Cloud Applications

Cloud technologies, like those from StratusLab, allow scientists and engineers to customize their computing environment, to provision compute and storage resources quickly, and to run network-accessible, application-specific services.

These features appeal to people from a broad range of disciplines.

Training Platform

NARVAL is a modular distributed data acquisition system used by several nuclear physics institutes (e.g. IPNO, INFN, GSI, GANIL, ...).

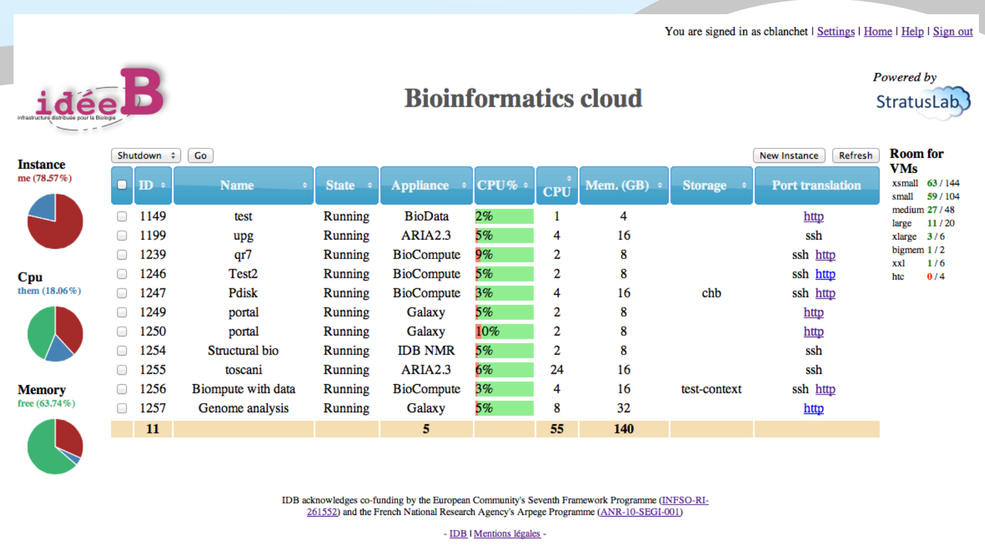
Direct use of the system is the most effective way to learn, but how to provide each student with her own distributed system? The cloud!

The developers ***successfully trained 20 students*** by providing ***each student with her own NARVAL system on the StratusLab cloud*** infrastructure at LAL. The developers have since used the cloud to debug NARVAL and to validate changes.

Bioinformatics

StratusLab has worked with researchers from the Institut Pasteur Paris to port their ARIA application to the cloud. ***Real data*** has been used ***to validate both the ARIA appliance and the cloud infrastructure*** for bioinformatics analyses.

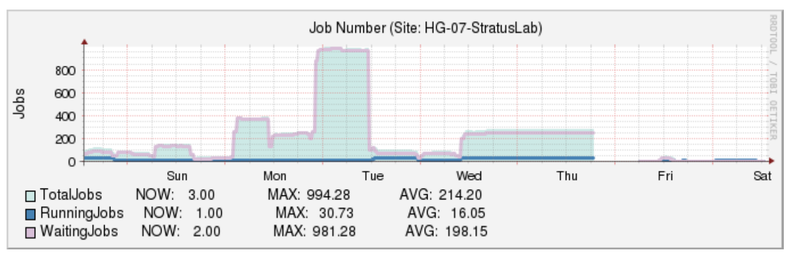
CNRS/IBCP provides web services to the bioinformatics community. Their ***'biocompute'*** (with BLAST, ClustalW2, FastA, ...) and their ***'biodata' appliances*** (with databases SwisProt, PROSITE, ...) provide easy access to common applications and resources. They have also worked to ease access to the cloud through a ***custom web portal***.



High-Energy Physics

CernVM is a software appliance for members of the LHC experiments, providing a customized environment for LHC data analysis. ***CernVM runs without modification on StratusLab clouds*** and is registered in the Marketplace.

The ***DIRAC*** framework provides integrated access to distributed computing resources for the LHCb (and other) collaborations. StratusLab is working with the developers to ***demonstrate transparent access to cloud resources*** via the framework.



Commercial Clouds & Applications

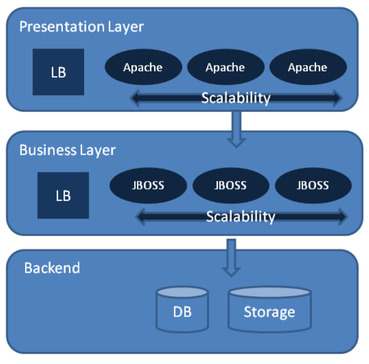
DS-Cloud Ready Pack is a turnkey IaaS solution from IBM, Darest, and SixSq targeted at SMEs looking for a private cloud solution.
It is ***powered by StratusLab*** v1.4.

SlipStream™ is a software engineering PaaS that provides automated, on-demand, creation of multi-machine runtime environments for testing and production deployments. It ***supports*** several different ***cloud infrastructures***, including those based on ***StratusLab***.

Grid Service Provisioning

Within ***HellasGrid***, the project ***runs a production grid site*** (HG-07-StratusLab) ***over the StratusLab reference cloud*** infrastructure as a demonstration of the cloud's capabilities and to ensure that the StratusLab clouds can support complex services running in production. It has been ***running for over a year with good availability and reliability***.

To support that grid site, the project provides ***appliances with EMI grid services*** through the Marketplace. But other projects, notably ***IGE***, ***provide a number of appliances with pre-installed and pre-configured services***, making deployment, testing, and utilization of these services easier.



N-Tier applications abound in the commercial sector, powering ***e-commerce sites and SaaS*** offerings. The project has developed an e-commerce proof-of-concept to showcase the ***automated deployment and autoscaling capabilities of Claudia***, a service manager included in the StratusLab distribution.

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