# Incident Management Process from ITLIL v3 Perspective

...restoring normal service operation as soon as possible

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# Key definitions

**Incident**

- **unplanned interruption to an IT service**
- **reduction in the quality of an IT service**
- **failure of a CI that has not yet impacted an IT service**

*( e.g. Redundant component failure)*

**Service Request**

**Formal request from a user for something to be provided.**

*... e.g. a request for information or advice; to reset a password; or to install a workstation for a new user*

*... NOT a disruption to the agreed service*

*... Request Fulfilment process. Manages lifecycle of Service Requests*

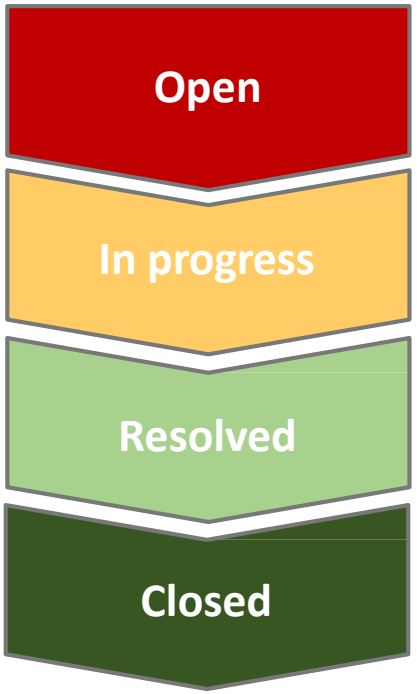
**Workaround**

**Method of bypassing an Incident or Problem (temporary fix).**

* *It is **not a permanent solution** but something that is used to get the service up and running till the real solution is found.*

# Incidents have a Lifecycle!...

*„Lifecycle is the series of changes that happen to a living creature/project/product/etc. over the course of its lifetime."*




Status codes indicate where Incidents are in relation to the lifecycle. E.g.:

- **Open**
- **In progress**
- **Resolved**
- **Closed**
- **(Pending)**

*... Incident management is the process responsible for managing the lifecycle of all incidents.*

# Incident Management is like fire-fighting!

# Purpose and objectives

**Purpose**

**...restore normal service operation as quickly as possible**

*...minimize the adverse impact on business*

*...ensuring best possible levels of service quality and availability are maintained according to SLA's*

**Objectives**

- standardized methods and procedures
- increased visibility and better communication
- priorities aligned with business
- user satisfaction with the quality of IT services.

# Value to business

Value to business

- **reducing service downtime**
- **reducing Incident impact to business**
- **aligning IT to business priority**
- **identify possible improvements to service**
- **identification of additional requirements** (e.g. training, new service) as a result of handling multiple incidents.

* *Value of IM is highly visible to the business. For this reason, IM is often one of the first processes to be implemented in Service Management projects.*

# Incident Priority


**Incident priority**

**... assigned, to ensure that the support groups will pay the required attention to the incident.**

**...based on the Urgency and Impact.**

**IMPACT + URGENCY = PRIORITY**

How much damage, if not fixed soon?

How fast does it need to be fixed?

# Incident Priority & Timescales

**Incident priority & Timescales**

- must be agreed for all incident-handling stages
- based upon the overall incident response and resolution targets within SLAs
- captured as targets within OLAs and Underpinning Contracts (UCs).
- support groups should be made aware of these timescales.

- Service Management tools automate and escalate as required

## Example of priority coding system:

| URGENCY \ IMPACT | High | Mid | Low |
|---|---|---|---|
| High | 1 | 2 | 3 |
| Mid | 2 | 3 | 4 |
| Low | 3 | 4 | 5 |

| | | |
|---|---|---|
| 1 | Critical | 1 hour |
| 2 | High | 8 hours |
| 3 | Medium | 24 hours |
| 4 | Low | 48 hours |
| 5 | Planning | Planned |

# Major Incidents

Major Incident

**Major Incident** = High Impact + High Urgency

**... highest category of impact for an incident.**

**...results in significant disruption to the business.**

**...should have separate procedure**

**A separate procedure !!! ( for major incidents)**

*... shorter timescales and greater urgency*

*... separate major incident team under the direct leadership of the incident manager*

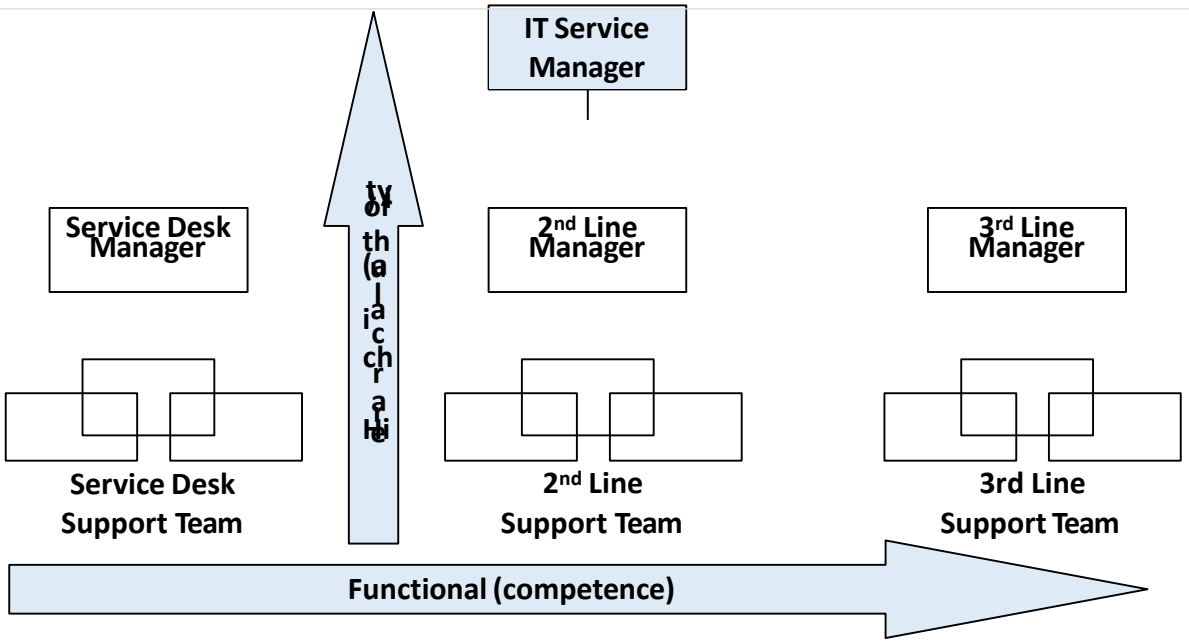
*... Informing Management and Customer*

*...Service Desk ensures that all activities are recorded and users are kept fully informed of progress.*

# Functional and Hierarchical Escalation

**Escalation**

**Escalation is the mechanism that assists timely resolution of an Incident.**




**Hierarchical Escalation**
*...can take place at any moment during resolution.*

*Reasons might be:*

- *SLA threat*
- *Extra resources required*
- *Need to inform Higher management*

**Functional Escalation** *... means involving more specialist personnel or access privileges to solve the incident. Departmental boundaries may be exceeded.*

# Standard Incident models

**Standard Incident Models**

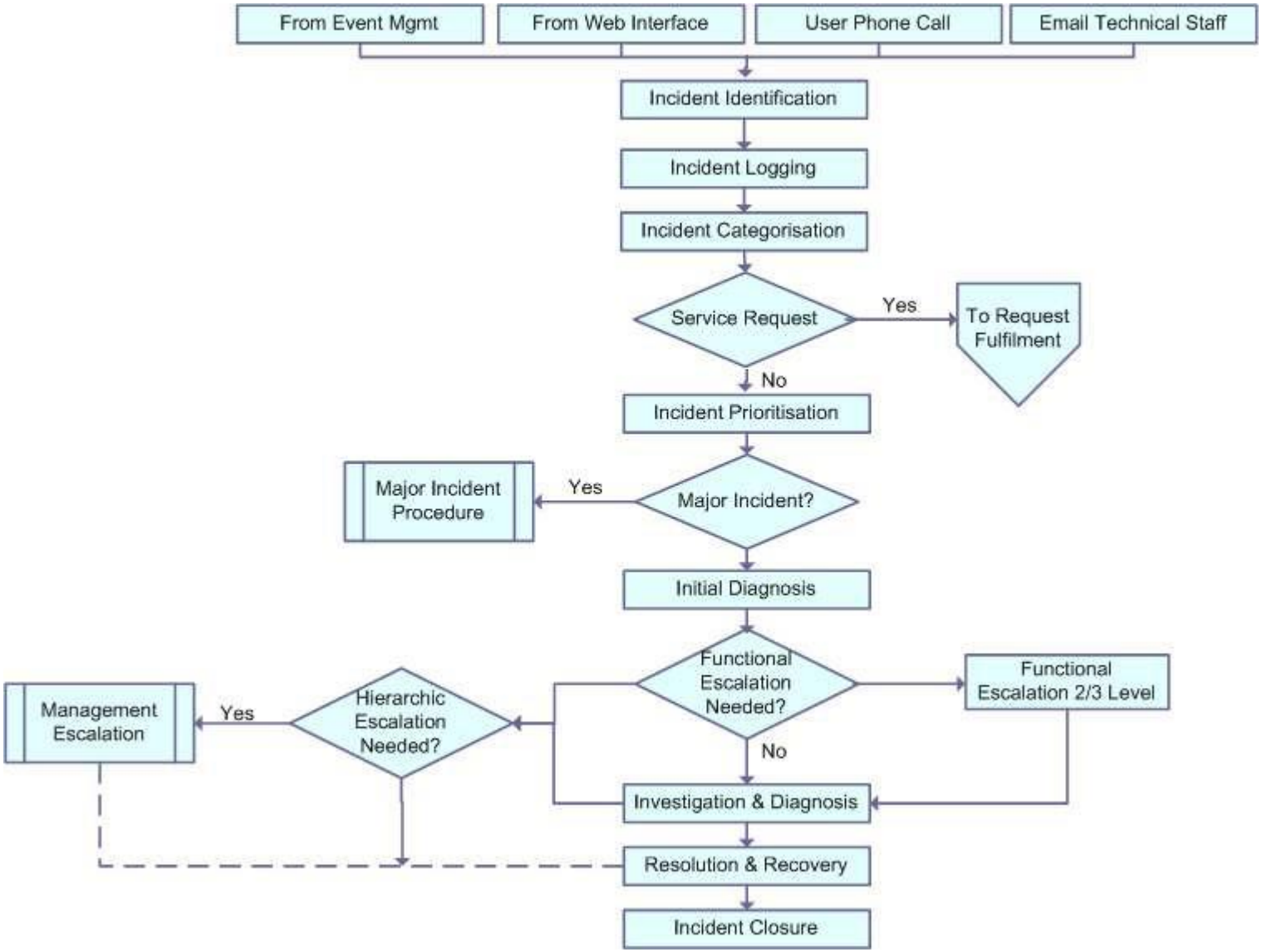
**Standard Incident Models are designed and implemented for handling standard (reoccurring) incidents more efficiently.**

**An Incident Model should include the following:**

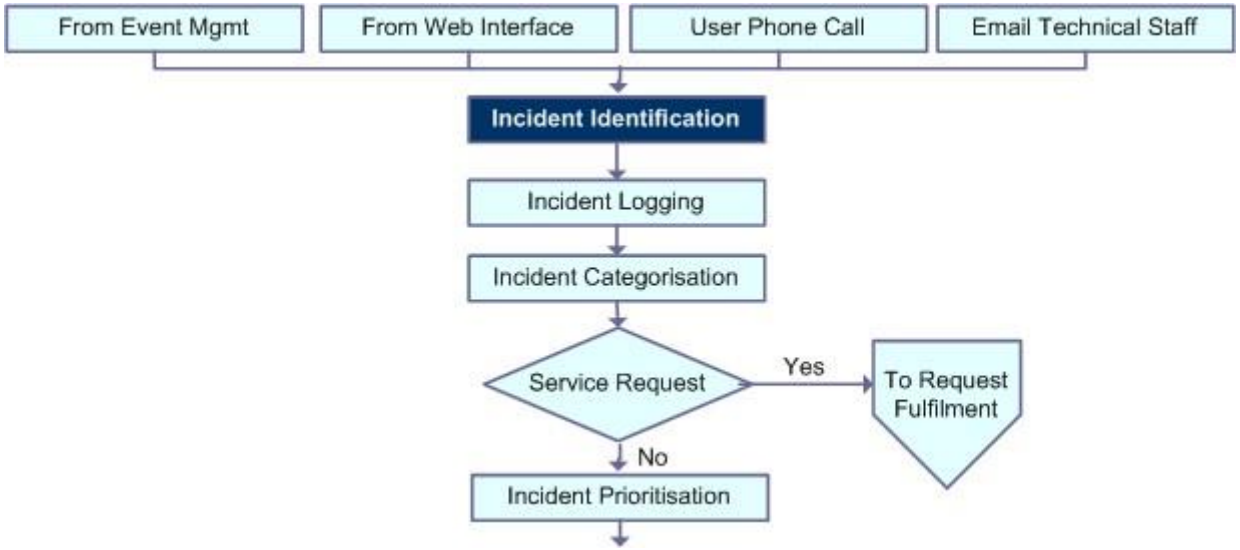
- steps required to handle the incident and their order
- Responsibilities
- Timescales and thresholds for completion
- Any escalation procedure
- Any evidence prevention activities

***...Support tools can then be used to automate handling of standard incidents.***

# Process Workflow



# Process Workflow – Incident Identification




**TRIGGERS:** Incidents ... from Event Mgmt, from web interface, from Users, from suppliers, from technical Stuff

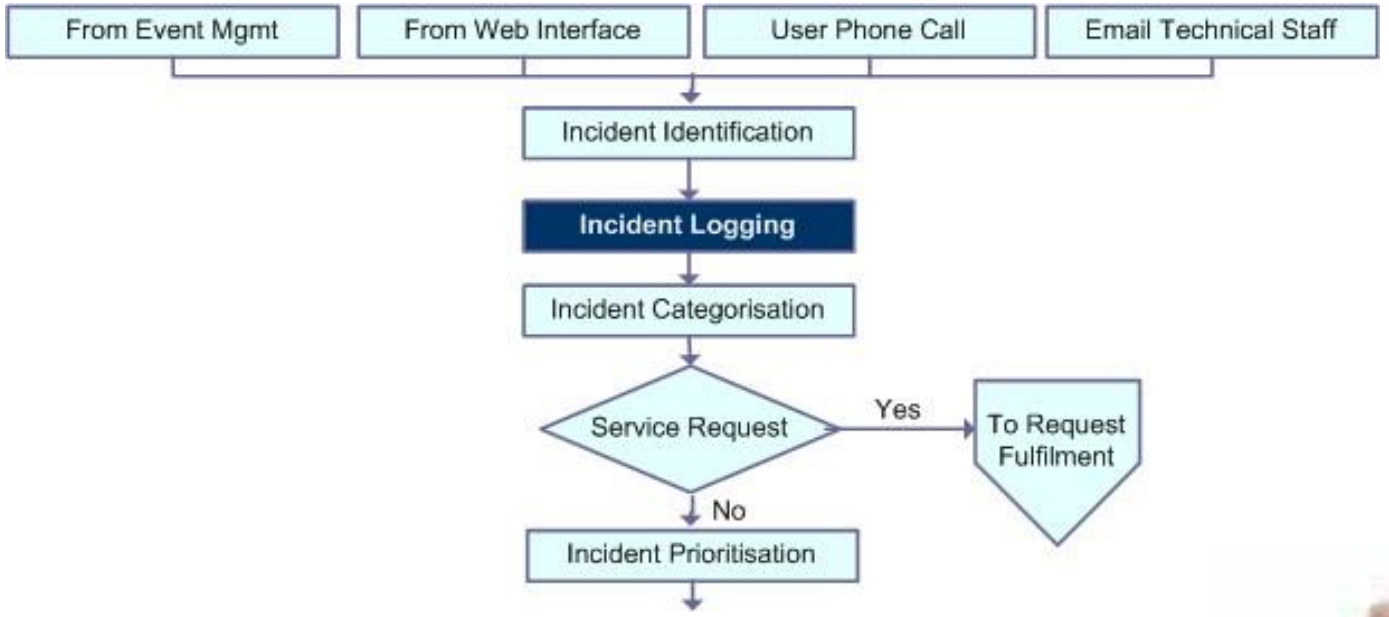
**Incident Identification:**

- Usually it's unacceptable to wait until a user logs an incident

- Monitoring assures :
  - Early detection of Failure/potential failure
  - Quick start of Incient Management

* *IDEAL SITUATION:* ***Incident is resolved before it had an influence on users !***

# Process Workflow – Incident Logging

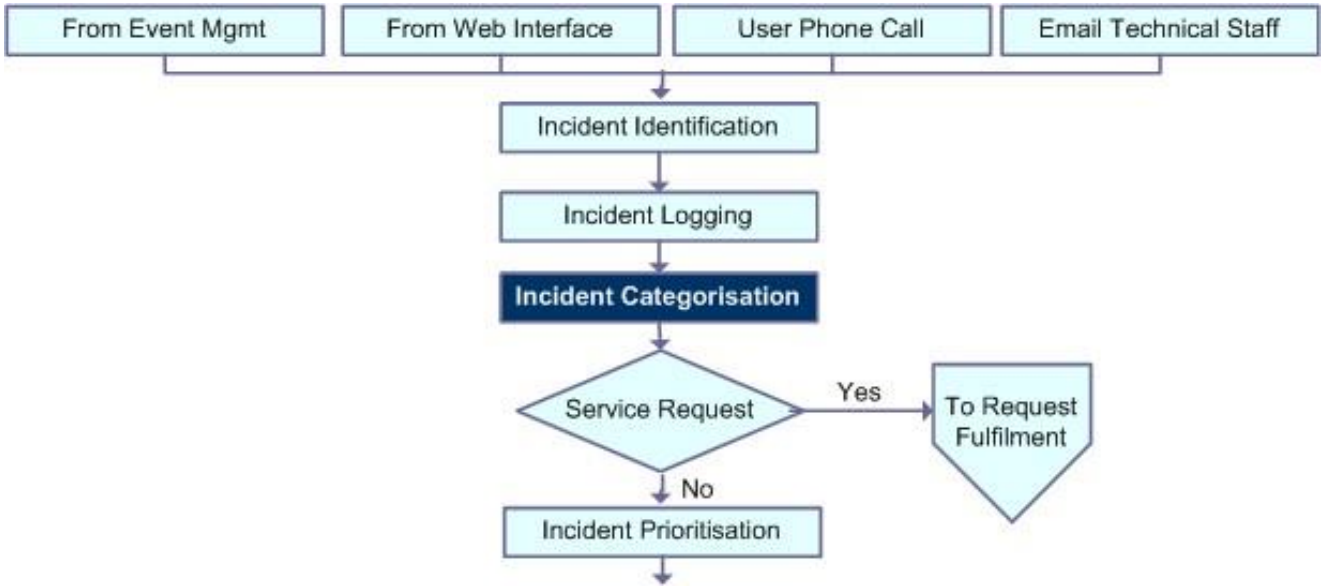



- **All incidents** must be
  - fully logged (INC. NO., DATE, TIME, OWNER, CONTACT… )
  - ... and date/time stamped;
  - Full historical record of all incidents must be maintained

... "Opportunity fixes" must also be logged !!! (ALL must be logged)

* *Incident is logged -> **Resolution time count starts !***

# Process Workflow – Incident Categorization



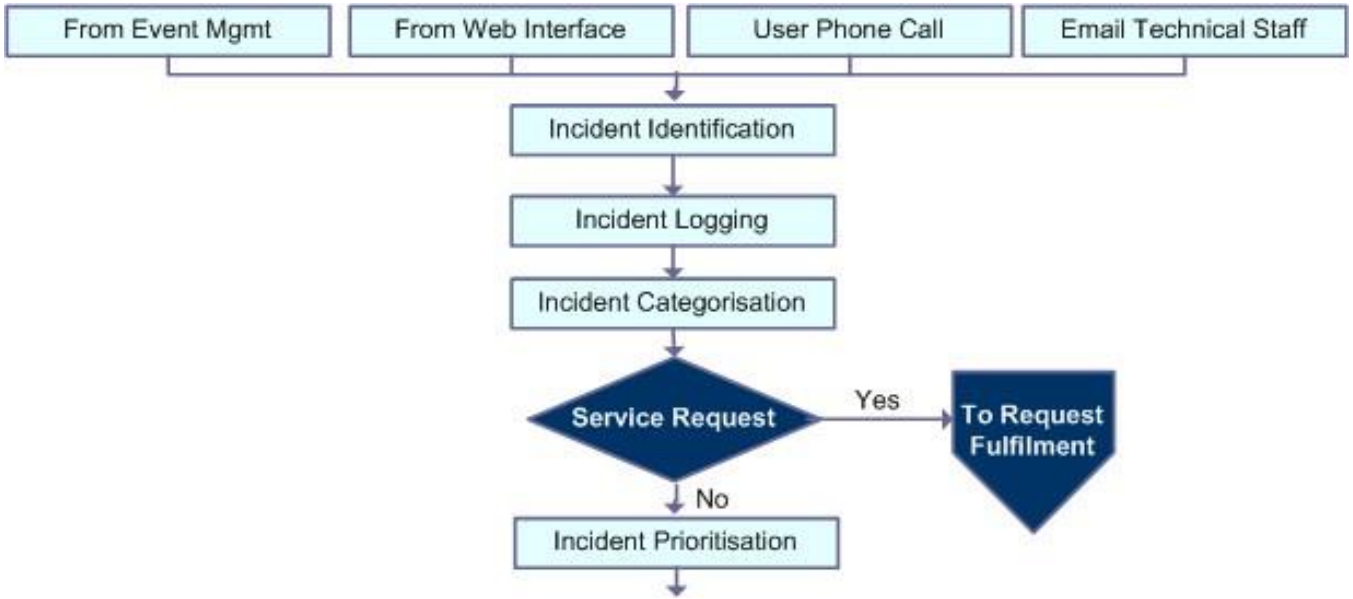

- Categorization indicates the **type of incident** being logged

  * *Category is often related to team that will handle the incident from the Service Desk*

  * *Categories are often multi-level . For Example:*
    - *Hardware – Server – Memory Board – Card Failure*
    - *Software – Application – Finance Suite – Purchase Order System*

  * *It's useful if incident and problem categories are alike*

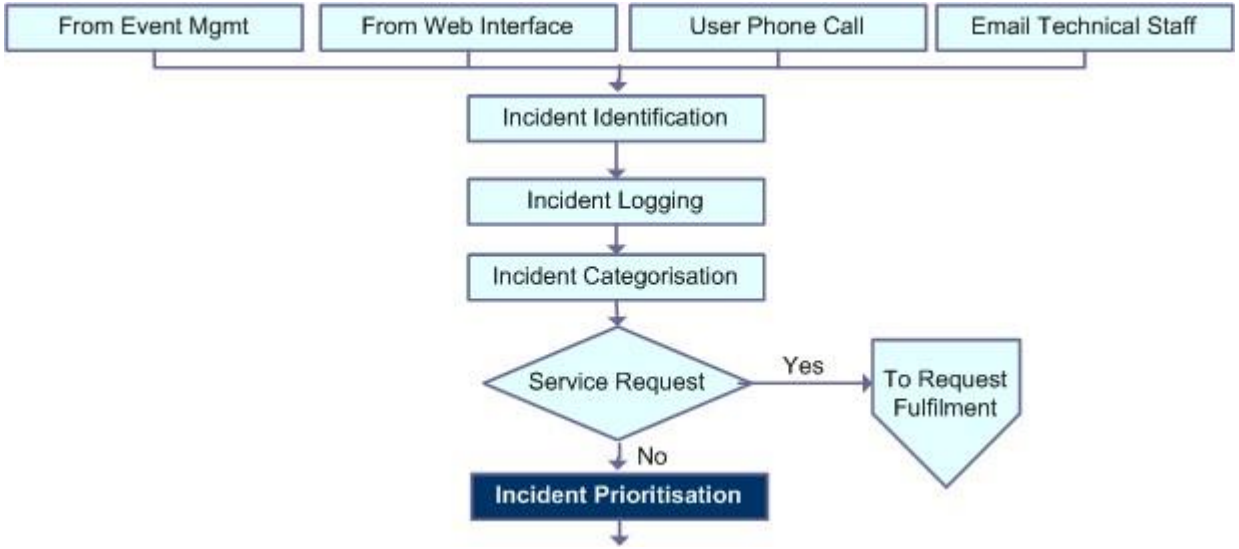
# Process Workflow – Service Request?




- A part of categorisation will be to **check if it's a Service Request**
  - If it is -> It will be transferred to Request Fulfilment process

* *Requests are not incidents and should be handeled diferently*

# Process Workflow – Incident Prioritization

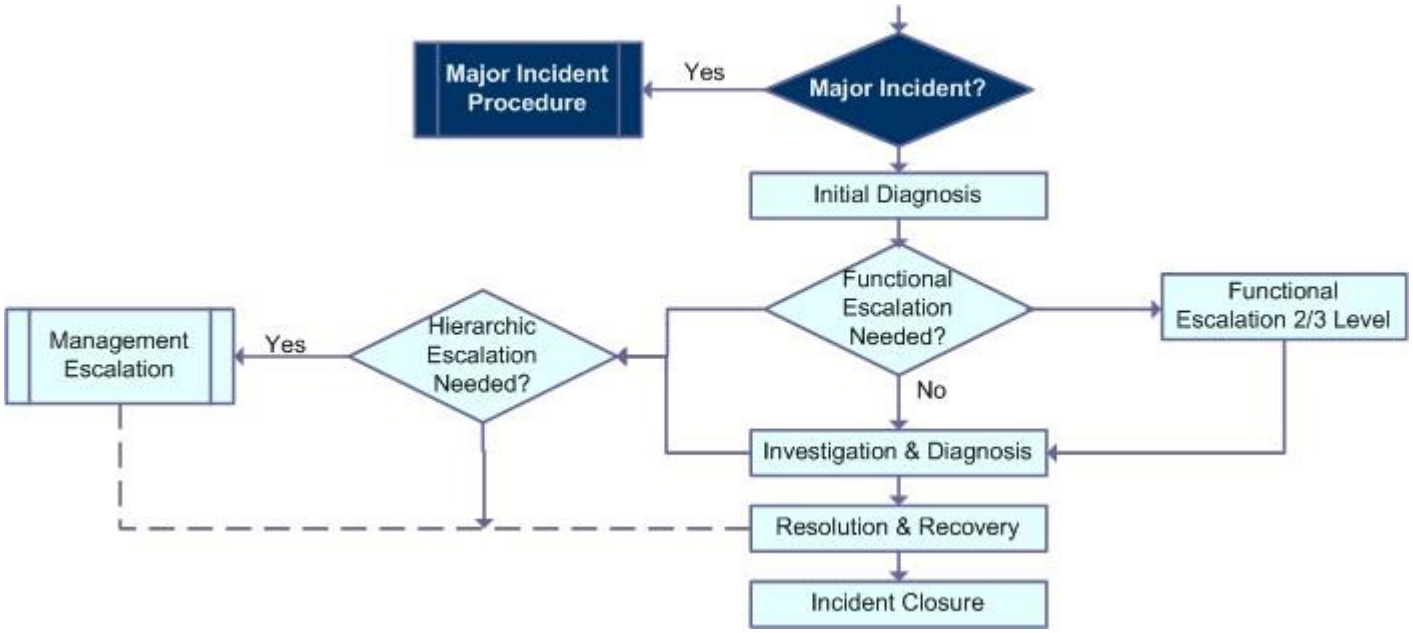



- Prioritisation determines how the incident will be handled by support staff and by support tools

  * *Remember:* ***PRIORITY = Urgency + Impact (+ SLA)***

| High | Medium | Low | Priority code | Description | Target Resolution Time |
|---|---|---|---|---|---|

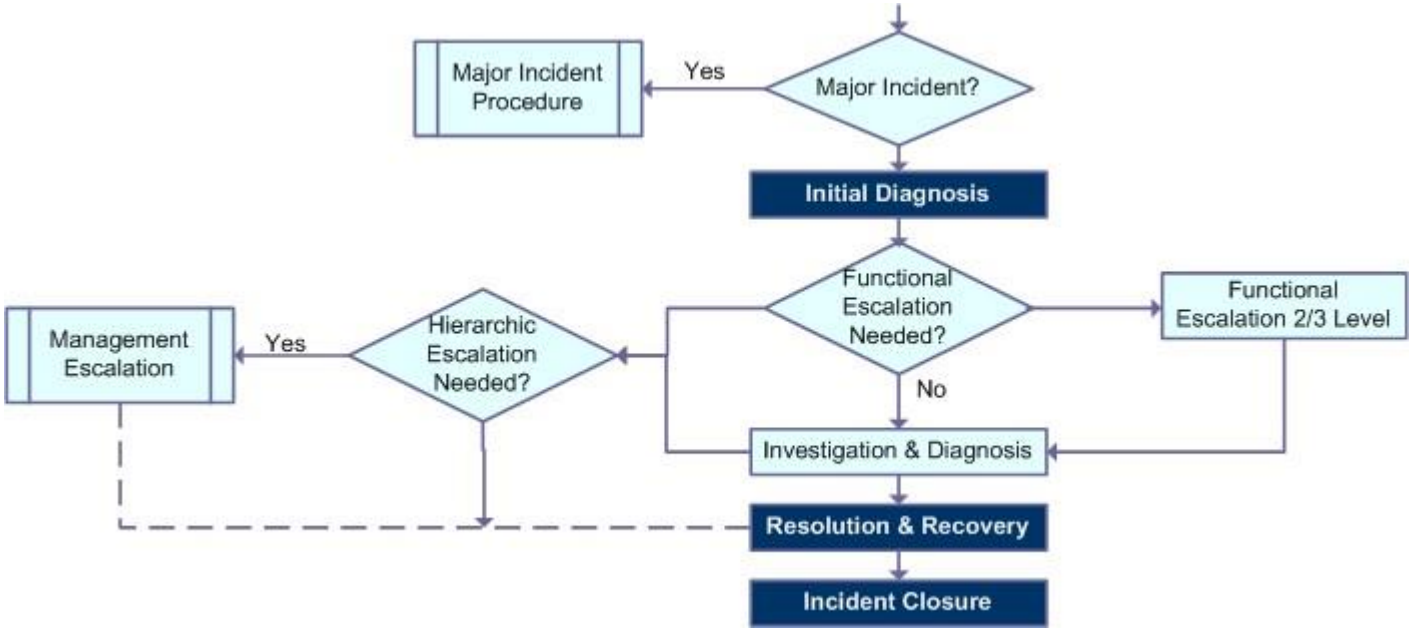
# Process Workflow – Major Incident?




- If priority indicates Major Incident it must be handled by following the Major Incident Procedure

* *Staff must be familiar with the procedure !*

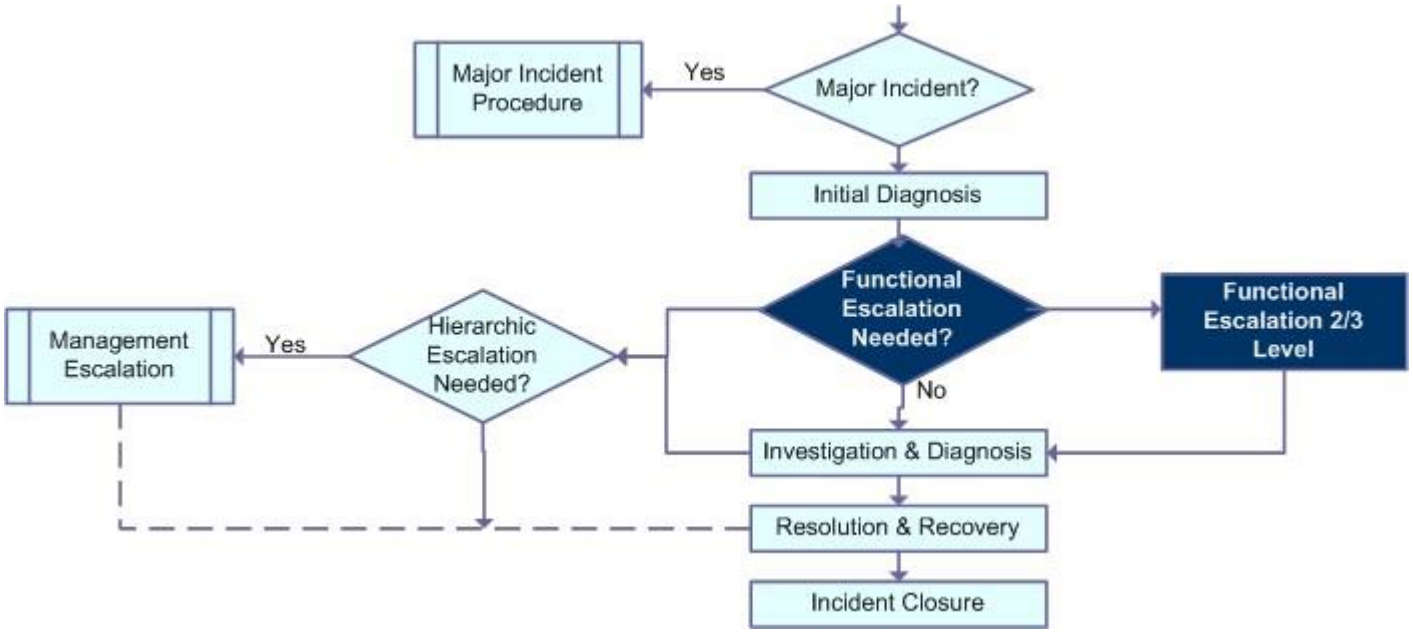
# Process Workflow – Incident Diagnosis




- Service Desk Analyst will determine with the user:
  - Full symptoms (what has gone wrong)
  - How to correct it ?
    - Using:
      - **Diagnostic scripts**
      - **Known Error information**

If the incident is resolved **->** it will be closed (after informing the user **!!!**)

# Process Workflow – Functional Escalation

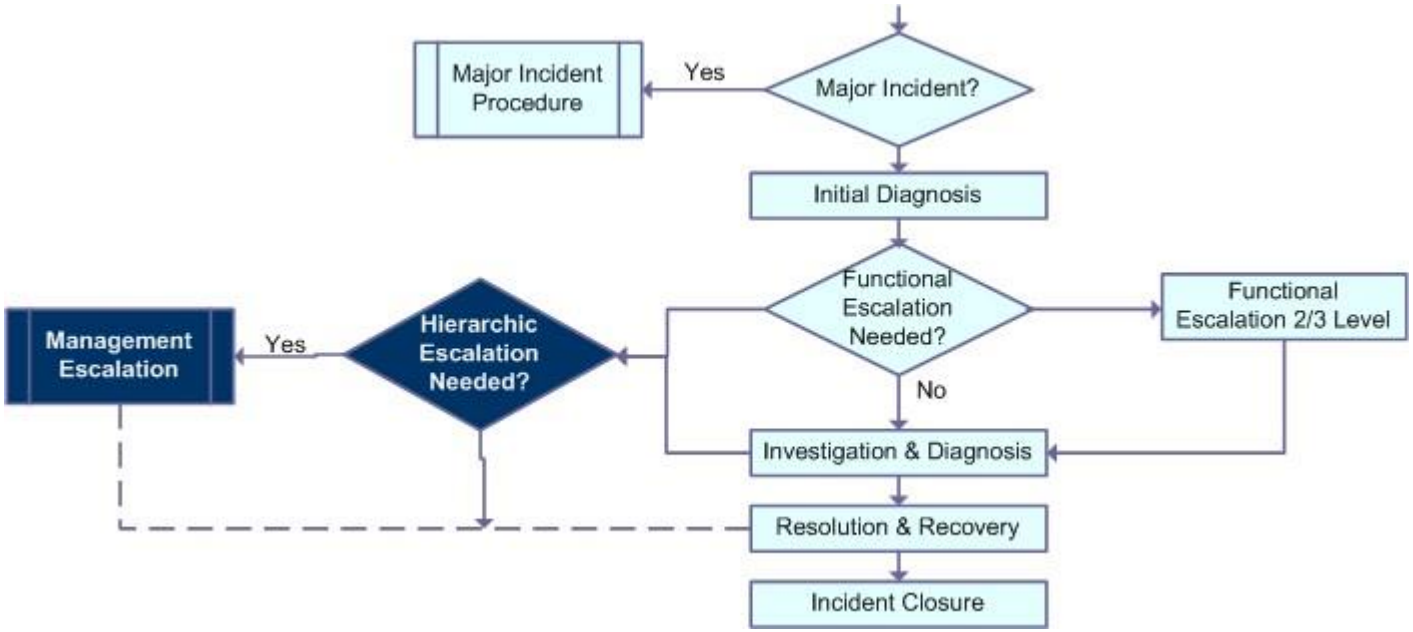



If the incident is NOT resolved **->** it will be escalated (and user informed **!!!**)

- **FUNCTIONAL ESCALATION** (to the next level of support) occurs when:
  - Current level of support **can't resolve the incident**
  - Current level of suppot has **reached time scales** for resolving the incident

* *Ownership of the incident stays with the Service Desk!*
* *Service Desk will track and monitor progress !*

# Process Workflow – Hierarchical Escalation

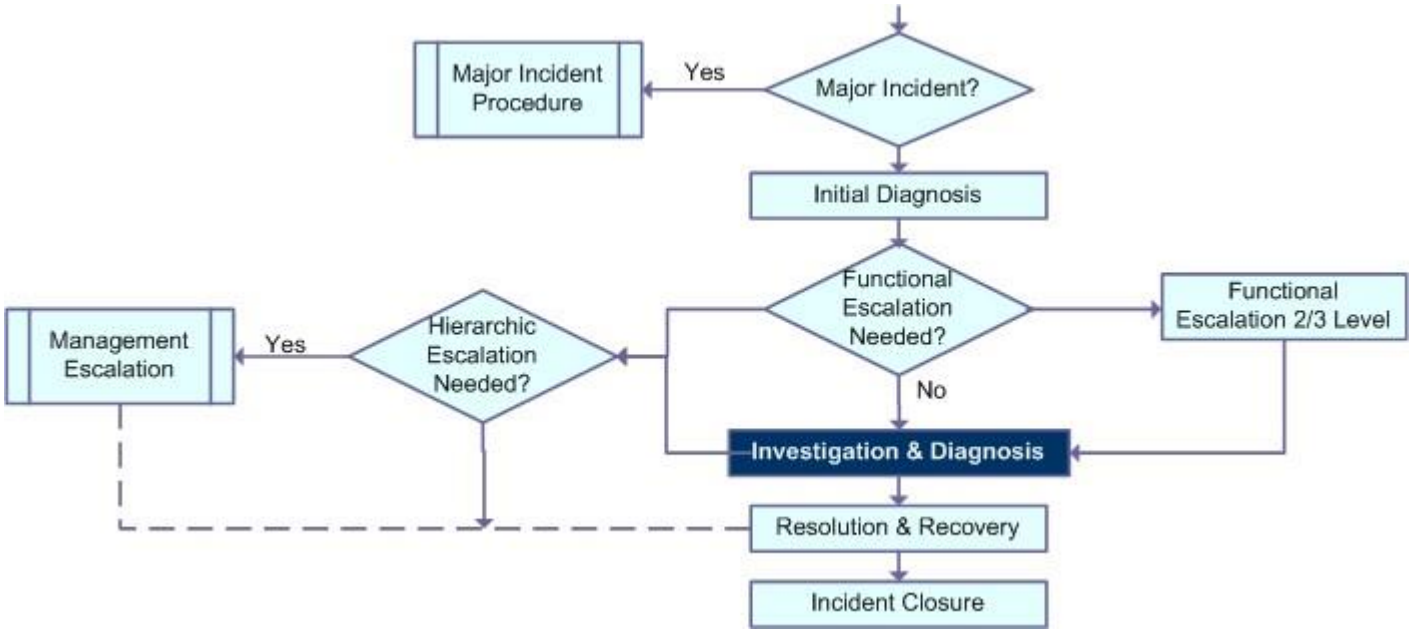



If the incident is NOT resolved **->** it will be escalated (and user informed **!!!**)

- **HIERARCHIC ESCALATION** (up the management chain) occurs when:
  - SLA breaches are threatened
  - Extra resources are needed to resolve the incident
  - Senior Management needs to be aware / approve the steps required

* *May also be initiated by the customer / user if they see it necessary !*

# Process Workflow – Investigation & Diagnosis

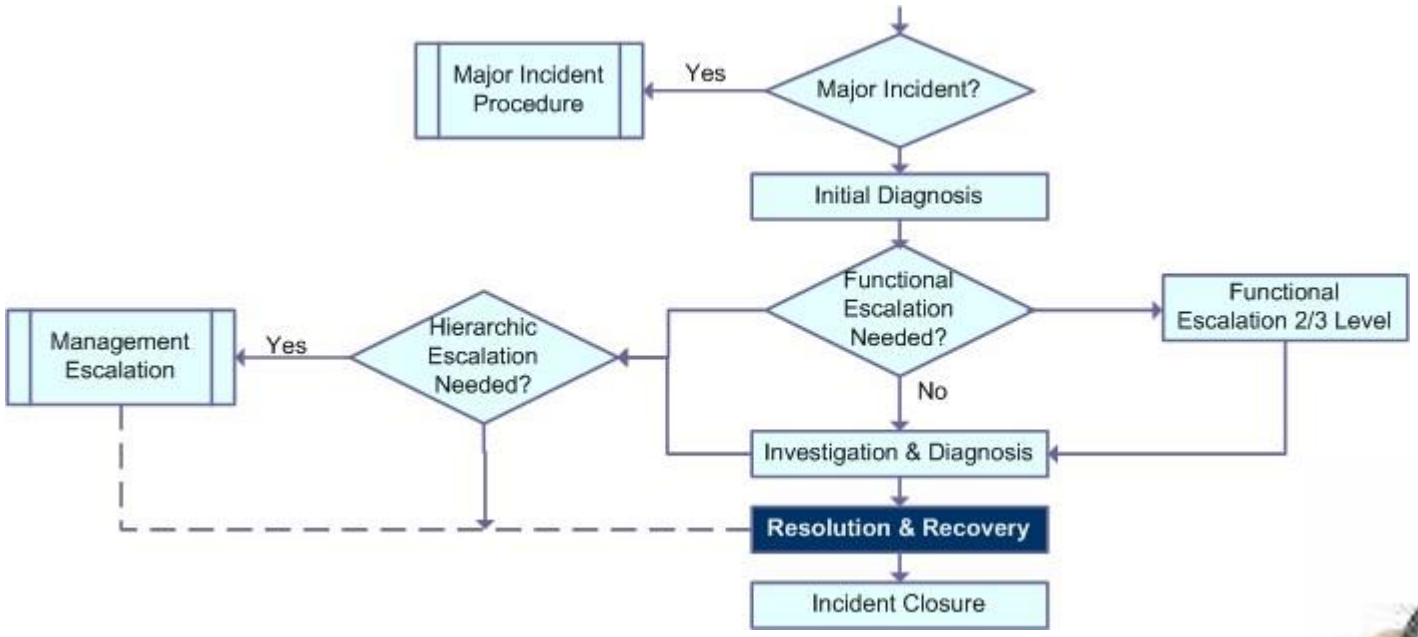



- More detailed information might be collected on:
  - Exactly what has gone wrong
  - Understanding the chronological order of events
  - Confirming the full impact
  - Identifying events that may have triggered the incident
  - Knowledge searches
  - Previous incidents
  - Changes made

* *All actions and finidings must be recorded !*

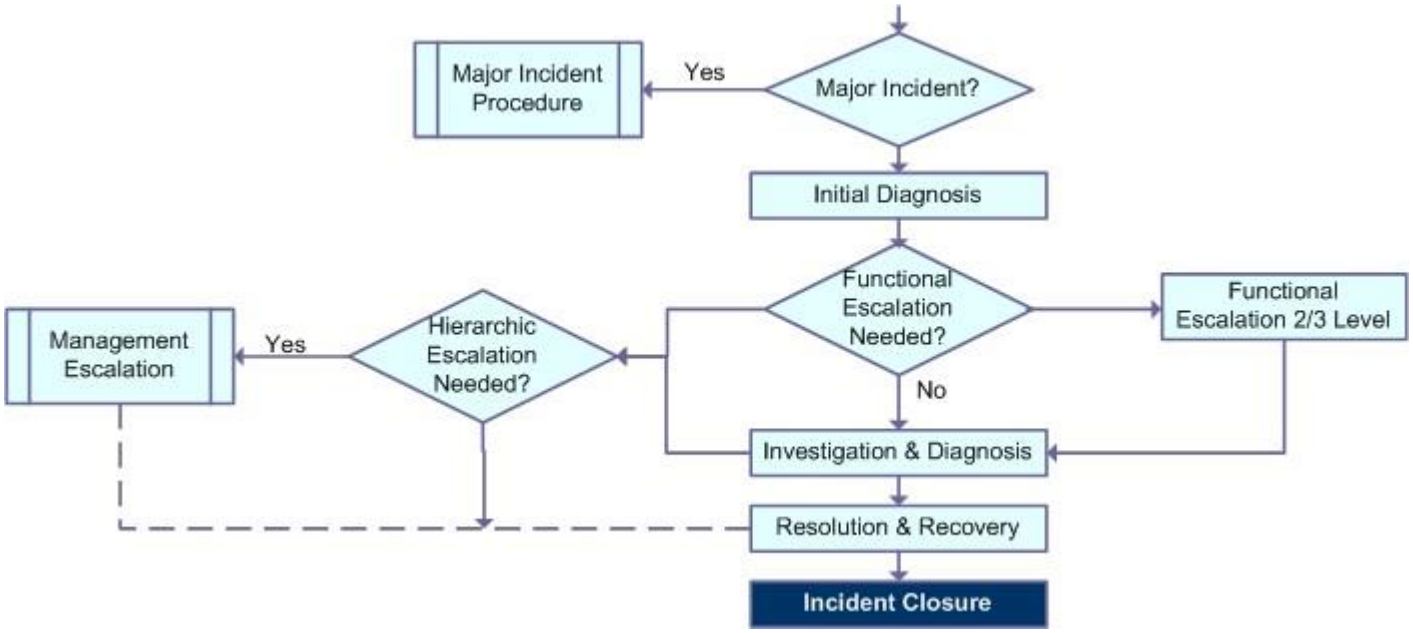
* *As much actions as possible should be performed in parallel to save time*

# Process Workflow – Resolution and Recovery




- When the resolution has been identified it should be applied and teste d
- If satisfactory a time / date stamp is recorded as this is the end of down
- The incident record must be updated with the details of actions taken
- The incident should be returned to the Service Desk for closure action

# Process Workflow – Incident Closure




- Before closing the incident the SD Analyst must:
  - Make sure the user is informed and happy with the solution
  - The assigned incident category is the correct one (if not , correct it)
  - The incident documentation is complete
  - If there is indication the incident might recur, a Problem record should be raised

* *The Incident is closed by Service Desk !*

* ***Re-opening incidents*** *– strict rules must exist for this action !!!*

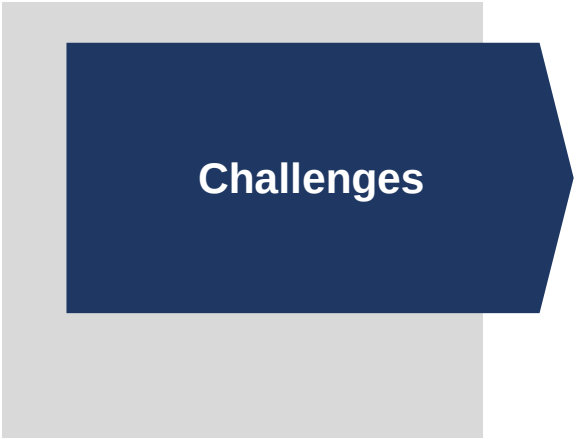
# Process Interfaces

| | |
|---|---|
| **Event Mgmt** | • Event can (automatically) raise incident |
| **Request Fulfilment** | • Request handling can also be handled by IM process |
| **Problem Management** | • Incidents (repeated) often point to problems<br>• Solving the problems should reduce the number of incidents |
| **Asset & Configuration Mgmt** | • Provides data used to identify and progress incidents<br>• IM assists in verfication of CMS |
| **Change Management** | • Changes are often reasons why incidents occure<br>• Incidents can lead to changes required for resolutions/workarounds |

# Process Interfaces – cont.

| | |
|---|---|
| **Service Level Management** | • IM must restore service as agreed in SLAs – thus, targets for IM are determined considering SLM and vice-versa |
| **Service Catalogue Management** | • Service Dask will consult Service Catalogue in handling incidents |
| **Capacity Management** | • IM may trigger monitoring of a system or service performed by Capacity Management<br>• Workarounds used by Incident Management can come from Capacity Management |
| **Availability Management** | • Incident data is important in determining availability. |
| **…** | • … |

# Challenges




- Ability to **detect incidents as early as possible**.
- Convincing all staff that **ALL incidents must be logged**.
- Making **information available about known errors** to ensure staff learn from previous incidents.
- **Configuration Management System integration**
- **Integration into the Service Level Management processes** in order to correctly assess the impact and priority of incidents, and
- Defining **escalation procedures**.

# Risks

**Risks**

- Incidents not being handled in appropriate timescales
- Insufficient incident backlog
- Poor information availability (for resolving/escalating...)
- Mismatch in objectives/expectations for Incident Management

...due to a lack of or inappropriate training ?

...due to inadequate support tools ?

...due to lack of support tools integration ?

...due to poorly-aligned or non-existent OLAs or UCs ...SLAs ?

....due to ..... ?

# Critical Success Factors (CSF) & Key performance Indicators (KPI)

**CSF & KPI Examples**

- ***CSF Resolve incidents as quickly as possible minimizing impacts to the business***
  - ***KPI*** *Mean elapsed time to achieve incident resolution or circumvention, broken down by impact code*
  - ***KPI*** *Breakdown of incidents at each stage (e.g. logged, work in progress, closed etc.)*
  - ***KPI*** *Percentage of incidents closed by the service desk without reference to other levels of support (often referred to as 'first point of contact')*
  - ***KPI*** *Number and percentage of incidents resolved remotely, without the need for a visit*
- ***CSF Maintain quality of IT services***
  - ***KPI*** *Total numbers of incidents (as a control measure)*
  - ***KPI*** *Size of current incident backlog for each IT service*
  - ***KPI*** *Number and percentage of major incidents for each IT service*
- ***CSF Maintain user satisfaction with IT services***
  - ***KPI*** *Average user/customer survey score (total and by question category)*
  - ***KPI*** *Percentage of satisfaction surveys answered versus total number of satisfaction surveys sent*

# Roles

**Incident Management Process Owner**

One that owns all the equipment

**IM Process Owner** - accountable for the process

**Incident Manager**

**Incident Manager ...manages the work of Incident Support Staff**

- Developing and maintaining IM process and procedures (driving efficiency and effectiveness )
- Managing the work of incident support staff (first- and second-line)
- Managing Major Incidents
- Monitoring the effectiveness of IM ...recommending improvement
- Developing and maintaining the IM systems
- Producing management information

**1st, 2nd and 3rd line support**

**1st line support** *(normally the Service Desk)*

- Identify, logg, categorize, priotitize, diagnose, reslove/escalate and close an incident.

**2nd line support *** *(generally Technical/Application Management)*

- Investigate, diagnose, resolve (recover) an incident.

**3rd line support *** *(External experts or Internal ones)*

- Investigate, diagnose, resolve (recover) an incident.

# THE END

# ITIL v3 Incident Management Process

...restoring normal service operation as soon as possible