
ducc

— Daemon Unpacking
Containers in CVMFS —

In a nutshell

- Daemon running on unpacked.cern.ch stratum 0
- Keeps the repository in sync with the docker images
 - When a new image is pushed it downloads it and unpacks it in CVMFS
- Set of docker images provided via git
 - <https://gitlab.cern.ch/unpacked/sync>
 - Images listed in [recipe.yaml](#)
- Docker thin images & singularity images provided

Docker thin images

- Unpack all the layers in cvmfs
- Create the thin image
- Push the thin image into gitlab repository
- Save metadata and information inside the repository itself

Singularity Images

- Content unpacked by ducc
- Follows hierarchical structure of docker image names

Repository Structure

/cvmfs/unpacked.cern.ch/

```
|— .flat
|   |— 70
|   |— .cvmfscatalog
|   └─ fa
|— .layers
|   |— .cvmfscatalog
|   └─ d0
|— .metadata
|   |— registry.hub.docker.com
|   └─ remove-schedule.json
└─ registry.hub.docker.com
    |— atlas
    |— cmssw
    |— library
    └─ stfc
```

Repository Structure

```
/cvmfs/unpacked.cern.ch/
```

```
|— .flat  
|   |— 70  
|   |— .cvmfscatalog  
|   └─ fa  
|— .layers  
|   |— .cvmfscatalog  
|   └─ d0  
|— .metadata  
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    |— cmssw  
    |— library  
    └─ stfc
```



Directory for the use with
singularity

Repository Structure

```
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```

```
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|— .metadata  
|   |— registry.hub.docker.com  
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└─ registry.hub.docker.com  
    |— atlas  
    |— cmssw  
    |— library  
    └─ stfc
```

Directory for the singularity data



Symbolic links



Directory for the use with singularity



Repository Structure

```
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```

```
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    |— cmssw  
    |— library  
    └─ stfc
```



Directory contains the layers for the docker thin images

Repository Structure

```
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```

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|   └─ fa  
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|— .metadata  
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    |— cmssw  
    |— library  
    └─ stfc
```



Metadata for managing
the repository

Add image to unpacked.cern.ch

1. Open PR against the recipe file => [recipe.yaml](#)
2. PR gets merged
3. ducc starts to poll recipe.yaml and sees the new image
4. Image gets converted
 - a. Add singularity directory
 - b. Add docker layer directories
 - c. Generate thin image
5. Thin image is pushed into the gitlab registry

Status

- Code tested and used (some bugs still expected, beta quality)
- Code moving into the main cvmfs repository
- [Actual location](#)

Thanks!

Questions?