

Updating Zone Report and Other Server Fixes

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About Me

- I'm from NY
- Second year CS student at University of Michigan, Ann Arbor
- I do Taekwondo and enjoy traveling



Stats

- Worked on 17 issues
- Made 21 commits across 6 repositories
- About 1900 additions and 500 deletions

Zone Report

What is the Zone Report?

- **izonereport** is an administrator command to collect iRODS zone configuration information
- Can be validated against the zone bundle schema from the iRODS repository.

Flattening the Zone Report

- Single provider assumption
- Coordinating resources belong to zone as a whole
- Find catalog service provider by searching for **catalog_service_role** set to **provider**

```
Old Zone Report
{
  "schema_version": "file:///var/lib/irods/configuration_schemas/v4/zone_bundle.json",
  "zones": [
    {
      "icat_server": {
        "configuration_directory": {...},
        "coordinating_resources": [...],
        "host_system_information": {...},
        "plugins": [...],
        "resources": [...],
        "server_config": {...},
        "service_account_environment": {...},
        "version": {...}
      },
      "servers": [...]
    }
  ]
}
```

Flattening the Zone Report

- Single provider assumption
- Coordinating resources belong to zone as a whole
- Find catalog service provider by searching for **catalog_service_role** set to **provider**

```
New Zone Report
{
  "schema_version": "file:///var/lib/irods/configuration_schemas/v4/zone_bundle.json",
  "zones": [
    {
      "coordinating_resources": [...],
      "servers": [
        {
          "configuration_directory": {...},
          "host_system_information": {...},
          "plugins": [...],
          "resources": [...],
          "server_config": {...},
          "service_account_environment": {...},
          "version": {...}
        }
      ]
    }
  ]
}
```

Exposed info and comment fields

- Comments and info existed but weren't shown

Without Comments and Info

```
{  
  "context_string": "",  
  "free_space": "",  
  "host": "example.com",  
  "id": "10013",  
  "name": "demoResc",  
  "parent_context": "",  
  "parent_resource": "",  
  "status": "up",  
  "type": "unixfilesystem",  
  "vault_path": "/var/lib/irods/Vault"  
}
```

Exposed info and comment fields

- Comments and info existed but weren't shown

With Comments and Info

```
{  
  "comments": "example comment",  
  "context_string": "",  
  "free_space": "",  
  "host": "example.com",  
  "id": "10013",  
  "info": "resource info",  
  "name": "demoResc",  
  "parent_context": "",  
  "parent_resource": "",  
  "status": "up",  
  "type": "unixfilesystem",  
  "vault_path": "/var/lib/irods/Vault"  
}
```

Added checksums to plugins

- Checksum fields was previously left empty

Without Checksum

```
{  
  "checksum_sha256": "",  
  "name": "compound",  
  "type": "resource",  
  "version": ""  
},
```

Added checksums to plugins

- Checksum fields was previously left empty

With Checksum

```
{  
  "checksum_sha256": "dd9m+VbTxnhJ+xjfRZ+9wzTj0YTcs0aSIr6lhwy+jiY=",  
  "name": "compound",  
  "type": "resource",  
  "version": ""  
},
```

Other Server Changes

Tickets

- Added support for relative paths for iticket
- Added change to update modification time for tickets

Relative Path

— □ ×

```
irods@example.com:~$ iticket create read ./dataobject.txt
```

Miscellaneous

- Testing scripts
 - General Refactoring
- Bound check for environment variables
 - Removed use of old C-functions that did not check bounds for strings
- Remove printing from client login
 - Sent error messages through error stack instead of stderr
- File object size
 - Changed file size to use signed integers

Technologies and Lessons Learned

Technologies Learned

- iRODS
- Docker
- Some more Git
- Github
- Linux
- Vim

Lessons Learned

- How to work in a team
- Ask a lot of questions
- Talk through problems

Expectations vs Realities

Expectations

- Getting started would be a challenge
- Certain issues would be easy

Reality

- Knowing my tools was essential to quickly starting
- Issues that I thought would be quick often took longer



trel commented on Jun 17

Good find. Should be pretty easy to fix.

Thanks

Special thanks to Kory and Terrell

Questions?

Contact me

www.nishantdash.com/contact