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Nota di contenuto	Title Page; Contents; Preface; Course group shot; LHC computing (WLCG): Past, present, and future; Introduction; The past-the LCG project and the WLCG; Grid Services; AAA and Security; Computing; Storage; Information System; The WLCG; Policies; The present-experiences in LHC Run 1; Performance during LHC Run 1; First evolution of the computing models; Lessons learned; The future-the next 10 years; Run 2; Software; Longer-term outlook; Conclusion; Scientific Clouds; Introduction; Cloud computing: Definition and technology recap; The problem of getting predictions right How to define Cloud ComputingWho does what?; The Cloud Hype; Virtualization or Cloud Computing?; Pros and cons; Pros; Cost reduction; Flexibility and scalability; Democratization of resources; Business opportunities; Cons; Non-exclusive rights; Unavailability; No guarantees; Responsibility; Data privacy; Maturity; The big misunderstanding; Private vs. Public Clouds; More pros or cons then?; Apps in the Cloud; A typical application architecture; Is my application cloud-friendly?; Which adaptation?; Is anything missing?; Federated identities; Local scheduling; Networking and storage strategies Dynamically extending layer 2 networksUsing VMs in existing data centers; Virtualization penalties; Distributed authorization; PaaS

architectures; Portals; Conclusions; Clouds in biosciences: A journey to high-throughput computing in life sciences; Introduction; Short introduction to molecular biology; Short introduction to structural biology; A short introduction to drug discovery; Introduction to medical imaging and neurosciences; Summary; Grid usage in life sciences; Historical introduction; A pioneering application: WISDOM; Grid usage on the plateau of maturity
Structural biology on the gridVirtual Imaging Platform; Pilot agent platforms; Conclusions; Clouds in life sciences; Deployment of life science applications on public clouds; De novo deployment of scientific applications on academic clouds; Migration to academic clouds using pilot agent platforms; Conclusions; Grids and clouds for e-Health; Introduction; GINSENG; Entering a new world; Introduction; Big data; Conclusions; Monitoring and control of large-scale distributed systems; Introduction; The system design; Registration and discovery; The MonALISA service
Monitoring modules and information gatheringSecurity infrastructure; Data storage; Wavelets data compression; Monitoring clients and optimization services; Fast data transfer; Network monitoring and management; The Network Monitoring the USLHCnet; Network topology; Monitoring ALICE distributed computing environment; Services monitoring; Jobs and resource monitoring; Analyzing multiple time series data; Automated management; Data transfer services; Abstracted network topology; Network graph model; Path allocation and data transfer scheduling; Time-based path scheduling
Dynamic bandwidth allocation