Stratuslab tutorial Introduction

Oleg Lodygensky, CNRS - LAL

April 16th, 2015

Orsay

Tutorial content

- Goal
  - Create and deploy your appliance
- Content
  1) Stratuslab overview
  2) Appliance overview
  3) Stratuslab client installation
  4) Stratuslab client usage
     - Running a VM
     - Creating your appliance
     - Creating a persistent storage
     - Running your appliance

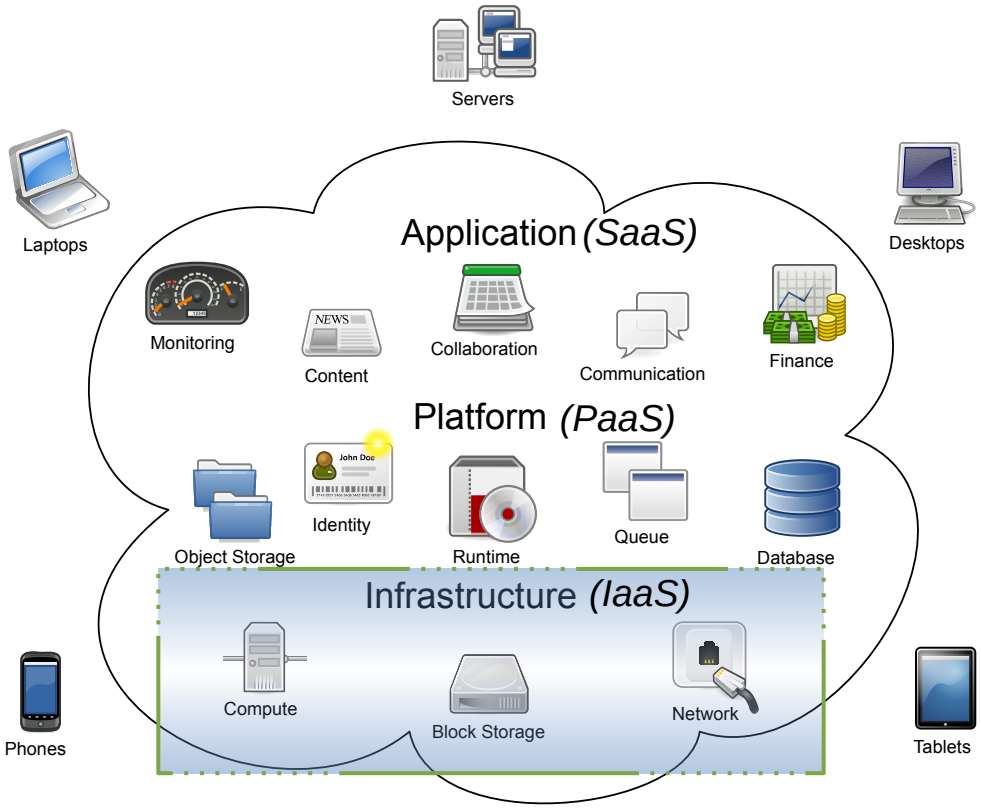
Stratuslab

What is it

- IaaS cloud distrib
- Open source (Apache2)
- Production public and private IaaS

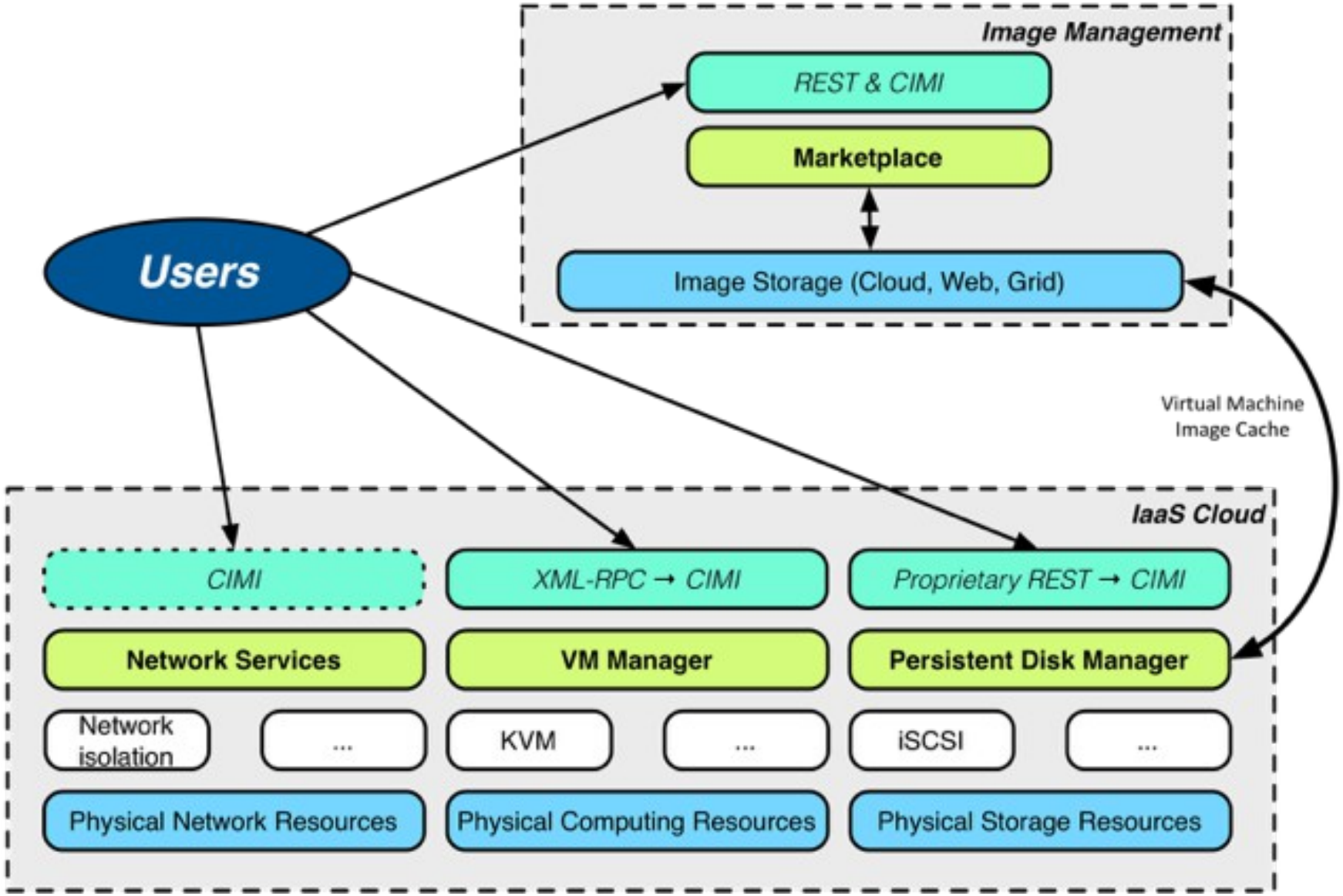
Focus

- Simple to install
- Simple to use
- Simple to scale



Cloud Computing

Stratuslab services



Stratuslab compute service

- **Compute service**
  - Based on OpenNebulla
  - Contextualization mechanism
    - HEPiX & OpenNebula
    - Cloudinit also supported
  - API: XML-RPC interface of OpenNebula
  - **Security**
    - Authentication mechanism (*one-proxy*)

Stratuslab storage service

- **Storage service**
  - Volume abstraction
  - persistent storage
  - Cache for VM instances
  - (no file-based or object-based storage service)
  - API: proprietary REST interface with CRUD action
  - **Security**
    - Authentication mechanism (*one-proxy*)

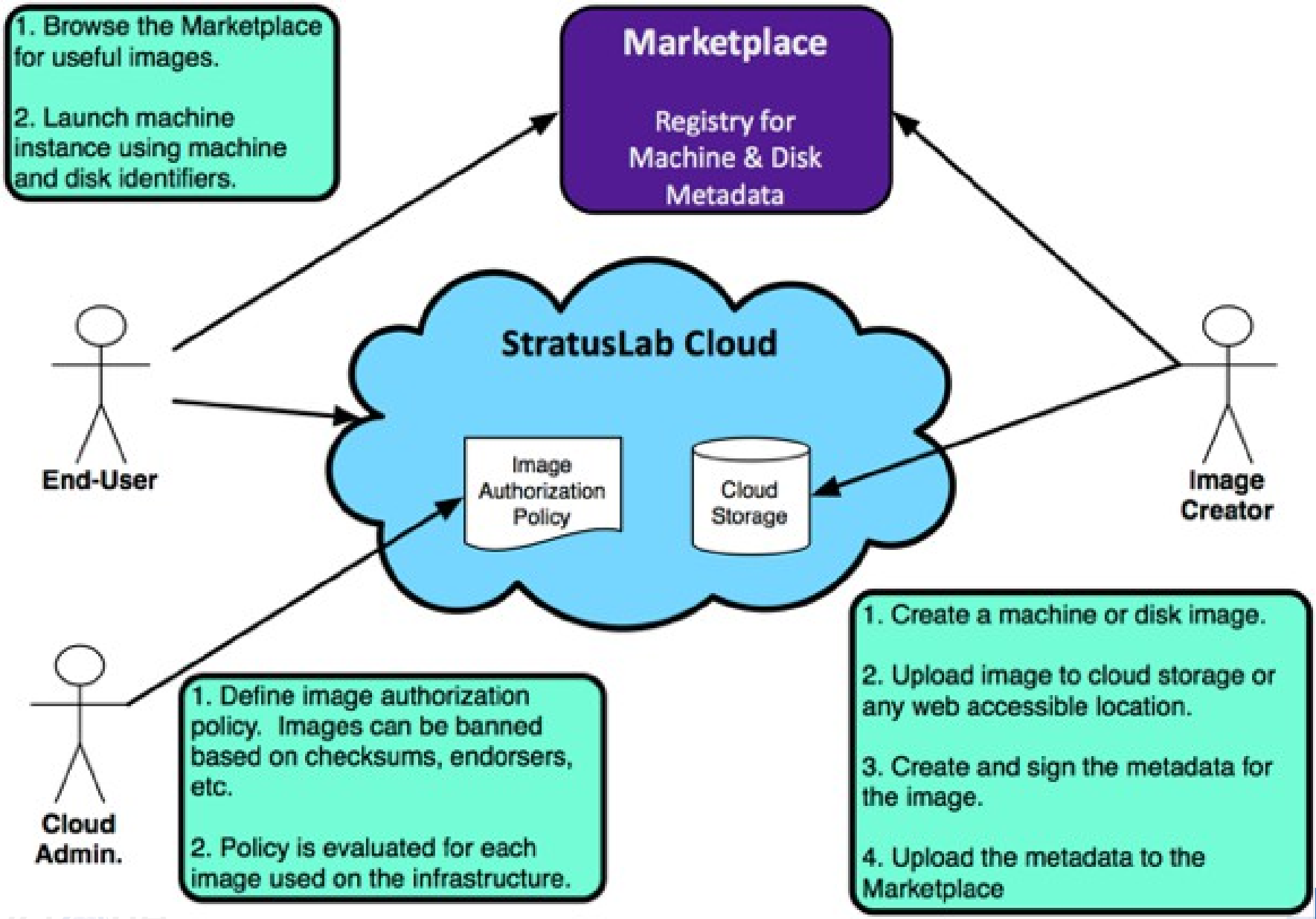
Stratuslab network service

- **Network service**
  - Support 3 specific use cases: public, local or private
  - **No** API: manual static configuration
  - All classes IP optional; can create other classes
  - VM under user responsibility
  - **Security**
    - Authentication mechanism (*one-proxy*)

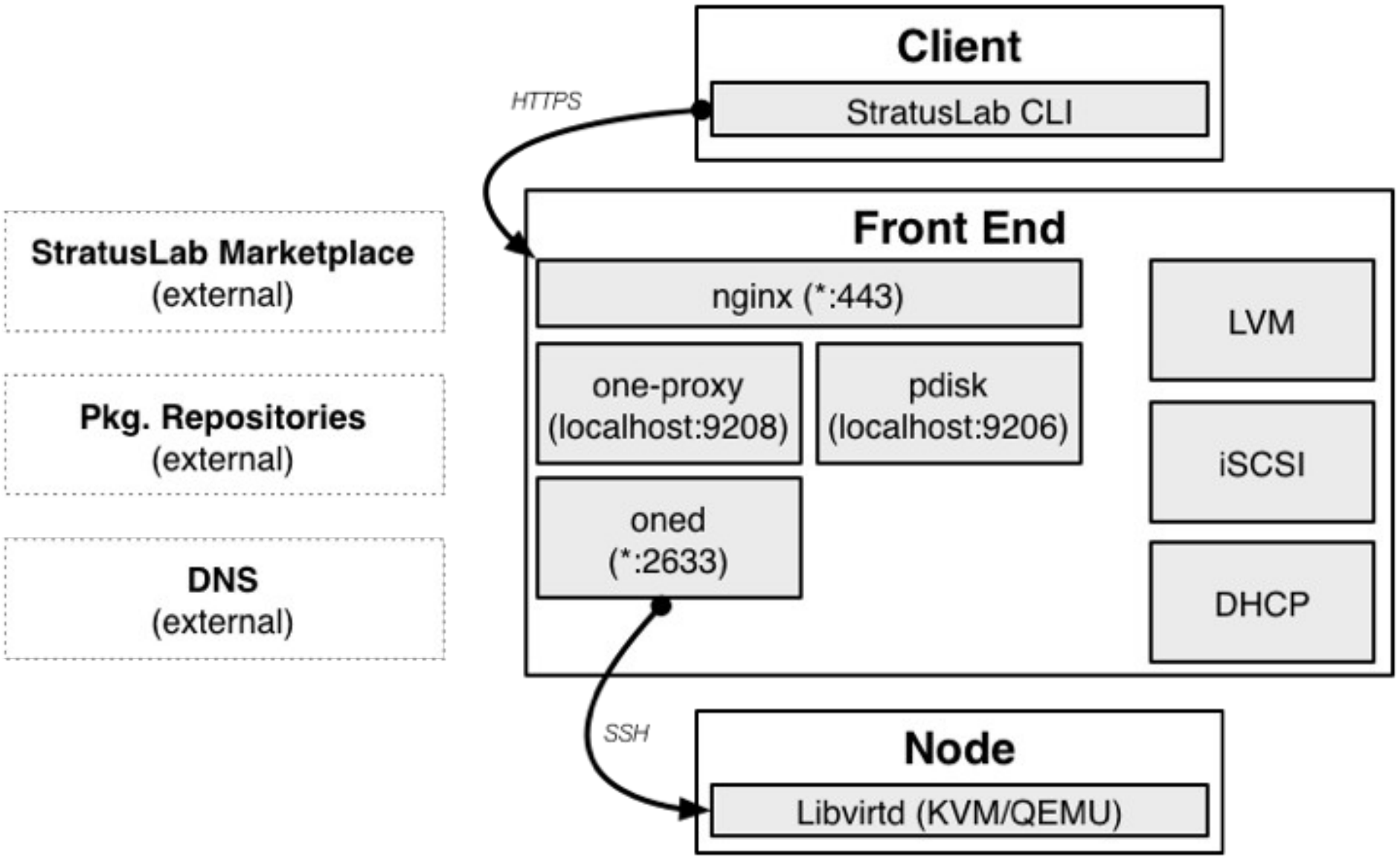
Stratuslab marketplace service

- **Marketplace**
  - Sharing and trusting images
  - Handles metadata only
    - Split metadata and image content
  - API: proprietary REST interface
  - 'Private' image also managed
  - CentOS, Ubuntu and Scientific Linux maintained by Stratuslab

Image handling workflow



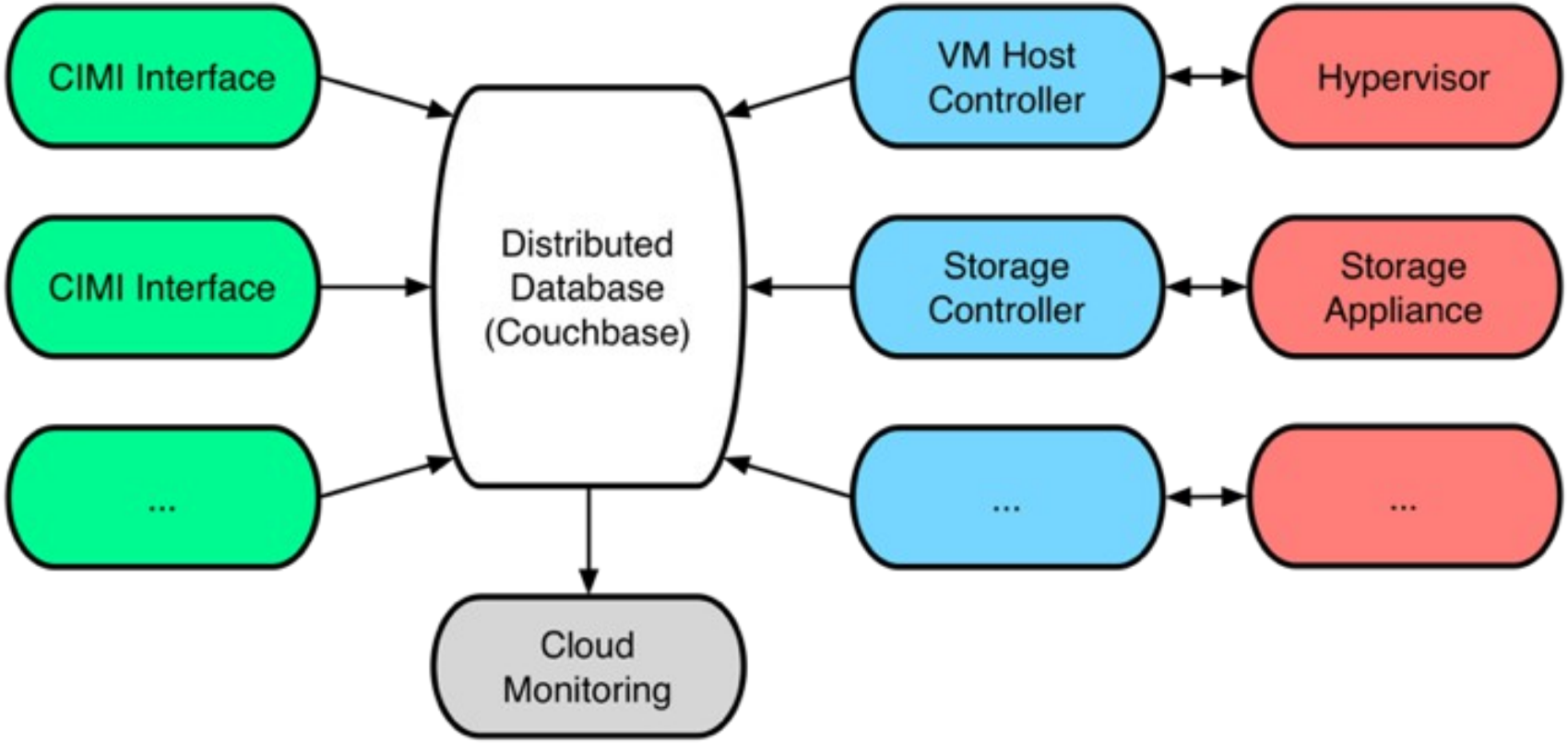
Minimal installation



Evolution to come

- **Interfaces**
  - Adopt CIMI as standard
  - Provide complete Web interface for all services
- **Simplicity, Scalability & Robustness**
  - Direct use of *libvirt* as VM manager
  - NoSQL (*Couchbase*)
- **Better administration support**
  - Improve overview and monitoring
  - Fine-grained accounting for all resources
  - Migration control

New architecture



Stateless components