Creating an iRODS zone with terraform

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iRODS at Sanger - 2019

6 production zones, 6 dev zones
23PB

Where we were:
Mostly 4.1.12, with one 3.3.1
Mostly Ubuntu 12.04
Some 18.04 and RedHat 7.4

Where we wanted to be:
All 4.2
All Ubuntu 18.04
Where can we do our upgrade testing?

Maybe one of our production zones?

How about a development zone?

Somewhere else?

Where?

What resources can we spare?

What if we want more than one?
Terraform and Openstack at Sanger
Writing the terraform
Configuring /etc/hosts

We need to populate /etc/hosts so the various hosts can talk to each other. We do this by passing the information from terraform into the configuration scripts as a list, then parsing that information in order like so:

```bash
for i in {1..${IESCOUNT}}; do
    NEXTNAME=$(echo ${IESNAMES} -$((i-1)))
    NEXTIP=$(echo ${IESIPLIST} | sed 's/[][]//g' | cut -d',' -f$i)
    tee <<-EOF>/etc/hosts
    $NEXTIP $NEXTNAME
    EOF
done

Note: This might be possible to do with hosts_config.json instead, not tried
Automating setup_irods

Then run
/var/lib/irods/packaging/setup_irods.sh < /tmp/irods_setup
Creating all the resources
So how far have we got?

- 3 production zones upgraded to 4.2.7
- 2 production zones still at 4.1.12
- 1 production zone migrated into another zone
- 3 development zones upgraded to 4.2.7
- 3 development zones retired, with testing moved to another development zone instead
- ALL consumers running Ubuntu 18.04
- Added 7.5PB to take the total to 30.5PB
Other benefits

- Demonstration zones
- Rapid feature testing
- Plugin evaluation
- Debugging
- Safe testing environment

Plugins and features we’ve been able to test:
- Nfsrods
- Metalnx
- SSL
- PAM authentication
- Indexing
- Migration to postgres
Next steps

- De-Sangerize the terraform templates and put them on GitHub
- Convert terraform templates to support 4.2.X
- Upgrade the remaining 2 production zones
- Enforce SSL on all zones
- Start testing 4.2.8
- Constructing an in-depth automated test harness using these templates to test potential upgrade candidates
- Test S3 Resource Plugin
ACKs

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John Constable and the rest of ISG

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Alan and Terrell
EVERYONE
Any questions?