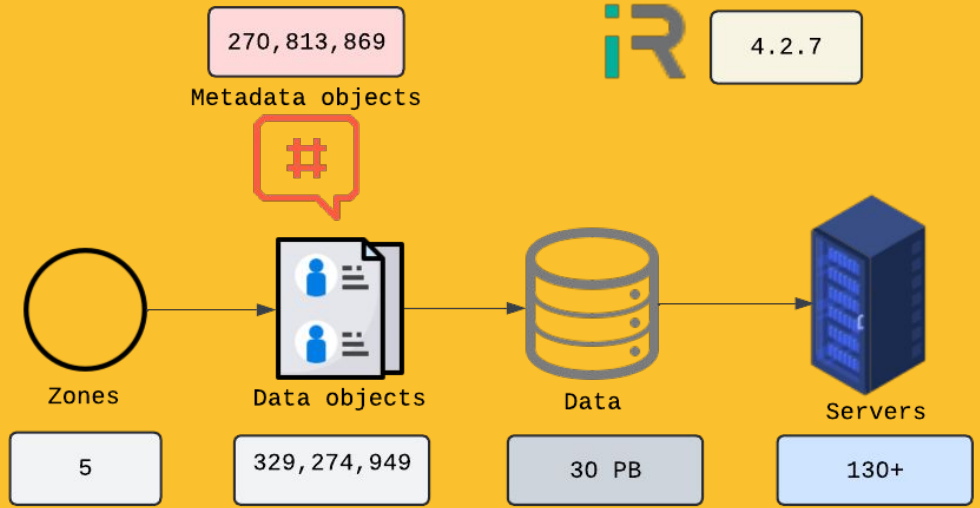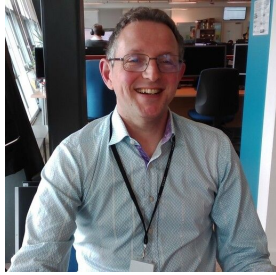# iRODS replication and future world of iRODS at Wellcome Sanger Institute

Sai Poomdla

iRODS world: Present

Hakuna Matata!

iRODS Guru

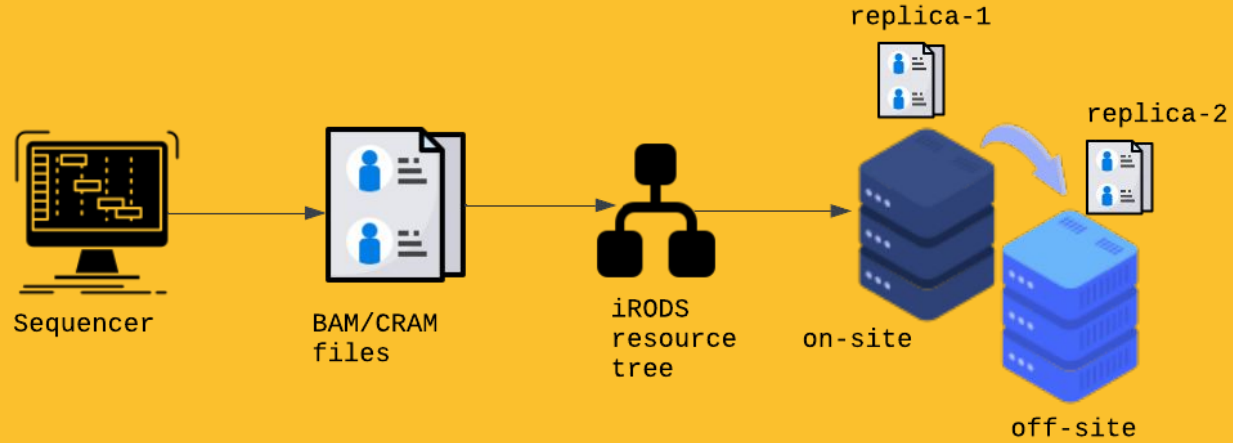*Security hat*

iRODS

Sai   (Software developer & system admin)
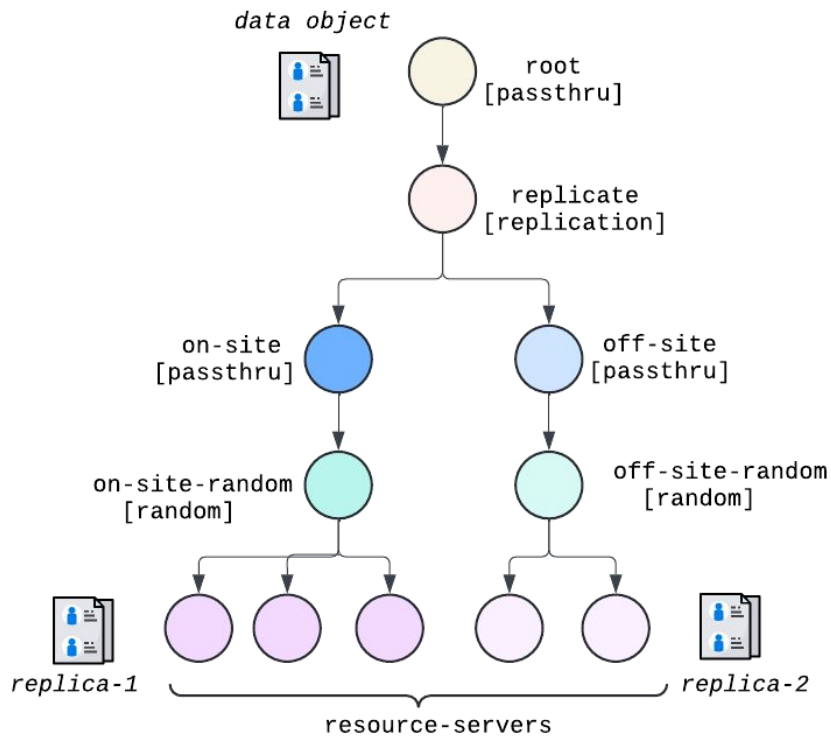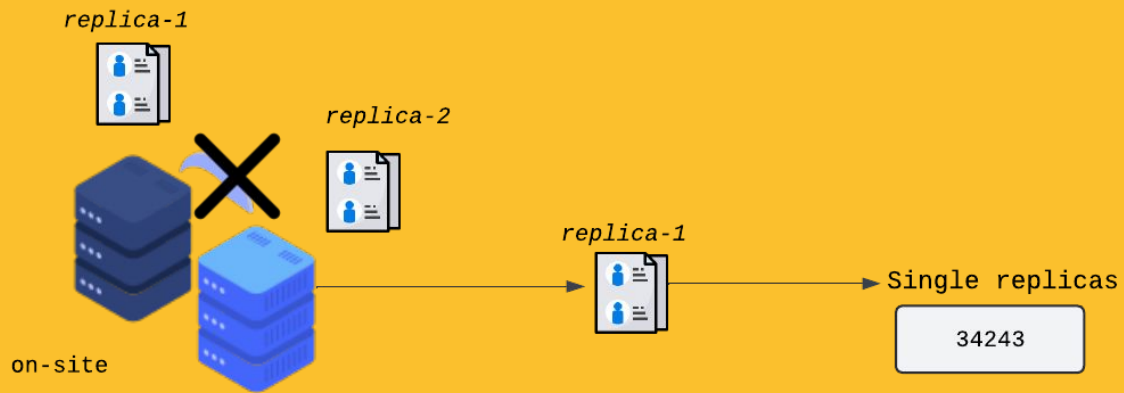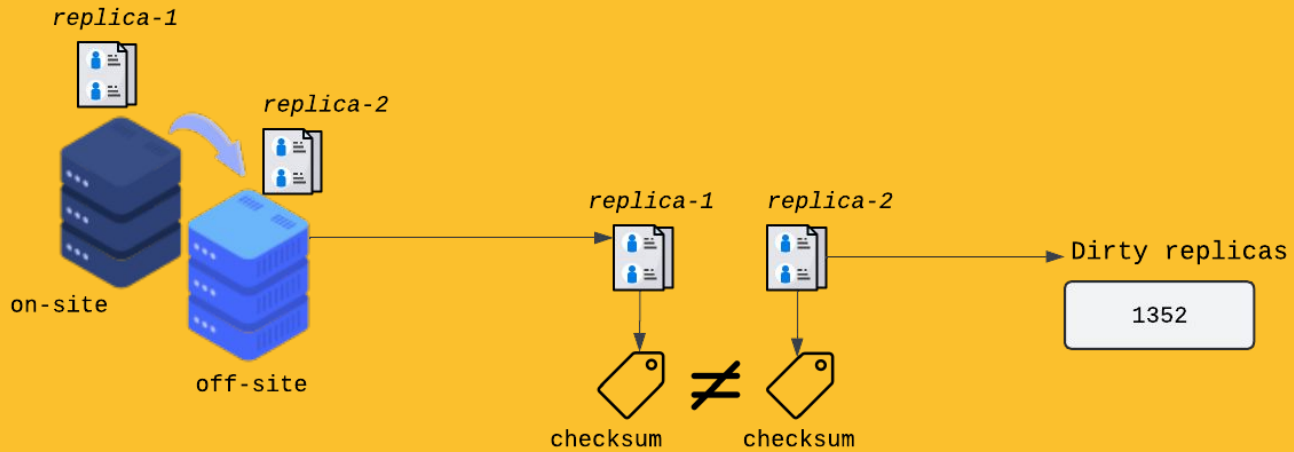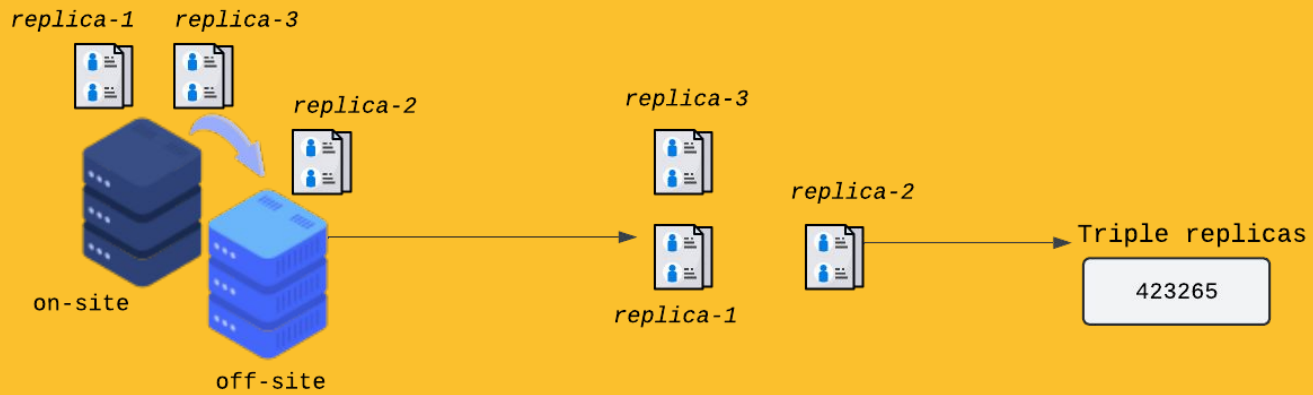
ISG-HPC

How we do replication

Resource tree

Issues with replication:
Single replicas
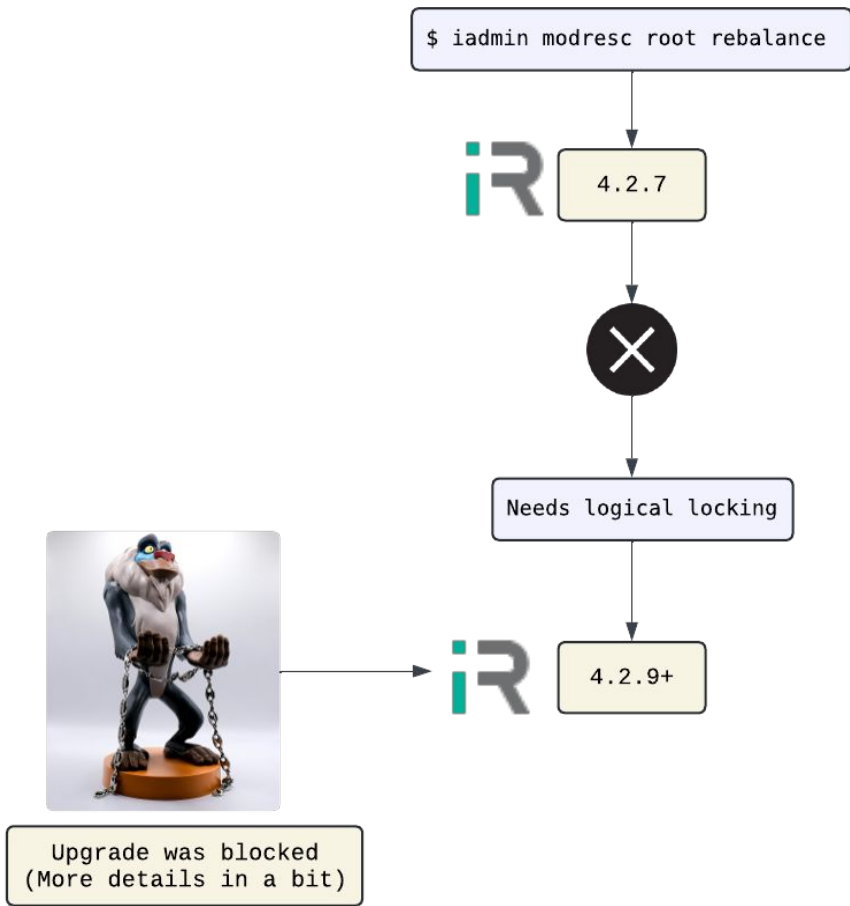
Issues with replication:
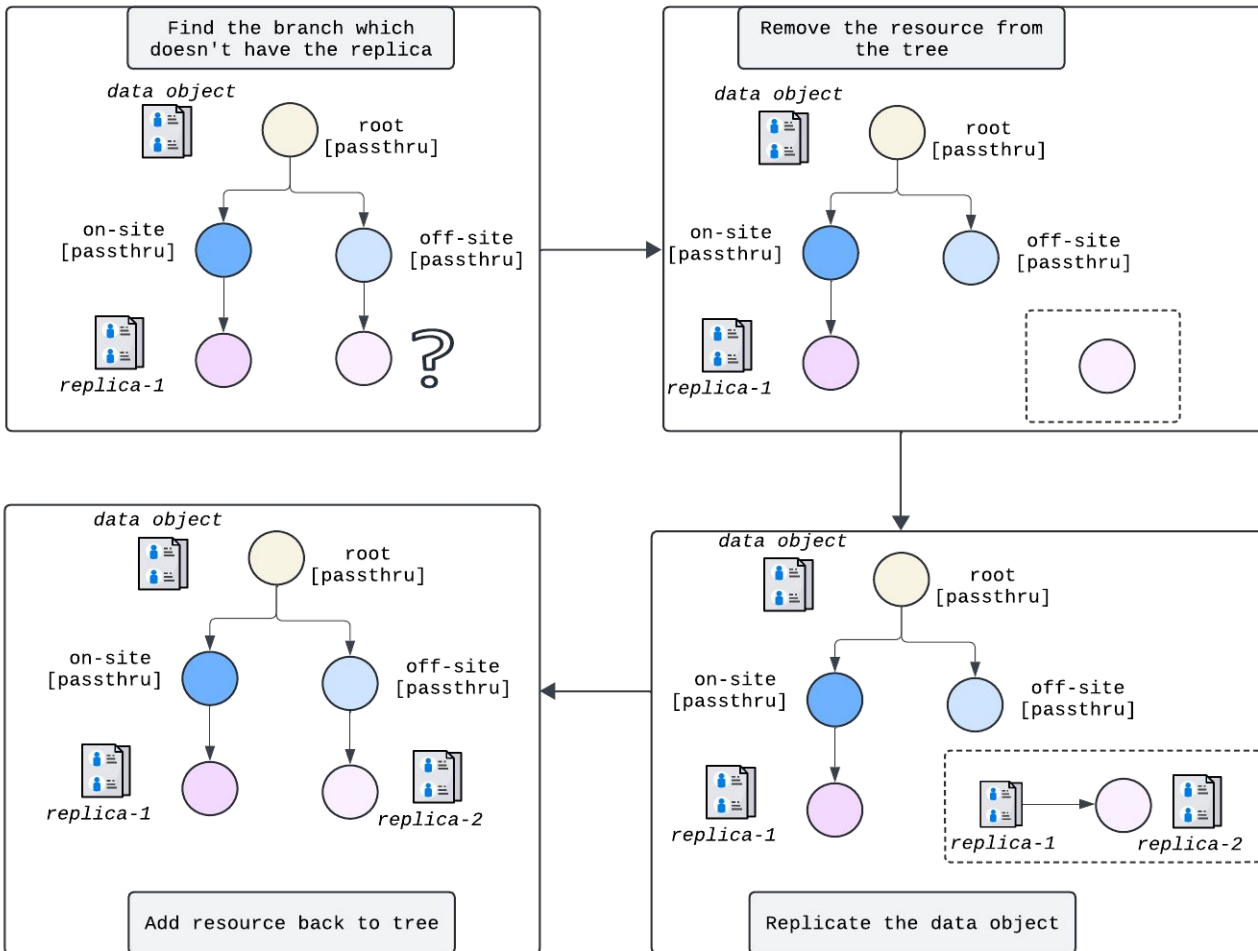Dirty replicas

Issues with replication:
Triple replicas

Hakuna Matata!
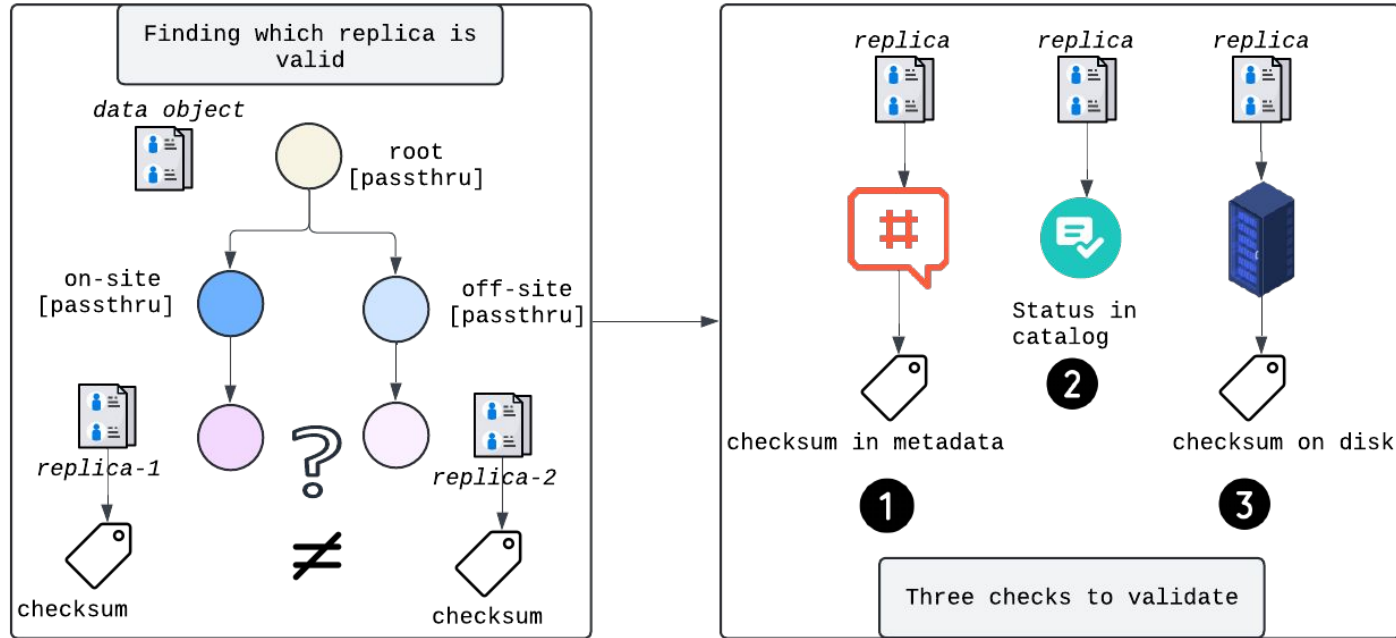


```
$ iadmin modresc root rebalance
```

iR 4.2.7

✕

Needs logical locking

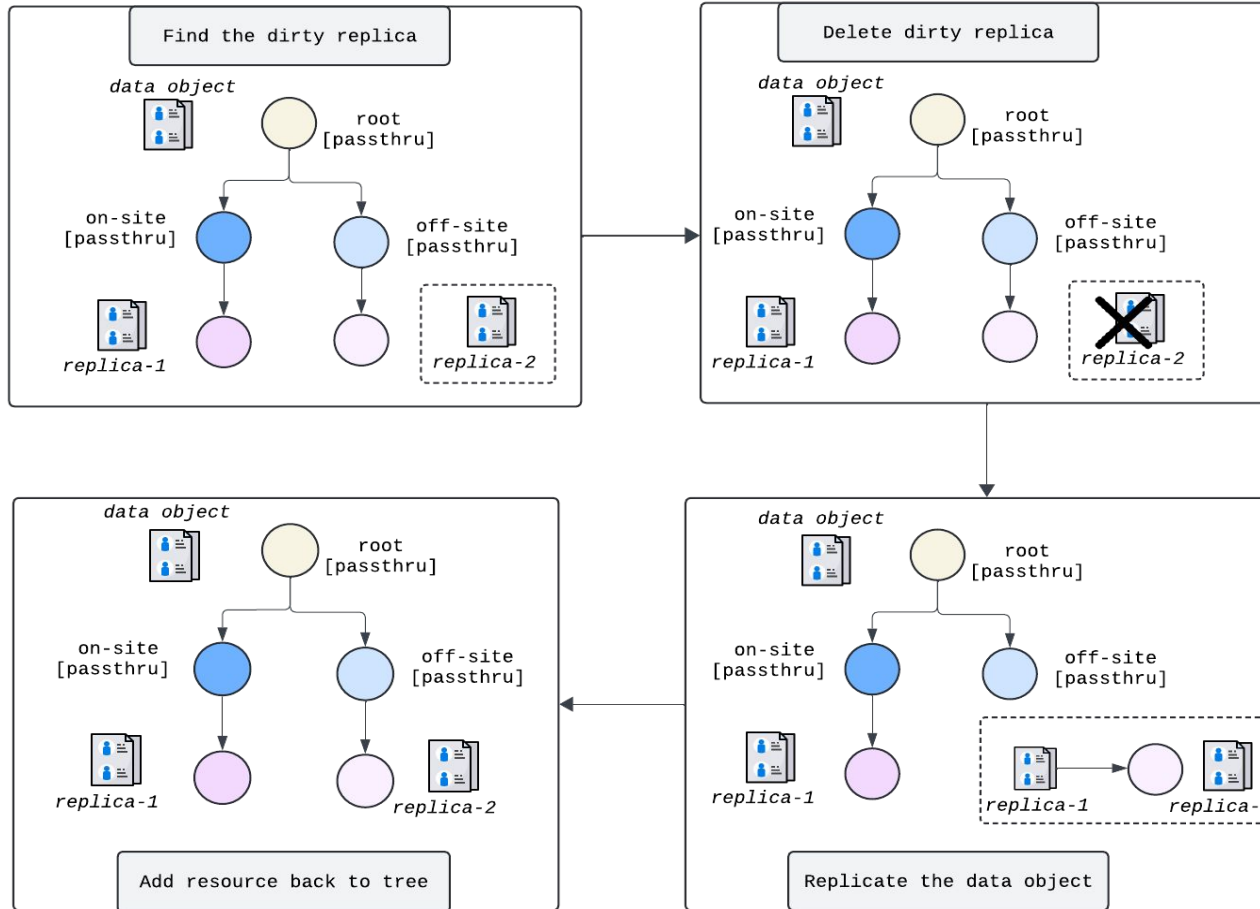iR 4.2.9+

Upgrade was blocked
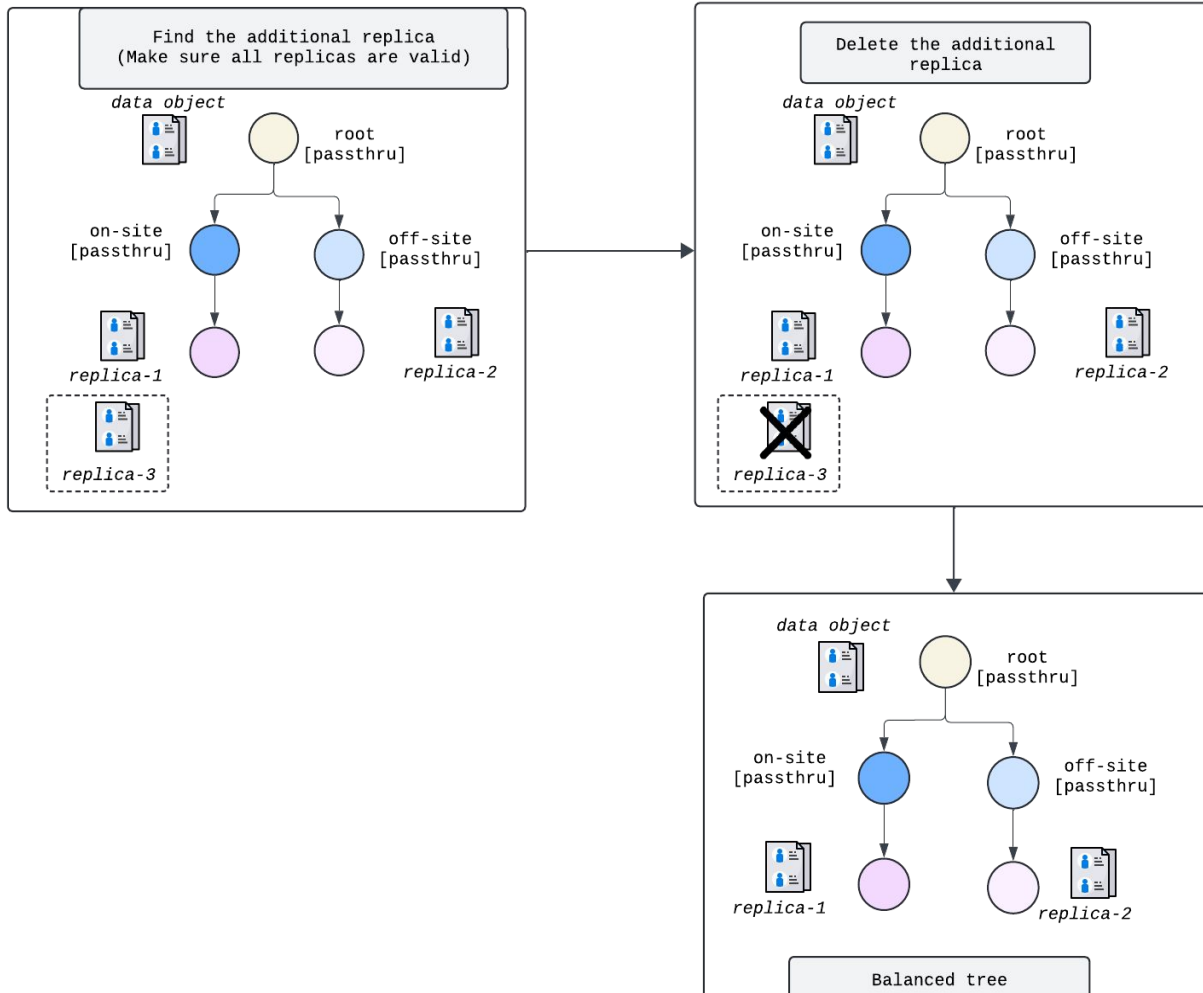(More details in a bit)

Fixing single replicas

Identifying dirty replicas
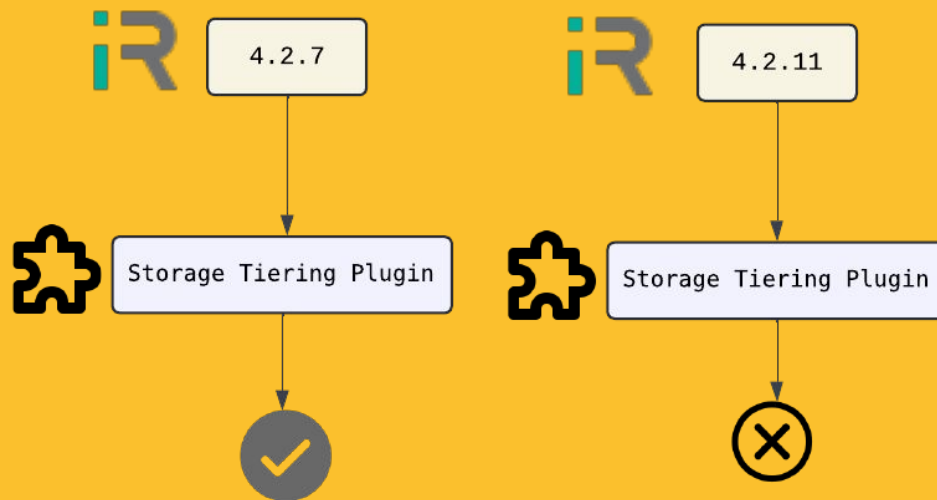
Resolving dirty replicas

Resolving triple replicas
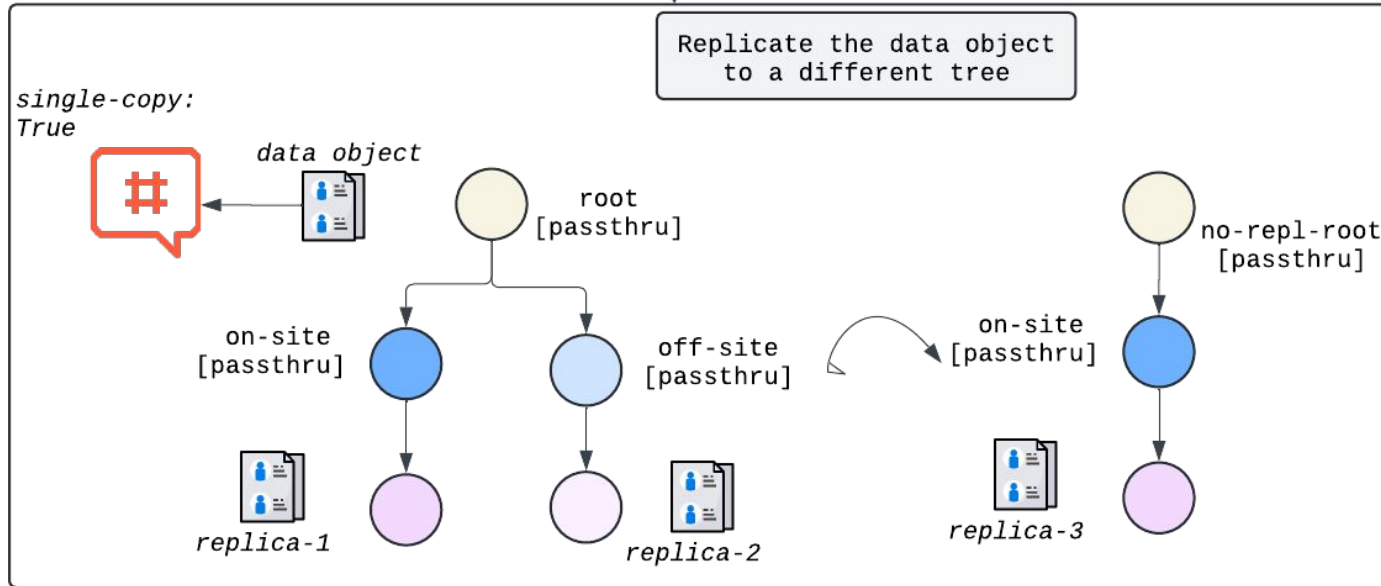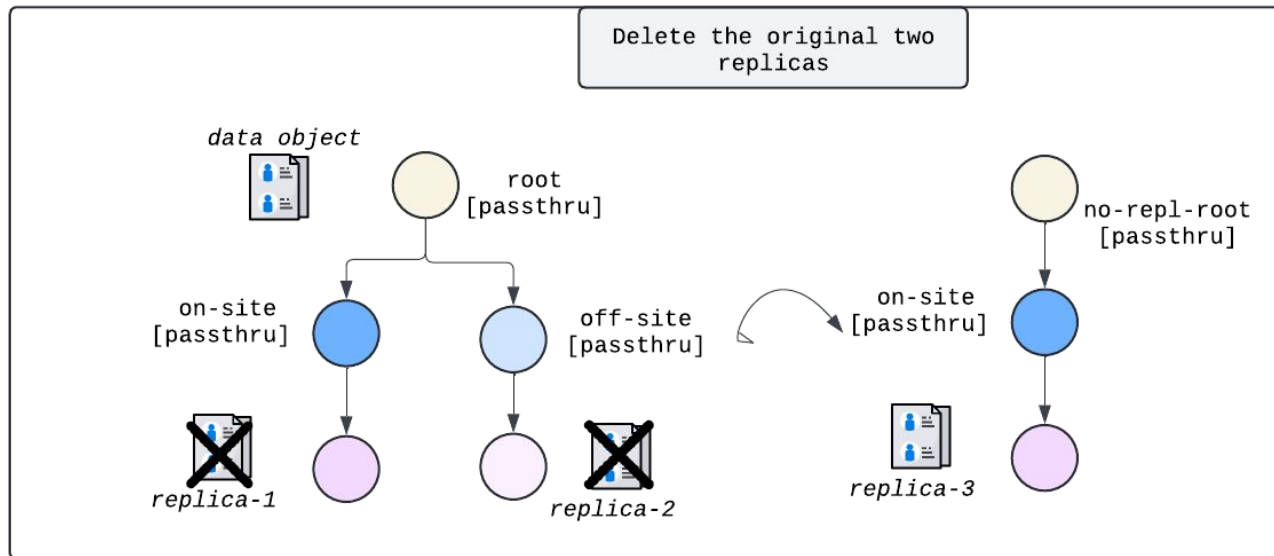
iRODS upgrade: Blocker

iRODS upgrade: storage tiering plugin
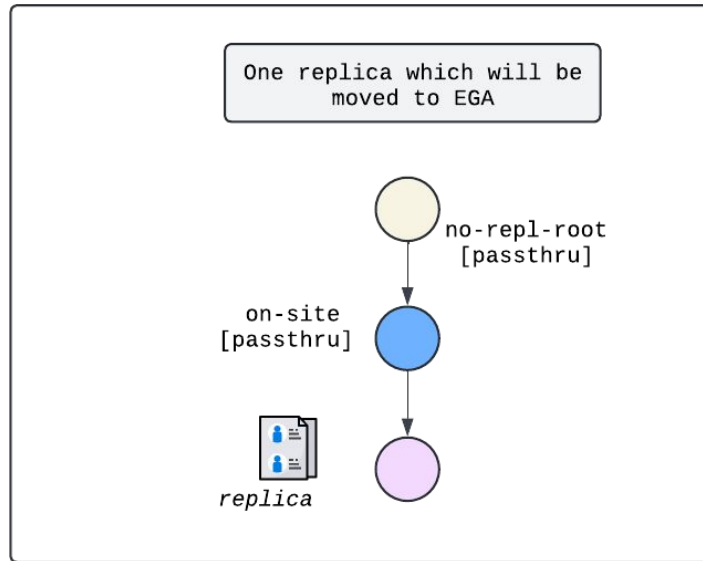
iRODS upgrade: storage tiering plugin contd.

iRODS upgrade: storage tiering plugin contd.

Challenges with current architecture

Database	Servers	Data objects	Lustre File System
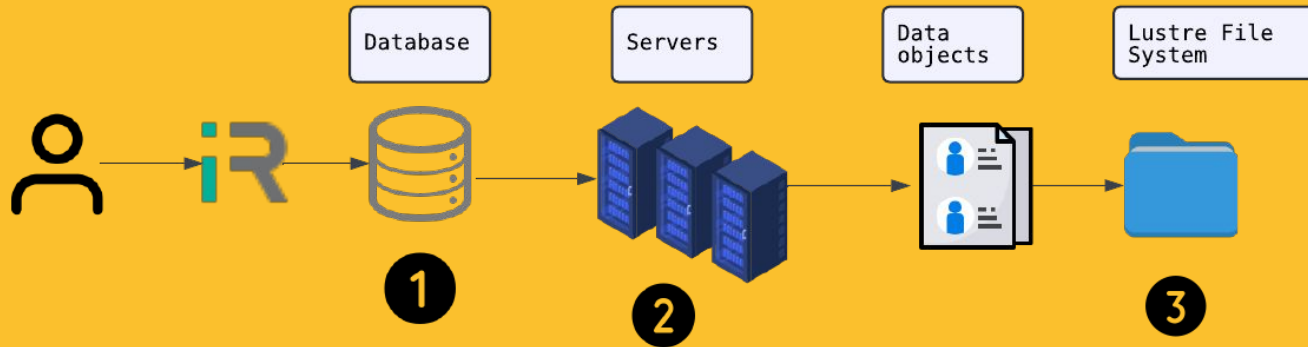
1. iget requests overwhelm database

2. Large number of servers become difficult to manage

3. Files have to be staged on a intermediate file system

iRODS world: Future

Read-only file system
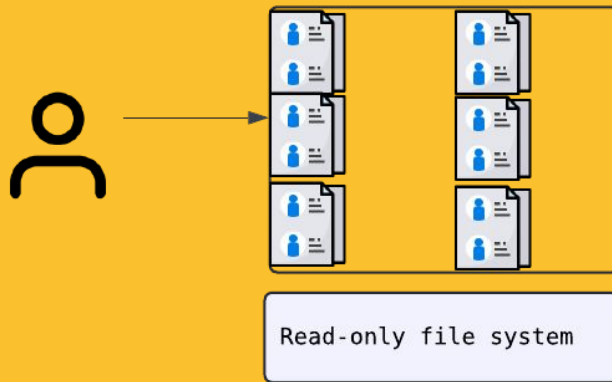
1 User can directly access the data objects

2 The file system will abstract all the servers.

3 Replication will be managed by the file system

Photo Credits

Questions?

Email to sp35@sanger.ac.uk
Slack in iRODS ADMIN

Hakuna Matata!