

ESCAPE

European Science Cluster of Astronomy &
Particle physics ESFRI research Infrastructures

ESCAPE WP2

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Adding ORM endpoint to the ESCAPE Rucio instance

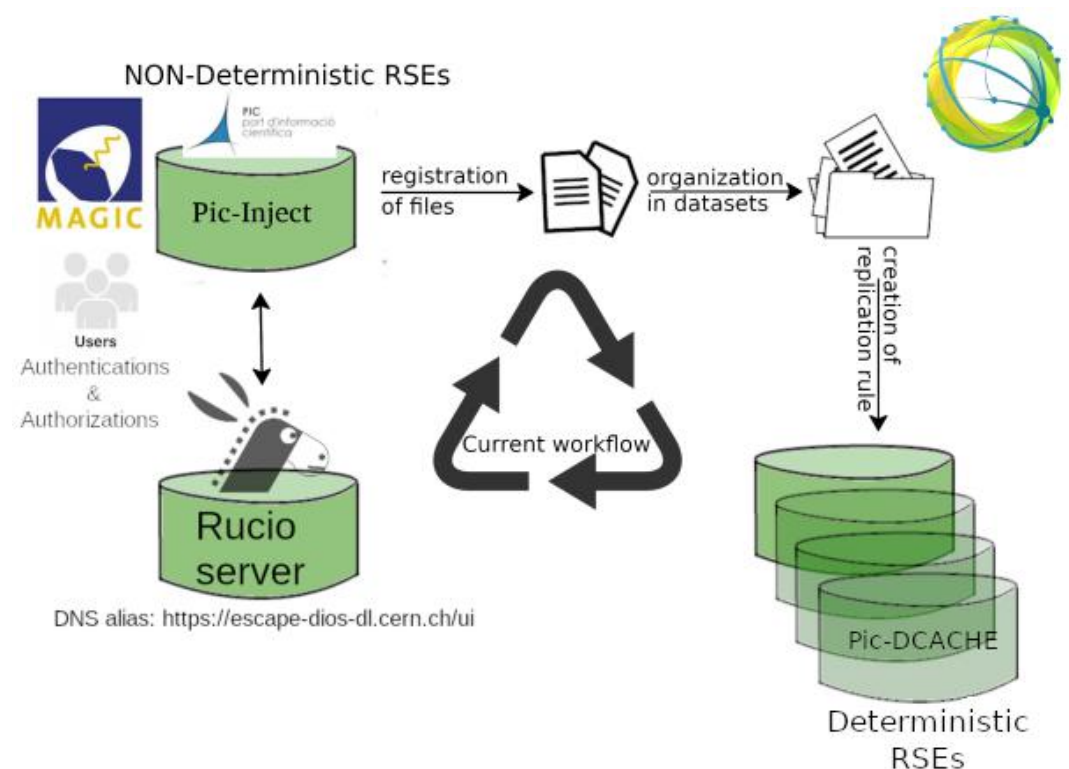
1) INTRODUCTION:

a) Context:

- La Palma machine runs on an old system, with small total size storages.
- Installing new software/middleware could compromise the machine
- We already added la Palma("ORM-INJECT") endpoint to the ESCAPE Rucio instance.

b) Aim :

- The aim will be to transfer the data generated on La Palma to the PIC via the ESCAPE Rucio.



Adding ORM endpoint to the ESCAPE Rucio instance

2) LA PALMA SIDE:

a) Context:

- a) NON-Deterministic RSE
- b) protocol: gsiftp
- c) endpoint: gsiftp://grid.magic.iac.es:2811//data/Other/rucio_tmp/

b) Activity: Creation of file

```
[rucio@grid2 ~]$ dd if=/dev/urandom of=file-1 bs=1M count=1
```

1+0 records in

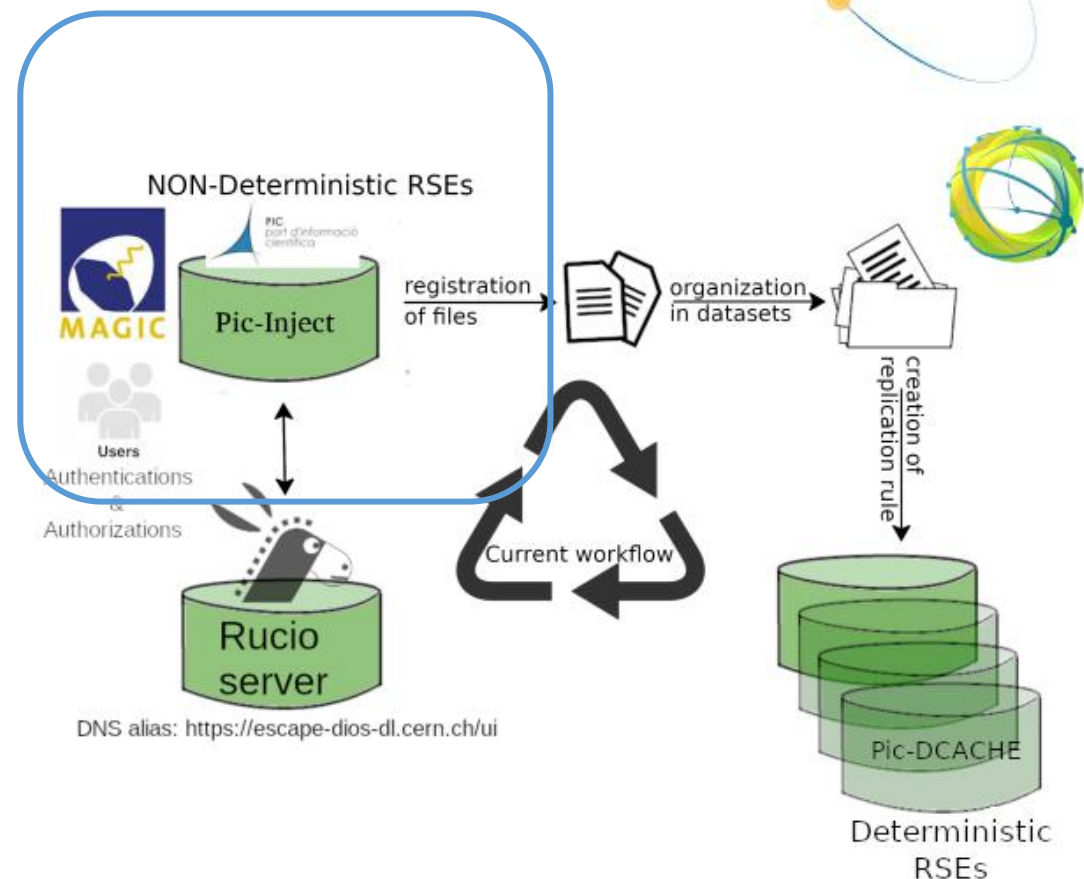
1+0 records out

1048576 bytes (1.0 MB) copied, 0.228187 s, 4.6 MB/s

```
[rucio@grid2 rucio_tmp]$ find $(pwd) -maxdepth 1 -type f -not -path
```

```
'*/\.*' | sort
```

```
/data/Other/rucio_tmp/file1
```



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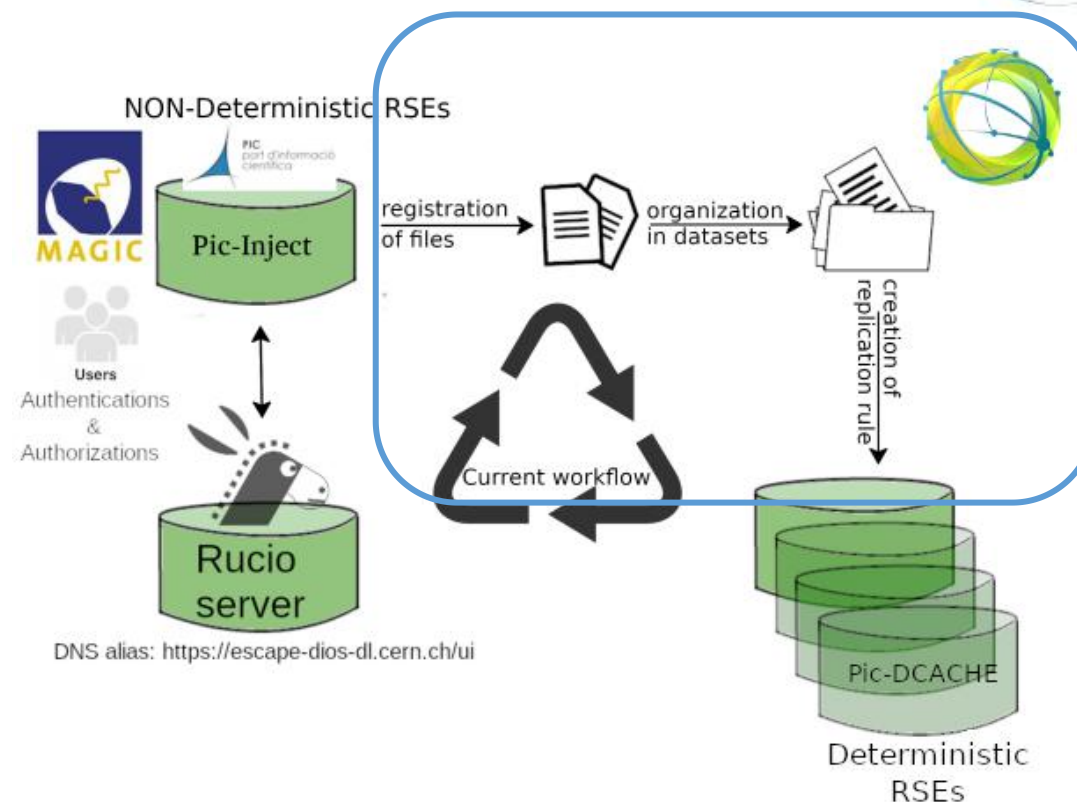
3) RUCIO CLIENT:

a) Context:

- a) Python3
- b) Rucio client 1.25

b) Activity : Registration of file

```
client.add_replicas(rse=orgRSE, files=[{'scope':
'MAGIC_PIC_BRUZZESE-test', 'name': 'test-file-0b05ecbe-21dc-
49ec-815e-8bb9b2528175', 'adler32': 'e4943a21', 'bytes':
10485760, 'pfn':
'gsiftp://grid.magic.iac.es:2811//data/Other/rucio_tmp/file1',
'meta': {'guid': '32fadf8eb985436c867edd4f6e6b1aae'}}]])
```



For more information [Supplementary slide 1](#)

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3) RUCIO CLIENT:

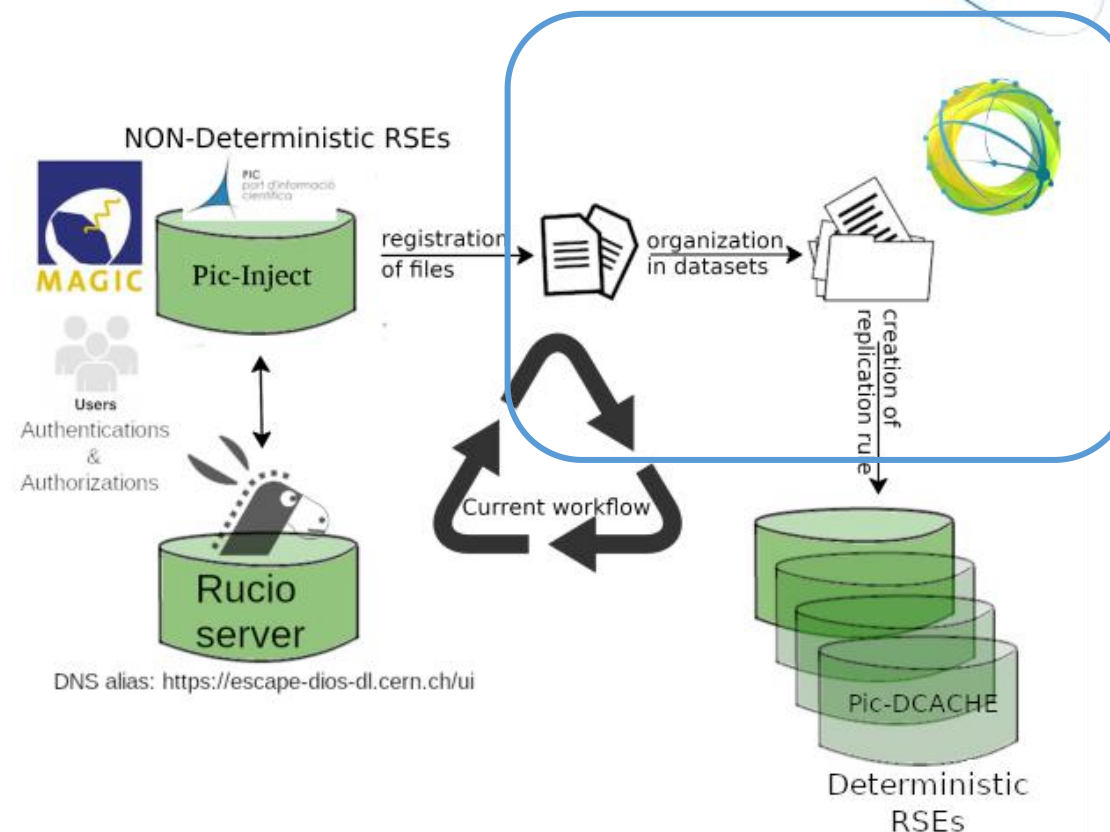
a) Context:

- a) Python3
- b) Rucio client 1.25

b) Activity: Replication of file

```
rule_id =
rulesClient.add_replication_rule([{"scope":'MAGIC_PIC_BRUZZESE
-test',"name":'file1'}],copies=1, rse_expression='PIC-DCACHE',
grouping='ALL', account=account, purge_replicas=True)
```

True



Adding ORM endpoint to the ESCAPE Rucio instance

4) PIC SIDE:

a) Context:

a) Deterministic RSE

b) protocol: gridftp

b) Activity: Replication of file

```
content = client.list_replica_locks(rule_id=rule_id)
```

```
!date
```

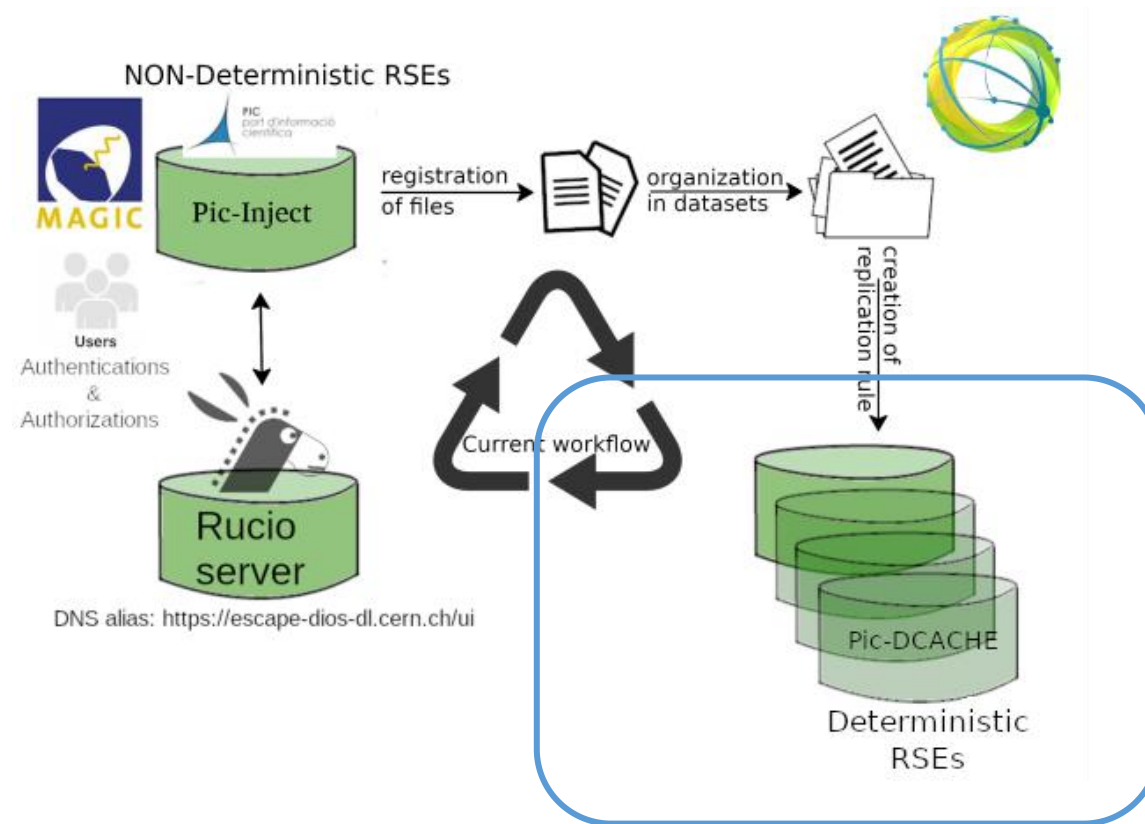
```
print(content)
```

```
{'scope': 'MAGIC_PIC_BRUZZESE-test', 'name': 'test-file-0b05ecbe-21dc-49ec-815e-8bb9b2528175', 'rse_id':
```

```
'dcee605ef2734b9ba295ba6eb0cc6be9', 'rse': 'PIC-DCACHE', 'state':
```

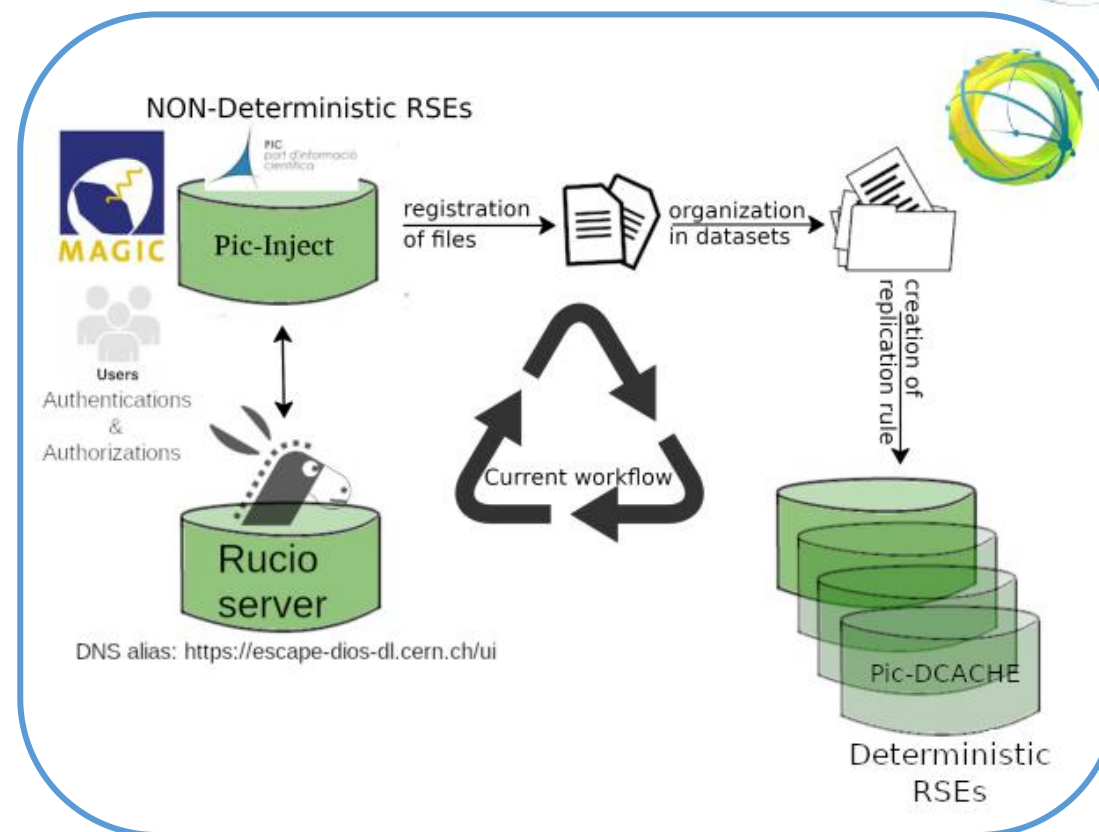
```
'OK', 'rule_id': 'b266806cde8c429495ab080e65ee9c57'}
```

Mon Jun 7 08:16:17 CEST 2021



5) CONCLUSIONS:

- Using a non-deterministic and a deterministic RSE, the transfers from the ORM to the PIC in the ESCAPE context can be done
- The MAGIC data continues to be private and only accessible for specific users



Adding ORM endpoint to the ESCAPE Rucio instance

1) Supplementary slide:

```
Data = dict();
replica = {
'scope': 'MAGIC_PIC_BRUZZESE-test',
'name': 'test-file-0b05ecbe-21dc-49ec-815e-8bb9b2528175',
'adler32': gfal.checksum(lfn, 'adler32'),
'bytes': gfal.stat(lfn).st_size,
'pfn': 'gsiftp://grid.magic.iac.es:2811//data/Other/rucio_tmp/file1',
"meta": {"guid": str(generate_uuid())}
}
```

```
Data['replica'] = replica
```

