Merritt NodeIO

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Use

Provides simplified interface to setting Cloud service and container using:

- Node list name
- Node number on node list

Used in audit, replic, (partially) storage

Location:

- NodeIO Github:

https://github.com/CDLUC3/mrt-cloud/blob/master/s3-src/src/main/java/org/cdlib/mrt/s3/service/NodeIO.java
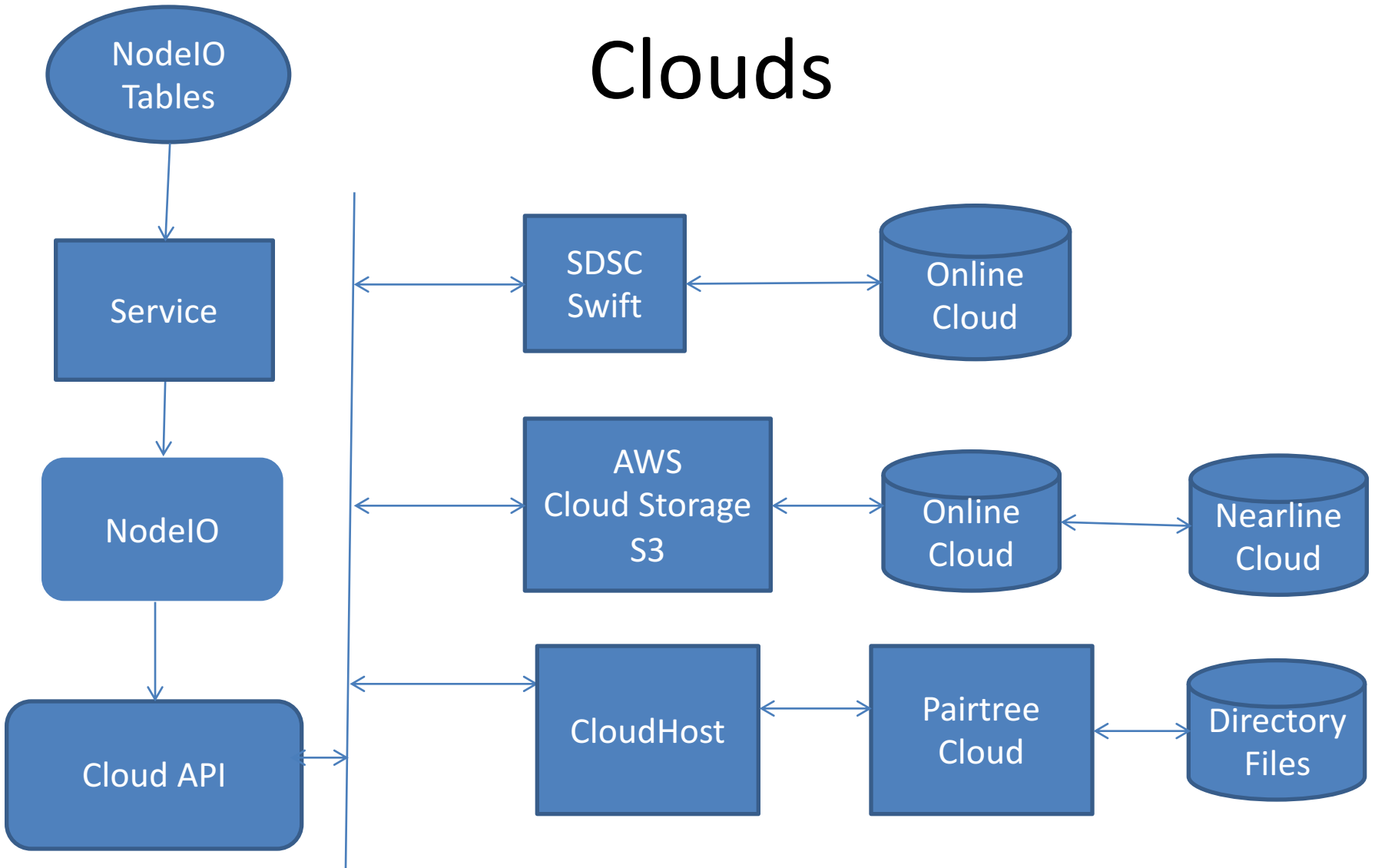
- NodeIO tables:

https://github.com/cdlib/mrt-conf-prv/tree/master/s3-conf/src/main/resources/nodes

Cloud providers

- SDSC Swift - online

- AWS S3 - online

- AWS S3 <> Glacier

  online <> nearline

- Cloudhost - online

- Pairtree cloud - online

Clouds

NodeIO properties

These are linked Java properties files describing cloud services

Types properties files

- Node list

- Cloud service properties

Node list properties

- Contains one or more properties each referencing a specific Storage node
- Saved as:

[node list name].properties

- Format:

node.[seq]=[node number]|[cloud properties name]|[container]

Node list example

Name: ./nodes-prod.properties

Content:

node.1=9001|sdsc|distrib.prod.9001.__

node.2=8001|ucla-prod

node.3=5001|aws-std|uc3-s3mrt5001-prd

node.4=6001|aws-near|uc3-s3mrt6001-prd

node.5=7021|ch-riverside-prd|8100

Node Service Properties

Describes a particular cloud service providing:

- serviceType (required)
- Keys –e.g. public access
- Container type information
- Container host name

Node properties example

node.1=9001|sdsc|distrib.prod.9001.__

node.1 – first entry

9001 – storage node

sdsc – cloud properties name: ./sdsc.properties

distrib.prod.9001.__ - sdsc container

Node Properties Examples

```
* ch-riverside-prd
serviceType=cloudhost
base=https://uc3-mrtdat1-dev.cdlib.org:30443/cloudhost

./sdsc.properties
serviceType=swift
access_key=our_service:our_group
secret_key=pwd
host=cloud.sdsc.edu

./ucla-prod
serviceType=pairtree
base=/mrt-ucla-prod/dpr2/repository/node8001/store/fileCloud

./aws-std
serviceType=aws
accessMode=on-line
storageClass=Standard

./aws-near
serviceType=aws
accessMode=near-line
```

Supported serviceTypes

- =swift – openstack SDSC

- =aws – Amazon AWS

- =pairtree – Merritt directory emulation cloud

- =cloudhost – Merritt http service using pairtree for storage

serviceType=swift
Node list entry

node.1=9001|sdsc|distrib.prod.9001.__

node.1 – first entry

9001 – storage node

sdsc – cloud properties name: ./sdsc.properties

distrib.prod.9001.__ - sdsc container

serviceType=swift
Node Properties

Example ./sdsc.properties:

serviceType=swift

access_key=our_service:our_group

secret_key=pwd

host=cloud.sdsc.edu

- access_key=our_service:our_group
- secret_key=private password
- host=host name for service

serviceType=aws
Node list entry

Example

node.3=5001|aws-std|uc3-s3mrt5001-prd

- 5001 – Storage service node
- aws-std – aws-s3 properties name:

./aws-std.properties

- uc3-s3mrt5001-prd – s3 bucket

serviceType=aws
Node Properties

Example ./aws-std.properties:

serviceType=aws

accessMode=on-line

storageClass=Standard

- serviceType – s3
- accessMode=on-line directly accessible

Storage content

- storageClass=Standard

serviceType=aws
Node list entry

Example

node.4=6001|aws-near|uc3-s3mrt6001-prd

- 6001 – storage node
- aws-near – aws-s3 properties name:

./aws-near.properties

- uc3-s3mrt6001-prd – s3 bucket

serviceType=aws
Node Properties

Example ./aws-near.properties:

serviceType=aws

accessMode=near-line

- serviceType=aws – s3
- accessMode=near-line Glacier S3 bucket

serviceType=pairtree
Node list entry

Example

node.2=8001|ucla-prod

- 8001 – Storage service node
- ucla-prod – cloudhost properties name:

./ucla-prod.properties

serviceType=pairtree
Node Properties

Example ./ucla-prod.properties:

serviceType=pairtree

base=/mrt-ucla-prod/dpr2/repository/node8001/store/fileCloud

- base – base directory for pairtree files

serviceType=cloudhost
Node list entry

Example

node.5=7021|ch-riverside-prd|8100

- 7021 – Storage service node

- ch-riverside-prd – cloudhost properties name:

./ch-riverside-prd.properties

- 8100 – local cloudhost node defining the location of the pairtree

serviceType=cloudhost
Node Properties

Example ./ch-riverside-prd.properties:

serviceType=cloudhost

base=https://uc3-mrtdat1-…

   ….dev.cdlib.org:30443/cloudhost

- base – remote cloudhost base url