Status And Planning for Getting Biomed Resources into EGEE

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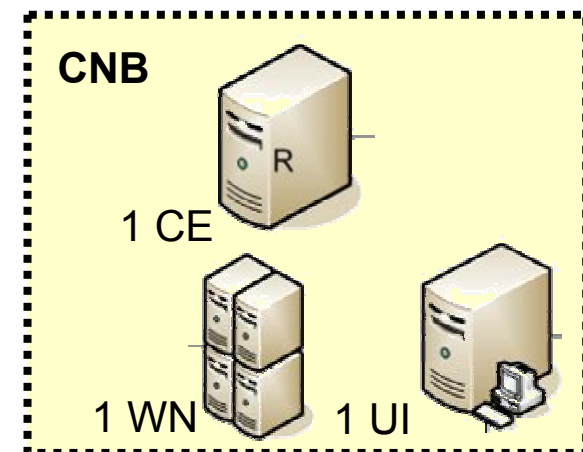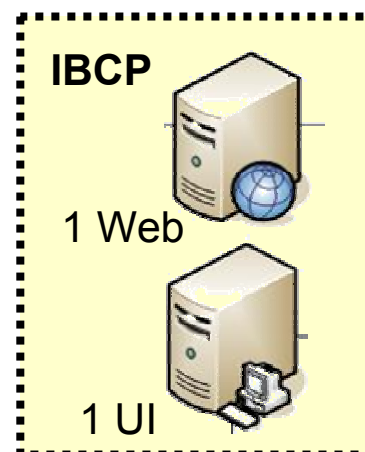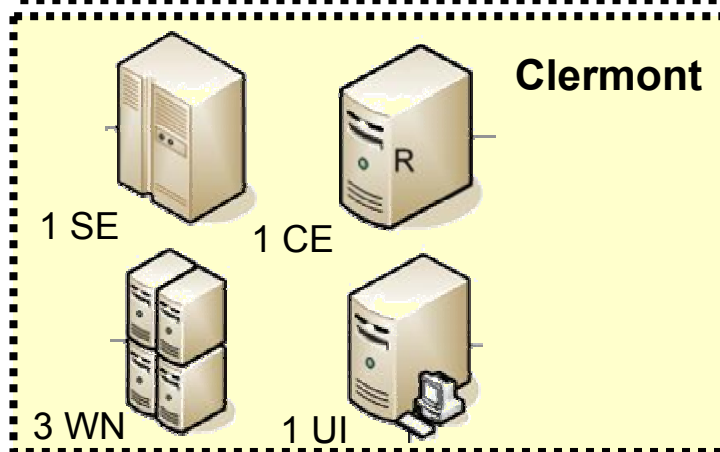# Current Status of Resources and Short Term Plan
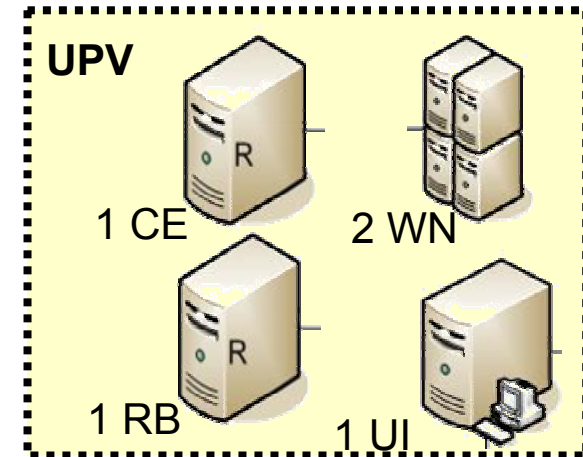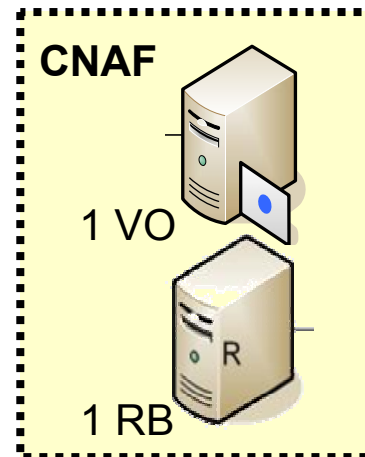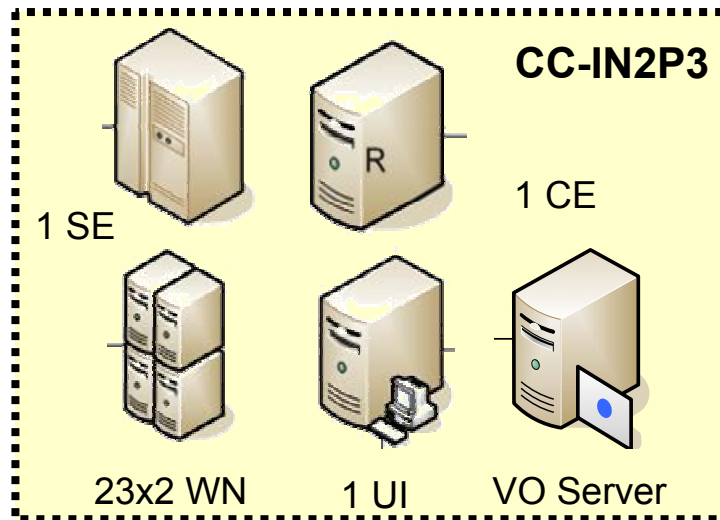
- Current Resources For Biomed
  - CC-IN2P3– CIC
    - VO LDAP Server.
    - 1CE + 23 dual processors WN.
    - 1SE 400Gbytes.
    - 1UI.
  - LPC-Clermont / IN2P3
    - 1UI.
    - 1CE+3WN.
    - 1SE 60Gbytes .
  - Resources at IBCP
    - 1 UI (Restricted)
  - CNAF
    - Main Biomed VO
    - 1 RB, BDII

- LCG2 Sites Not Connected to SA1 infrastructure (Initially Set-up for Application Development)
  - UPV
    - 1RB, 1CE, 2WN, 1UI.
  - CNB
    - 1UI, 1CE, 1WN.
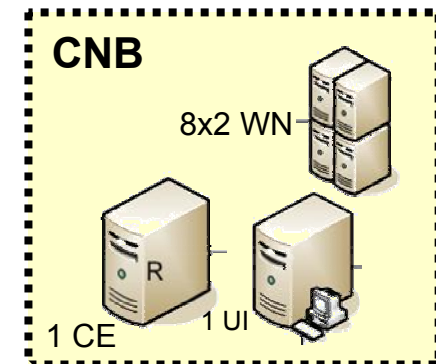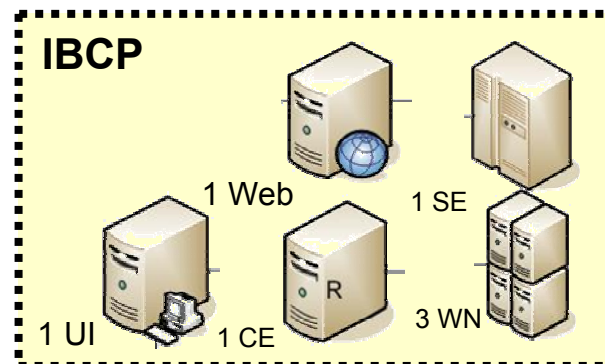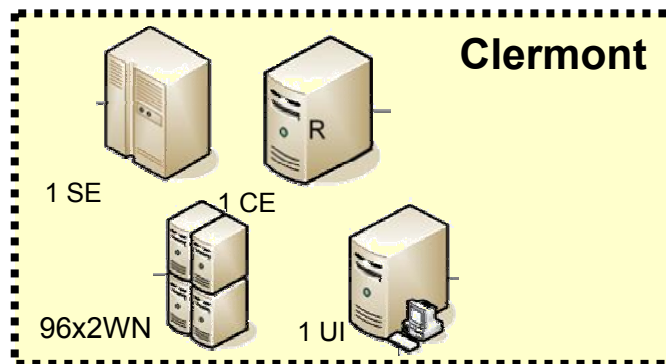
Current Status of Resources and Short Term Plan

- Planned To be Inserted
  - New Resources at IBCP
    - 1 SE (dual proc) disk 70 Gb, 1 CE (dual proc), 6 WNs (dual proc).
  - LPC-Clermont / IN2P3
    - 96 dual WN, incoming latest end of august, 1SE (10 TBytes).
  - Resources at SW Federation
    - Cluster at UPV is Being Reinstalled for Production. 10 Nodes Will be Provided. UI, RB and SE will be Linked to the EGEE Infrastructure.
    - The CNB is Setting-up a Cluster of 8 dual procs. to be Linked to the Infrastructure. 1RB.

- Other Commitments
  - IFIC and PIC-IFAE (EGEE-SW) Have Agreed to Provide Resources as Applications Are Available.
  - Resources at Israel: Being Integrated As a Consequence of a Contact with GRNET.

Evolution Forecasted (Today)

CC-IN2P3

1 SE
1 CE
23x2 WN
1 UI
VO Server

CNAF

1 VO
1 RB

UPV

1 CE
2 WN
1 RB
1 UI

Clermont

1 SE
1 CE
3 WN
1 UI

IBCP

1 Web
1 UI

CNB

1 CE
1 WN
1 UI

Evolution Forecasted (Shortly)
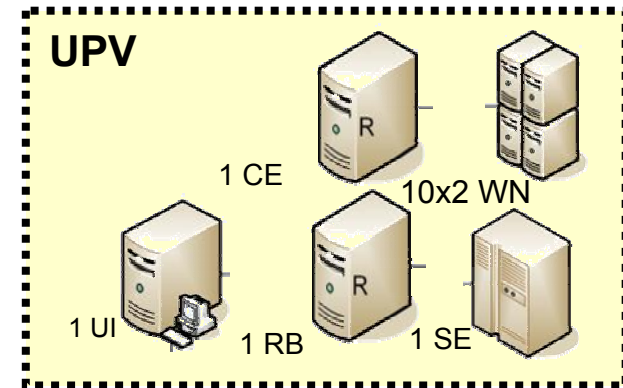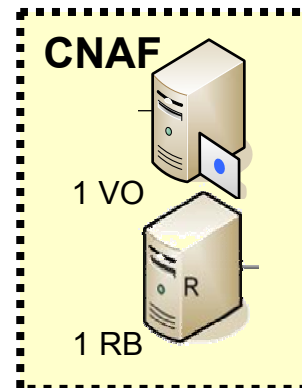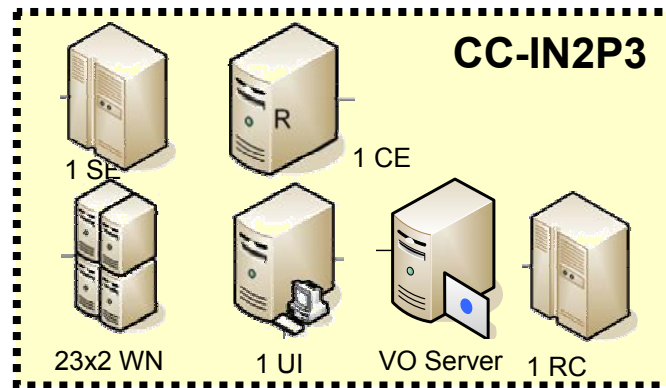
Needs Already Identified

- Need for a Replication of Critical Services
  - There is no ROC Devoted to Biomed.
  - Critical Services, such as UIs, RBs, VO are Only Supported by One Institution.
  - Reduced Involvement of NA4-Biomed Centres in SA1 (UPV, CNB, IBCP are Providing Resources and Not in SA1).

- Need for More Resources
  - Difficult to Negotiate Before Applications are in Production Stage.

- Need for a Wider Set of Resources
  - Multinational Centre Coverage is Desirable for Testing.
  - Difficulties Must be Faced as Earliest as Possible.

Needs - Possible Solutions?

- Most Involved Partners of Biomed (CNRS, UPV, CNB) can Compromise Hosting Critical Resources.

- Support From ROCs Already Compromised with HEP Will be Fundamental for High-Quality Production.

- New Resources will Involve The Compromise of New Applications' Users, Although CEs, WNs and SEs could be the Only Compromise They surely Could Make.

- The Compromise of a Small Part of Resources From Different Widespread Centres Will be Valuable.

Evolution Forecasted (Medium Term?)
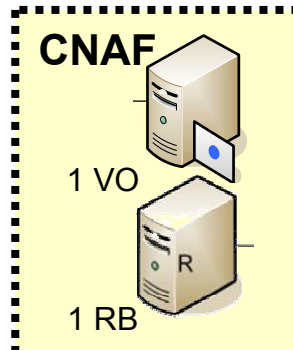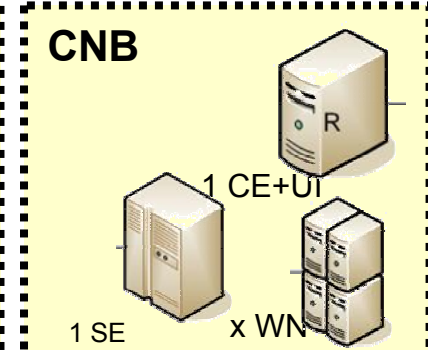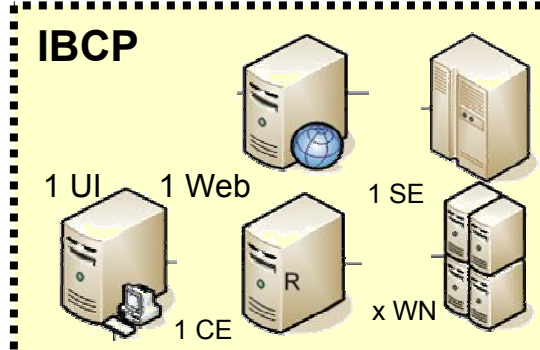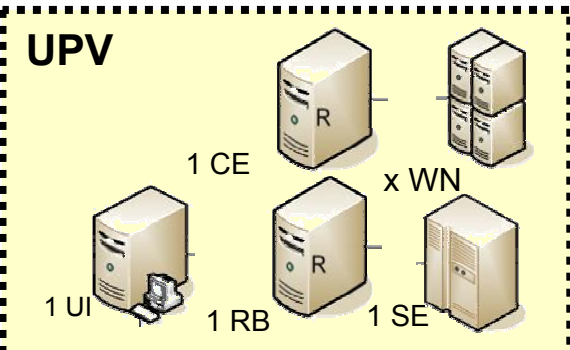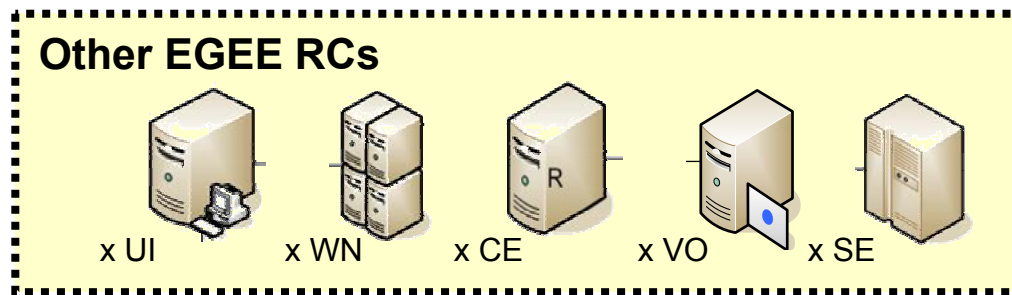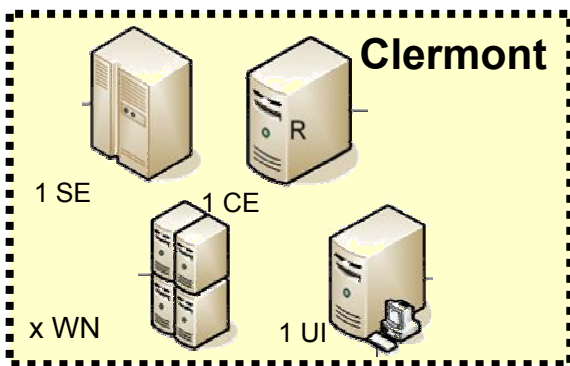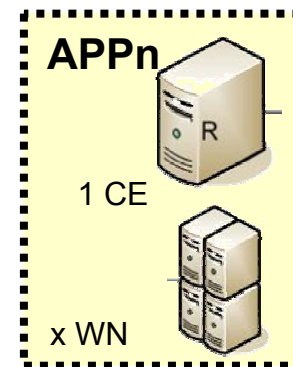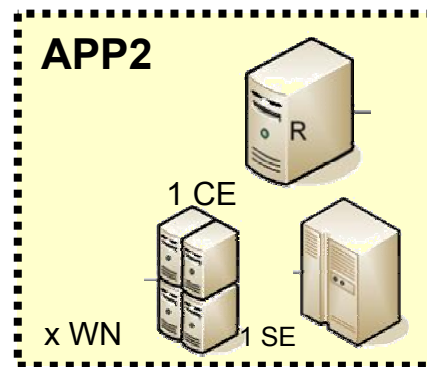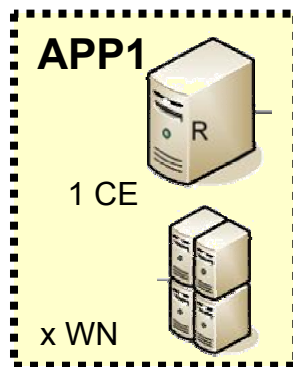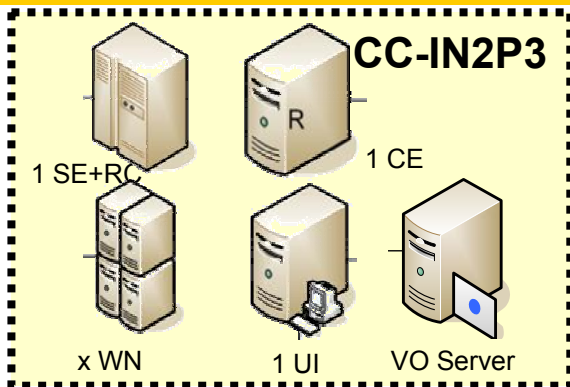
Analysis on the Potential Requirements of Applications

- Types of Biomed Related Applications
  - Mainly Data Intensive Applications.
    - Applications Related to the Management and Access to Medical Data.
    - Medical Data Repositories (Specially Imaging) and Genomics are Typical Targets.
    - However, Storage Does not Seem to be The Requirement but Ubiquitous and Secure Access.
  - Mainly Computing Intensive Applications.
    - Simulation of Biomedical Processes, Biocomputation.
    - Lack from Enough Computing Resources, Vast Resource Consumers.
  - Mixture of Both.
    - Intensive Processing on Large Biomedical Repositories and Databases.
    - Again Biocomputation, Although Storage Resources Do not Seem to Be the Problem.

Policy for Participation

- Users in Production Stage Must Contribute with Resources.

- Potential Users
  - Research Centres Closer to IT.
    - Usually Already Owning Resources.
    - Higher Degree of IT Expertise, Although Lack of Human Resources.
  - Biocomputation + Health Users
    - Reduced Expertise (or Experienced Staff) in Managing IT.
    - Privacy Problems: Industrial and Commercial for Biocomputation and in Medical Data for Both.
    - Regarding Medical Data, It is Stored within Hospital Boundaries, so Data Storage is Available at Hospitals, Although Computing Capabilities are Scant.
    - Project Partners Should Provide with the Lacking Resources (Computational and Storage).

- Usage Agreements Must Be Defined

Policy for Participation

- ## Usage Agreements Could Contain Items Such as:

  - Maximum Peak Use of Extern Resources Acceptable.

  - Minimum Average Number of Resources Provided.

  - Maximum Average Use of Extern Resources.

  - Security Policy Fulfilment.

  - Maximum Admissible Operative Delay.

- ## However Users Could be Reluctant To Be Linked to EGEE.

  - Privacy, Self-sufficiency of Resources, Fear on Loosing Control.

  - Use The System for Testing and Deploy their Own Platform for Production.

  - However if Services are Provided (Certification, Training, Assistance on Migration) Could they Be Considered as "EGEE-Grid Users"?

Potential Problems to Face

- Difficulties in the Installation and Maintenance of Systems.
  - Limited Support from the NA4 Could be Provided.
  - Packaging of Mw and Easy Installation and Configuration Procedures are Compulsory.
  - Lightweight User Interfaces are Necessary.
  - Configuration Templates Must Be Prepared To Avoid Replication of Efforts.
- Reliability
  - Replicate Critical Resources.
- Reluctance of Users.
  - Remote Use of Computers when Resources are Scant.
  - Standardisation of SW Could Difficult the Installation of Mw: Increase Portability.
- Peak Usage.
  - Usage Agreements Could be Interesting.
  - Accounting can Detect Repeated Abuse of Resources.
- Privacy Leakages.
  - MW Should Incorporate the JRA-3 Recommendations in the Versions To be Deployed.

Points For Discussion

- Enough Resources Must be Provided By the EGEE Consortium to Foster the Participation of Newcomers.

- A Resource Usage Agreement Should Be Drawn Up.

- Contribution of Newcomers is Important for the Production Stage.

  - Mostly Computing Resources will be Required.

  - Mw Must be Light-weighted, Portable and Very Easy to Install and Maintain to Face the Lack of Expertise and IT Staff.

  - There Should be a Compromise of Progressive Increasing the Resources Donated by EGEE as New Users Enter in the System -> Focus on Reaching the Success Criteria of EGEE.