IT Service Management

Service Operation

Service Operation

- Goals: co-ordinating and fulfilling activities and processes required to provide and manage services for business users and customers with a specified agreed level.
  - Responsible for the fulfillment of processes that optimize the service costs and quality in the Service Management Lifecycle
  - Must help ensure that the customer (business) achieves his goals
  - Management of the required technology

Optimizing the Service Operation performance

- Long-term incremental improvement
  - based on the review of the performances and output of all longer-term Service Operation processes, functions and output;
  - examples include putting new tools into use or changes in the design process.
- Short-term ongoing improvement of existing situations within the Service Operation processes, functions and technology
  - these are small changes that are implemented to change the fundamental significance of a process or technology;
  - examples are tuning, training or staff transfer;

Achieving balance in Service Operation

- Procedures and activities take place in a continually changing environment
  - A key role of Service Operation is handling conflicts between maintaining the current situations and reacting to changes in the business and technical environment
- Need to achieve a balance of
  - The internal IT view (IT as a series of technological components) versus the external business view (IT as part of IT services)
  - Stability versus responsiveness (towards changing business requirements)
  - Service quality versus service costs
  - Reactiveness versus proactiveness

Effective Service Operation

- Staff members must be aware that they are providing a service to the business
- Involving operational staff in service design and transition
- Keeping operational health
  - isolating ‘vital characteristics’ that are essential to the fulfillment of an indispensable business function
  - preventing incidents and problems
  - identifying and effectively locating defects once they have occurred, so that they have little impact on the service
- Establishing good communication
- Recording and maintaining documentation

Processes

- Processes of the Service Operation phase
  - event management
  - incident management
  - problem management
  - request fulfillment
  - access management
  - monitoring and control
  - IT operations
- Other related processes
  - change management, capacity management, availability management, financial management, knowledge management. IT service continuity management (ITSCM), service reporting and measurement

Event management process

- Event: an occurrence that affects the IT infrastructure management or the provision of an IT service
- Event management surveys all events that occur in the IT infrastructure in order to monitor the regular performance, and which can be automated to trace and escalate unforeseen circumstances
- Most important activities:
  - an event taking place, event reporting, event detection, event filtering, the event significance (event classification), event correlation, trigger, reaction possibilities, action assessment, close event
- Metrics should be set accordingly

Incident Management Process

- Focuses on restoring failures of services as quickly as possible for customers, so that it has a minimal impact on the business.
  - Incidents can be failures, questions or queries
- Incident includes any event that interrupts or can interrupt a service
  - so they also include events reported by customers, either by the service desk or through various tools
- Steps
  - Identifying, recording/logging, classifying, prioritizing, initial diagnosing, escalating, researching and diagnosing, resolving and restoring, closing

Request Fulfillment Process

- The process of service requests handling
  - Most of the time, it concerns with small changes that initially pass through the service desk
  - Often standard forms are used to be able to resolve incidents, problems or known errors
- Goals
  - offering users a channel where they can request and receive standard services
  - providing information to customers about the availability of services and the procedure to obtain them
  - providing the standard services components (such as licenses and software media)
  - assisting with general information, complaints or remarks

Problem Management Process

- Analyzing and resolving the causes of incidents and developing proactive activities to prevent current and future incidents
  - Reactive vs Proactive Problem Management
- Problem management includes all activities that are needed for a diagnosis of the underlying cause of incidents, and to determine a resolution for those problems;
- It must also ensure that the resolution is implemented through the appropriate control procedures (i.e. with change management and release management)

Access Management Process

- Allowing authorized users access to use a service, while access of unauthorized users is limited
  - also known as rights or identity management
- Access management helps ensure that this access is always available at agreed times.
  - provided by availability management
- Access management consists of:
  - verification
  - assigning rights
  - monitoring of the ID status
  - recording and tracing access
  - removing or restricting rights

Monitoring and Control

- Based on a continual cycle of monitoring, reporting and undertaking action
  - Monitoring: observation of a situation to discover changes that occur over time
  - Reporting: analysis, production and distribution of the output of the activity that is being monitored
  - Control: management of the usefulness or behavior of a device, system or service
- Monitoring and control cycle
  - measures an activity and its benefits to determine whether the results are within the target values for performance or quality

IT Operations

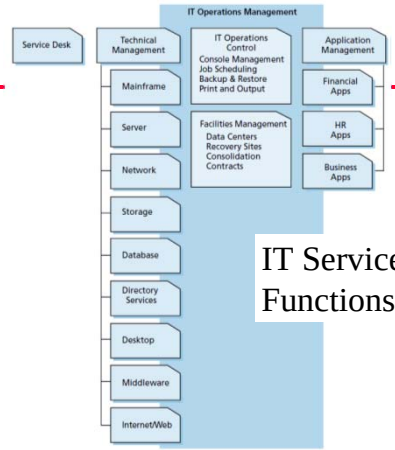
- Day-to-day operational activities that are needed to manage the IT infrastructure
- Console management/operations bridge
  - Central co-ordination point that controls several events and routine operational activities
- Job scheduling
  - Standard routines, queries or reports that technical and application management teams have transferred as part of the service or as part of routine day-to-day maintenance tasks
- Backup and resuming
  - A component of well planned continuity;
  - Need to be talked in the design and transition phase too

Other Operational Activities

- Mainframe management
- Server management and support
- Network management
- Storage and archiving
- Database management
- Directory services management
- Desktop support
- Middleware management
- Internet/web management
- Facility and computing center management
- Information security management and Service Operation
- Operational activity improvement

Organization: Functions

- A function is a logical concept that refers to the people and automated actions that fulfill a demarcated process, an activity or a combination of processes and activities
- Due to the technical character and special nature of certain functions, teams, groups and departments are often named after the activities that they fulfill
  - For example, network management is often fulfilled by a network management department
- Few options available when assigning activities:
  - an activity can be fulfilled by several teams or departments
  - a department can fulfill several activities
  - an activity can be fulfilled by groups



IT Service Operation Functions

Service Desk

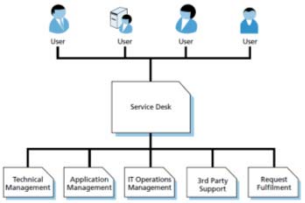
- A service desk is a functional unit with a number of staff members who deal with a variety of service events
  - Requests may come in through phone calls, the internet or as automatically reported infrastructure events
  - It must be the prime contact point for IT users, and it processes all incidents and service requests.
  - Often the staff use software tools to record and manage events
- The main goal of the service desk is to restore the 'normal service' for users as soon as possible
  - This could entail resolving a technical error, fulfilling a service request or answering a question

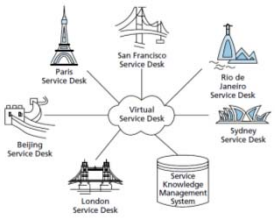
Advantages of a Service Desk

- improved customer service, improved customer perception of the service, and increased customer satisfaction
- increased accessibility due to a single contact, communication and information point
- customer and user requests are resolved better and faster
- improved co-operation and communication
- improved focus on service and a proactive service approach
- the business is less negatively impacted
- improved infrastructure management and control
- improved use of resources for IT support, and increased staff productivity
- more worthwhile management information as regards decisions on support issues
- it is a good entry position for IT staff

Service Desk Organizational Structure

- There are different ways to structure a service desk
  - local service desk
  - virtual service desk





  - centralized service desk
  - '24/7' service
  - specialized service desk groups

Service Desk Staff

- It is important to ensure the availability of the correct number of staff members, so that the service desk can meet the business demands at any time
  - The number of calls can fluctuate significantly each day and from hour to hour
  - When scheduling, a successful organization takes both the peak hours and the slow times into account
- The necessary levels and skills required for service desk staff are also important
  - An optimal and most cost-effective approach is first-line support through the service desk, which records the calls and transfers escalations quickly to the second-line and third-line support groups who have more expertise

Technical management

- Technical management refers to the groups, departments or teams who offer technical expertise and general management of the IT infrastructure
- Technical management has a dual role
  - It is the guard of technical knowledge and expertise with respect to managing the IT infrastructure
  - It takes care of the actual resources that are needed to support the IT Service Management Lifecycle
- Technical management assists in the planning, implementation and maintenance of a stable technical infrastructure to support the organization's business processes

IT Operations Management

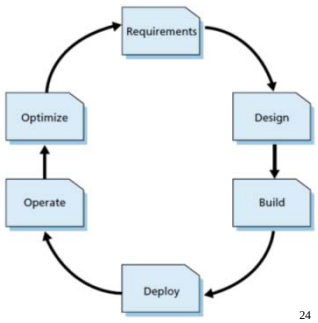
- The function that is responsible for performing the day-to-day operational activities
  - Ensures that the agreed level of IT services is provided to the business
- IT operations management plays a dual role
  - It is responsible for implementation of activities and performance standards that have been defined during Service Design and have been tested during Service Transition (maintaining the status quo)
  - Simultaneously, IT operations must be capable of continual adaptation to business requirements and demands

Application Management

- Function responsible for the management of applications during their lifecycles
  - Executed by a department, group or team
  - Application management is for applications what technical management is for IT infrastructure
- Application management objectives
  - to support the business processes by determining functional and management requirements for applications
  - to assist in design and implementation of the applications and to support and improve them
  - to contribute to decisions (by the CTO or steering committee) about whether to purchase an application or to develop it internally (in the design phase)

Application Management Lifecycle

- Not an alternative to the Service Management Lifecycle
- Applications are part of services and must be managed as such
- But applications are a unique mix of technology and functionality and this requires a special focus during each phase of the Service Management Lifecycle
- More later in the course …



Service Operation Roles (1)

- Service desk roles
  - Service desk manager, Service desk supervisor, Service desk analysts, Super users
- Technical management roles
  - Technical managers/Team leaders, Technical, analysts/Architects, Technical operators
- IT Operation management roles
  - IT operations manager, Shift leader, IT operations analysts, IT operators
- Application management roles
  - Application Managers, Team Leaders, Application Analysts and Architects

Service Operation Roles (2)

- Incident management roles
  - Incident manager
- Problem management roles
  - Problem manager
- Access management roles
  - Access management is usually defined and maintained by information security management and executed by various service operation functions, such as the service desk, technical management and application management

Service Operation Organization Structures (1)

- Organization by technical specialization
  - creates departments according to the technology, the skills and activities necessary to manage that technology
  - following the structure of the technical management and application management departments
- Organization by activity
  - focuses on the fact that similar activities are performed on all technologies within an organization
- Organizing to manage processes
  - processes should eliminate the 'silo effect' of departments, not to create silos …
  - should only be used if IT production management is responsible for more than IT production

Service Operation Organization Structures (2)

- Organizing IT operation by geography
  - usually used when: (i) computing centers are geographically spread out; (ii) various regions or countries possess different technologies or offer a different range of services; (iii) there are different business models or organization structures in the various regions; (iv) legislation differs per country or region; (v) different standards apply, per country or region; (vi) there are cultural or language differences between the personnel who are managing IT
- Hybrid organization structures
  - combined functions – i.e., IT production, technical management and application management
  - combined technical and application management structure (functions organized according to systems)

Critical Success Factors

- Management support
  - to guarantee sufficient financing and resources.
- Business support
  - important to involve the business in all service operations activities, and show transparency about successes and failures
- Hiring and retaining staff
  - especially staff with both technological and service knowledge
- Service management training
- Appropriate tools
- Test validity
- Measuring and reporting

Risks

- Service loss
  - might have negative impact on staff, customers and finances.
- Risks to successful Service Operation
  - insufficient financing and resources
  - loss of momentum
  - loss of important staff
  - lack of management support
  - …