BOOTCAMP LPCDEV

Information Technology at LPC

- Thursday the 7th of november, 2024 -

IT Team

IT Services & Resources

Contact & Helpdesk

LPC IT Team

MISSIONS

- **Systems & network administration**
- **Software development & computation**
- **User helpdesk**

6 CNRS & 1 UNICAEN
4 DEV & 3 SYSADMIN

Informatique

T. Chaventré

Systèmes & Réseaux :
G. Cubero, AI
Y. Kermorvant, IE (resp. ASR)
L. Noblet, AI

Développement logiciel :
T. Chaventré, IR
J. Hommet, IR
J. Poincheval, IE

Calcul scientifique :
P. Davis, IR

https://www.lpc-caen.in2p3.fr/wp-content/uploads/2024/10/Equipes_Services_Cellules.pdf

1- SYSADMIN

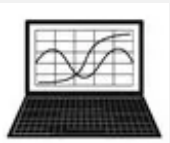
ACTIVITIES

- **Infrastructure management**
- **Deployment & maintenance**
- **Purchases**
- **IT Security**
- **VoIP telephony**
- **User help & support**

1 cooled servers room
4 equipment rooms
5 visio rooms

90 desktop & 60 laptop PC

30 hard & 50 virtual servers



3 CPU & 3 GPU server farms

10 switches, 10 WiFi hotspots, 10 VLAN

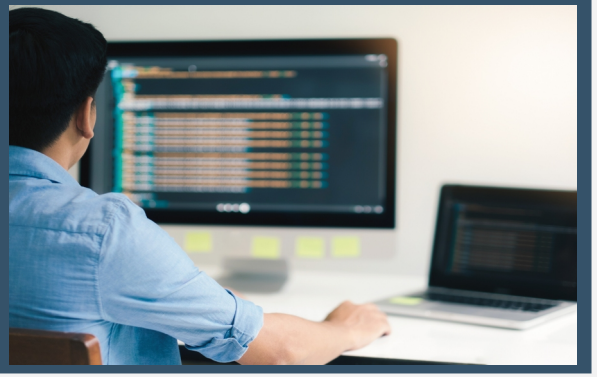
Services catalog & documentation

2- DEV & COMPUTING

ACTIVITIES

- **Collaborative projects management**
- **Software development & deployment**
- **Scientific computing**
- **Good practises & QA sharing**
- **Scientist help & support**

R&D
Physics experiments
Software models & frameworks



DAQ Systems

ASIC Test Bench (PLAS, FASTIME...)

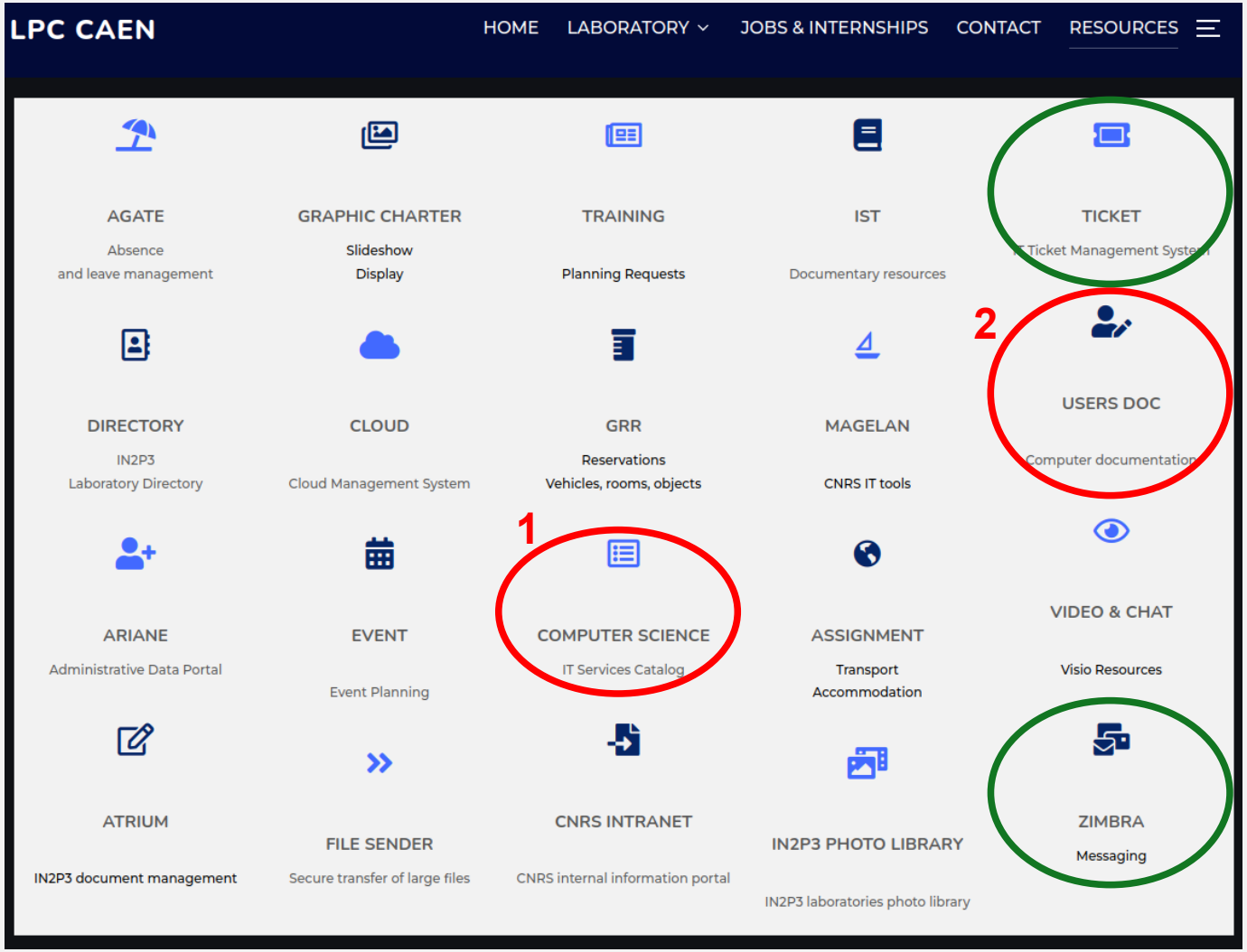
Data modelisation, analysis & visualization (SPaM, TheSmog)

Computation for Physics

Best practices WG & teaching

HELP & USEFUL LINKS : entry point

https://www.lpc-caen.in2p3.fr/ressources/



To keep in mind

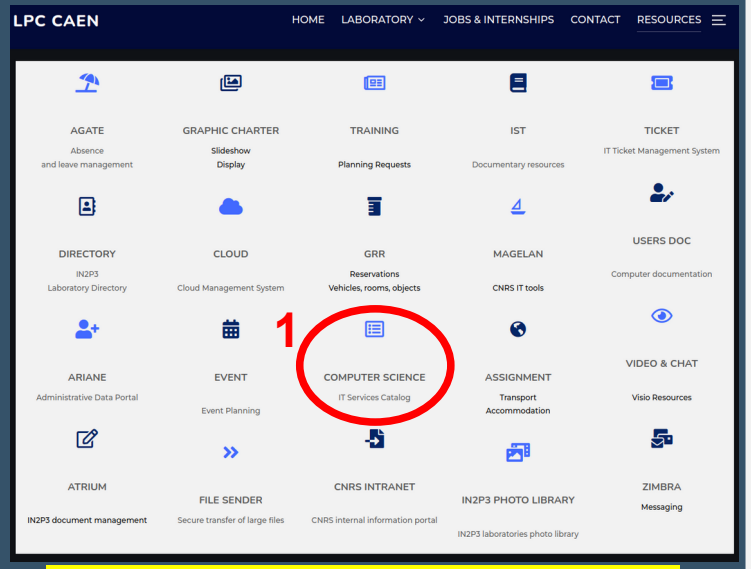
Next focus...

HELP & SUPPORT FOCUS (1/2)

SERVICES CATALOG

- **Server, PC, network, account…**
- **What, when, for who**

Context & exploitation
Procedure
Delays



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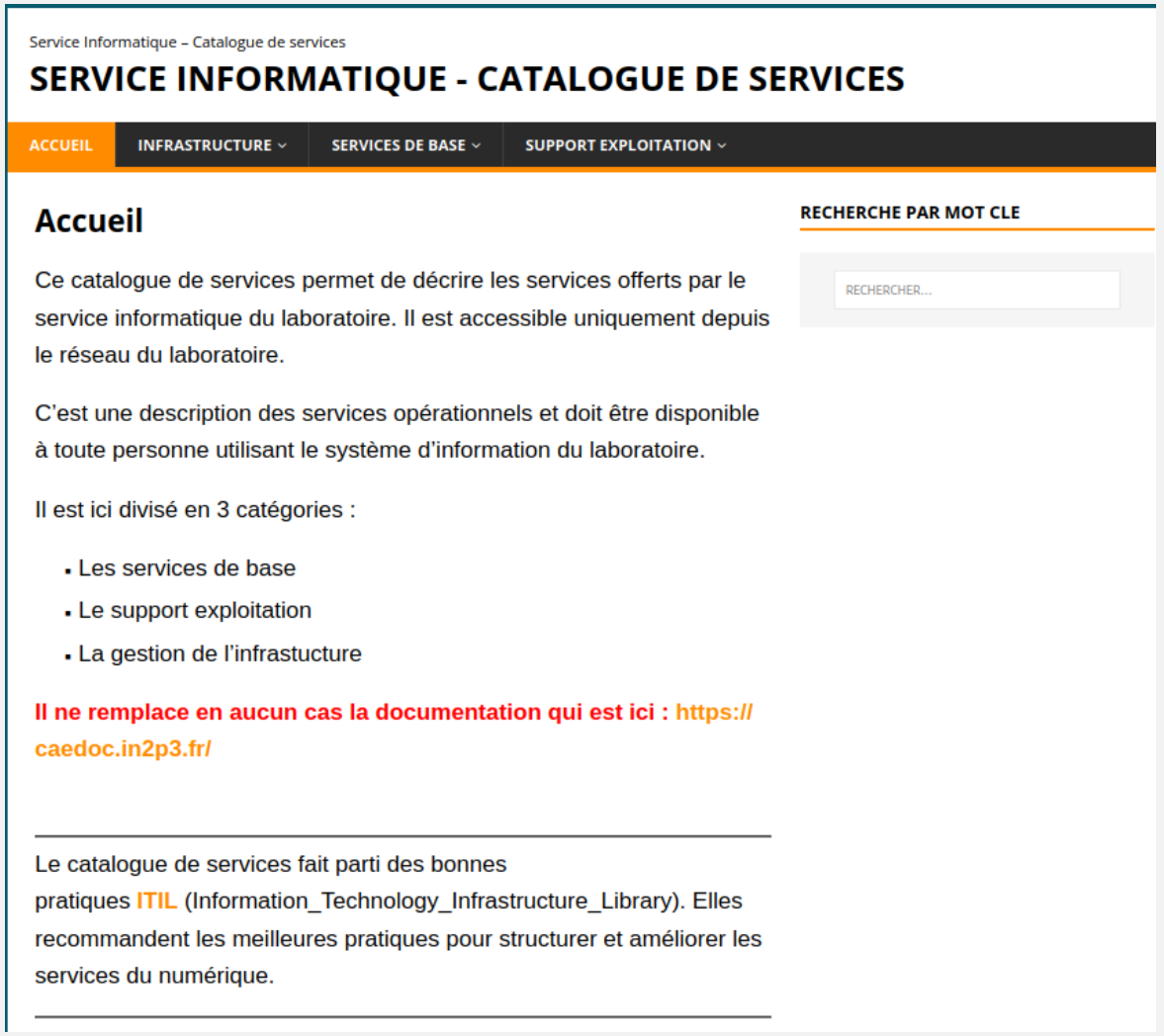
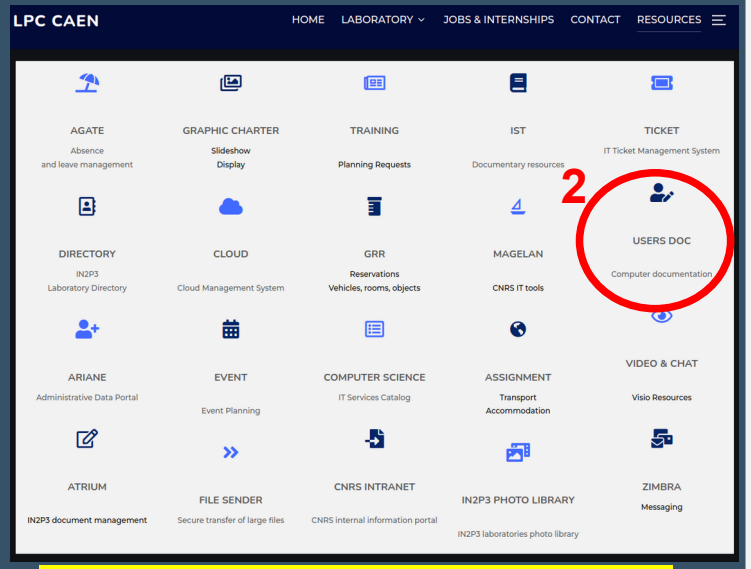


HELP & SUPPORT FOCUS (2/2)

DOCUMENTATION

- **Global sysadmin how-to**
- **Tips & tricks**

Help & contact
User account
Mailing Zimbra
Networks
Data storage & backup
Linux & Windows
Services



https://www.lpc-caen.in2p3.fr/ressources/

Documentation utilisateur

Support

- Contact : support@lpccaen.in2p3.fr
- Système de tickets – Soumission de demandes et de problèmes

Compte utilisateur

- Accueil nouvel entrant
- Userid – Mot de passe
- Demande d'ouverture de compte informatique
- Demande de prolongation de compte informatique

Courrier électronique

- Votre adresse mail et les listes mail du LPC
- Utilisation de Zimbra
- Configuration de thunderbird

Réseau

- Accès externes : SSH, VPN
- Transfert de données
- Wifi – Portail Captif
- Wifi – EDUROAM
- Wifi – LPC_interne
- Echange de gros fichiers
- Le réseau du LPC

.../...

SPECIFIC FOCUS (1/5)

Data management

- **Local storage area**
- **3-2-1 backup strategy :**
  - **Daily local backup**
  - **Nightly backup copy (outside server room)**
  - **Weekly external backup (CCIN2P3)**

Private directories
Public directories
Shared area
Linux & Windows

Windows & Linux net storages :

- **Private H: & /home/user : owner – 75 GB**
- **Public U: & /public : all users – 75 GB**
- **Data T: & /data : groups, projects – DMP in 2025**

Windows & Linux local storages :

- **C:\non_sauvegarde & /scratch unsaved**
- **C:\temp & /tmp cleaned on reboot**

Good skills :

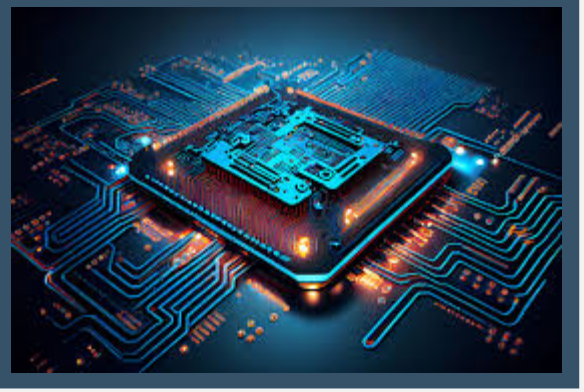
- **Win : DO NOT modify C:\Users\your_name**
- **Consider storing data into right area**
- **Remove old/unused files & directories**
- **Clean trash frequently**
- **Prevent attempted big data volumes (contact us)**

SPECIFIC FOCUS (2/5)

Simulation & computing

- **Local shared & dedicated computation farms**
- **3 CPUs & 3 GPUs**

Experimental design & tests
Research groups & collaborations



- **1 CPU farm for MCNP/Serpent (Aval)**
- **1 GPU server – 4 Tesla V100**
- **1 GPU PC – 2 Tesla Quadro RTX**
- **1 GPU server – 8 Tesla NVIDIA HGX (nFacet/KM3Net)**
- **2 CPU servers U20 & U22**

Linux Server

ubuntu22.lpc-caen.in2p3.fr ou **ubuntu22**	Ubuntu 22.04 – Serveur interactif et calcul
ubuntu20.lpc-caen.in2p3.fr ou **ubuntu20**	Ubuntu 20.04 – Serveur interactif et calcul
caeubuntu18.in2p3.fr	Ubuntu 18.04 – Serveur interactif et calcul
caelnx06.in2p3.fr	Scientific Linux 6 – Serveur cao électronique

- **Use SLURM (Simple Linux Utility for Resource Management) to dispatch your jobs**
- **caecaolin & caecaowin soon available for Comsol, ANSYS, Matlab & Mathematica**

SPECIFIC FOCUS (3/5)

Networks (1/2)

- **Wired Ethernet**
- **2 public WiFi ssid**

LPC_Visiteur
EDUROAM

- **Public network :**
  - **« in2p3.fr » domain**
  - **caexxx.in2p3.fr servers**
- **Private network :**
  - **« lpc-caen.in2p3.fr » domain**
  - **Needs a proxy link for remote resources access (caeproxy.in2p3.fr:3128)**

- **SSH & Win VPN securized access**
- **ProxyJump facilities if needed**
- **Resources remote access :**
  - **Win : vpn_reconnect**
  - **Linux : SSH & ProxyJump on caelogin**

- **Connecting any wired device is forbidden**
- **DO NOT remove any RJ45 cable without sysadmin help to avoid security failure**

SPECIFIC FOCUS (3/5)

Networks (2/2)

- **Wired Ethernet**
- **2 public WiFi ssid**

LPC_Visiteur
EDUROAM

LPC Visiteur :

- **Laptops (all OS) & smartphones**
- **14 days term**
- **Web & SSH**
- **Account creation at connection (needs a password printed on 1st floor)**

- **World wireless access from any ESR establishment member**
- **userid : your_name@lpc-caen.in2p3.fr**
- **pwd : your SSO LPC password**

SPECIFIC FOCUS (4/5)

Laptops & workstations

- **Windows 10 Professional**
- **Linux Ubuntu LTS**

LPC devices
Personal computers
Self service

- **Hard drive crypted (needs password)**
- **No root privileges**
- **Automatic updates**

- **GNOME environment (other on demand)**
- **Intranet connection « lpc-caen.in2p3.fr » : need proxy (caeproxy.in2p3.fr:3128)**
- **<u>Workstations</u> :**
  - **INTO lpc domain (standard userid/pwd)**
  - **/home, /public & /data mounted by NFS**
- **<u>Laptops</u> :**
  - **NOT in lpc domain : needs local account**
  - **/home is local**
  - **/public & /data access with SSHFS**

- **Personal computers are your responsability (no support)**
- **Wired network connection demand needed**

SPECIFIC FOCUS (5/5)

Web service

- **Public & private web sites**
- **R&D projects**

Email
GLPI (intranet only with Proxy)
GRR
DOC

Serveurs WWW

http://www.lpc-caen.in2p3.fr	Serveur WWW du laboratoire
https://lpccaen-mail.in2p3.fr/	Courrier électronique
https://caeresa.in2p3.fr/	GRR – Réservation de ressources
http://caeglpi.in2p3.fr/glpi/	support informatique – tickets
https://caedoc.in2p3.fr/doc-utilisateur/	Documentation informatique
https://caecloud.in2p3.fr/	Accès à vos data
https://espadon.cnrs.fr	Projet espadon

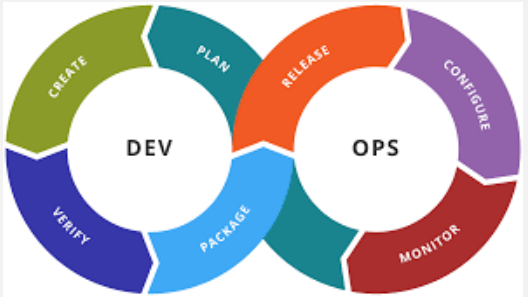
HELPDESK

Contacts

- **https://caeglpi.in2p3.fr/glpi/**
- **support@lpccaen.in2p3.fr**

Help & support
Hardware & software
Purchases

- **Software architecture**
- **OOP**
- **Languages & tools**
- **CI/CD with Git/Gitlab**
- **Tests & coverage**
- **QA**



- **Win & Linux Ubuntu**
- **Network access & VPN**
- **Data storage**
- **Virtualization**
- **Containerization**
- **Security**

QUESTIONS & DISCUSSION

THANKS A LOT FOR YOUR ATTENTION !