### Service Management for CERN

### **Adverse Event Workshop**

(our understanding of how we might be of help)



# Agenda (30 mins total)

- Agenda (1 min)
- What is Service Management (9 mins)
   (Normally the foundation course is 3 full days!)
- The Service Management Tool (5 mins)
- How FB uses the tool (5 mins)
- How the tool can be used also (5 mins)
- Possible relevant features for adverse events (3 min)
- Questions (2 mins)

### Please fasten your seat-belts





## What is Service Management?

- Service Management is a set functions and processes for managing services over the entire lifecycle.
- Service Management assures optimal alignment in terms of efficiency and effectiveness with the needs and possibilities of the organization
- Service Management is a professional practice supported by an extensive body of knowledge, experience and skills. A global community of individuals and organizations in the public and private sectors fosters its growth and maturity. (ITIL & ISO20000)



### Service management – What is it?

- A framework
- Established industry best practice, used by thousands of organisations worldwide
- A strategic approach, covering all services
- Business/customer/user focussed
- A set of management processes covering the complete service lifecycle
- An approach to 'adopt and adapt' to ensure service solutions fit the specific requirements of the organization

### Service management – What it is NOT!

- A tool (e.g. service now)
- The service desk



### The Framework

### ITIL Comprises five volumes:

- 1. Service Strategy (373 pages)
- 2. Service Design (334 pages)
- 3. Service Transition (270 pages)
- 4. Service Operation (396 pages)
- Continual Service Improvement (308 pages)

Mature, full of practical ideas, widely adopted, supported by tools, and is the "defacto standard"

#### ISO 20k

- Aligned with ITIL V3
- Very 'short' (~60 pages)

ISO/IEC 20000-1

Second edition 2011-04-15

Part 1: Service management system requirements

ISO/IEC 20000-2

2005-12-15 First edition

Part 2: Code of practice

ISO/IEC TR 20000-3 Technical Report

2009-11-01 First edition

Part 3: Guidance on scope definition and applicability of ISO/IEC 20000-1

 ISO/IEC TR 20000-4 Technical Report First edition 2010-12-01

Part 4: Process reference model

 ISO/IEC TR 20000-5 Technical Report 2010-05-01 First edition

Part 5: Exemplar implementation plan for ISO/IEC 20000-1

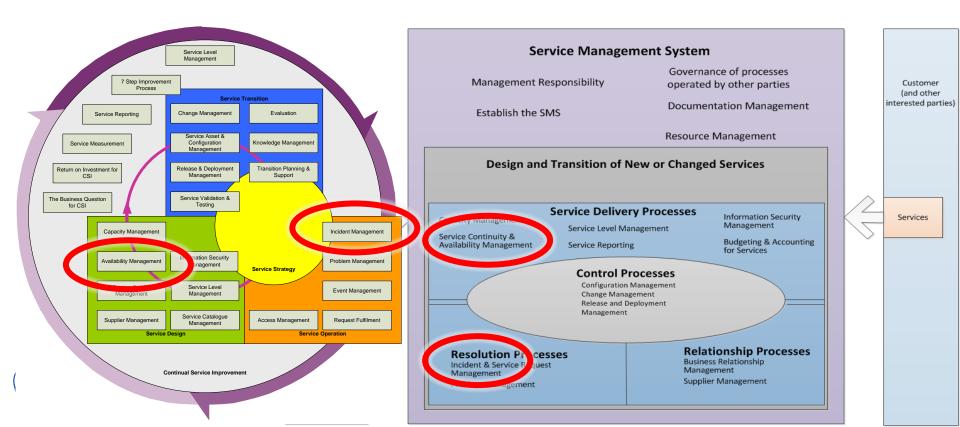
While ISO/IEC 20000 is a standard to be achieved and maintained, ITIL offers a body of knowledge useful for achieving the standard.





## Why could this be relevant

- ISO 20k & ITIL cover
  - continuity and availability management (incl risk)
  - incident management (incl. 'major incidents')



### Incident management in ISO20k

- Some Example Questions from ISO20k maturity review checklist
  - Notion of impact, and urgency in prioritization

When prioritizing incidents, are impact and urgency of the incident taken into	8.1 3rd	Impact
consideration?		

# The notion of 'major incident' as defined in these standards sound like 'adverse event'

Has the organization documented and agreed the definition of a major incident?	8.1 6th
Are major incidents classified and managed according to a documented procedure?	8.1 6th
Are top management informed of major incidents?	8.1 6th
Does top management ensure that a designated individual responsible for managing the	8.1 6th
major incident is appointed?	
After the service has been restored, are major incidents reviewed to identify opportunities	8.1 6th
for improvement?	



## Incident management in ITIL

causing. An indication of impact is often (but not always) the number of users being affected. In some cases, and very importantly, the loss of service to a single user can have a major business impact – it all depends upon who is trying to do what – so numbers alone is not enough to evaluate overall priority! Other factors that can also contribute to impact levels are:

- Risk to life or limb
- The number of services affected may be multiple services
- The level of financial losses
- Effect on business reputation
- Regulatory or legislative breaches.

An effective way of calculating these elements and deriving an overall priority level for each incident is given in Table 4.1:

Table 4.1 Simple priority coding system

			Impact	$\leftarrow$
		High	Medium	Low
V	High	1	2	3
Urgency	Medium	2	3	4
	Low	3	4	5

### B7 COMMUNICATION RELATED TO EMERGENCIES

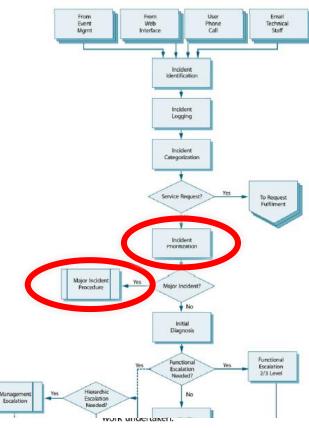
Although ITIL specifies how to deal with urgent, high-impact situations such as disasters (IT Service Continuity Management) and Major Incidents (Incident Management), managers in the Service Operation phase will find themselves dealing with various types and scales of emergency not covered in these processes. It is important to note that this is not a separate process, rather it is a view of several processes and situations from a communication perspective.

Communication during emergencies is similar in purpose and content to communication during exceptions. The

Where necessary, the major incident procedure should include the dynamic establishment of a separate major incident team under the direct leadership of the Incident Manager, formulated to concentrate on this incident alone to ensure that adequate resources and focus are provided to finding a swift resolution. If the Service Desk Manager is also fulfilling the role of Incident Manager (say in a small organization), then a separate person may need to be designated to lead the major incident investigation team – so as to avoid conflict of time or priorities – but should

ultimately report back to the Incident Manager.

18 | Service Operation processes



All relevant information relating to the nature of the incident must be logged so that a full historical record is maintained – and so that if the incident has to be referred to other support group(s), they will have all relevant information to hand to assist them.

The information needed for each incident is likely to include:

- Unique reference number
- Incident categorization (often broken down into between two and four levels of sub-categories)



### Incident Management @ CERN

This is there **now** (but not yet well used everywhere)

### Impact, Urgency and Priority

#### Impact Definition

The impact represents the consequences for CERN.

1 Down critical adverse impact on the service

2 Degraded major adverse impact on the service

3 Affected minor adverse impact on the service 4 Disrupted small number of the population affected

Urgency Definition

The urgency defines how quickly the incident should be resolved from a CERN perspective.

It is by default determined by the weight of the relation between SE and FE, but can be adjusted

1 – High: damage increases rapidly

2 – Medium: damage increases considerably 3 – Low: damage increases marginally

### Service-Now Incident N.L.

#### ident

solved when the service

on	provided.	
٥٧	/	

ident State" to

levant "Close code"

Close notes" and lds with the technical

date" or "Save".

emented.

### **Priority Matrix**

The priority is derived from the impact and urgency

		(	Busines	s) Impac	<u>t</u>
Pric	ority Matrix	1 Down	2 Degrade d	3 Affected	4 Disrupted
		critical adverse Impact on the service	major adverse impact on the service	minor adverse impact on the service	small number of the population affected
	1 High: The diamage caused	1	2	3	4
ST	by the incident increases rapidly.	Major	High	Moderate	Low
Ĕ	2 Medium: The diamage	2	3	4	5
Urgency	caused by the incid ent increases considerably over time	High	Moderate	Low	Planning
5	3 Low: The damage caused	3	4	5	6
	by the incident only marginally	Moderate	Low	Planning	Very Low

#### Automated E-mai

#### Agent E-mail Notification

Name	Recipient
New Incident	Assigned
Group Transfer	New Assiç Group
Return to Group	Old Assign
User Update 1	Assigned
User Update 2	Assignee

#### End User E-mail Notificat



# Our Scope

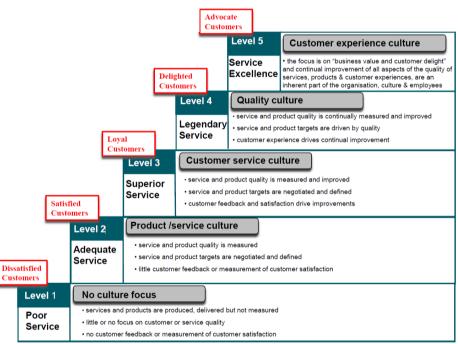
	GS, I	T, HF	R, FP.		DG scale	Criteria to help in the classification of criticality	Safety Risk
			Nil	1	1	very few people affected; people can work on 'other' activities; workaround exists; cost < 1KCHF; safety is not affected; only visible in small contained area; no reputation issue	NEL / Marris
		Minor	Hardly visible	2	1	several people affected; cost <5KCHF; safety is not affected; not visible outside CERN; no reputation issue	Nil / Very Limited
	<u>+</u> _		Very limited	3	1	small group of people affected; cost <10KCHF; safety is not affected; not visible outside CERN; no reputation issue	
	eu		Limited	4	1	considerable number of people affected (>20); cost <20KCHF; possibly affecting people outside central services; no reputation issue	
	Average	Visible	5	1	considerable number of people affected (>50); cost <50KCHF; possibly affecting people outside CERN; CERN reputation possibly slightly affected	Limited	
			Significant	6	1	considerable number of people affected (>100); cost <100KCHF; seriously affecting considerable population inside and outside CERN; CERN reputation possibly affected	
		Major	Very significant	7	2	considerable number of people affected (>500); cost <400KCHF; seriously affecting very significant population inside and outside CERN; CERN reputation most likely affected	Significant
		Major	Important	8	2	large number of people affected (>1000); cost <1MCHF; very seriously affecting large population inside and outside CERN; significant risk to CERN reputation	Significant
	S	Critical	Disastrous	9	3	large number of people affected (>1000); cost <10MCHF; affecting very large population inside and outside CERN; putting survival of CERN at risk; possible serious injuries	Major
$\sqrt{ }$	Ä	Critical	Catastrophic	10	5	large number of people affected (>1000); cost >10MCHF; affecting large population inside and outside CERN; putting survival of CERN at big risk; possible loss of life	Мајог



### Why Service Management @ CERN

#### Why Service Management and why now (Project started in 2010)

- Global Laboratory 24/7 presence is required.
- With the start of LHC in 2009 dramatic increasing number of Users but stable staff numbers.
- The wide range of services offered by CERN must become easy to find, without requiring knowledge of CERN internal structures.
- Standardization to improve effectiveness in times of reduced budgets
- Opportunity: The time is right
  - Mature best practice available
  - Mature off the shelf tools available (finally ©)
  - Management awareness of SM maturity issue





### Service Management for CERN

### What are we trying to achieve with Service Management?

#### Our First 8 Goals:

- 1. One Service Desk for CERN (one number to ring, one place to go) (SPOC)
- 2. Standard Processes for all Service Providers at CERN (one behavior)
- 3. Services defined from a **User**'s point of view
- 4. Services **easy to find** by everybody, without knowledge of CERN internal structures
- 5. Service and process quality **measurable**
- Improved collaboration over the borders of sections, groups and departments (break down silo's)
- 7. Very high level of **automation** of all known procedures
- 8. Framework for continuous **improvement** in the fields of **efficiency** and **effectiveness**

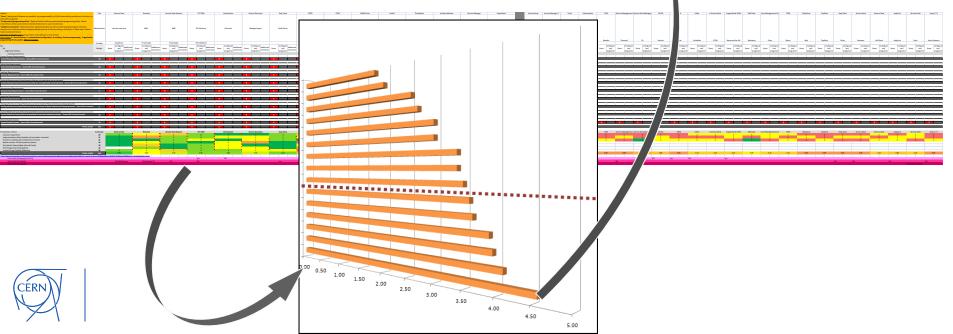


## Service Management Tool selection

- >40 products long-listed and evaluated against "preselection criteria".
- 6 invited for a detailed evaluation using technical questionnaire (>300 'questions').
- For top 2: technical challenge presentations.
  - For top 2: live instance tests performed.
    - > 6 reference visits performed
    - Commercial, TCO, and planning considerations

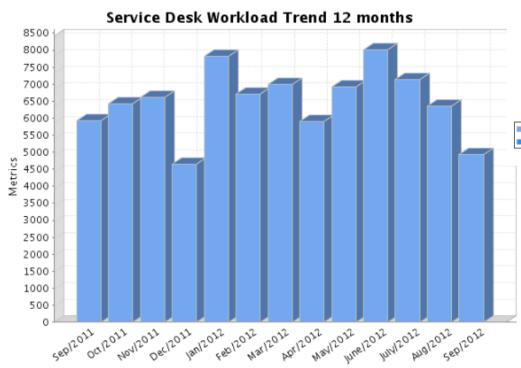
- Functional Coverage
- Architecture
- Flexibility
- 100% Web Based
- SAAS

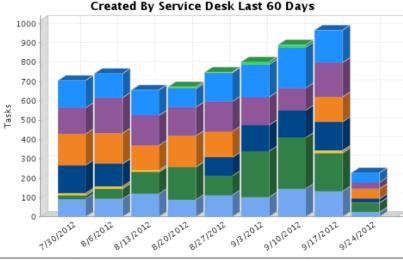
Service Now selected September 2010.



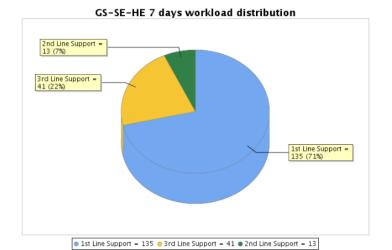
## Operational since Feb 2011

- > 90000 requests treated
- >100000 incidents treated
- 885 Supporters using it





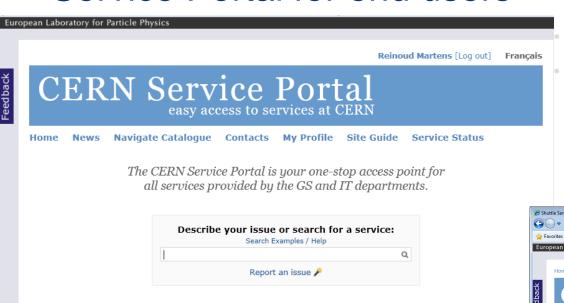
■ Christian Scherly ■ Emilie Kirschner ■ Hakan Ilhan ■ Michael Silverman ■ Miguel Ribeiro ■ Mina Hamad ■ Stephane Le Clanche ■ Lionel Dieu





## The Service management toolbox:

### Service Portal for end users

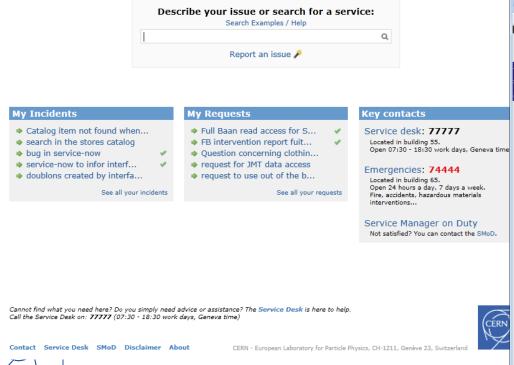


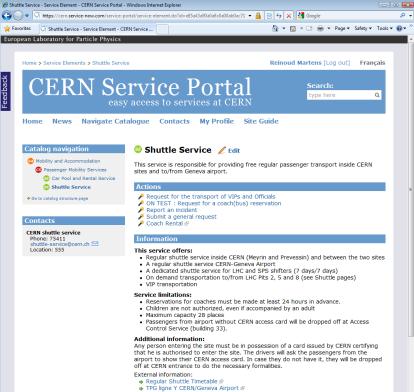
Google like search

Context aware 'Record producers'

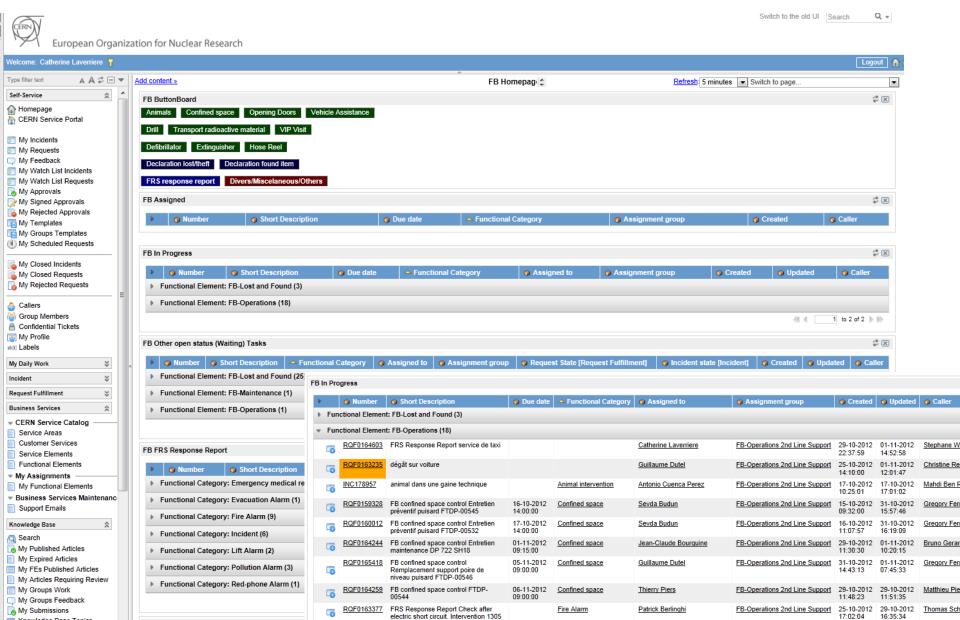
→

Automated ticket assignment





### Service-Now back office



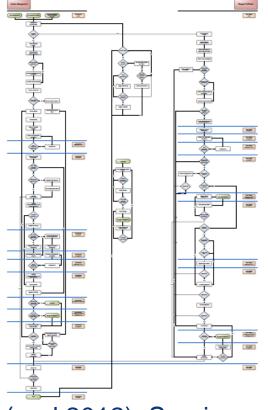
### Service-Now

### Relevant Features

- Fully WEB based (can be used anywhere from any platform)
- Templates (Automation of Tasks)
   (automatic filling in of fields, recipes)
- Record Producers (Forms)

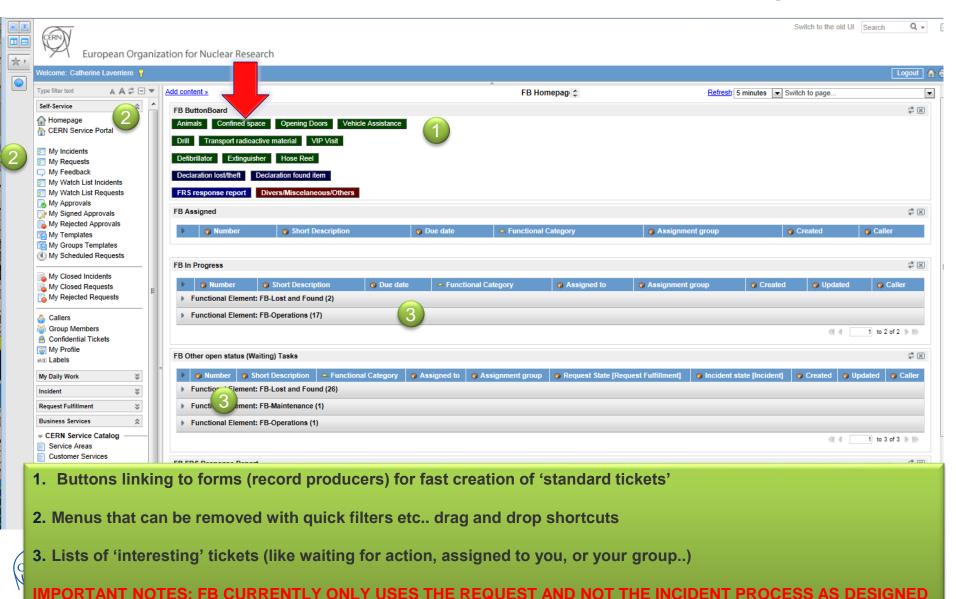
  (question and answer forms)
- ITIL processes supported at CERN
  - Incident, Request, Knowledge, Change, Event (end 2012), Service catalog, Service Level, Reporting, ...
- Prioritization, Targets and automatic Escalation
- Watchlist (keep relevant people informed in real time)
- Reporting
- Aligned with all CERN corporate systems and policies

(locations, persons, equipment, roles, and IT's information security policies!)

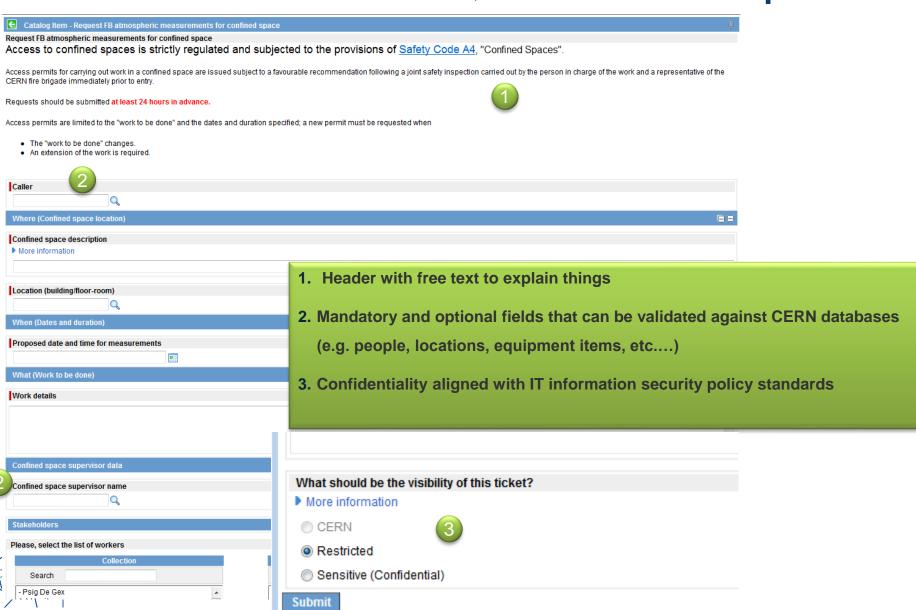




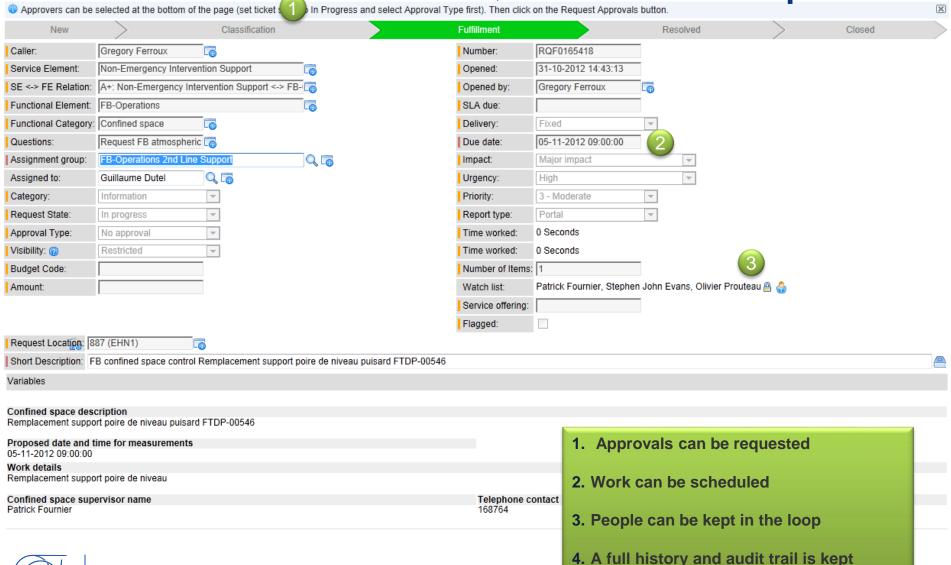
## Service-Now for FB; Homepage



### Service-Now for FB; Confined Space



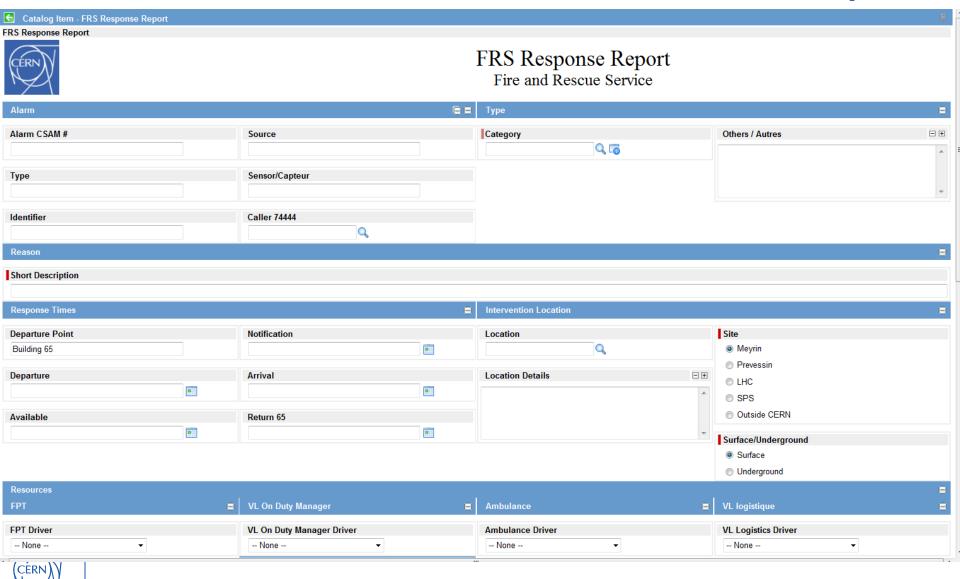
Service-Now for FB; Confined Space



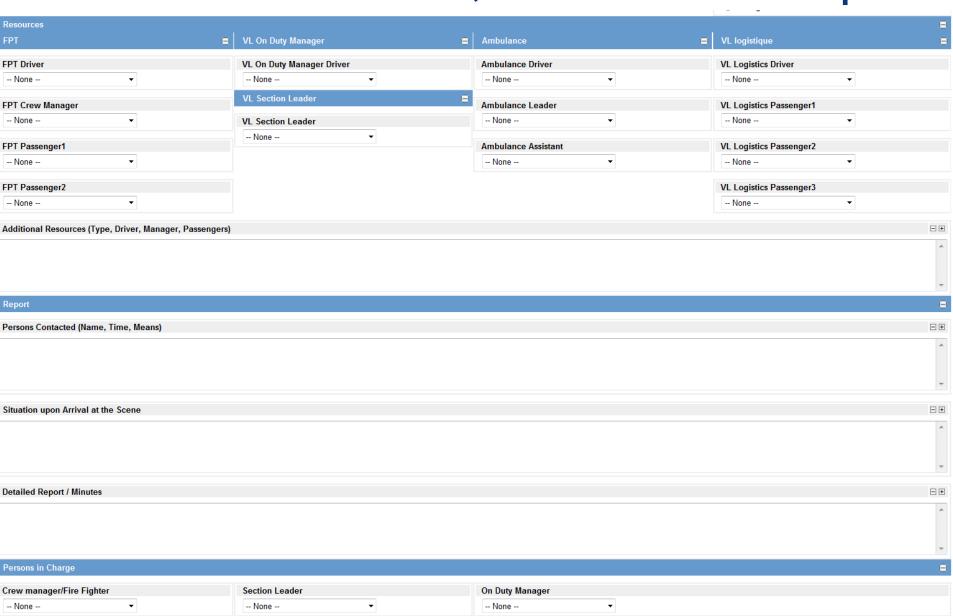
## Service-Now for FB; Reporting



### Service-Now for FB; Intervention report

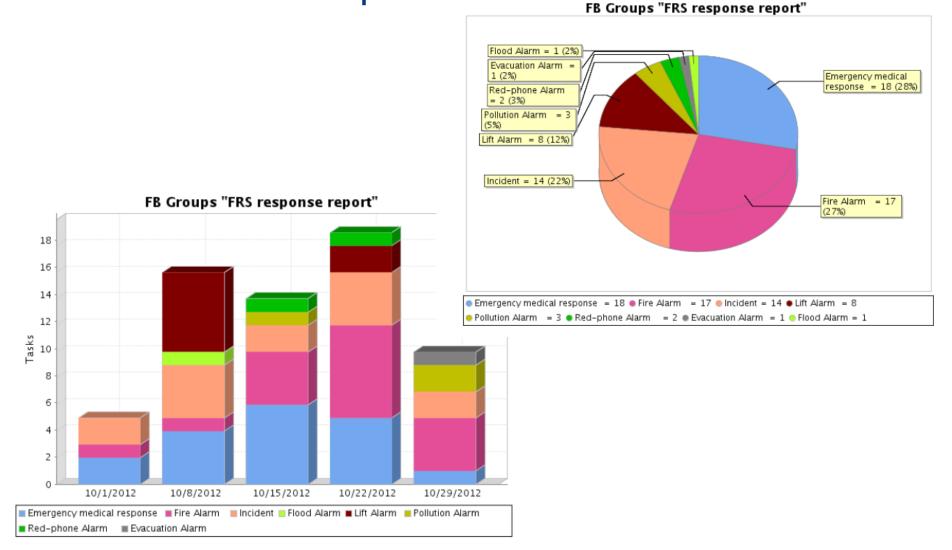


## Service-Now for FB; Intervention report



### Service-Now for FB; Intervention report

Used since a couple of weeks..



# Service-Now for FB; PDF printing



#### **FRS Response Report**



RQF0165030

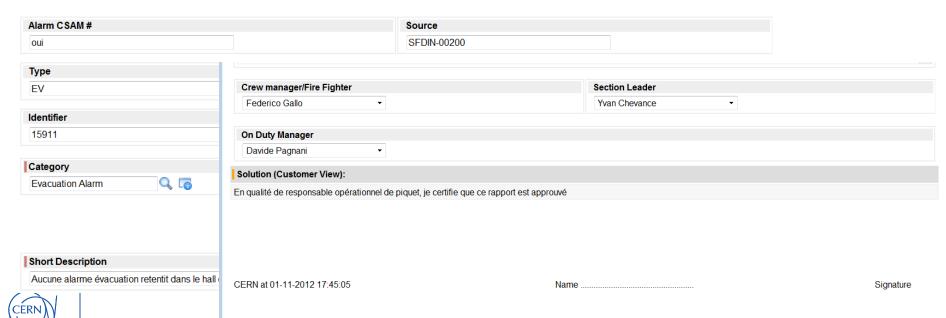
FRS Response Report Aucune alarme évacuation retentit dans le hall du Bt 157.

Caller: Yvan Chevance

#### Last comment:

Ticket resolved. The following solution was provided:

En qualité de responsable opérationnel de piquet, je certifie que ce rapport est approuvé



### Service-Now elsewhere

- The tool is designed to orchestrate incident management and request fulfillment in real time.
- Benefits of real time: real time escalation, real time communication and coordination, etc..
- Further interesting features of service-now
  - SAAS; 24/7
  - Hosted outside CERN site in Geneva area
  - Hot failover in Zurich
  - Many (>>400) very significant customers world wide



## Status Board

CERN > GENERAL SERVICES STATUS BOARD



Home Outages Interventions Changes News Subscribe Help

 To communicate proactively on major incidents and outages (planned or unplanned)

**DRUPAL** based (currently)

#### Friday, November 02, 2012 10:00

#### **News & Announcements**

New pedestrians and cyclists entrance on the Prévessin site | Posted on 31-07-2012

Summary	Time of incident	Location	Service Affected	Domain	Impact	Status	Last updated at	Resolved on
Heating issue	Mon, Oct 1, 09:24	Blg 40 Aile C	Heating, Ventilation And Air Conditioning Service	Infrastructure	Service is unavailable	Ongoing	Mon, Oct 1, 09:30	

Summary	From	То	Location	Service Affected	Domain	Impact
Coupure chauffage à MEYRIN secteur FRANCE	Thu, Nov 1, 16:00	Fri, Nov 2, 12:00	274, 35, 36, 281 à 288, 181, 599, 597, 220, 180, 183, 30, 279, 182, 188, 110, 581, 584, 594, 590, 595, 596, 113, 112, 376	Heating, Ventilation And Air Conditioning Service	Site Services	Service will be unavailable during the intervention

- otions)
- 2. Interventions (planned interruptions)
- 3. Subscription to RSS feeds
- 4. There is information on WHAT, WHERE, WHEN and WHY



# Coming soon

- 'Related tickets' (e.g. for a safety inspection, all requests can be monitored and orchestrated from a single ticket).
- Event management (first for IT)
  - "The process that monitors all events that occur through the infrastructure. It allows for normal operation and also detects and escalates exception conditions."
- Status Board upgrade from Drupal to Service-Now
  - One status board for GS, IT, HR and FP
  - Twitter Feed (which seems the 'de facto' resilient method to push information out in case of outages, see Fermilab, and ..)





# My Conclusions



Chaotic

Processes and Tool aligned with best practice

Pragmatic not bureaucratic

(we are not the ayatollahs of ITIL)

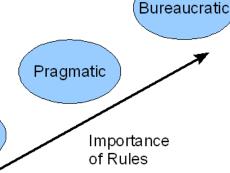
"A fool with a tool, is still a fool"
(Tools and processes is not enough, they have to be used correctly)



We hope we can converge in terms of vision and strategy; lets join forces.



YES WE CAN!



## Questions / Reactions?



