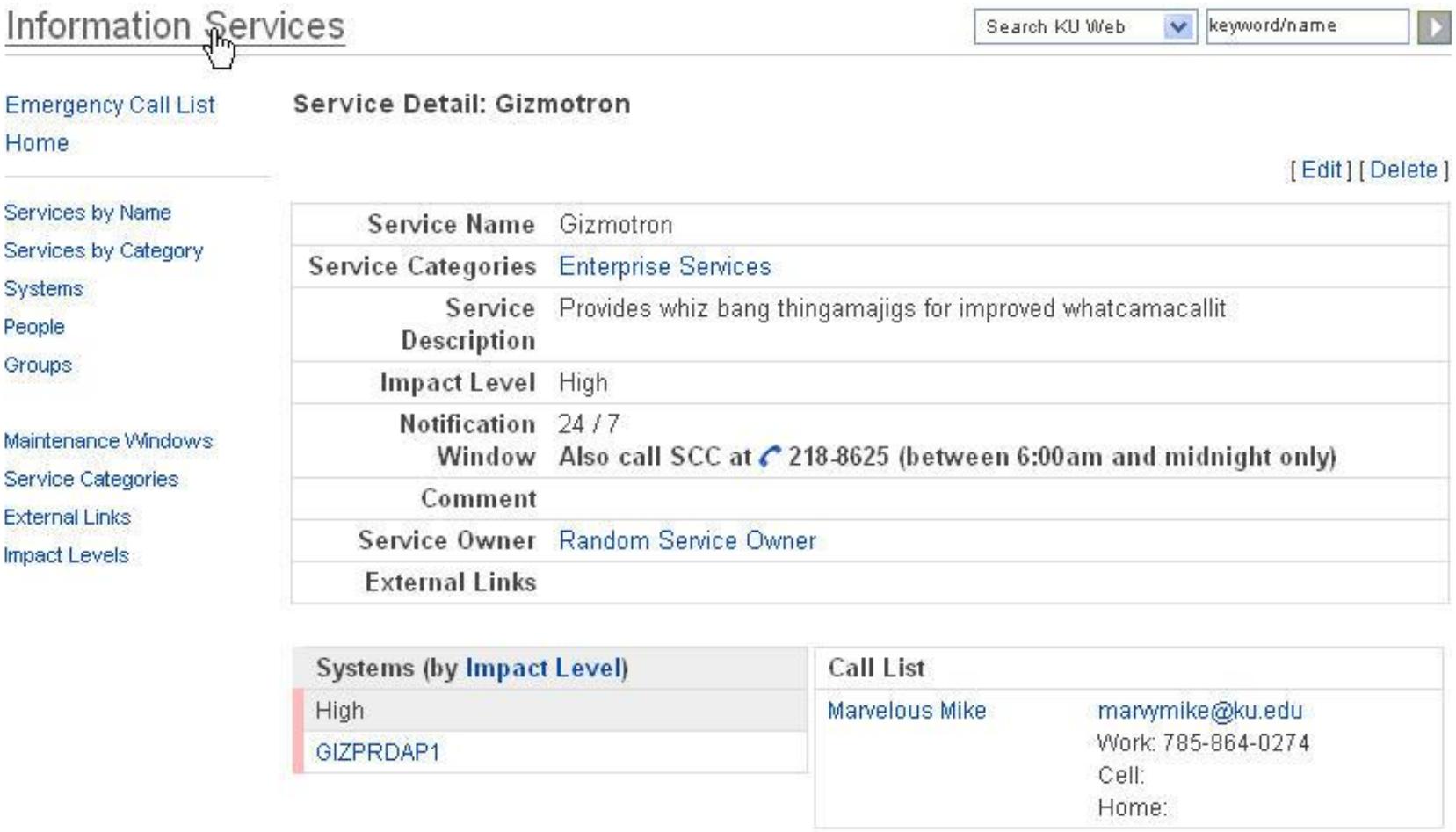
Support & Escalation

- 1st line support – Service Desk
- 2nd & 3rd line support & beyond
  - Specialist support groups
  - More time
  - More resources
  - May be external supplier
- Escalation – may take place during every activity in the resolution process
- Functional escalation – (allocation)
- Hierarchical escalation – (organization hierarchy)

First Level Support Process



Call List


Information Services
Search KU Web
keyword/name
Emergency Call List
Home
Services by Name
Services by Category
Systems
People
Groups
Maintenance Windows
Service Categories
External Links
Impact Levels
Service Detail: Gizmotron
[Edit] [Delete]
Service Name
Gizmotron
Service Categories
Enterprise Services
Service Description
Provides whiz bang thingamajigs for improved whatcamacallit
Impact Level
High
Notification Window
24 / 7
Also call SCC at 218-8625 (between 6:00am and midnight only)
Comment
Service Owner
Random Service Owner
External Links
Systems (by Impact Level)
High
GIZPRDAP1
Call List
Marvelous Mike
marvymike@ku.edu
Work: 785-864-0274
Cell:
Home:

Metrics

- Total number of incidents
- Breakdown of incidents at each stage (e.g logged, work-in-progress, closed etc.)
- Number and percentage of major incidents
- Percentage of incidents handled within agreed response time
- Average cost per incident
- Number of incidents reopened as a percentage of the total

Incident Management Benefits

- Reduced business impact of incidents by timely resolution
- Proactive identification of beneficial enhancements
- Improved monitoring of performance against SLAs

4. Service Operation
- Problem Management

Problem Management

Goal

- To minimize the adverse impact of incidents and problems that are caused by errors in the IT Infrastructure

Benefits

- Detection of the underlying causes of a recurring Incident and subsequent resolution and prevention
- Reduce both the number and severity of Incidents and Problems on the business

Terms (re-cap)

- **Incident** – something that used to work doesn't work now.
- **Major Incident** – an Incident with a high impact on the campus community, and which requires a response above and beyond that given to normal incidents.
- **Workaround** – Method of avoiding an incident or problem--a temporary fix to get the customer back up and running.

Terms

- **Problem** – A condition identified by multiple incidents exhibiting common symptoms, or from one single significant incident, indicative of a single error, for which the cause is unknown.
- **Root cause** – the underlying cause of the problem.
- **Known error** – A condition identified by successful diagnosis of the root cause of a problem, when it is confirmed which Configuration Item is at fault and a workaround has been identified.

Problem Management process

Problem identification

- Problem Manager or Service Owner
- Multiple incidents exhibiting common symptoms
- Or a single significant incident for which the cause is unknown.

Assemble problem team

- Identify who needs to be involved
- Ask all managers for input about possible related issues

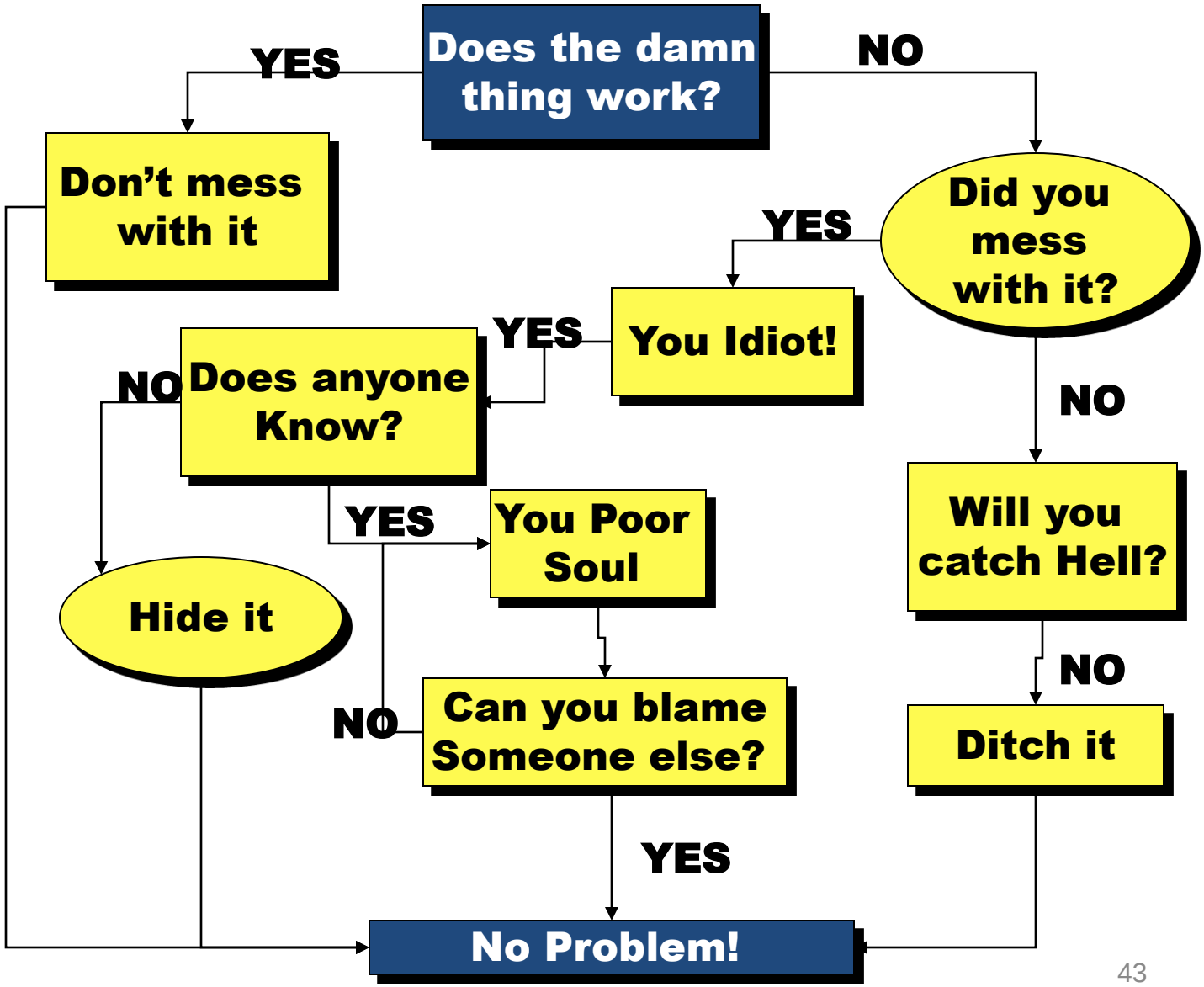
Schedule meeting(s)

Follow Problem Analysis model to identify root cause

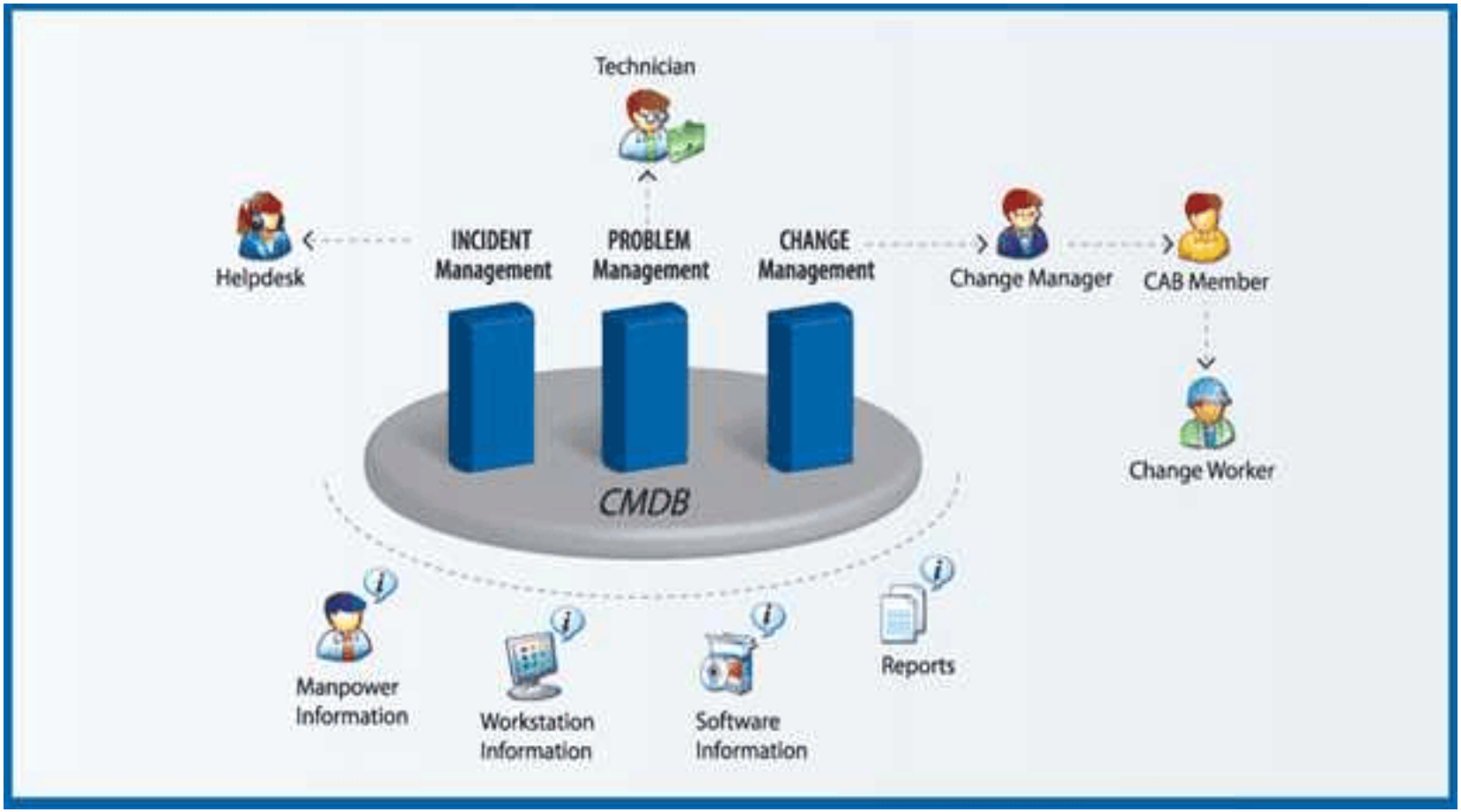
Implementation

- Implement solutions
- Document solutions

Problem Solving Flow（？！）



Integration of incident/problem management with other processes



5. Service Operation
- Request Fulfillment

Request Fulfillment

- Management of customer/user requests that are not generated as an incident from an unexpected service delay or disruption
- An incident is an unplanned event while service request is a planned event
- Some organizations may choose to handle service requests as a ‘category’ of incidents via Incident Management System. However, it becomes more popular to handle requests separately via the Request Fulfillment Process.

ITIL Case Study
– Service Request Management

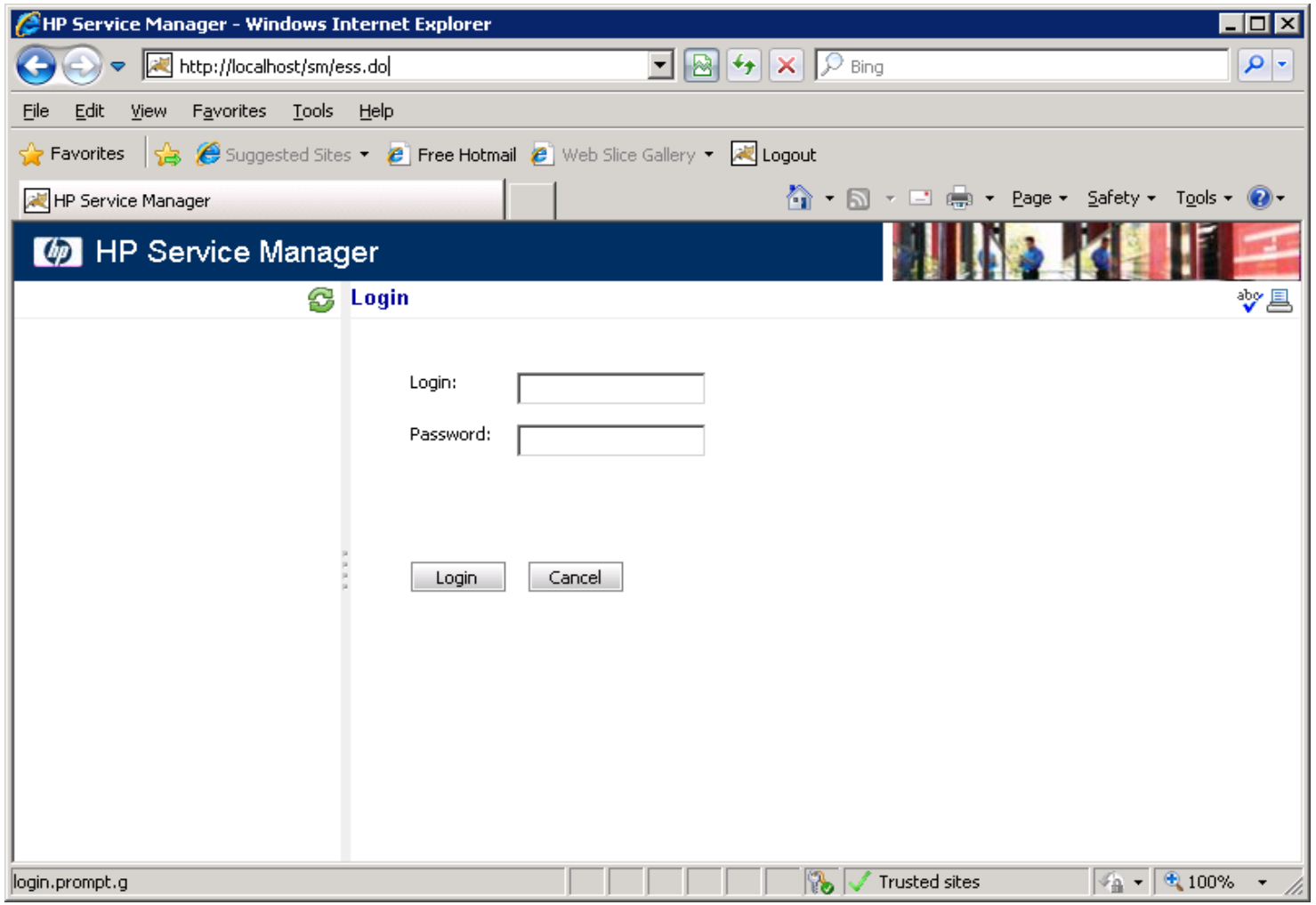
Case Background

- A company is running a service desk and handle IT service requests (e.g. installation of software) from users (internal customers). However, users can only call service desk on IT services incident reporting but users cannot submit the reporting online and hence cannot view the most updated status online.
- Users submit application change request to IT department via hardcopies. It is difficult for the IT Dept. Head to keep track of change requests and ensure the requests are followed up properly.

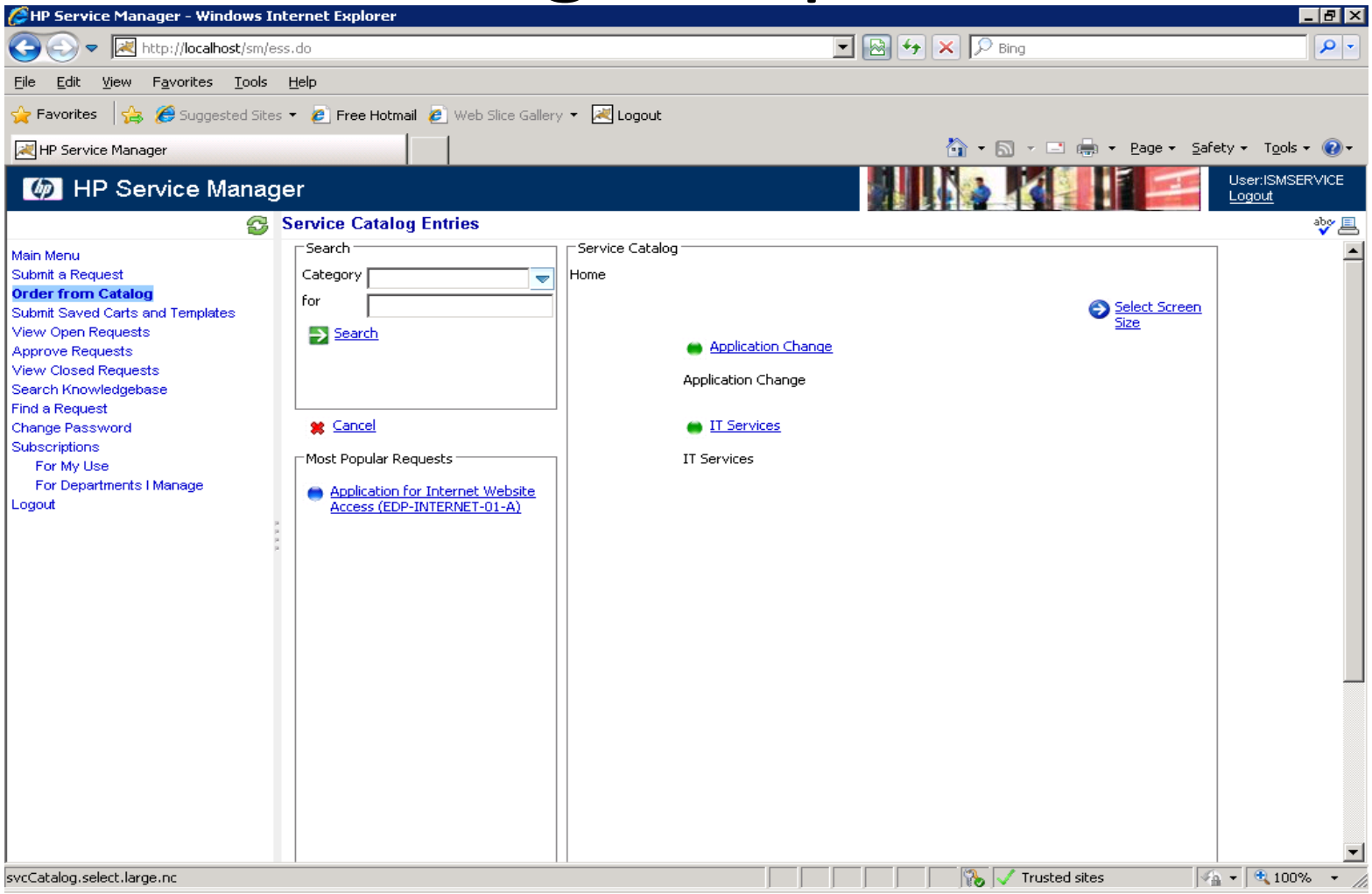
ITIL implementation

- A computer consulting company is engaged to advise on ITIL implementation.
- The company also provides a computer system for service management.

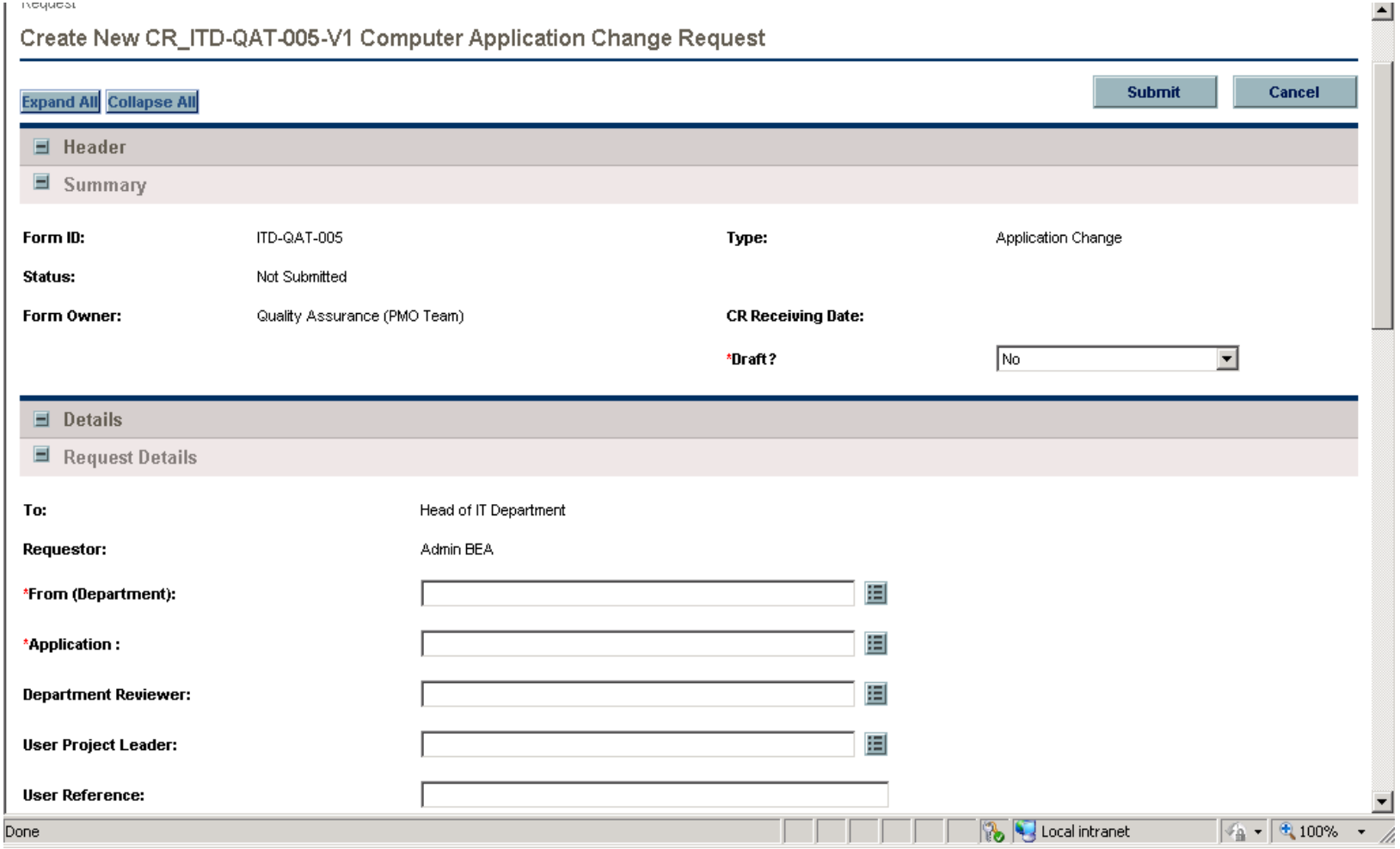
Service Manager Software



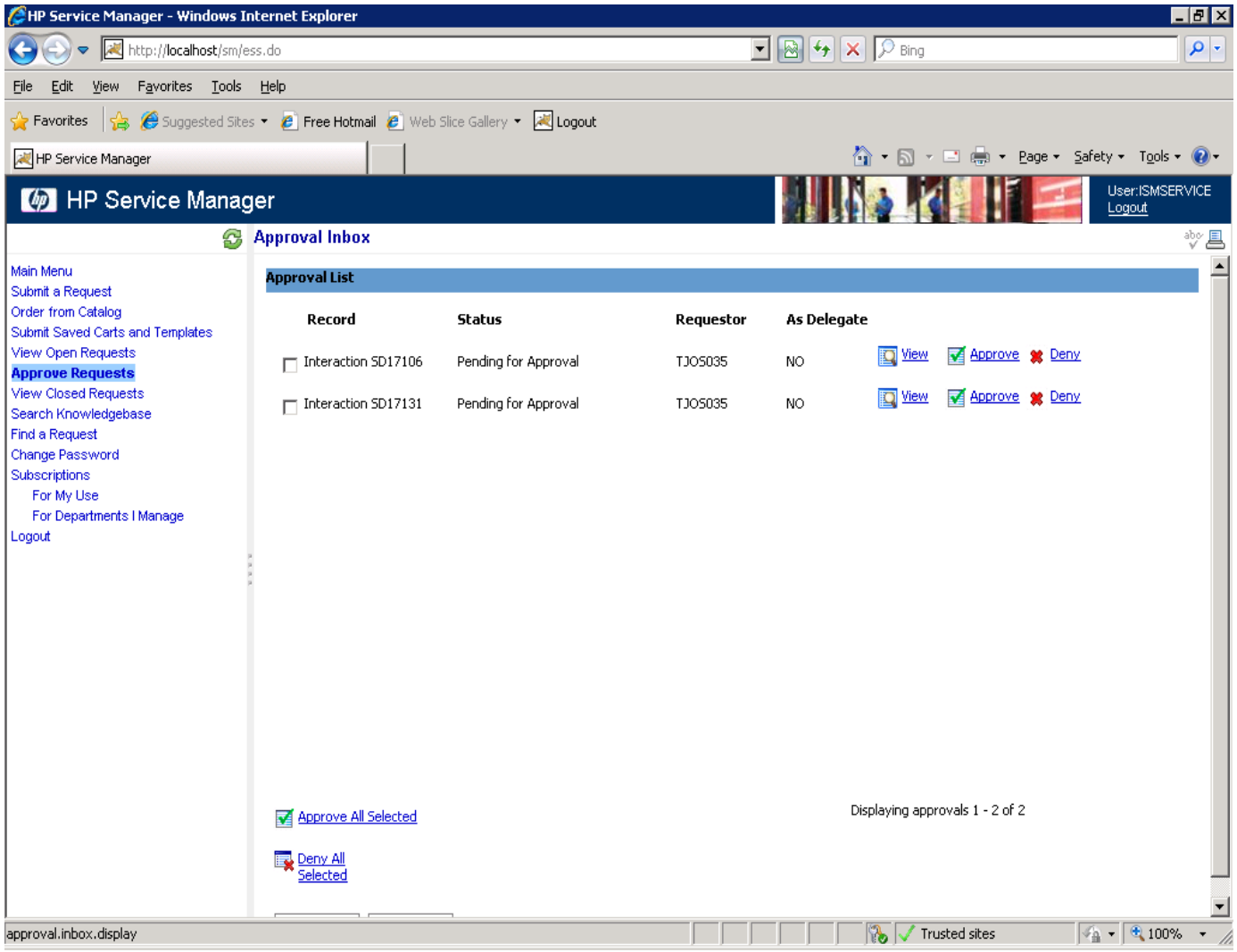
Handles IT Services and Application Change Request



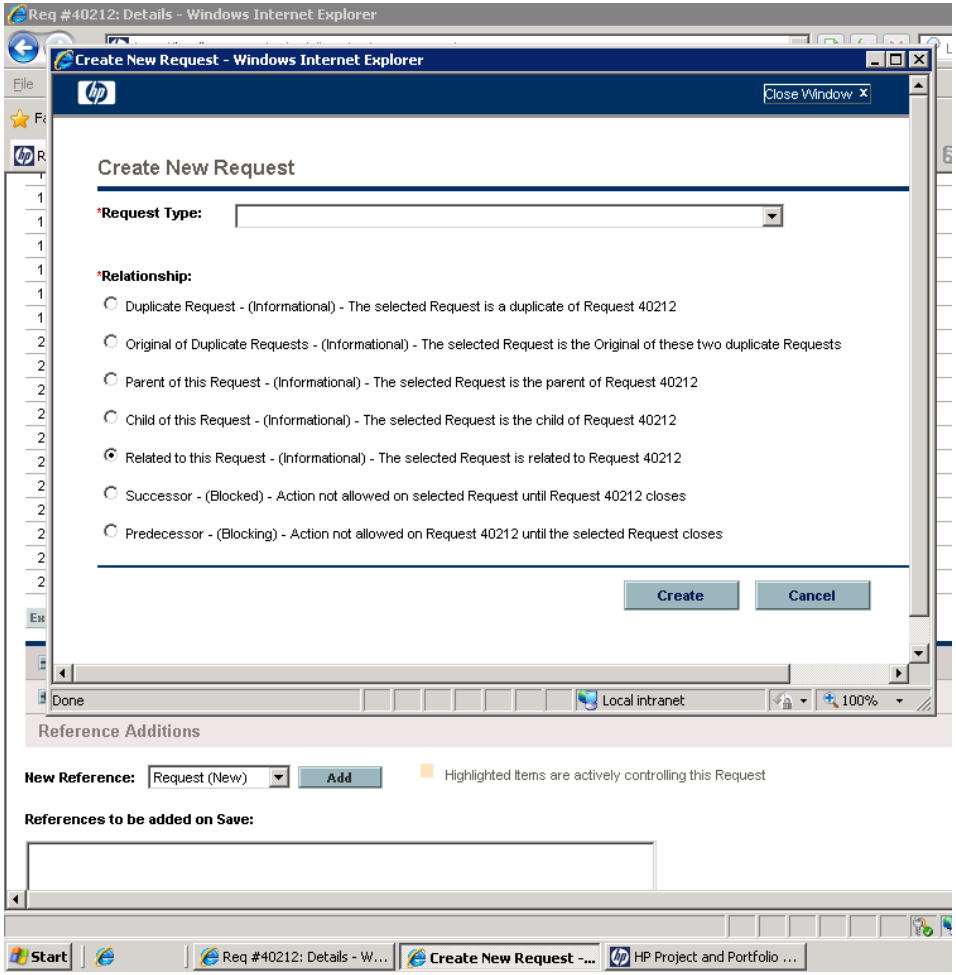
Creates New Application Change Request



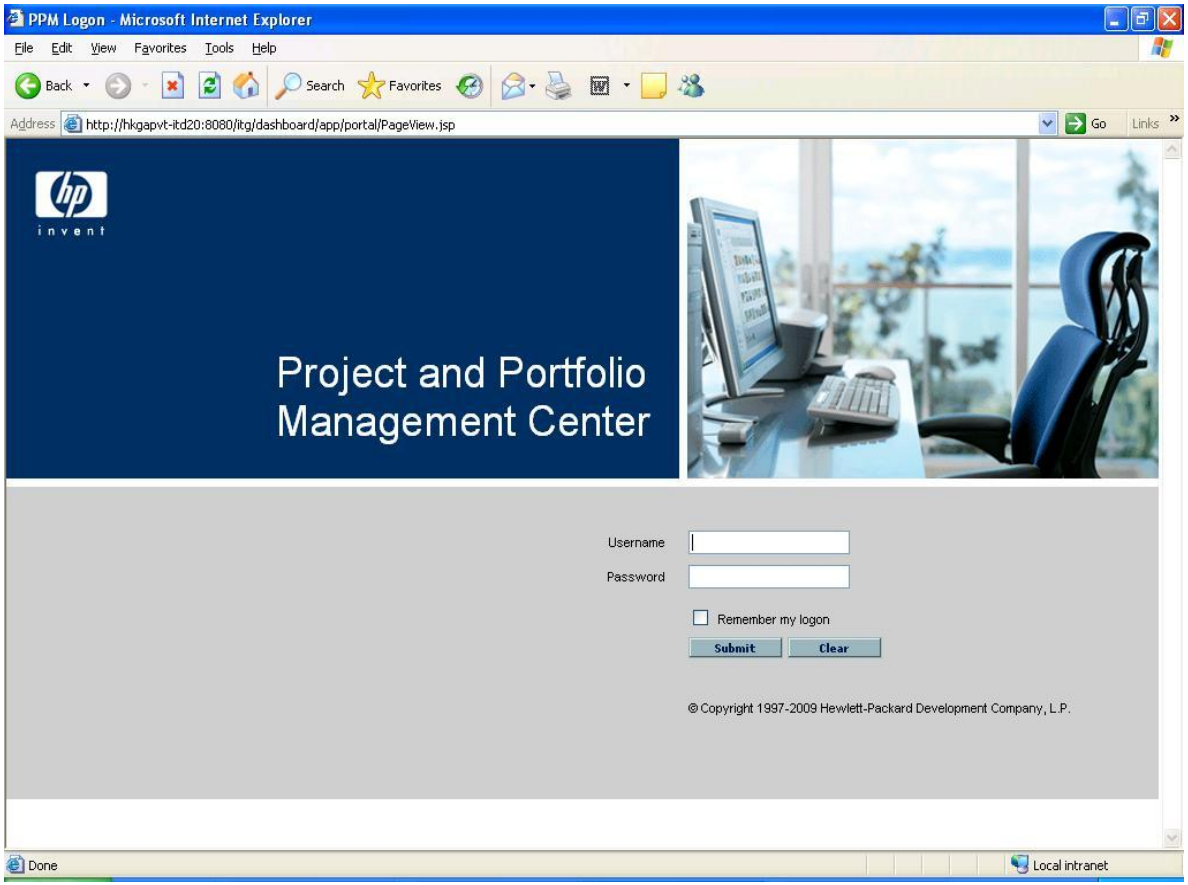
Service request submission needs to be approved by supervisors in user department.



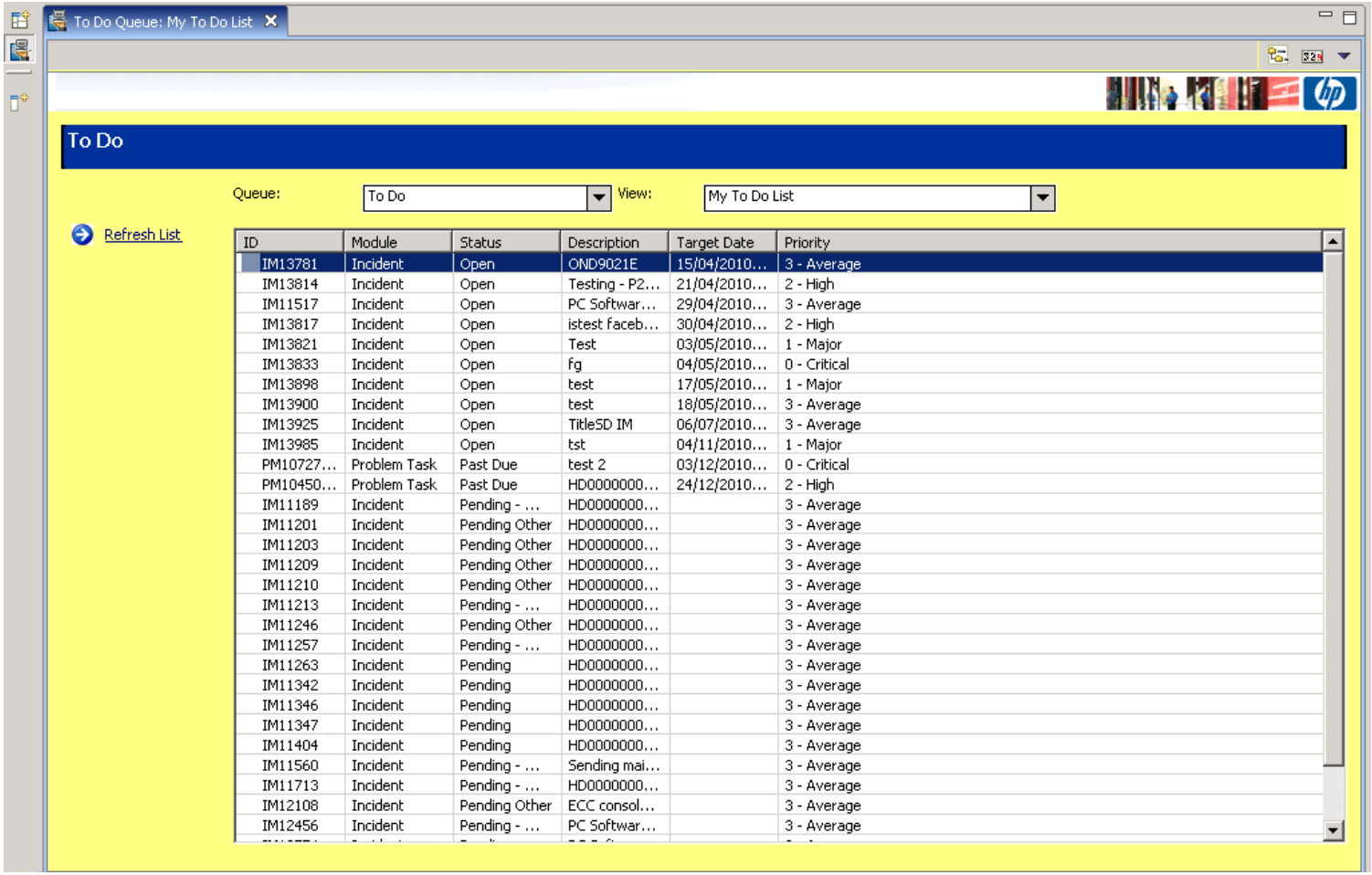
Relationship between multiple requests



IT staff manage the requests in Project and Portfolio Management Centre

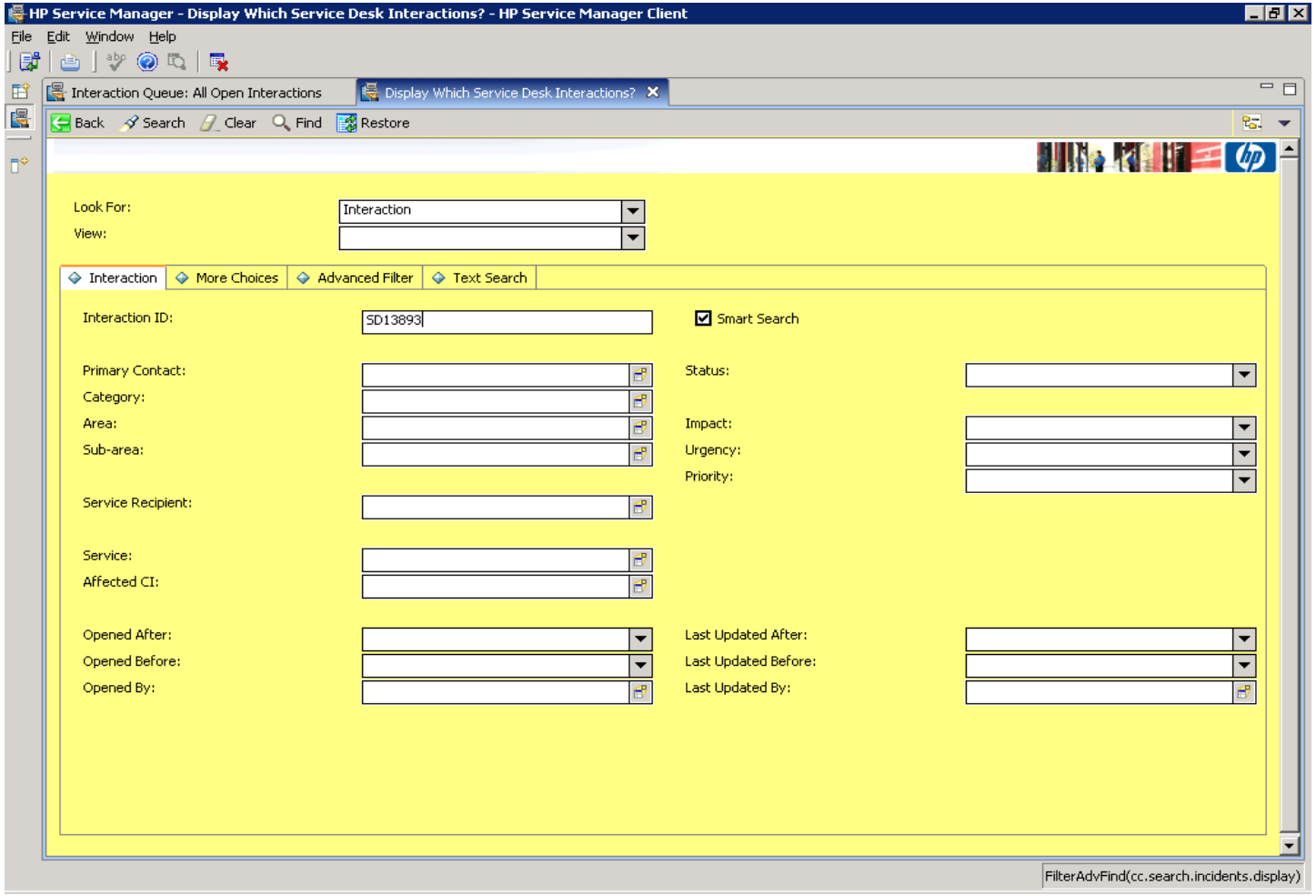


IT staff can see a list of outstanding requests

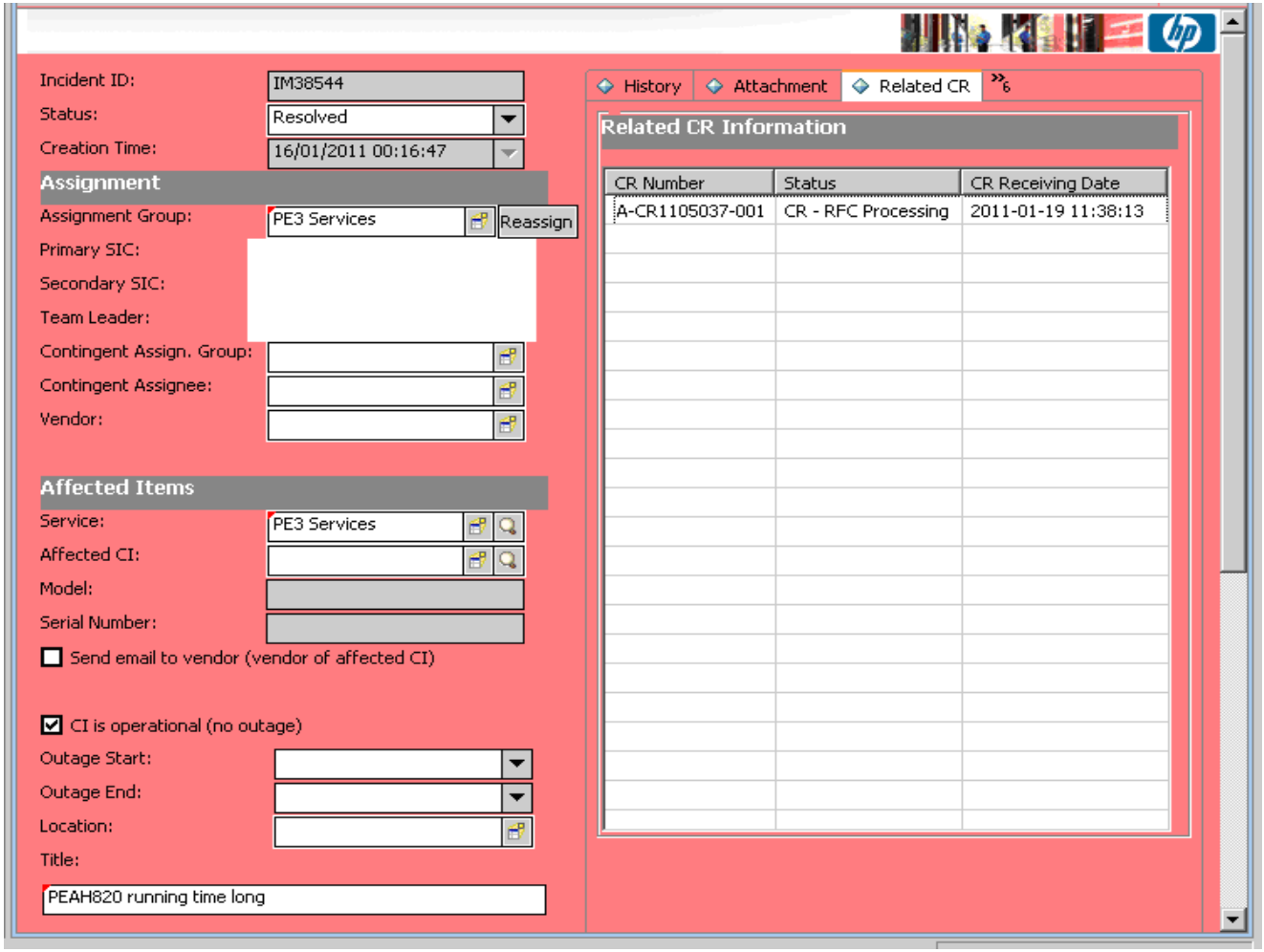


ID	Module	Status	Description	Target Date	Priority
IM13781	Incident	Open	OND9021E	15/04/2010...	3 - Average
IM13814	Incident	Open	Testing - P2...	21/04/2010...	2 - High
IM11517	Incident	Open	PC Softwar...	29/04/2010...	3 - Average
IM13817	Incident	Open	istest faceb...	30/04/2010...	2 - High
IM13821	Incident	Open	Test	03/05/2010...	1 - Major
IM13833	Incident	Open	fg	04/05/2010...	0 - Critical
IM13898	Incident	Open	test	17/05/2010...	1 - Major
IM13900	Incident	Open	test	18/05/2010...	3 - Average
IM13925	Incident	Open	TitleSD IM	06/07/2010...	3 - Average
IM13985	Incident	Open	tst	04/11/2010...	1 - Major
PM10727...	Problem Task	Past Due	test 2	03/12/2010...	0 - Critical
PM10450...	Problem Task	Past Due	HD0000000...	24/12/2010...	2 - High
IM11189	Incident	Pending - ...	HD0000000...		3 - Average
IM11201	Incident	Pending Other	HD0000000...		3 - Average
IM11203	Incident	Pending Other	HD0000000...		3 - Average
IM11209	Incident	Pending Other	HD0000000...		3 - Average
IM11210	Incident	Pending Other	HD0000000...		3 - Average
IM11213	Incident	Pending - ...	HD0000000...		3 - Average
IM11246	Incident	Pending Other	HD0000000...		3 - Average
IM11257	Incident	Pending - ...	HD0000000...		3 - Average
IM11263	Incident	Pending	HD0000000...		3 - Average
IM11342	Incident	Pending	HD0000000...		3 - Average
IM11346	Incident	Pending	HD0000000...		3 - Average
IM11347	Incident	Pending	HD0000000...		3 - Average
IM11404	Incident	Pending	HD0000000...		3 - Average
IM11560	Incident	Pending - ...	Sending mai...		3 - Average
IM11713	Incident	Pending - ...	HD0000000...		3 - Average
IM12108	Incident	Pending Other	ECC consol...		3 - Average
IM12456	Incident	Pending - ...	PC Softwar...		3 - Average

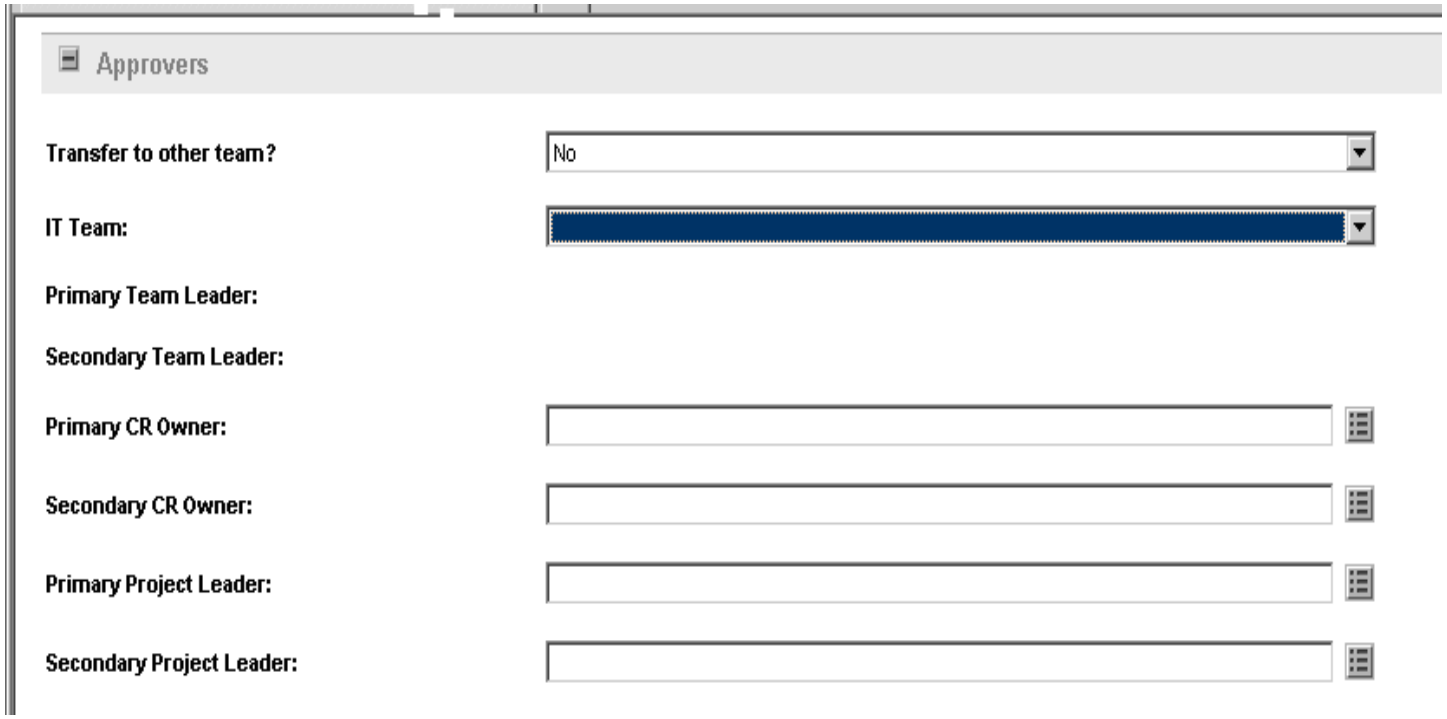
Priority Assignment: Impact x Urgency



Service desk staff view the details of the incident and assign system-in-charge (SIC) to follow up.



Service request/incidents can be transferred among teams and such transfer needs to be approved by service desk



6. Service Operation
- Access Management

Access Management

- The process of granting authorized users the right to use a system, while preventing access to unauthorized users

7. Service Operation
- Technology Considerations

IT Service Management (ITSM) Technology

- Self-help capabilities to users
- Workflow engine (for control of incident lifecycle, request fulfillment)
- Integrated Configuration Management System
- Discovery/Deployment/Licensing Technology
- Remote Control (take control of the user's desk-top)
- Reporting

8. Gap Analysis on Service Operation against ITIL Framework

Gap Analysis on Service Operation Against ITIL

- Is there a service desk as a central contact point for reporting incidents?
- Is there a software system logging and keeping track of all incidents?
- Is the log analyzed and common underlying cause for multiple incidents is analyzed? (problem management)
- Are there metrics and measurement for incident management (e.g. measuring the total time to resolve incidents)?

Gap Analysis

- Are Known Errors/issues Database established with workaround documented?
- Are incidents categorized?
- Is priority assigned to incidents according to its impact and urgency?
- Are incidents properly closed (e.g. confirmation of the resolution with the originator)?
- Is the owner of a reported incident identified?

Improvement of Operational Activities

- Automation of manual tasks
- Renewing makeshift (ad-hoc designed) activities or procedures
- Operational audits
- Using incident management and problem management
- Communication
- Education and Training

9 Procter & Gamble ITIL Implementation Case

Proctor & Gamble

- Streamlined ITIL processes within ITIL from 1998 to 2002
- Saved around $500 Million
- “When IT processes are done by 5,000 people consistently across one company, service management can deliver tremendous saving.” (Muton Cohen, P&G)

Proctor & Gamble (Cont'd)

- Implemented ITIL "follow-the-sun" process which entails staffing data and operation centres around the world according to the time zone and provides 7x24 non-stop service
- "ITIL is about having process in place that enable the people, software and hardware you do have to work better.." (Gleen O'Donnel, Meta Computer)