EGITF-OGF 2011

Lyon, France, September 21th, 2011

Next Generation IaaS Cloud Computing with OpenNebula 3.0

Javier Fontán

OpenNebula.org

IaaS Cloud Computing Tool for Managing a Data Center's Virtual Infrastructure

Adaptable
- Customizable and Extensible

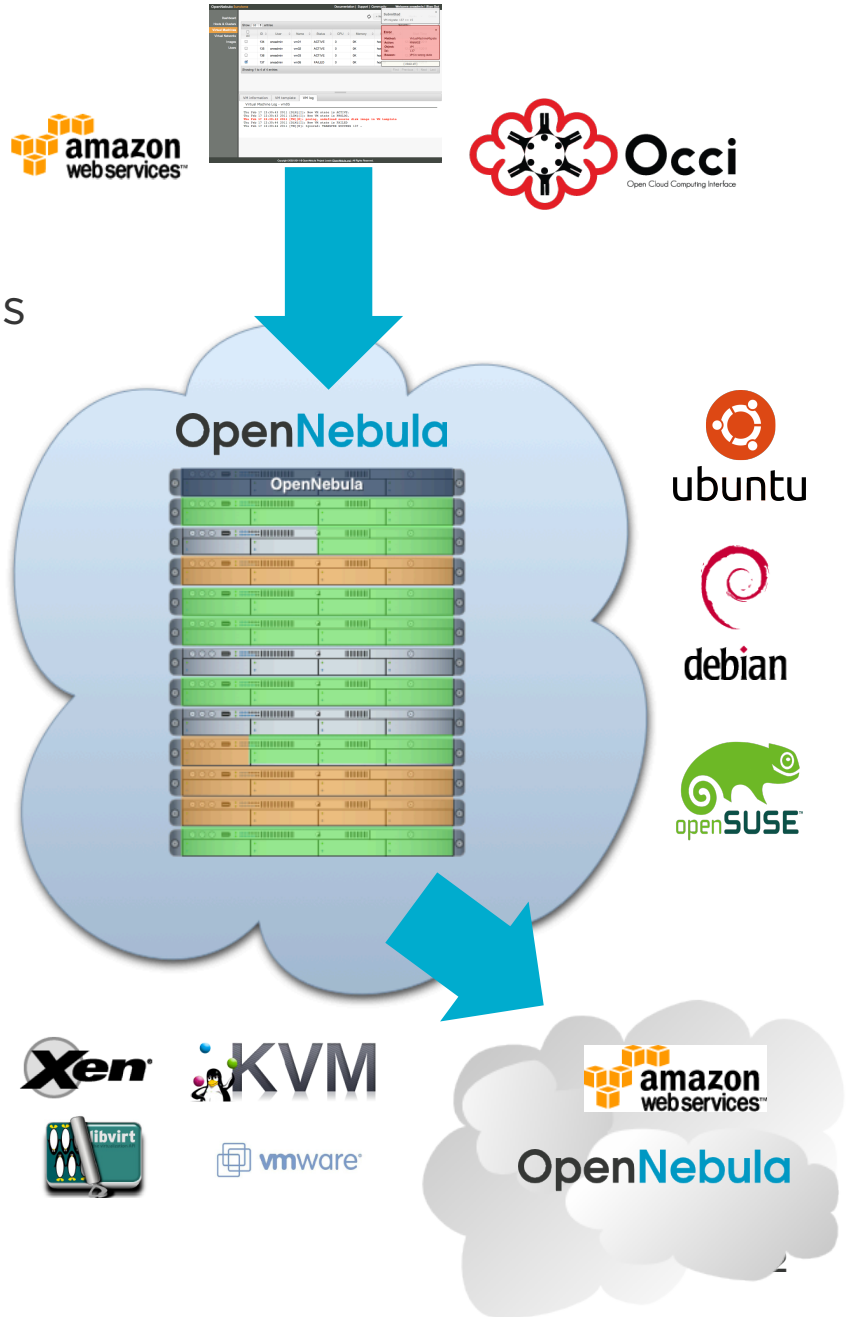
Proven
- Many Massive Scale Production Deployments

Powerful and Innovative
- Advanced Enterprise-class Functionality

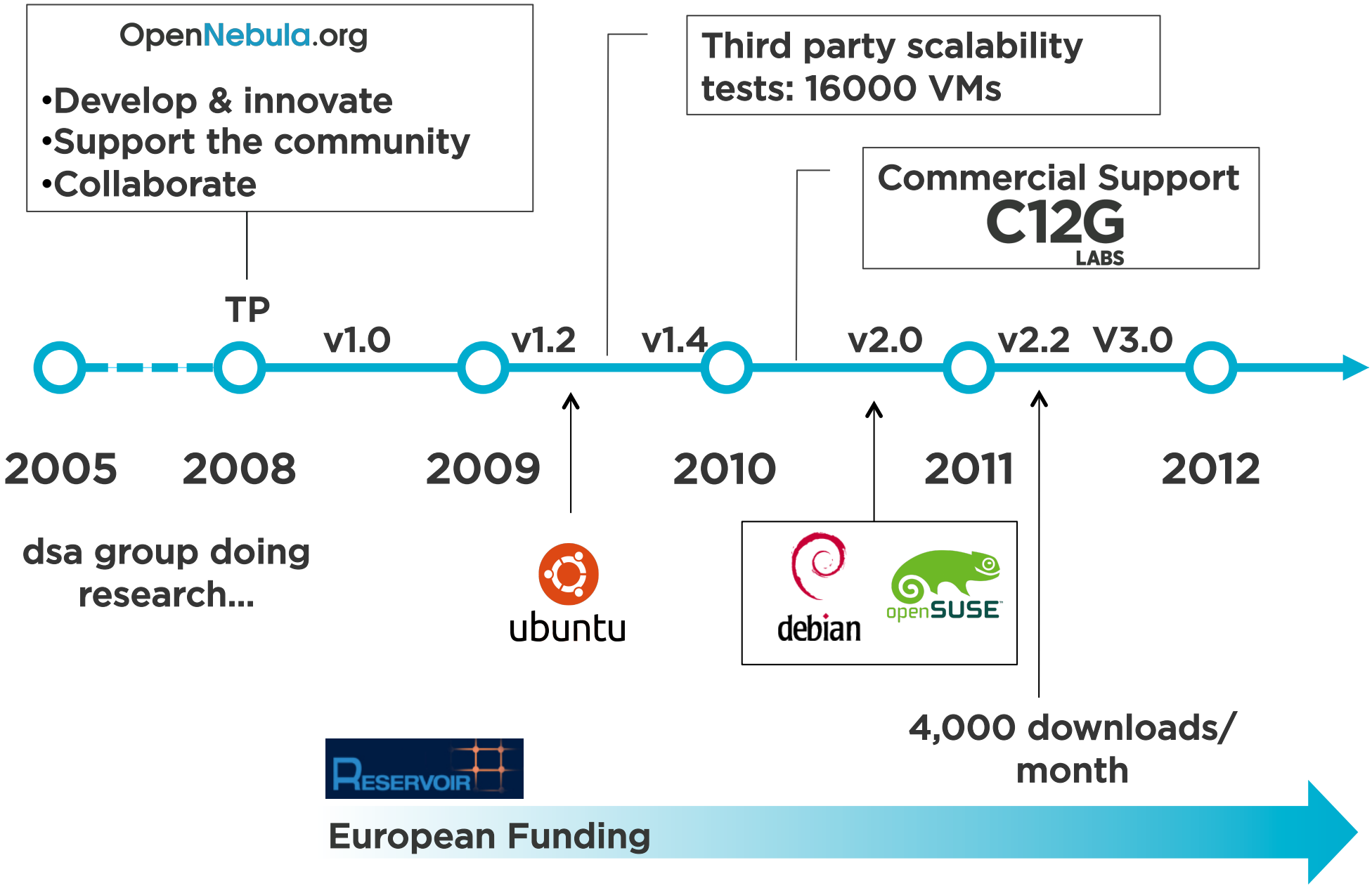
No Lock-in
- Platform Independent and Interoperable

Interoperable
- Popular cloud APIs and standard based

Openness
- Fully open-source
- Apache license



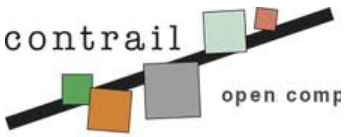
Building the Industry Standard Open Source Cloud Computing Tool



Organizations Building Clouds and Innovative Projects

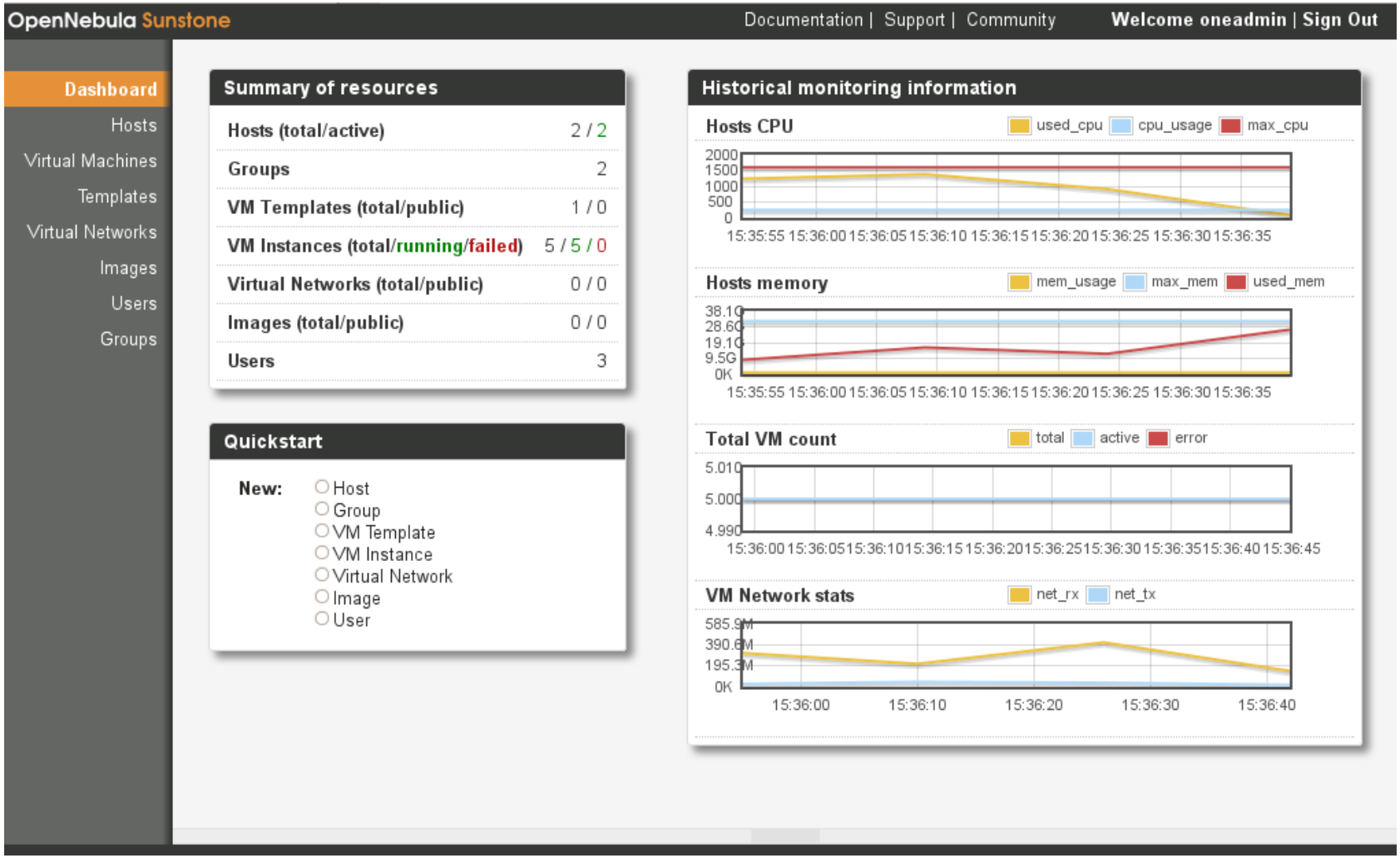
Organizations Building Clouds for Development, Testing and Production

Projects Building an Open Cloud Ecosystem Around OpenNebula



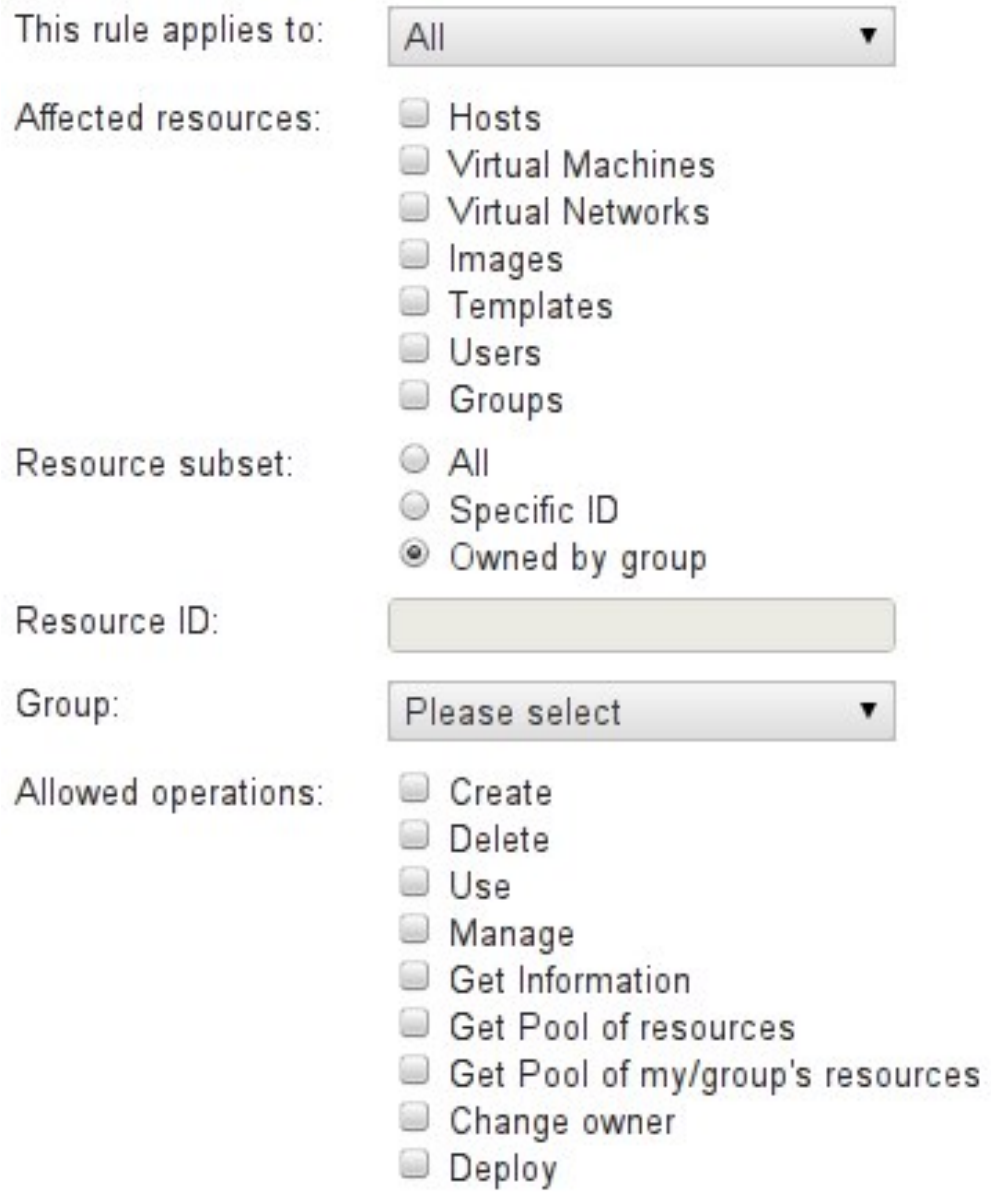
- Pluggable AuthN/AuthZ modules:
  - SSH keys
  - X509 keys (Fermilab contribution)
  - User/Password
- Support for VLAN tagging + simple firewall
- Pluggable drivers for Image repository
- Template repository
- Monitoring and Accounting collector
- Sunstone Enhancements
- Groups + ACLs
- oZones

- **VNC (noVNC)**
- **Monitoring Graphs**
- **Plugins**



New Features in 3.0 (Groups and ACLs)

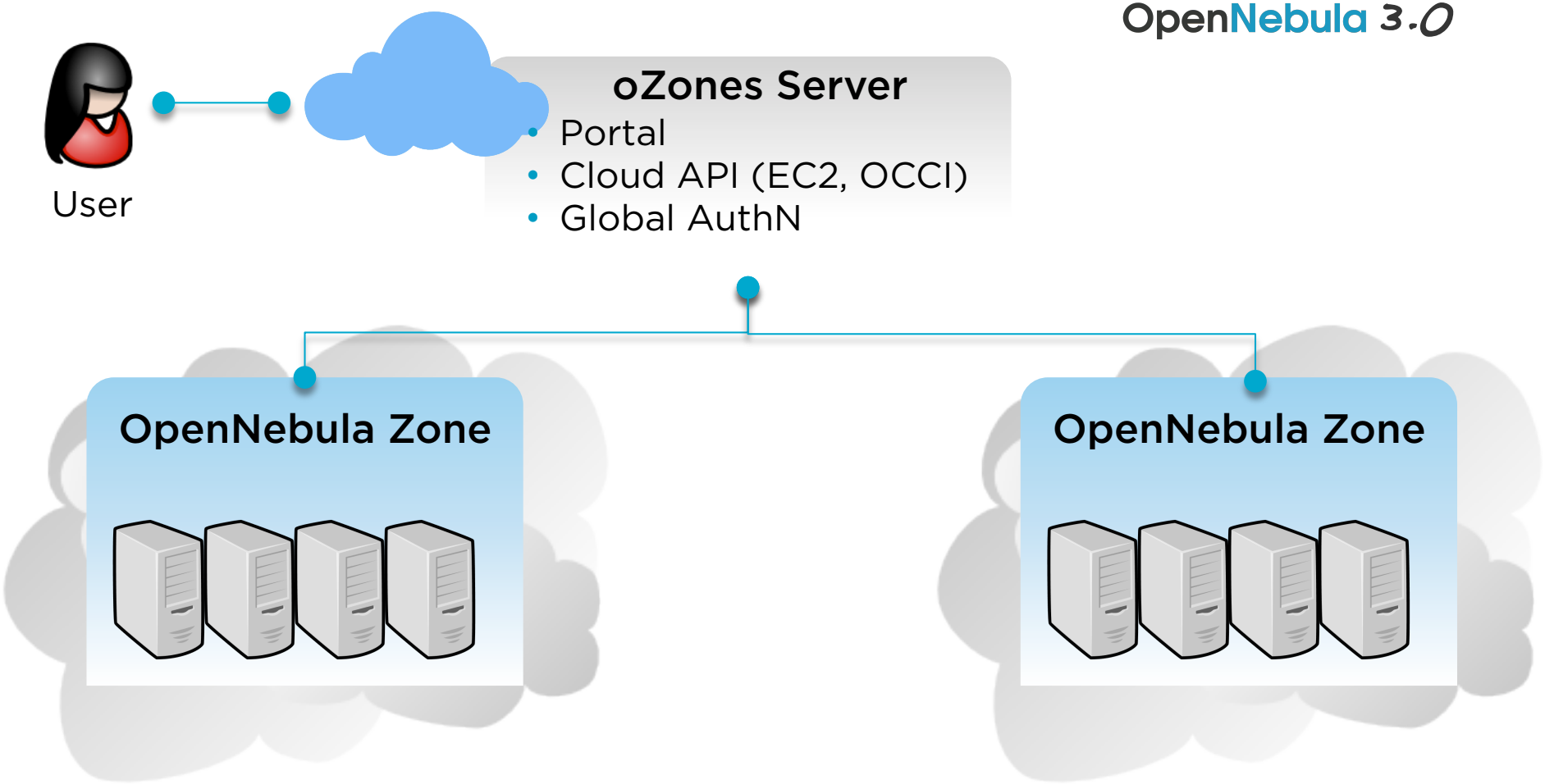
- **All objects are in a group**
- **Automatic ACLs per group**
- **ACLs can be overridden by the AuthZ system**
- **Sunstone WEB interface can manage this**




```
$ oneacl list
   ID     USER RES_VHNIUTG   RID OPE_CDUMIPpTWY
    0       @1     V-NI-T-     *     C-----p---
    1       @1     -H-----     *     --U-------
    2       #5     --NI-T-  @104     --U-I--T--
    3        *     ---I---   #31     --U-I-----
```

Multi-tier Cloud Architecture

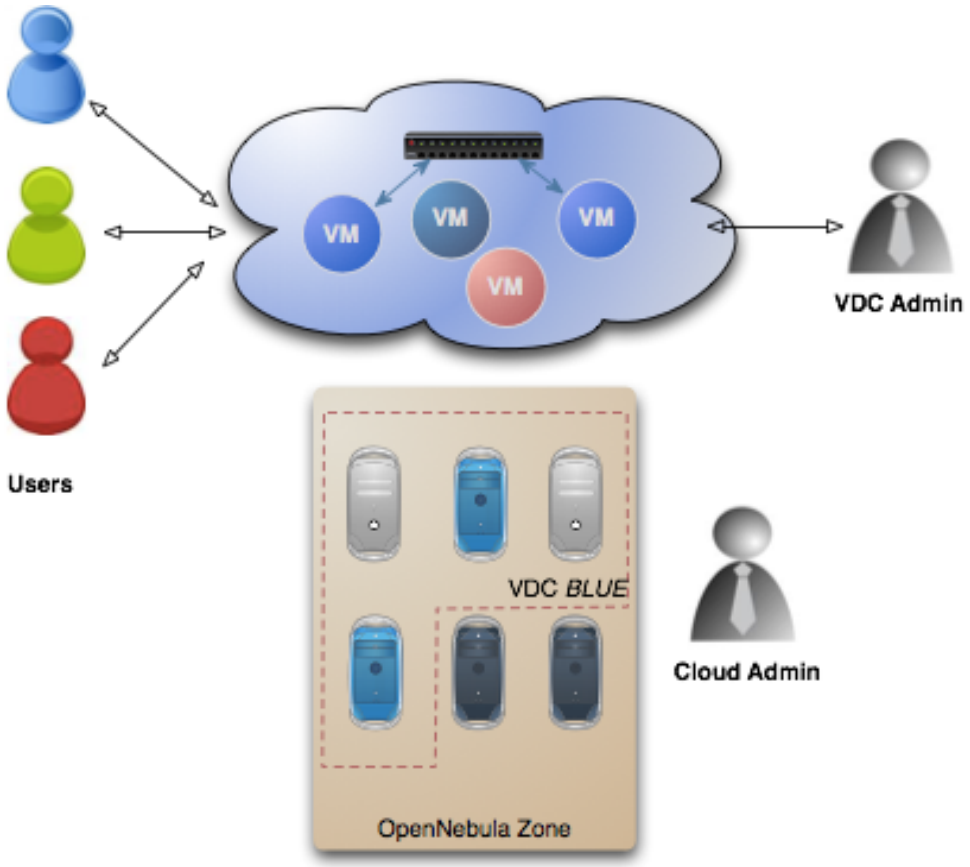
OpenNebula 3.0



Advanced Multi-Tenancy within each Zone

OpenNebula 3.0

- Typical scenario in large organizations and cloud providers
- On-demand provision of fully-configurable and isolated VDC with full control and capacity to administer its users and resources



Thank you

http://opennebla.org