



Centre de Calcul de l'Institut National de Physique Nucléaire et de Physique des Particules

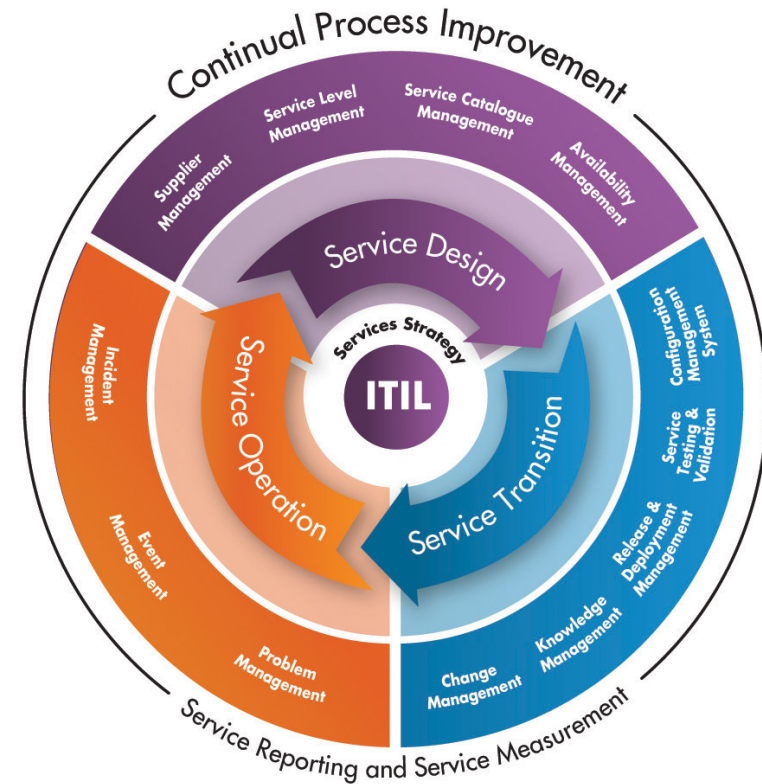
# ITIL best practices at CC-IN2P3

NCSA / CCIN2P3 video conference on January 22nd, 2016

Frederic.Azevedo@cc.in2p3.fr

- About ITIL
- ITIL @ CCIN2P3
  - How it started
  - What we did
- Feedback

- « ITIL advocates that IT services are aligned to the needs of the business and support its core processes. [...] »
- Best practices
  - A lot of common sense
  - Usually things we do without knowing it's "quality"
  - Describes a service life cycle
    - 5 phases
    - 26 processes and 4 functions
- However, it's mainly theory
  - Requires pragmatism to match the existing environment (people and habits)
  - There is no wonderful tool that does everything by itself



- November – December 2009
  - First ITIL V3 Foundation trainings (14 people)
- 2010
  - 10 more (a total of 24 out of 50 computing engineers)
  - First actions in the Operation team
    - We welcomed Dr. Holger Marten from KIT ([Karlsruher Institut für Technologie](#))
      - External view on our Service Desk and IT Operation Control
    - First need was to improve
      - Event and Incident management
      - Internal and external communications
      - We created a Control Room with one staff for Service Desk and one other for IT Operation Control
  - Designation of a Quality manager
    - Propose actions directly to the steering committee
    - Communicate on the quality activity (or related)
- It was the start of ITIL oriented work

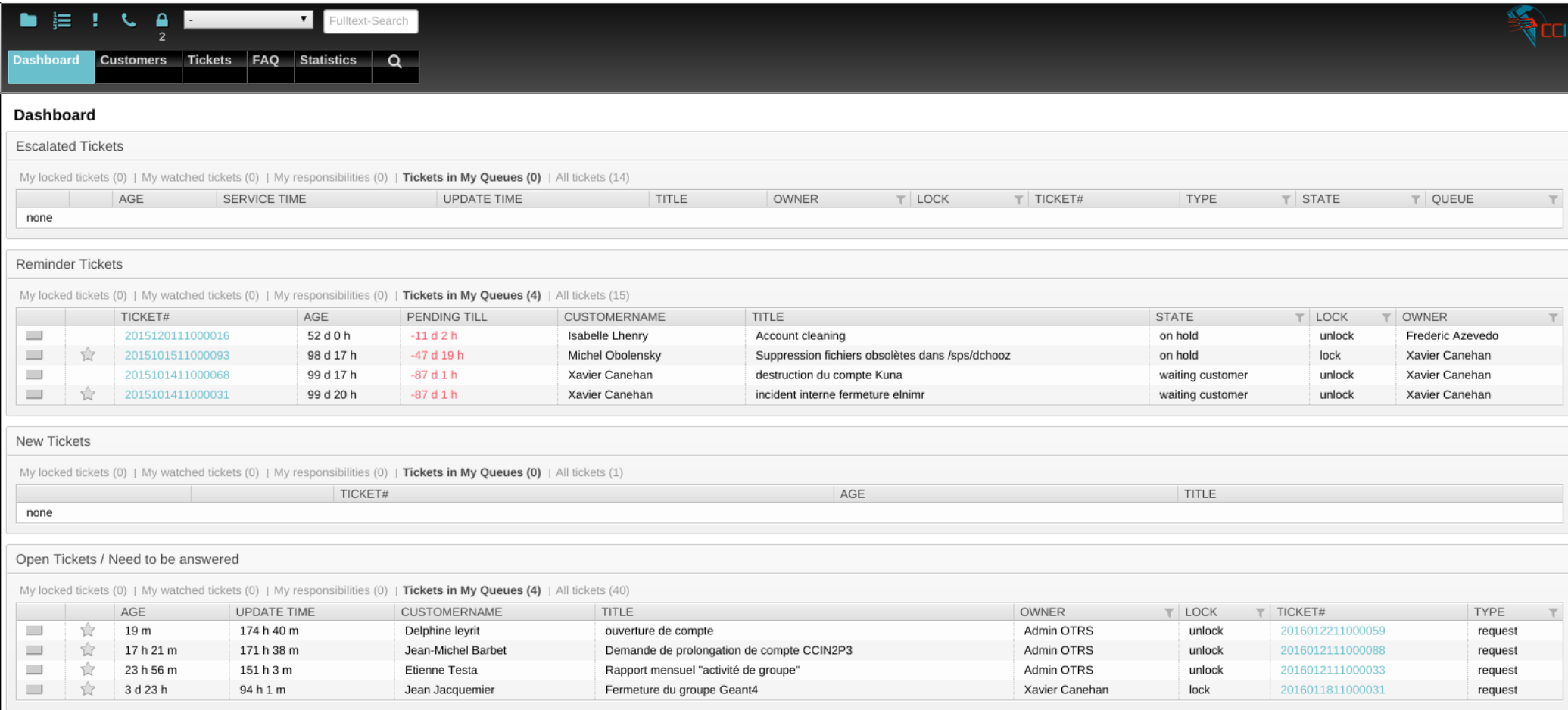
- Trainings
  - Suggest people to have at least the “ITIL Foundation” training
    - Share the same vocabulary : otherwise it's a real difficulty
    - Understand what we are doing
    - See the importance they have in the service quality
    - Total of 34 computing engineers trained and 23 remaining (non permanent)
  - Creation of a group of 3 people with higher level trainings
    - 2 have the four “capabilities” modules
    - Share ideas on what could/should/must be done
    - Suggest a pragmatic approach to do it
- Planing an internal seminar on ITIL for 2016
  - Talk about what we did and what's next

- Some tasks and projects done and in progress
  - Control room improvement
  - Event, Incident and Problem Management
  - Change management process
  - Creation of a Configuration Management Data Base (CMDB)
  - Service Catalog
  - Business continuity
  - Identity Management
  - ... and all the daily work of **everybody**

- Control Room
  - Objectives
    - Make support team closer to the operations
    - Have a better view of ongoing incidents to improve ticket handling
      - Give a more accurate information to the users
      - Have a better reactivity
    - Have a Single Point of Contact (SPOC) for users and also internally
    - Have a more reliable information transfer with the on duty engineer
  - Try to fulfill some ITIL functions :
    - Service Desk
    - IT Operational Control
- We had to change our ticketing system
  - Mandatory tool for our users and Service Desk
  - We changed because
    - We wanted new features (see backup slides for details)
    - Difficult to develop in our old homemade tool



- Dashboard of our ticketing system (OTRS)



**Dashboard**

Escalated Tickets

My locked tickets (0) | My watched tickets (0) | My responsibilities (0) | **Tickets in My Queues (0)** | All tickets (14)

	AGE	SERVICE TIME	UPDATE TIME	TITLE	OWNER	LOCK	TICKET#	TYPE	STATE	QUEUE
none										

**Reminder Tickets**

My locked tickets (0) | My watched tickets (0) | My responsibilities (0) | **Tickets in My Queues (4)** | All tickets (15)

	TICKET#	AGE	PENDING TILL	CUSTOMERNAME	TITLE	STATE	LOCK	OWNER
	2015120111000016	52 d 0 h	-11 d 2 h	Isabelle Lhenry	Account cleaning	on hold	unlock	Frederic Azevedo
☆	2015101511000093	98 d 17 h	-47 d 19 h	Michel Obolensky	Suppression fichiers obsolètes dans /sps/dchooz	on hold	lock	Xavier Canehan
	2015101411000068	99 d 17 h	-87 d 1 h	Xavier Canehan	destruction du compte Kuna	waiting customer	unlock	Xavier Canehan
☆	2015101411000031	99 d 20 h	-87 d 1 h	Xavier Canehan	incident interne fermeture elnimr	waiting customer	unlock	Xavier Canehan

**New Tickets**

My locked tickets (0) | My watched tickets (0) | My responsibilities (0) | **Tickets in My Queues (0)** | All tickets (1)

	TICKET#	AGE	TITLE
none			

**Open Tickets / Need to be answered**

My locked tickets (0) | My watched tickets (0) | My responsibilities (0) | **Tickets in My Queues (4)** | All tickets (40)

	AGE	UPDATE TIME	CUSTOMERNAME	TITLE	OWNER	LOCK	TICKET#	TYPE
☆	19 m	174 h 40 m	Delphine leyrit	ouverture de compte	Admin OTRS	unlock	2016012211000059	request
☆	17 h 21 m	171 h 38 m	Jean-Michel Barbet	Demande de prolongation de compte CCIN2P3	Admin OTRS	unlock	2016012111000088	request
☆	23 h 56 m	151 h 3 m	Etienne Testa	Rapport mensuel "activité de groupe"	Admin OTRS	unlock	2016012111000033	request
☆	3 d 23 h	94 h 1 m	Jean Jacquemier	Fermeture du groupe Geant4	Xavier Canehan	lock	2016011811000031	request



- Event and incident Management
  - The process is not completely defined
  - However we have some rules and procedures
    - To log events in one accessible place
    - To give information how to catch meaningful events and to monitor services
      - Event handling made using Collectd, ElasticSearch and Kibana
      - Monitoring made using Nagios
    - To recommend actions to be taken on given events or incidents
  - The control room is the SPOC for incidents handling
    - Registers the incident and keep a log until closure
    - Has the experience and the knowledge to evaluate impact
- Problem management
  - We don't have so many Problem (in ITIL terms)
  - For now, real problems were dealt without written process

- Change management process
  - We have a change process for major changes
    - We have 4 possible scheduled outages per year
    - For changes with “big” impact
    - For all services, including facility management (chillers, power supply lines, ...)
    - We start collecting the needs 1 month before the outage
      - Analyze the impact on other services and on the user
      - Approve the maintenance requests (with the management if needed)
      - Establish a planning
      - Approve the planning with the management and steering committee
      - Have a final review after the outage
  - Process is to be fully defined to include the other changes
    - Working on a pragmatic way to do it
    - Has to be effective and efficient

- Home development for scheduled outages

**GOA CC-IN2P3** [Accueil](#) [Arrêts](#) [Configuration](#) [AZEVEDO Frédéric](#)

Bienvenue administrateur Frédéric

**Info arrêt**

Date de clôture des demandes	03/09/2015
Date préparation 1	08/09/2015
Date préparation 2	16/09/2015
Prochain arrêt	Du 22/09/2015 08:00 au 22/09/2015 18:00
Date bilan	24/09/2015
Gestionnaires	<a href="#">AZEVEDO Frédéric</a> (backup: <a href="#">POULAT Suzanne</a> )
Responsable comm	<a href="#">CARDENAS Yonny</a> (backup: <a href="#">BOUVET David</a> )

DÉPOSEZ UNE DEMANDE DE TÂCHE  
**Déposer**

TEMPS AVANT CLÔTURE  
**Expiré**

TEMPS AVANT ARRÊT  
**Expiré**

TOUTES LES TÂCHES  
**29**

**Tâches de l'arrêt**

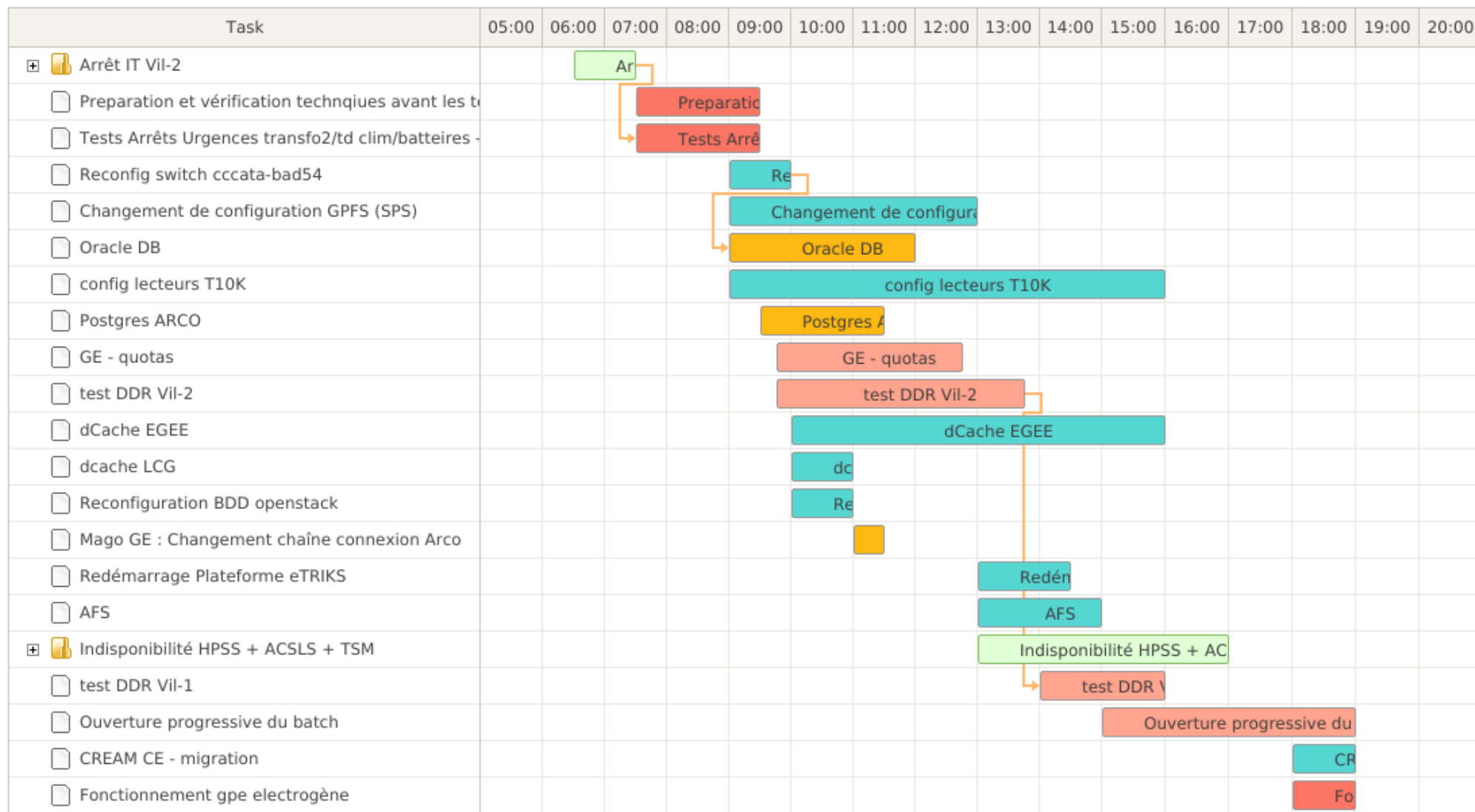
Tout Dev Réseau Stockage Système Exploitation Support Services généraux Actions

50

DATE	DÉBUT	FIN	LIBELLÉ	NOTIF	ETAT	
22/09/2015	06:30	07:30	<a href="#">Arrêt Plateforme eTRIKS</a> [+]		Terminée	
22/09/2015	06:30	07:00	<a href="#">Arrêt batch</a> [+]		Terminée	
22/09/2015	06:30	07:30	<a href="#">Arret aserv</a> [+]		Terminée	

# ITIL @ CCIN2P3 – What we did and plans

## Plannification de l'arrêt



Pas modérée DEV INFRA OPE SGX

- Configuration Management Data Base (CMDB)
  - Project started Oct. 2012 and ongoing
  - Related to the Service Asset and Configuration Management ITIL process (SACM)
  - We need a gathered view of all the existing configuration items (CI) from all services
    - Each service has his own CI and their relations stored somewhere
      - Excel file, flat file, data base, ...
    - We are gathering these informations into one place
    - But we keep the original files and the way people work with them
  - We are building a system to be able to visualize the impact of a component failure (machine, network, storage component, ...)
  - Major difficulties
    - Make people understand it's important and we need it
    - Find available human resources

- Cmdbuild interface

CmdBuild - Mozilla Firefox

cccmdbuild/cmdb/management.jsp

User: Vamvakopoulos Emmanouil | Logout  
Group: SuperUser | Administration module

Open Source Configuration and Management Database

Class List

- Automatic
- BlockDevice
- Configuration
- ConfigurationGroup
- CoreGroup
- DnsAlias
- Expert
- ExpertGroup
- Hardware
- Server
- Switch
- NetworkInterface
- Rack
- ServiceElement
- UserGroup
- UserGroupContact
- Service

List - Server

Add card Server

Code	Description	Disabled	Created	Usage	WarrantyPeriod (month)	Rack	SmurfStatus	SmurfUsage	OperatingSystem	ChangeMessage	Type
HH25F1J	apcextra	No		telecom		laboratoires	Test	telecom			
527V55J	apcznets	No		telecom		laboratoires	Test	telecom			
127V55J	borextra	No		telecom		laboratoires	Test	telecom			
NNG00113010626	cadsupport	No		telecom		Telecom ...	Test	telecom			
9825F1J	caextra	No		telecom		laboratoires	Test	telecom			
G17V55J	caeznets	No		telecom		laboratoires	Test	telecom			
1233FMM0AN	ccacsls1	No		acsls	48	Robotique 1	Up	acsls			
1233FMM05U	ccacsls2	No		acsls	48	Robotique 1	Up	acsls		preparation arret lundi	
9110-10-0225A	ccacsls3	No		server			Test	server		preparation arret lundi	
9110-10-0221A	ccacsls4	No		server			Test	server		preparation arret lundi	
G3WCM4J	ccadodb01	No		telecom		Adonis 00	Test	telecom			
24WCM4J	ccadodb02	No		telecom		Adonis 00	Test	telecom			

Page 1 of 152

Search filter Clear filter Print

1 - 20 of 3026

Card Detail Notes Relations History

Modify card Delete card Clone card Relation graph Print card

CertName:

SmurfStatus: Test

SmurfUsage: telecom

OperatingSystem:

ChangeMessage:

Architecture: x86 32 bit

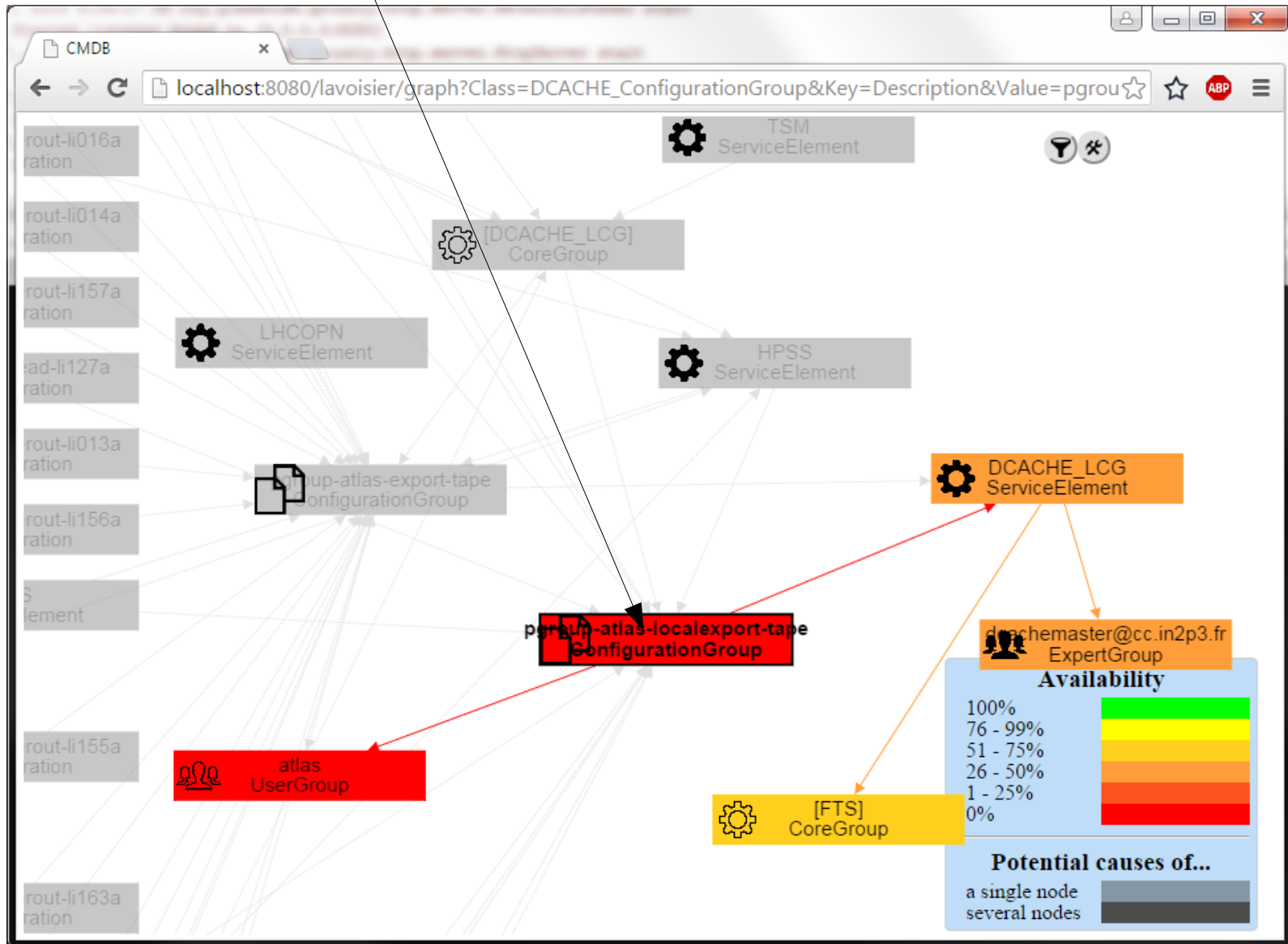
OSFamily: Scientific Linux

ops Rane cmdb Other

Save Cancel

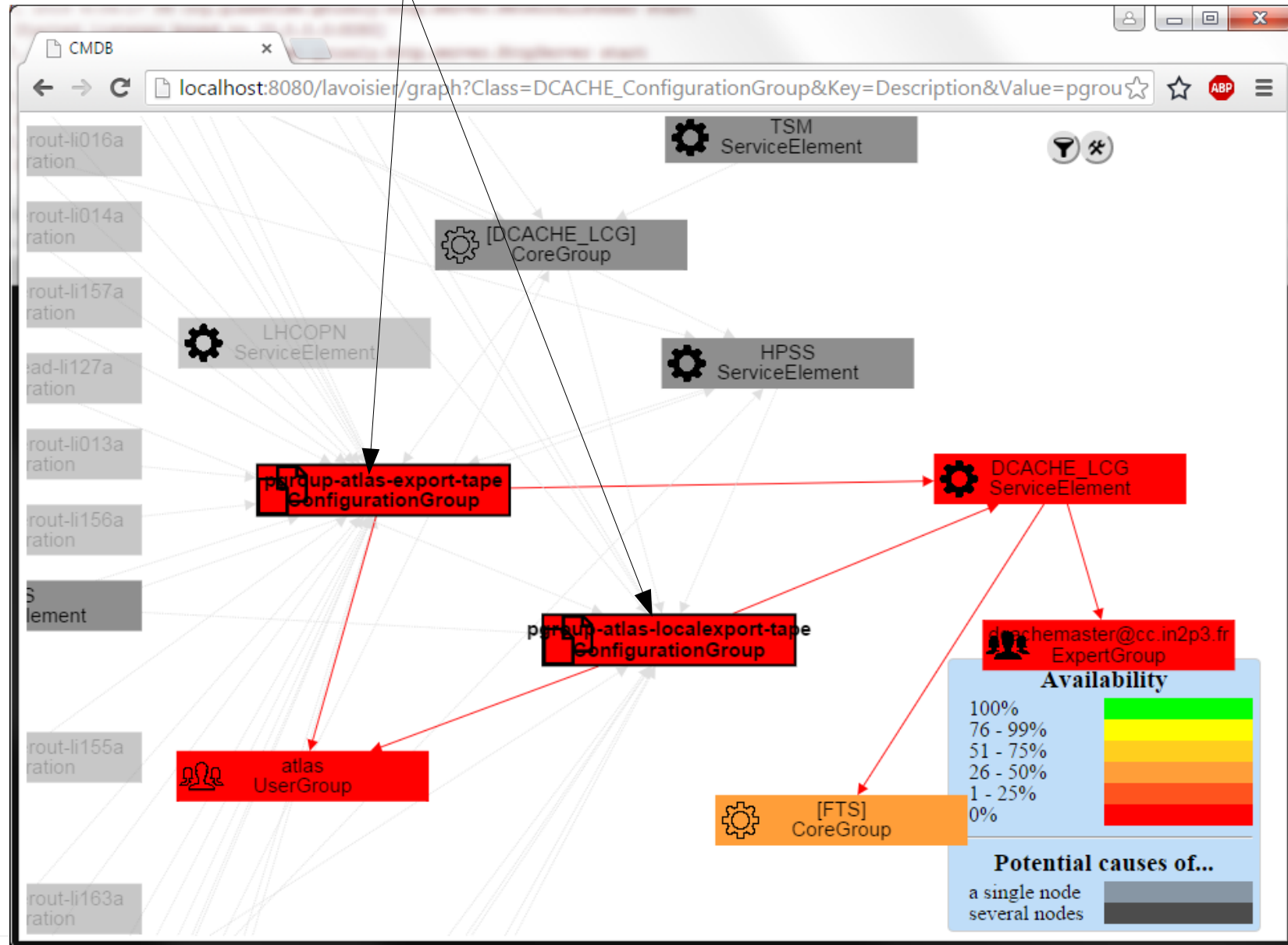
www.cmdbuild.org Info & Support Copyright © Tecnoteca srl

- Impact analysis example (home development)
  - With 1 failing item





- Impact analysis example (home development)
  - With 2 failing items



- Service Catalog
  - Work started in 2012 and is still ongoing
  - Related to the Service Catalog Management ITIL process
  - Why ? Isn't it simple to list what we provide ?
    - Seems the answer is : no, it's not so simple :-)
  - Major difficulties
    - Make people understand it's important to have one
    - Make service owners help us describe their services

- Identity management
  - First look at the topic in 2009
  - Project continued in 2014 and ongoing
  - Related to the Access Management ITIL process
  - We are missing a global view of users accounts and access rights
  - We still are using command line on different systems to manage accounts creation and deletion
  - Major difficulties
    - Find human resources available

- Business continuity plan
  - We had a 2 day planned power outage in December 2012
    - We used it as a real use-case to
      - Identify critical services (update the existing one)
      - Ensure our power generator was powerful enough
  - Afterwards we continued to
    - Identify major risks (fire, flooding, epidemic disease, ...)
    - Estimate their “Business” Impact
  - Major difficulties
    - Make people understand it's important
    - Low probability but some CAN happen
    - Due to lack of human resource, we did not go further

- Define processes the way ITIL recommends it
- Finish the ongoing projects
  - Will help us to make a step forward
- Knowledge management
  - Main objective : reduce the number of knowledge sources !
    - Around 5 different sources of informations
    - Sometimes a document exists in different sources and the version is different
- Key Performance Indicators (KPI) on processes
  - By the book : should be the first thing to do (easy to say)
  - Much easier to do when processes, procedures, tools are in place.
  - Be able to put numbers and trends on the benefits we are feeling (reactivity, effectiveness, efficiency and user satisfaction)

- The management and steering committee **must support** quality related activities
- Major problems are related to the **perception** of people about quality
  - **Convince** them it's important and useful for everybody
  - Show them that they have a **major role** in it
  - **Trainings** can help
    - Have someone with concrete examples from private companies
- **Pragmatism** : otherwise it's a fail before starting (personal feeling)

- Where to begin ?
  - First question might be
    - What do I want to improve (or initiate) ?
  - For production site, “Service Operation” processes are really useful
  - For new services to be designed, let's focus on the “Service Design” processes
  - Indicators are important
    - But not so easy to define at beginning
    - Often felt as a way to control the job done



- ITIL in our collaboration
  - Can help for the services we will set up
    - On their design
      - If new services must be created, common design ?
    - On the way we will handle the changes in production
    - On the way they will be operated
      - Common procedures on common tasks could exist
        - Same escalation rules for an incident on a given service ?
  - Help each-other to improve our services
  - Share knowledge

- ITIL related : <https://www.axelos.com/best-practice-solutions/itil/what-is-itil>
- Ticketing system OTRS : <http://www.otrs.com/>
- Tool used for our cmdb tool : <http://www.cmdbuild.org/en>
- Identity management tool : <http://openidm.forgerock.org/>
- Tools used for event handling
  - Collectd : <https://collectd.org/>
  - Elasticsearch : <https://www.elastic.co/>
  - Kibana : <https://www.elastic.co/products/kibana>
- Monitoring tool is Nagios : <https://www.nagios.org/>

# Questions ?

# BACKUP slides

# New features wanted in the ticketing system

- Define ticket types
  - Incident
  - Request for Change
  - Information request
- Follow/watch any ticket
- Manage tickets
  - Escalations
  - Statistics
- FAQ
- ITIL compliant product for
  - Change management
  - CMDB
  - Service Catalog
  - Service Level Management
  - Link ticket to any of these

