JetStream

Group 14

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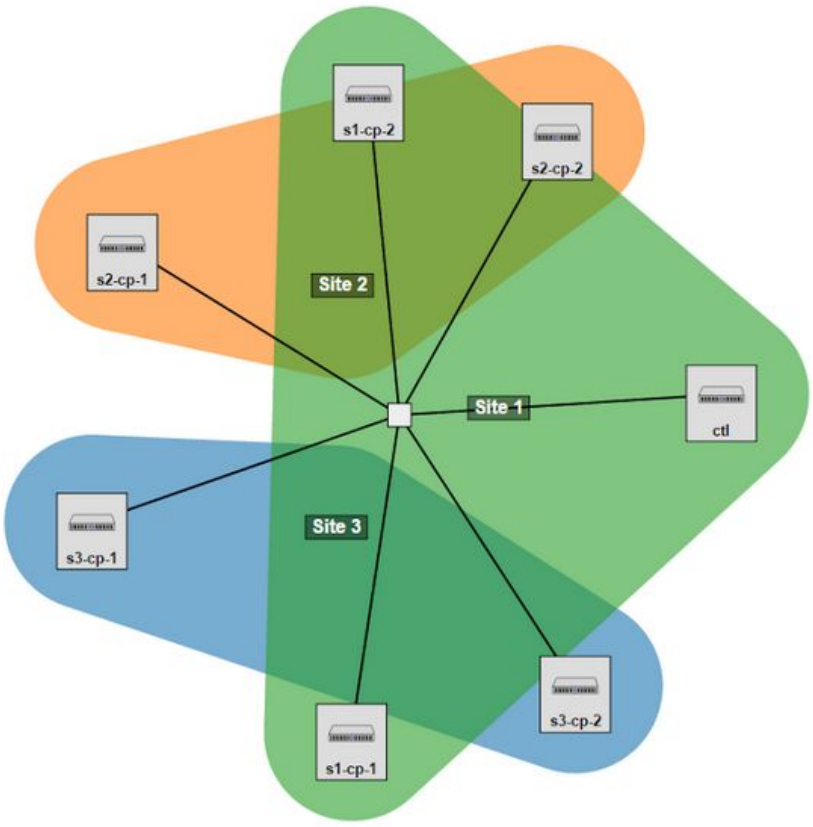
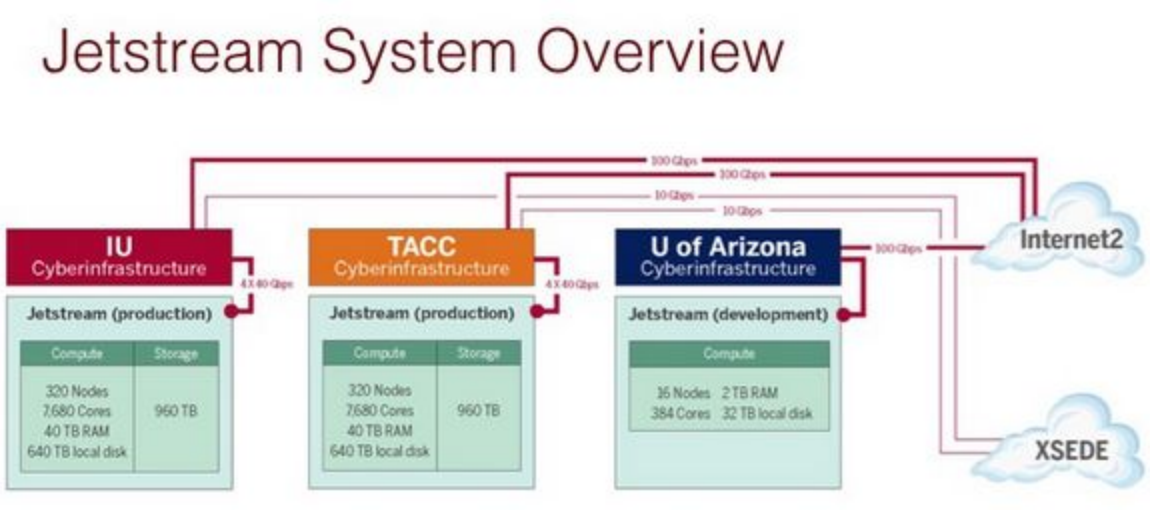
Topology Diagram:



We have 3 sites, each with 2 nodes. We also have 1 ctl node. The control processes of OpenStack are run on the ctl node.

Topology Explanation:



The original Jetstream architecture has 3 sites so we created 3 sites in our topology as well. Each site has a certain number of nodes as well as a ctl node.

Script:

To create our script, we started with the OpenStack default profile. We found that script here: https://www.cloudlab.us/show-profile.php?uuid=f4a12de2-7fe9-11e4-afea-001143e453fe . We extended the OpenStack script to incorporate 3 sites to fit JetStream's architecture. Our script works just as OpenStack does allowing an OpenStack instance with multiple nodes. A user can choose a different number of nodes for each of the 3 sites. Through the script, users are able to manage computation, storage, and networking resources to create a cloud that is comparable to JetStream.

Validation:

To validate our instantiation of JetStream, we ran Project 4's code through the script. Since none of our group members had a fully functioning Project 4, we used a working portion of the code to prove that our script worked.
Our VM that is pointed to by CloudLab already has OpenMPI, Python 3, and mpi4py.

Instructions:

When the CloudLab experiment is created, in step 2 parameterize the option "extra VM image URLs" should contain the url:
https://drive.google.com/open?id=0BzlaJrNssbADLTV3elJvcHUxN00
Link to the cloud lab profile:
https://www.cloudlab.us/p/3b4b2973-1b9d-11e7-ac8d-90e2ba22fee4