OpenStack in hepia

Dimitri Racordon & Lionel Schaub

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LSDS research group

- Large Scale Distributed Systems (LSDS)
  - High Performance Computing
  - Volunteer Computing
  - Cloud Computing

- Works at hepia (Geneva)
  - Part of HES-SO

h e p i a
Haute école du paysage, d'ingénierie
et d'architecture de Genève

Hes·SO GENÈVE
Haute Ecole Spécialisée
de Suisse occidentale

Our infrastructure
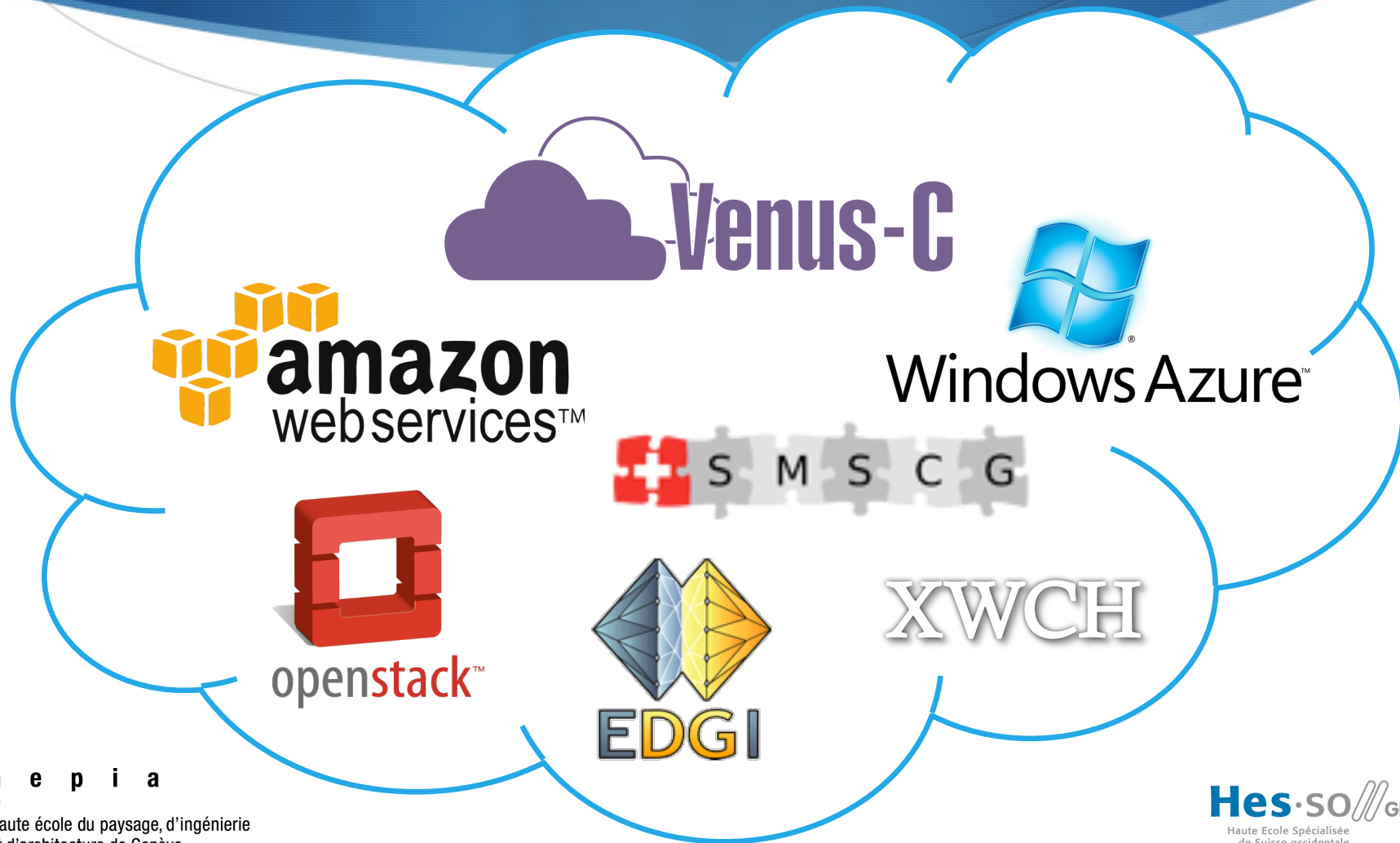
Our OpenStack related-projects

- XtremWeb-CH
    - Volunteer Computing Middleware
    - Developped since 2003

- SwissCloud
    - OpenStack and Microsoft Azure

- CleanCity
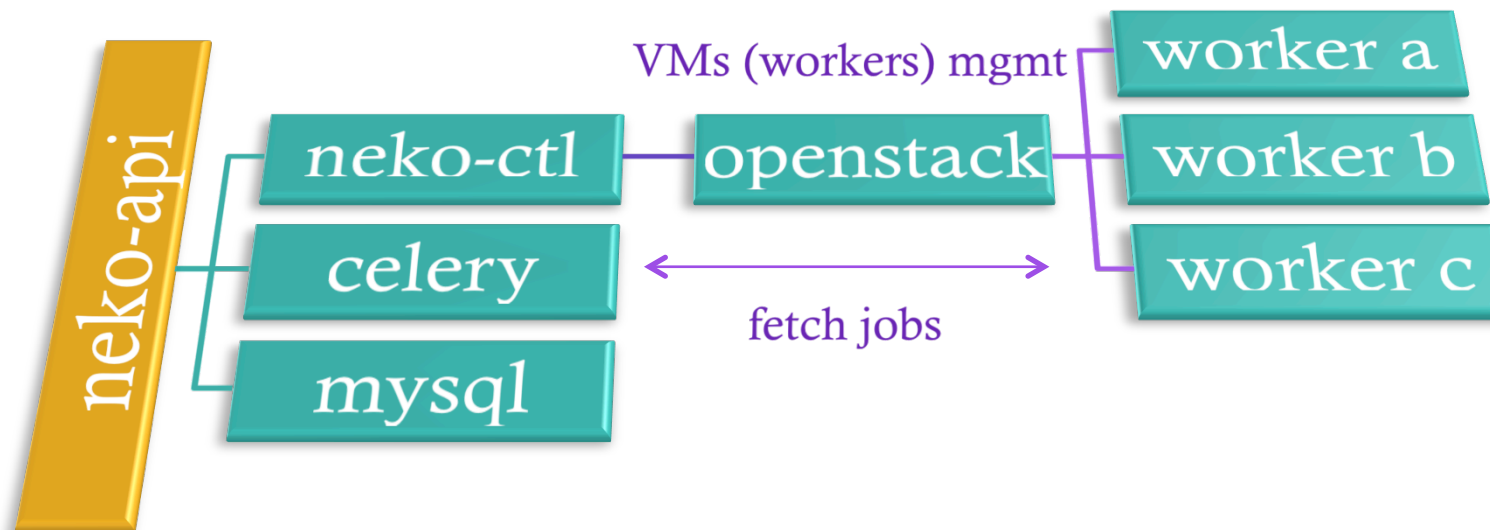
- SlipStream™
    - Developped support for OpenStack

Our cloud platform

- OpenStack Folsom
  - Multi-nodes and multi-tenants installation
  - Runs on over than 40 machines

- What we use OpenStack for
  - Extend XWCH infrastructure
  - Educational purposes (Bachelors and Masters)
  - Deploy scientific applications (SwissCloud)

Our OpenStack activities

- Expertise in OpenStack installation and maintenance

- Development of several APIs for resources access and use
  - Java API: jOsApi
    - Used by students to start jobs on the infrastructure
  - Python API in development: Neko
    - Used to provide jobs platform with transparent cloud resources management

Our OpenStack activities

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💧 SlipStream™

    💧 Multi-machine Provisioning System

    💧 Multi-cloud Provisioning

    💧 Support continuous integration processes with continuous deployment

    💧 Independence from specific IaaS interfaces and hypervisors

    💧 Used to provision instances on our OpenStack infrastructure

Thank for your attention

Question?