

## PM Exercise 1/2 – NI4OS VMs



- You are a service provider that has been on-boarded to the NI4OS pre-production environment.
- You are offering different types of VMs to the EOSC customers
- A customer can choose a VM flavor using the following parameters
  - OS (Ubuntu LTS, CentOS, FreeBSD, Kali Linux)
  - CPU cores (2 – 8)
  - RAM size (16 GB – 64 GB)
  - Disk size (512 GB – 2 TB)
  - Network (private / public / both)

## PM Exercise 2/2 – NI4OS VMs service provider



- In the past month, 15 incidents have been recorded, where customers complained about unstable VM access.
- Record the problem! (What information / fields should be mandatory for the problem record?)
- Perform a preliminary analysis of possible root causes! (Do you know a problem analysis / brainstorming technique you could use?)



Standards for lightweight  
IT service management

## Service Operation & Control

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Advanced training in service operation and  
control according to FitSM

Version 2.5



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## Problem Management (PM)

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### Objective

To investigate the root causes of (recurring) incidents in order to avoid future recurrence of incidents by resolving the underlying problem, or to ensure workarounds / temporary fixes are available



# PM: Important terms & concepts

## Definition following FitSM-0:

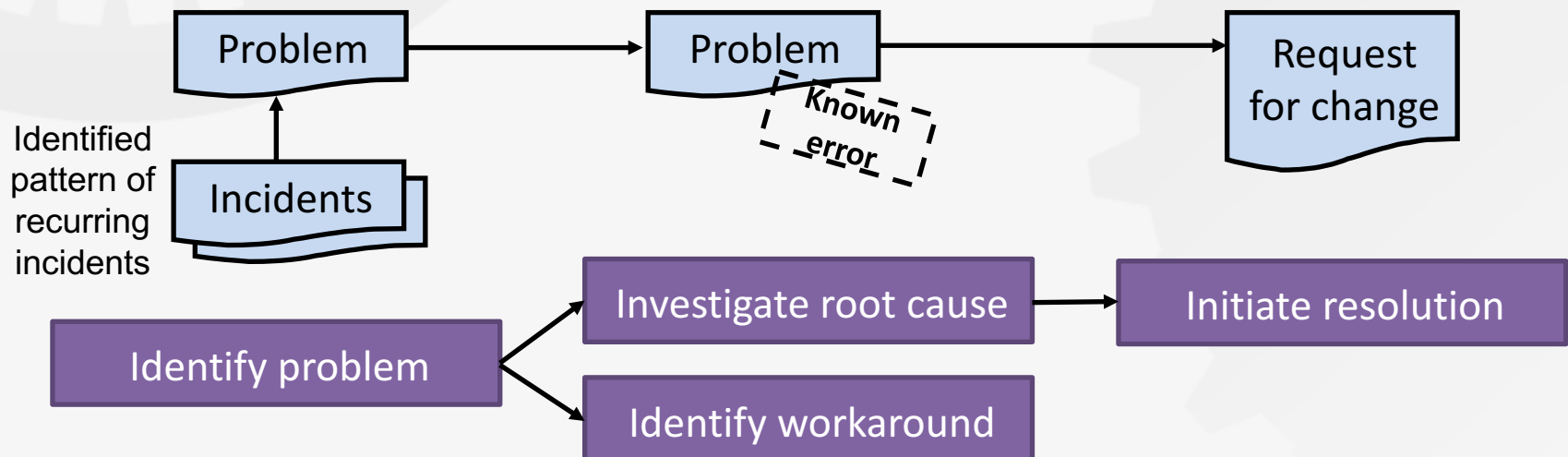
### Problem:

The underlying cause of one or more *incidents* that requires further investigation to prevent incidents from recurring or reduce the impact on *services*

## Definition following FitSM-0:

### Known error:

*Problem* which has not (yet) been corrected, but for which there is a documented workaround or temporary fix to prevent (excessive) negative impact on services



# PM: Requirements according to FitSM-1



## PR10 Problem Management

### REQUIREMENTS

- PR10.1 Problems shall be identified and registered based on analysing trends on incidents.
- PR10.2 Problems shall be investigated to identify actions to resolve them or reduce their impact on the services.
- PR10.3 If a problem is not permanently resolved, a known error shall be registered together with actions such as effective workarounds and temporary fixes.
- PR10.4 Up-to-date information on known errors and effective workarounds shall be maintained.

# PM: Initial process setup



Initial activities	Typical results
Define a standardized and repeatable way to record problems, known errors and related workarounds, and set up an initial known error database (KEDB).	Generic template for a problem record; procedure for recording problems
Set up a tool (e.g. ticket / workflow tool) supporting the recording and handling (including classification, prioritization, escalation, closure) of identified problems.	Initial (empty) problem recording system

# PM: Inputs & outputs



## Inputs

Statistics on incidents and service requests (for trend analysis)  
Incident and service request records  
Other relevant sources of information to identify (new) problems, including change and release records  
Configuration information (CMDB)

## Outputs

Up-to-date KEDB with information (records) on problems, known errors and related workarounds  
Requests for changes raised to trigger the change management process, in order to resolve the underlying root cause(s) of identified problems / known errors





# PM: Ongoing process activities

- Perform regular incident trend analysis to identify (new) problems
- Manage problems
  - Identify and record a problem
  - Classify a problem
  - Prioritize a problem
  - Escalate a problem
  - Resolve a problem
  - Close a problem
- Maintain the KEDB
  - Add a known error (and workaround) to the KEDB
  - Update a known error (and workaround) in the KEDB
  - Remove a known error (and workaround) from the KEDB
  - Perform a KEDB review

# PM: Roles



Role	Tasks	Ca. number of persons performing this role
Process owner PM	<i>Generic tasks of a process owner applied in the context of PM</i>	1 in total
Process manager PM	<i>Generic tasks of a process manager, plus:</i> <ul style="list-style-type: none"><li>• Ensure that incident trends are regularly analysed to identify problems</li><li>• Ensure that identified problems are recorded, and that records are of sufficient quality</li><li>• Ensure that problems are analysed, information on known errors recorded, and problems brought to closure</li></ul>	1 in total

# PM: Roles



Role	Tasks	Ca. number of persons performing this role
Problem owner	<ul style="list-style-type: none"><li>• Coordinate and take over overall responsibility for all activities in the lifecycle of a specific problem, including problem analysis and identification of options to handle the problem</li><li>• Monitor the progress of problem resolution and ensure that the problem is escalated effectively, if required</li><li>• Ensure the information in the KEDB on this problem / known error are up-to-date, including appropriate descriptions of potential workarounds</li><li>• Communicate the problem / known error and potential workarounds to relevant stakeholders (e.g. ISRM staff and service users)</li><li>• Depending on the selected option for dealing with the problem / known error, raise requests for changes or trigger the continual service improvement process as required</li></ul>	1 per problem

# PM: Critical success factors & KPIs



Critical success factors	Key performance indicators (KPIs)
Problems are recorded.	<ul style="list-style-type: none"><li>• Number of newly created problem records per month</li><li>• Percentage of incidents linked to problem records</li></ul>
A known error database (KEDB) is set up and kept up-to-date.	<ul style="list-style-type: none"><li>• Number of known error records</li><li>• Percentage of known error records updated in the last three months</li></ul>
Effective workarounds are described in the KEDB and made available to staff involved in the incident management process.	<ul style="list-style-type: none"><li>• Percentage of incidents linked to known error records</li></ul>
If possible, problems are resolved.	<ul style="list-style-type: none"><li>• Percentage of resolved problems</li></ul>
Problems are brought to closure.	<ul style="list-style-type: none"><li>• Age of oldest problem record</li><li>• Age of oldest known error record</li><li>• Number of problem records not updated in the last three months</li></ul>