SERVICE OPERATION

ITIL - Part 2

CONNECTING BUSINESS & TECHNOLOGY

DEVOTEAM SOLUTIONS

AGENDA

- Introduction to ITIL
- Service Operation
  - Event Management
  - Incident Management
  - Problem Management
  - Request Fullfillment
  - Access Management
  - Functions : Service Desk, Tech Mgmt, Applications Mgmt, IT Op Mgmt
- Service Transition
- Service Design
- Service Strategy

SERVICE OPERATION

"Where the actual value is seen"

SERVICE OPERATION

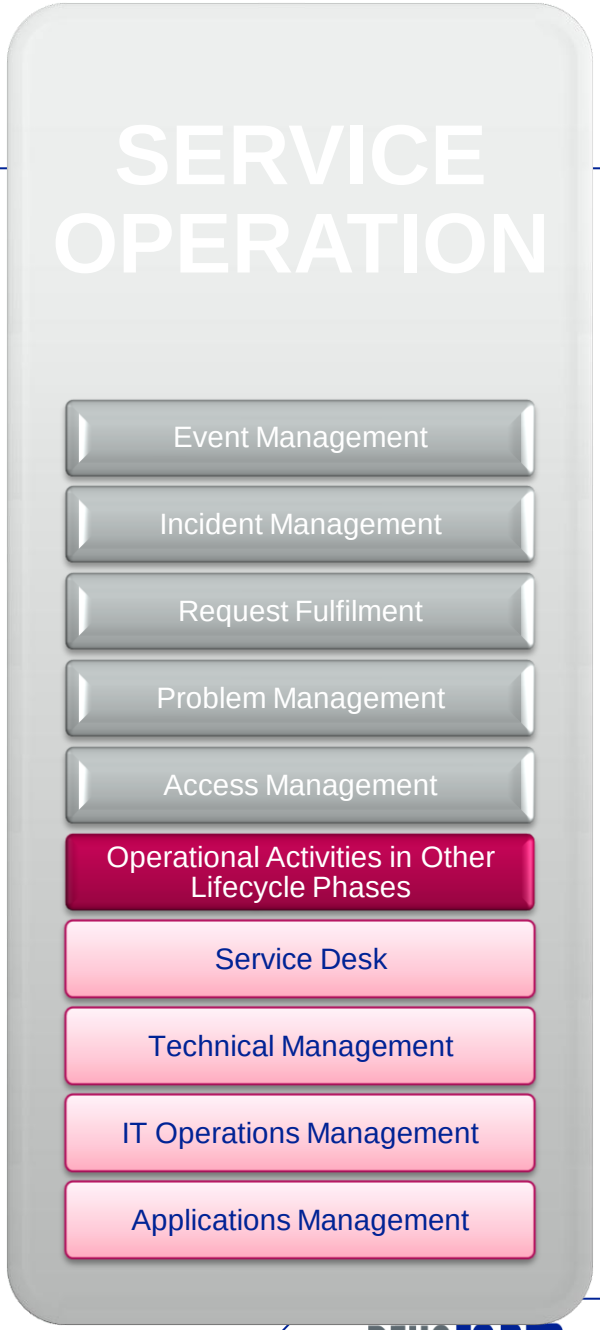
- Service Operation is the phase in the ITSM Lifecycle that is responsible for 'business-as-usual' activities.
- The purpose of Service Operation is to coordinate and carry out the activities and processes required to deliver and manage services at agreed levels to business users and customers.

SERVICE OPERATION SCOPE

- The **services** themselves.
- Service Management **processes**.
- **Technology**.
- **People**.

SERVICE OPERATION

- Processes:
  - Event Management
  - Incident Management
  - Request Fulfillment
  - Problem Management
  - Access Management
- Functions:
  - Service Desk
  - Technical Management
  - IT Operations Management
  - Application Management



SERVICE OPERATION

EVENT MANAGEMENT

EVENT MANAGEMENT - OBJECTIVE

- Objective
  - Detect Events, make sense of them and determine the appropriate control action (Incident, Problem…)

EVENT MANAGEMENT - DEFINITION

- Event
  - An Alert (or notification) created by any IT Service, Configuration Item or monitoring tool
  - Can be formally defined as any detectable or discernable occurrence that has
    - Significance for the management of the IT infrastructure or the delivery of IT service
    - Evaluation of the impact a deviation might cause to the service
- Alert definition
  - Something that happens that triggers an event or a call for action or human intervention after the event is filtered

EVENT MANAGEMENT – BASIC CONCEPTS

- Event Management is the process that monitors all events that occur through the IT infrastructure to allow for normal operation and also to detect and escalate exception conditions.
- The basis for Operational Monitoring and Control
  - Information (ex : A device as come online)
  - Warning (ex : a server ping take more time)
  - Exception (ex : A server is down)

EVENT MANAGEMENT – BASIC CONCEPTS

- Scope : Event Management can be applied to any aspect of Service Management that needs to be controlled
  - Configuration Item
  - IT environement
  - Software licence monitoring for usage to ensure optimum/legal licence utilization and allocation
  - Security (Intrusion detection)
  - Normal activity (ex : Server CPU performance)

- Activities: Event occurs, event notification, event detection, event filtering, event significance, event correlation, trigger, response selection, review actions, close event.

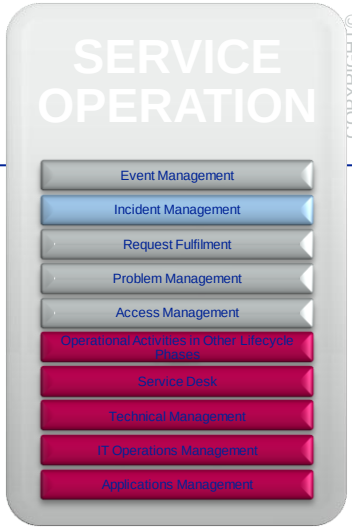
EVENT MANAGEMENT

- Challenge
  - Obtain funding for the necessary tools and effort needed to install and exploit the benefits of the tools
  - Setting the correct level of filtering events
  - Acquiring the necessary skills, formation

- Link to other process and roles
  - Event Management correlate event, and produce alert for user intervention, or give input for Incident, problem or change Management
  - Event Management roles are filled by people in the following functions
    - Service Desk
    - Technical Management
    - Application Management
    - IT operation Management

INCIDENT MANAGEMENT

INCIDENT MANAGEMENT



- Objective: to restore normal service as quickly as possible and minimize adverse impact on the business

- Business value:
  - Quicker incident resolution
  - Improved quality
  - Reduced support costs

INCIDENT MANAGEMENT

- What is an incident?
  - An unplanned interruption or reduction in the quality of an IT Service
  - Any event which could affect IT Service in the future
- Concepts:
  - Timescales: should be agreed for all incident handling stages
  - Incident models: include steps to be taken to handle the incident, with dependencies, and responsibilities

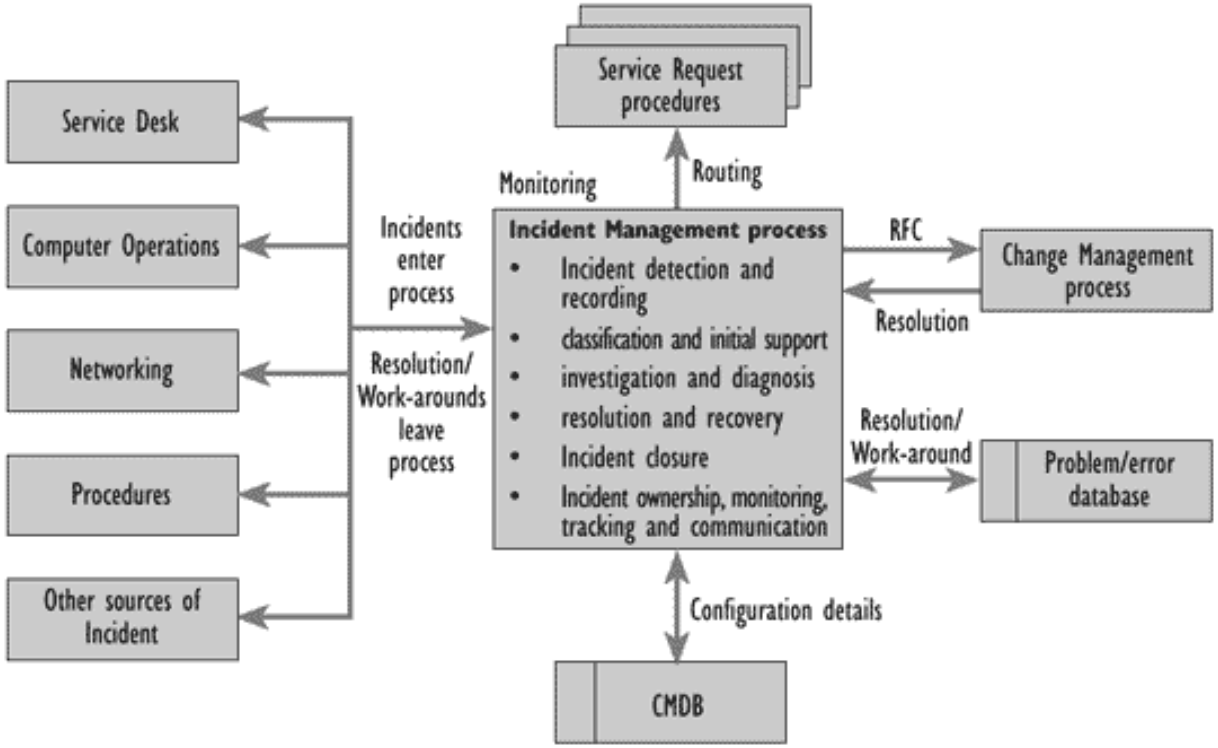
INCIDENT MANAGEMENT – SCOPE

- « Incident » definition

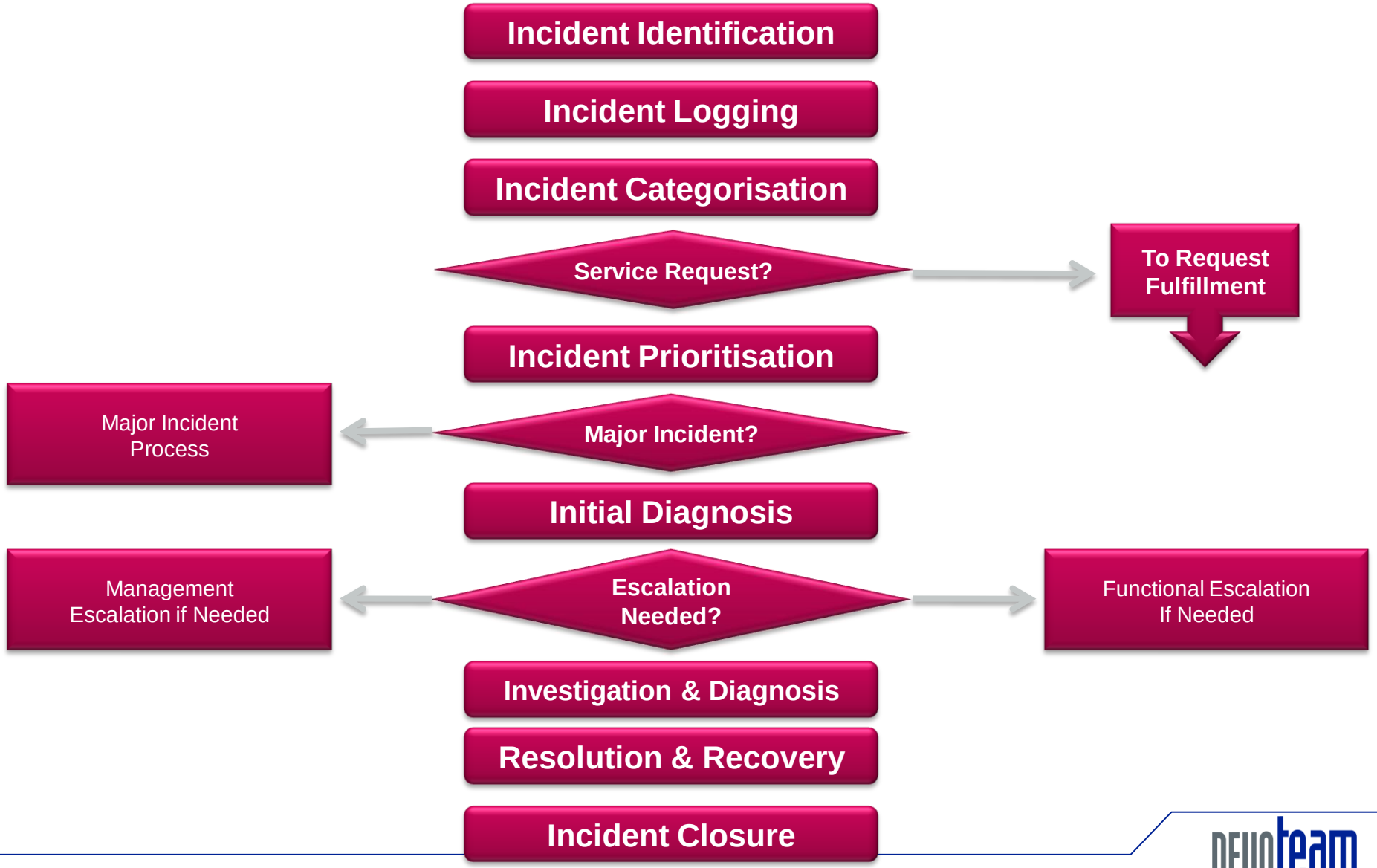
  *any event **which** is not part of the standard operation of a service and **which** causes, or may cause, an interruption to, or a reduction in, the quality of that service*

- Incident mangement process (➔)

- Lifecycle :
  - *new*
  - *accepted*
  - *scheduled*
  - *assigned/dispatched*
  - *work in progress*
  - *on hold*
  - *resolved*
  - *closed*



INCIDENT MANAGEMENT



INCIDENT LOGGING

- All incidents should be logged and date/timestamped, regardless of their origin (SD Call, event, technical staff…)

- All relevant information should be entered at any stage of the incident lifecycle: proper assignment, further analysis, and value for metrics are at stake

INCIDENT MANAGEMENT – LOGGING

- Example of recorded data from ITIL book :

•unique reference number
•Incident classification
•date/time recorded
•name/id of the person and/or group recording the Incident
•name/department/phone/location of User calling
•call-back method (telephone, mail etc.)
•description of symptoms
•category (often a main category and a subcategory)
•impact/urgency/priority
•Incident status (active, waiting, closed etc.)
•related Configuration Item
•support group/person to which the Incident is allocated
•Related Problem / Known error
•resolution date and time
•closure category
•closure date and time.

INCIDENT CATEGORY & PRIORITY

- Category is used for assignment and/or for further reporting

- Priority will determine how the incident is handled both by support tools and the support staff. It is normally calculated through a matrix with Impact and Urgency.
- Impact: how is the business affected (one user, one site, one core business function)
- Urgency: how vital is service restoration and on what timeframe

INCIDENT MANAGEMENT – LOGGING

- Classification and initial support
  - classifying Incidents
  - matching against Known Errors and Problems
  - Informing Problem Management of the existence of new Problems and of unmatched or multiple Incidents
  - assigning impact and urgency, and thereby defining priority
  - assessing related configuration details
  - providing initial support (assess Incident details, find quick resolution)
  - closing the Incident or routing to a specialist support group, and informing the User(s)

INCIDENT ESCALATION

- Reminder: Incidents are normally solved by the Service Desk.
- Two kinds of escalation can be done:
  - Functional: as soon as it becomes clear the Service Desk cannot solve the incident themselves, the incident must be escalated for further support (second level, vendor…)
  - Hierarchic: if incidents are of serious nature, the appropriate IT managers must be notified, for informational purposes at least.

INCIDENT MANAGEMENT – ACTIVITIES

- Investigation and diagnosis
  - assessment of the Incident details,
  - collection and analysis of all related information, and resolution
  - including any work-around or a route to n-line support.
- For a support group :
  - accept assignment of the Incident
  - advise the Service Desk/Customer of any identified Work-around, if it is possible to provide one immediately
  - review the Incident against Knowo Errors, Problem, solutions, planned Changes or knowledge bases
  - record all details applicable to this phase of the Incident life cycle: solution, classification added/updated, a update of all related Incidents, time spent
  - reassign the Incident back to the Service Desk for closure action.
- Resolution and Recovery
  - resolve the Incident using the solution/Work-around or, alternatively, to raise an RFC (including a check for resolution)
  - take recovery actions
- Incident closure
  - the confirmation of the resolution with the Customer or originator
  - 'close‘ incident

MAJOR INCIDENT

- A separate procedure, with shorter timescales and greater urgency, must be used for major incidents.
- A definition of what constitutes a major incident must be agreed and ideally mapped on the overall incident prioritization system.

INCIDENT MANAGEMENT ROLES

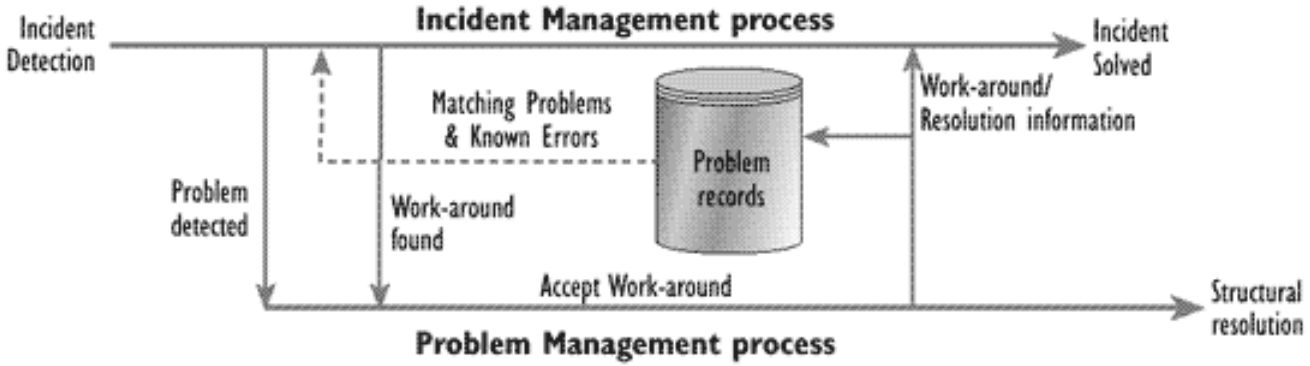
- Incident Manager – monitors and drive the efficiency & effectiveness of the process and makes recommendations for improvement; produces management information; manages major incidents; develops and maintains IM process & procedures
- Super Users
- First-Line Support
- Second-Line Support
- Third-Line Support (other SO functions, 3rd party suppliers)

INCIDENT MANAGEMENT CHALLENGES

- Detect (and solve) incidents as quickly as possible
- Ensuring all incidents are logged
- Ensuring all previous history is available
- Integration with Configuration Management, Service Level Management, Known Error Database

INCIDENT MANAGEMENT – RELATION WITH OTHER PROCESSES

- Relationship between Incidents, Problems, Known Errors and RFCs
  - Incidents is the result of failures or errors within the IT infrastructure, result in actual or potential variations from the planned operation of the IT services
  - A Problem is the unknown underlying cause of one or more Incidents (only record if investigation is warranted).
  - A known error is a problem that is successfully diagnosed and for which a work around is known



SERVICE OPERATION

PROBLEM MANAGEMENT

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

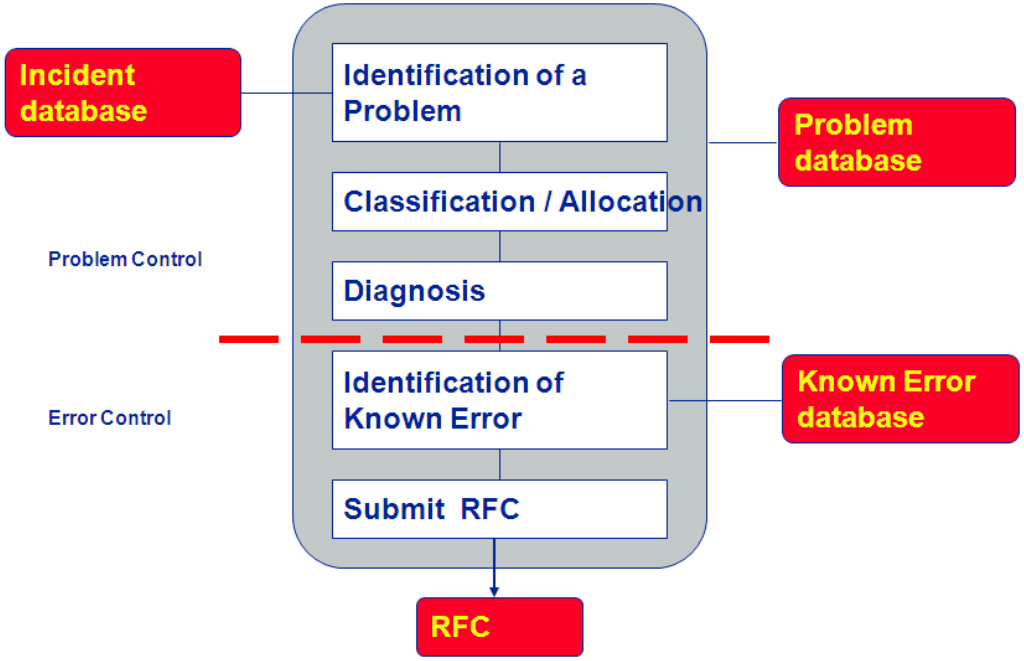
PROBLEM MANAGEMENT

- Value to business:
  - When incidents are resolved, information about the resolution is recorded. Over time, this information is used to speed up the resolution time and identify permanent solutions, reducing the number and resolution time of incidents. This results in less downtime and less disruption to business critical systems.

PROBLEM MANAGEMENT CONCEPTS

- **Problem** : the cause of one or many incidents. The cause is not usually known at the time a Problem Record is created
- **Problem Model**: same as Incident Model

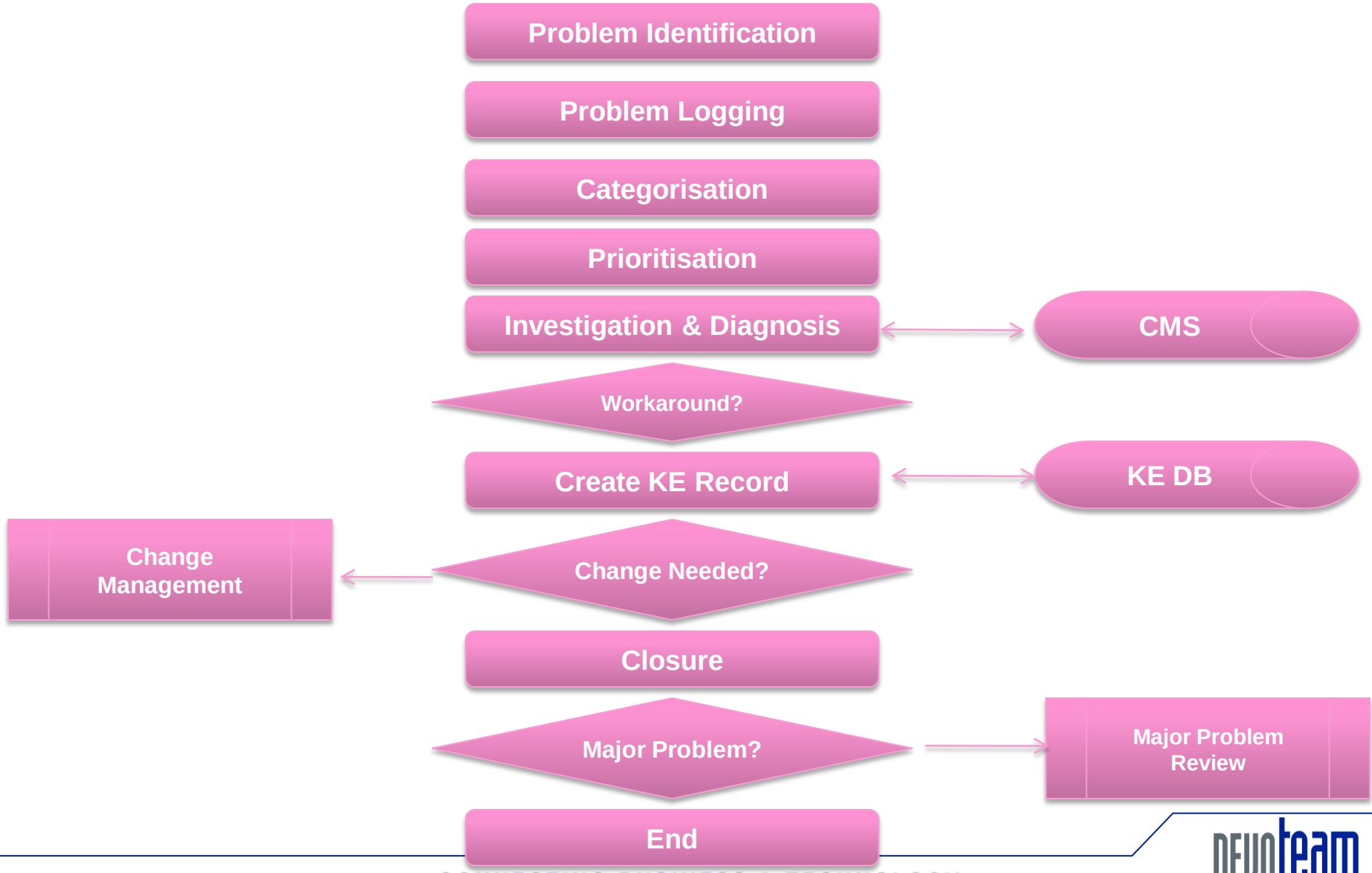
- **Known Error**: When the cause has been found and a solution too.
- **Known Error Database**



PROBLEM MANAGEMENT CONCEPTS

- Reactive Problem Management
- Proactive Problem Management
  - Prevention of future problems
  - Generally undertaken as part of the CSI

PROBLEM MANAGEMENT ACTIVITIES



PROBLEM MANAGEMENT

- **Category** is used for assignment and/or for further reporting
- **Priority** will determine how the problem is handled both by support tools and the support staff. It is normally calculated through a matrix with Impact and Urgency.
- **Impact**: how is the business affected (one user, one site, one core business function)
- **Urgency**: how vital is service restoration and on what timeframe

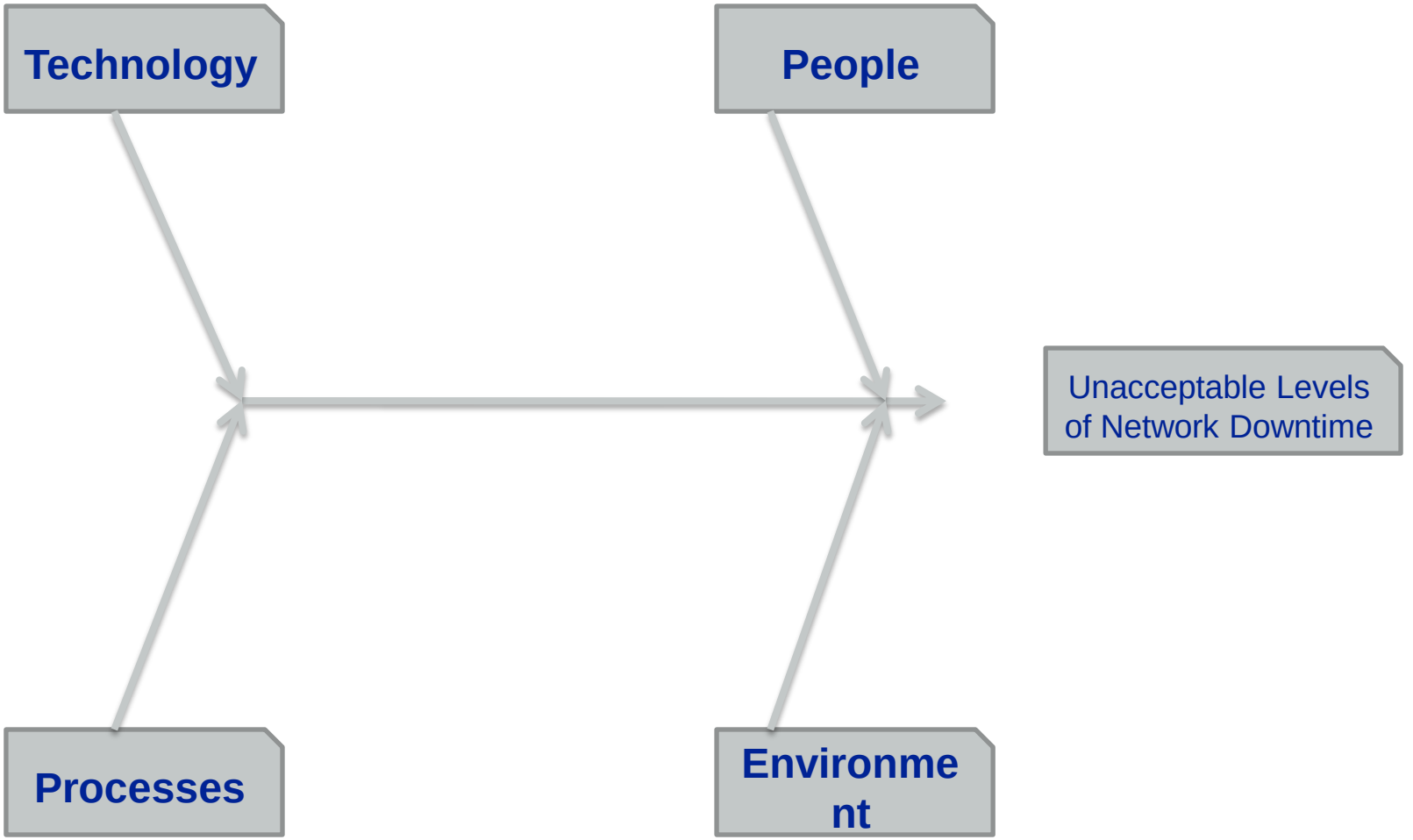
PROACTIVE PROBLEM MANAGEMENT

- Work on outputs from Incident Management, Event Management
- Perform Trend Analysis
- Use information from vendors
- Anticipate repairs or changes

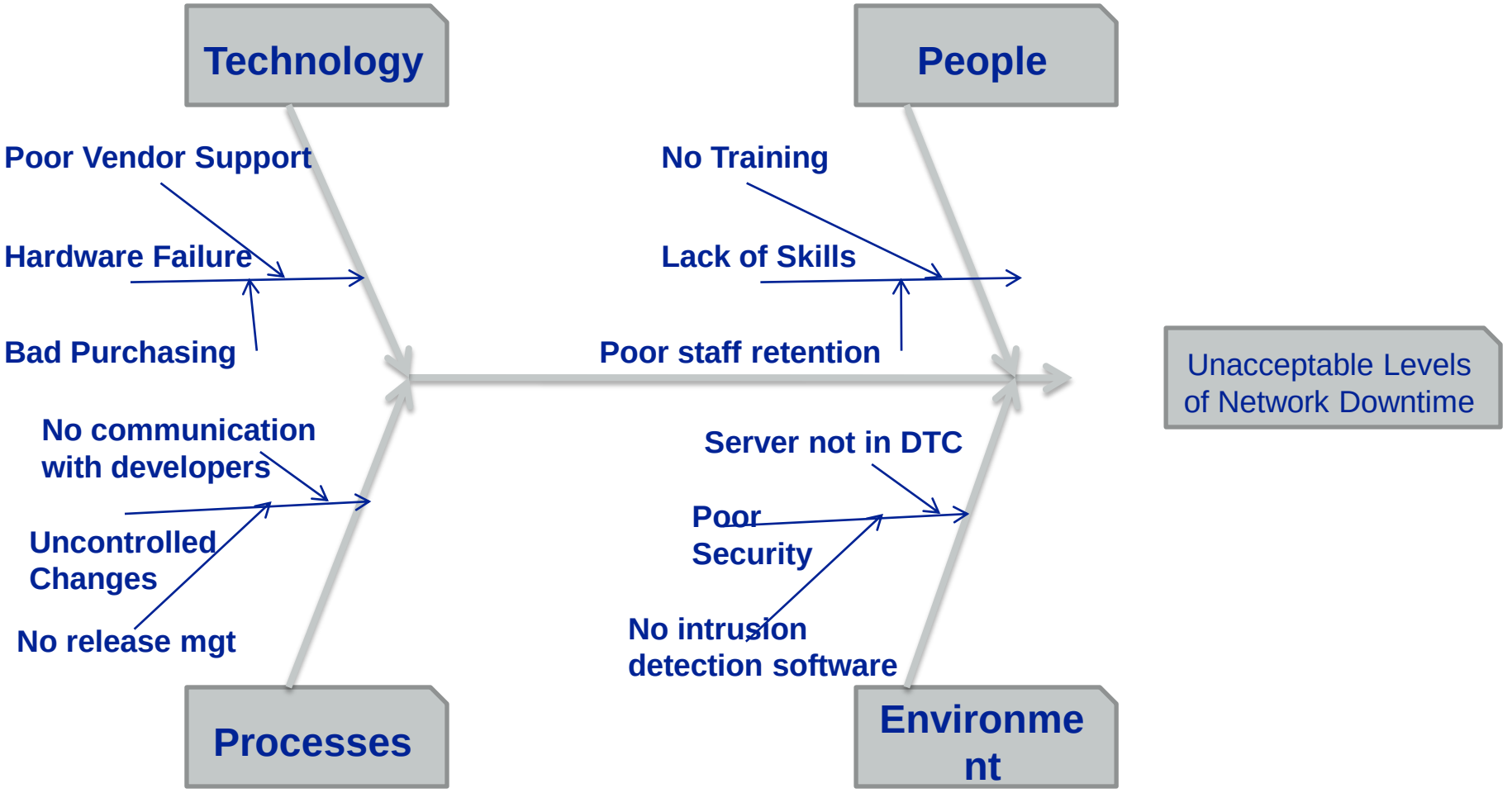
PROBLEM MANAGEMENT

- There are multiple methods to investigate problems:
  - Chronological analysis
  - Pain Value analysis
  - Kepner and Tregoe
  - Ishikawa diagrams

ISHIKAWA DIAGRAM



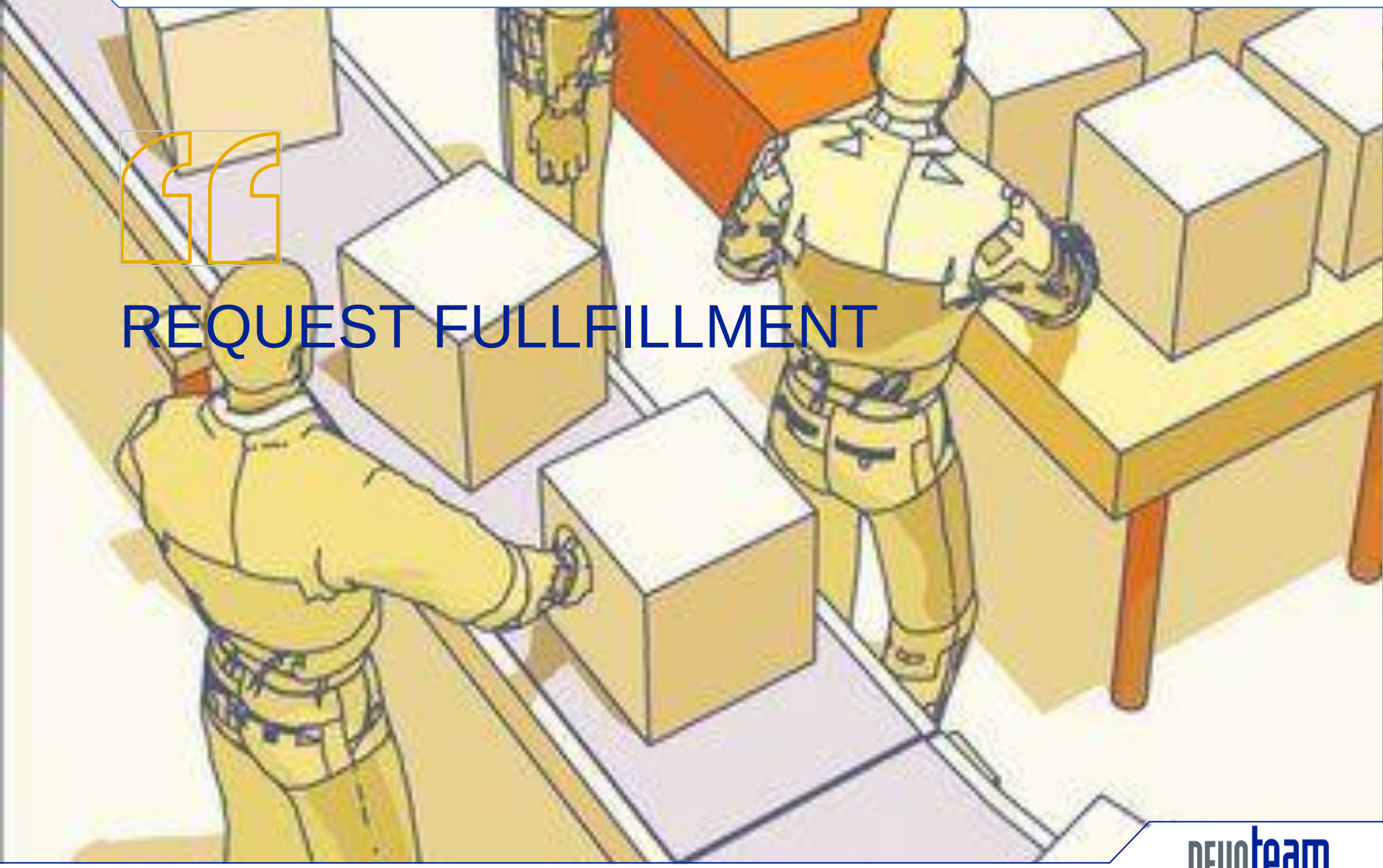
ISHIKAWA DIAGRAM



PROBLEM MANAGEMENT ROLES

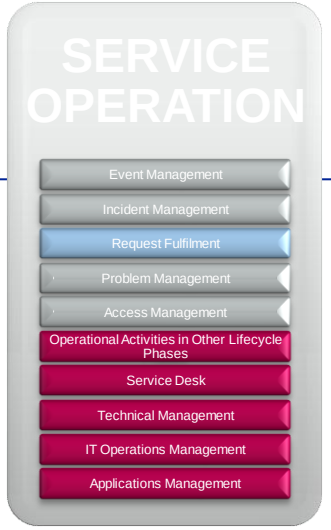
- Problem Manager:
  - Coordinates Problem Investigation efforts
  - Normally not a full time, but to be different from Incident Manager
- Support by technical groups:
  - Technical Management
  - IT Operation Management
  - Application Management
  - 3rd Party Suppliers

SERVICE OPERATION



REQUEST FULLFILLMENT

REQUEST FULFILMENT



- Objectives
  - Provide a channel for users to request and receive standard services for which a pre-defined approval and qualification process exists
  - Provide information to users and customers about the availability of services and the procedure for obtaining them
  - Source and deliver the components of requested standard services (e.g. licences and software media)
  - Assist with general information, complaints or comments

REQUEST FULFILLMENT CONCEPTS

- Service Request
  - A request from a user for information or advice, or for a Standard Change (password reset, provide standard IT Service to a new user…)
- Request Model
  - A model of request which typically includes some form of pre-approval by Change Management
- Note the ownership of SR's resides with the Service Desk, which monitors, escalates and often fulfills the user's request

REQUEST FULFILLMENT CONCEPTS

- Self Help
  - RF often provide the opportunity for self-help practices where users can generate a SR using web portals, with a ‘shopping cart’ experience
- Roles
  - Not usually dedicated staff, but the Service Desk, Incident Management, Service Operations teams

REQUEST FULFILMENT - CONCEPTS

- Many Service Requests being frequently recurring, pre-defined request models help handle requests in a consistent manner, in order to meet agreed service levels. They include:
  - The stages needed to fulfil the request
  - The individuals or support groups involved
  - Target timescales and escalation paths
- Ideally, users should be offered a ‘menu’-type selection to select and input details of Service Requests from a pre-defined list via a web interface
- One important extra step that is likely to be needed when dealing with a service request is that of financial and possibly other approvals
- The ownership of Service Requests resides with the Service Desk, which monitors, escalates, dispatches and often fulfils the user request

REQUEST FULFILMENT - SCOPE

- Scope
  - In some organizations Service Requests will be handled through the Incident Management processes (Service Requests being handled as a particular type of ‘incident’)
  - For a large number of Service Requests with varied or specialized actions to be taken to fulfil those requests, it may be appropriate to handle them as a completely separate work stream
  - The scope of Request Fulfilment may be widen to expand upon just IT-related issues (for example, building management issues)
  - It will ultimately be up to each organization to decide and document which request will be handled through the Request Fulfilment process.

REQUEST FULFILMENT - CHALLENGES

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

REQUEST FULFILMENT - CSF

- Critical success factors
  - Agreement of what services will be standardized and who is authorized to request them. The cost of these services must also be agreed as part of the SLM process
  - Publication of the services to users as part of the Service Catalogue
  - Easy access to the Service Catalogue, perhaps on the Intranet, and its recognition as the first source of information for users seeking access to a service
  - Definition of a standard fulfilment procedure for each of the services being requested
  - A single point of contact which can be used to request the service
  - Self-service tools needed to provide a front-end interface to the users integrating with the back-end fulfilment tools often managed through Incident or Change Management

REQUEST FULFILMENT

- Request Fulfilment in Service Lifecycle
  - Request fulfilment is a process of Service Operation which purpose is to coordinate and carry out the activities and processes required to deliver and manage services at agreed levels to business users and customers
  - It is the process for dealing with service requests (which are generally smaller, lower-risk changes), via the Service Desk, using a similar but separate process to that of Incident Management
  - In fact In order to resolve some incidents, problems or Known Errors, some form of change may be necessary: Smaller, often standard, changes can be handled through a Request Fulfilment process, whereas larger, higher-risk or infrequent will be through an Incident or Change Management process

SERVICE OPERATION

ACCESS MANAGEMENT

ACCESS MANAGEMENT

- Objectives:
  - Granting authorized users the right to use a service
  - Preventing access by non-authorized users
- Executes policies and actions defined in Information Security Management and Availability Management

ACCESS MANAGEMENT

- Basic Concepts
  - Access refers to the level and extent of a service's functionality or data that a user is entitled to use
  - Identity refers to the information about them that distinguishes them as an individual and which verifies their status within the organization. Identity is unique for each user
  - Rights refer to the actual settings whereby a user is provided access to a service or group of services
  - Service groups: Instead of providing access to each service for each user separately, it is more efficient to be able to grant each group of users access to the whole set of services that they are entitled to use at the same time
  - Directory Services refers to a specific type of tool that is used to manage access and rights

ACCESS MANAGEMENT

- Access Management in Service Lifecycle
  - Service Operation is the phase in the ITSM Lifecycle responsible for the day-to-day activities and infrastructure that are used to deliver services
  - Access Management is the process of Service Operation in charge for granting,restricting or denying users with the right to use a service.
  - Access Management role is about being able accurately to identify authorized users and then manage their ability to access services as required during different stages of their Human Resources (HR) or contractual lifecycle

ACCESS MANAGEMENT

- Roles:
  - Not usually dedicated staff
  - SD, Technical, Application and IT Operations staff
  - Service Desk gets and processes requests to access a service
  - Technical and Application management ensure, during Service Design, that access can be granted, controlled, and prevented as designed
  - Then, they perform access management for systems / applications in their scope

SERVICE OPERATION

FUNCTIONS

SERVICE OPERATION FUNCTIONS

Service Desk

IT Operations Management

Technical Management

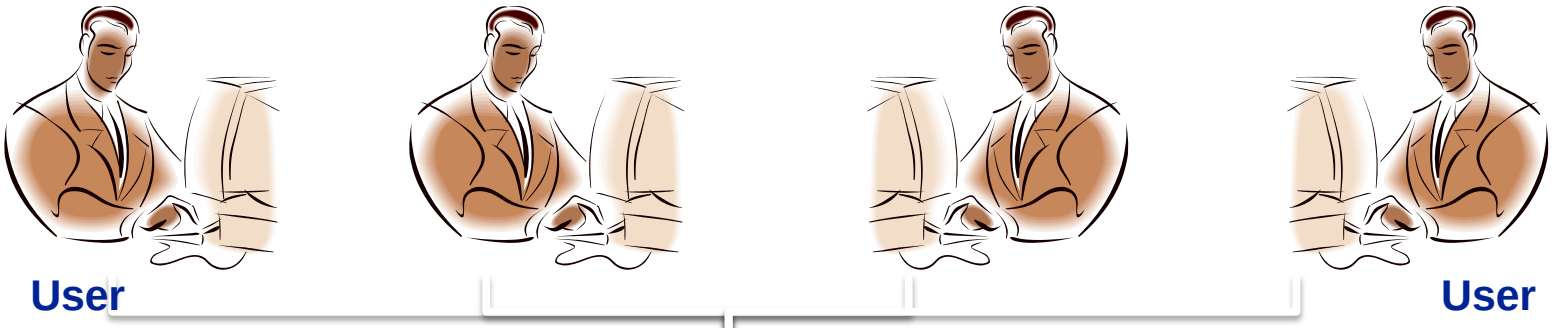
Operations Control Facilities Management

Application Management

SERVICE DESK

- Primary Point of Contact
- Deals with all user issues: incidents, requests, standard changes
- Coordinates action across the IT organisation to meet user requirements
- Different options

LOCAL SERVICE DESK

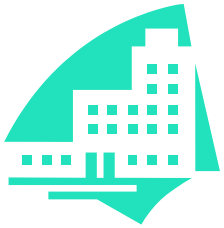


Service Desk

- Technical Management
- Application Management
- IT Ops Management
- 3rd Party Support
- Request Fulfillment

CENTRALISED SERVICE DESK

Customer Site 1



Customer Site 2

Service Desk

2nd Line Support

- Technical Management
- Application Management
- IT Ops Management
- 3rd Party Support
- Request Fulfillment

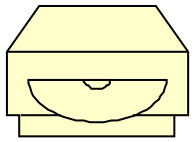
VIRTUAL SERVICE DESK

American Service Desk

Virtual Service Desk

Asian Service Desk

European Service Desk



Service Knowledge Management System

SERVICE DESK OBJECTIVES

- Log and categorize Incidents, Service Requests and some categories of Change
- 1st line investigation, diagnosis, resolution
- Escalation
- Communication with users and IT staff
- Closing call
- Customer satisfaction
- Update the Configuration management system if so agreed

SERVICE DESK STAFFING

- Correct number and qualifications at nay given time, considering :
  - Customer expectations and business requirements
  - Number of users to support, their language and skills
  - Coverage period, out of hours, time zones/locations
  - Process and procedures in place
- Minimum qualifications
  - Interpersonal skills
  - Business understanding
  - IT understanding
  - Skill sets
    - Customer and technical emphasis, expert

SERVICE DESK – TECHNOLOGIES

- Advanced telephone systems (e.g. auto-routing, hunt groups, Computer Telephony Integration (CTI), Voice Over Internet Protocol (VoIP)), Interactive Voice Response (IVR) systems
- Electronic mail (e.g. voice, video, mobile comms, Internet, email systems), fax servers (supporting routing to email accounts), pager systems
- Knowledge, search and diagnostic tools
- A self-service strategy :
  - Customers have direct access to support information and knowledge
  - Ease of access and speed of resolution is increased
  - Demand on support resources is reduced

SERVICE DESK METRICS

- Periodic evaluations of health, maturity, effectiveness and nay opportunity to improve
- Realistic and carefully chosen – total number of calls is not itself good or bad
- Some examples :
  - First line resolution rate
  - Average time to resolve and/or escalate an incident
  - Total cost for the period divided by total call duration minutes

SERVICE OPERATION FUNCTIONS

Service Desk

Technical Management

IT Operations Management

Application Management

TECHNICAL MANAGEMENT

- The groups, departments or teams that provide technical expertise and overall management of the IT infrastructure
  - Custodians of technical knowledge and expertise related to the management of the IT infrastructure
  - Provide actual resources to support the SM Lifecycle
  - Execute most of the ITSM processes

TECHNICAL MANAGEMENT OBJECTIVES

- Technical Management - Objectives :
  - Design of resilient, cost-effective infrastructure configuration
  - Maintenance of the infrastructure
  - Support during technical failures

TECHNICAL MANAGEMENT ORGANIZATION

- Technical Management Organization :
  - Technical teams are usually aligned to the technology they manage
  - Can include operational activities
  - Examples :
    - Mainframe management
    - Server Management
    - Internet/Web Management
    - Network Management
    - Database Administration

TECHNICAL MANAGEMENT - ROLES

- Technical Management- Roles :
  - Technical Managers
  - Team Leaders
  - Technical Analysts / Architects
  - Technical Operator

FUNCTIONS AND PROCESSES

Service Desk

Technical Management

IT Operations Management

Application Management

IT OPERATIONS MANAGEMENT

- The group, department or team responsible for performing the organization's day-to-day operational activities such as:
  - Operations Control (Console Mgt, Job Scheduling, Backup and Restore, Print and Output…)
  - Facilities Management (Data Centers, Recovery Sites, Consolidation, Contracts)

IT OPERATIONS MANAGEMENT - OBJECTIVES

- Maintaining the « status quo » to achieve infrastructure stability
- Identify opportunities to improve operational performance and save costs
- Initial diagnosis and resolution of operational Incidents

IT OPERATIONS MANAGEMENT - ROLES

- IT Operations Management – Roles
  - IT Operations Manager
  - Shift Leaders
  - IT Operations Analysts
  - IT Operators

APPLICATION MANAGEMENT

- The groups, departments or teams that manage applications throughout their lifecycle
  - Design, test, improve applications that form part of the IT Services
  - Custodian of expertise for applications
  - Provider of resources throughout the lifecycle

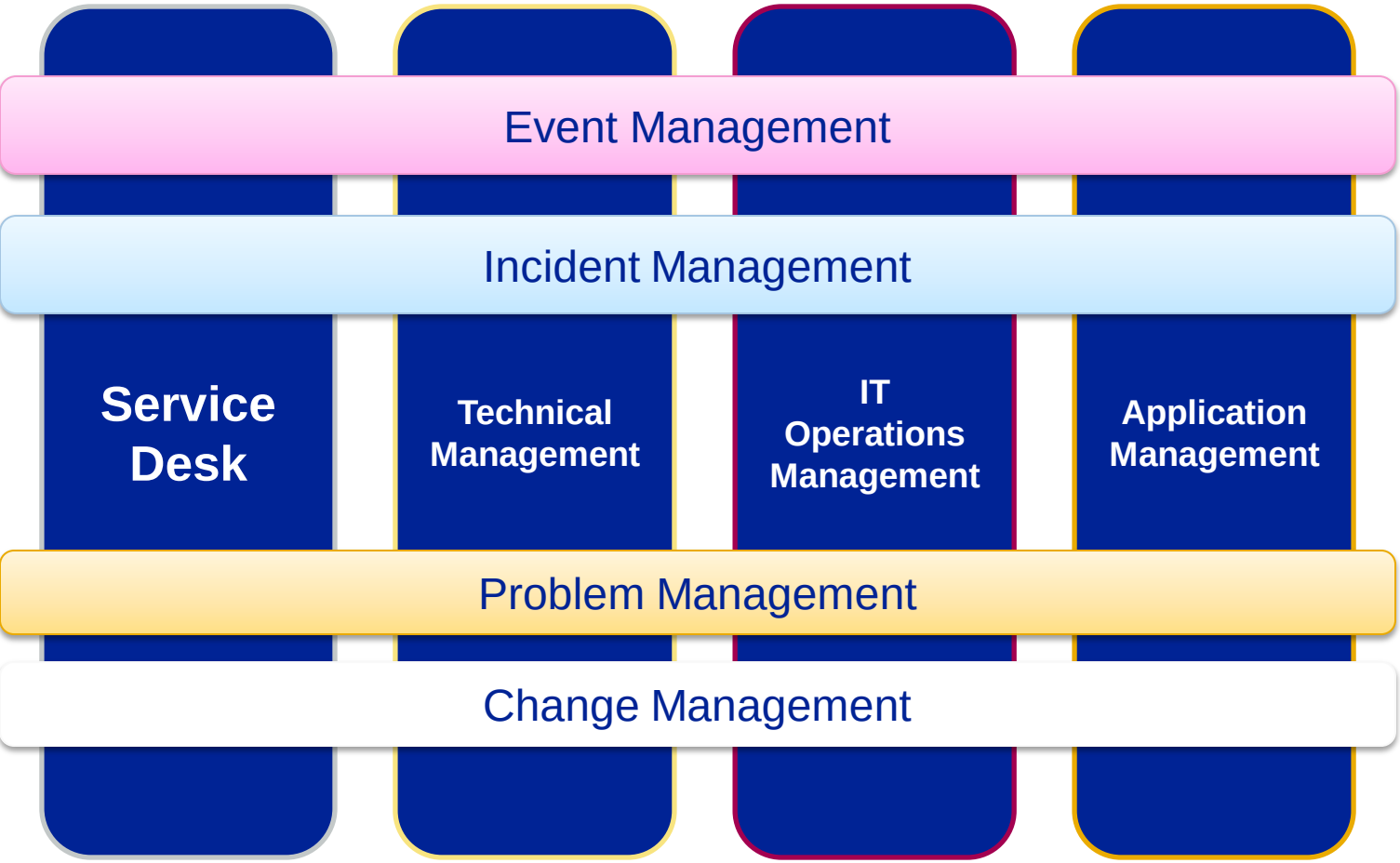
APPLICATION MANAGEMENT - OBJECTIVES

- Well designed, resilient, cost effective applications
- Ensuring availability of functionality
- Maintain operational applications
- Support during application failures

APPLICATION MANAGEMENT - ROLES

- Application Management – Roles
  - Application Manager/Team leaders
  - Application Analyst / Architect
- Note : Application Management teams are usually aligned to the applications they manage

FUNCTIONS AND PROCESSES



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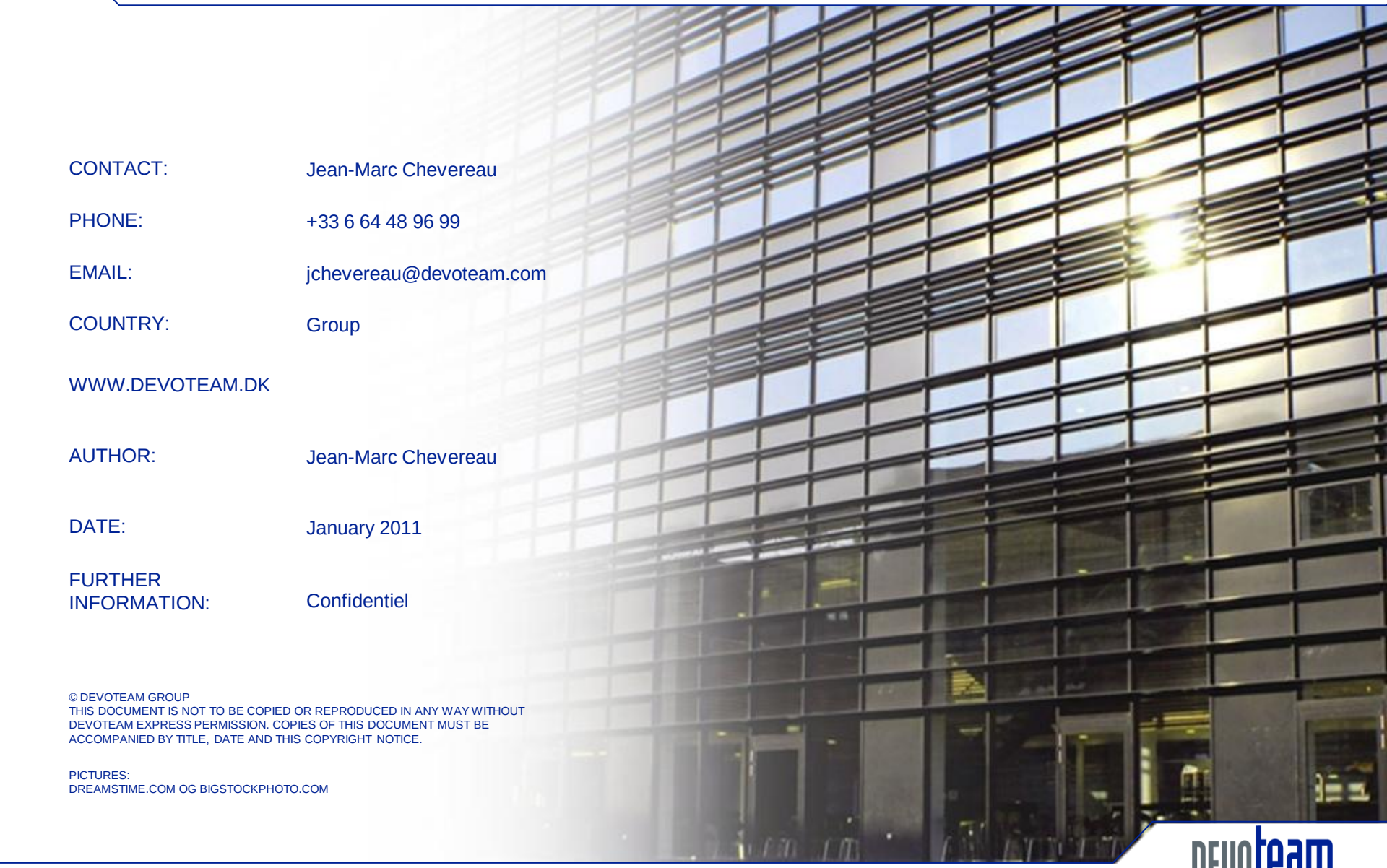

CONTACT: Jean-Marc Chevereau

PHONE: +33 6 64 48 96 99

EMAIL: jchevereau@devoteam.com

COUNTRY: Group

WWW.DEVOTEAM.DK

AUTHOR: Jean-Marc Chevereau

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FURTHER INFORMATION: Confidentiel

PICTURES:
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