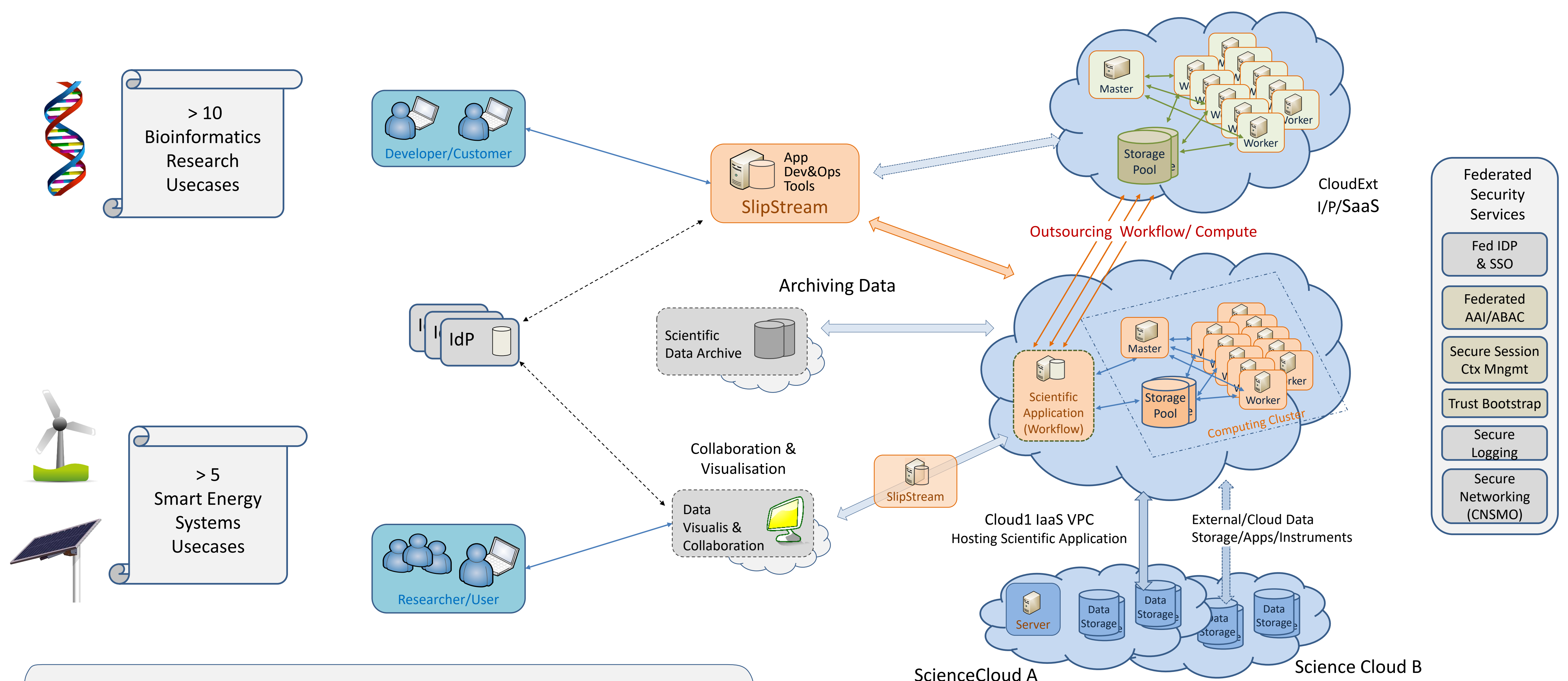


# Cyclone

## CYCLONE Networking Architecture for Multi-cloud Applications

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### CYCLONE Multi-cloud Infrastructure for Data Intensive Applications



#### CYCLONE Architecture for Multi-cloud Applications

The CYCLONE Intercloud Architecture Framework addresses challenges related to heterogeneous multi-cloud applications

- Multilayer cloud resource integration, access control, management, and logging for multi-cloud applications
- On-demand multi-provider cloud service and infrastructure provisioning and life cycle management (composition, (re-)deployment, management, and monitoring)
- **Intra- and inter-cloud network provisioning between clouds, delivered as inter-cloud/multi-domain Virtual Private Network (VPN)**
- Access control, security credentials, and security context management covering the whole application life cycle
- Federated access to distributed multi-cloud resources, integrating application-based and cloud-based security services
- Data protection, including protection of data transfer between clouds as well as data storage in-rest.
- **CYCLONE approach:**
  - ✓ **Network Services** are built as overlay networks, created as a part of cloud application and working transparently on top of the underlying physical infrastructure.

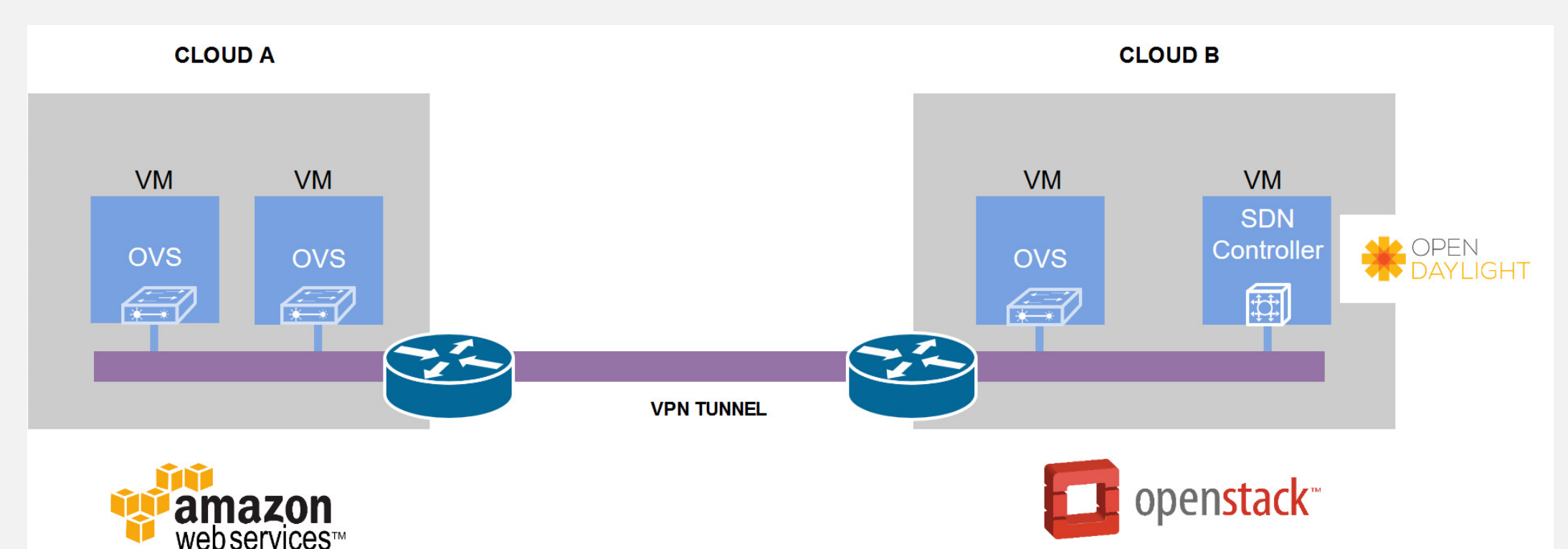
#### References

- [1] OpenNaaS-CNSMO [online] <http://opennaas.org/>
- [2] SlipStream Cloud Automation [online] <http://sixsq.com/products/slipstream/>

#### Acknowledgement

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#### CYCLONE Networking Services Using CNSMO



- CNSMO (Cyclone Network Services Manager and Orchestrator) is the software component responsible of deploying, configuring and running the networking services in cloud applications [1]
- CNSMO is based on the Software Defined Network paradigm, implementing an overlay network that will exploit the underlying connectivity given by ISPs
- Design is based on the virtual network bridge connecting the physical interface to a virtual switch, which is subscribed to an SDN controller that resides in one of the VMs on the same signalling VPN.
- SDN controller manages and monitors the network traffic across VMs instantiated in distributed clouds.

#### For more information refer to

CYCLONE website - <http://www.cyclone-project.eu/>  
CYCLONE github - <https://github.com/cyclone-project>