

- Notes:
1. user.1 and user.3 will not match as the **telephone number** value is different and user.2 is missing on ds0 (via mangled LDIF import)
 2. While DSCheck is running (on Mac) ds1.example.com (vbox VM) is running modrate with -c 1 and -t 1 change the **description** value

```
rmfaller-forgerock-mac:DSCheck rmfaller$ ./scripts/dscheck.sh full
Note: system date running DSCheck may differ from DS instances
----- Mon Apr 30 14:39:20 PDT 2018 -----
Checking replication topology
----- Mon Apr 30 14:39:22 PDT 2018 -----
Hosts:ports = ds0.example.com:1389~ds1.example.com:1389
Replication hosts shown in ds0.example.com:
  ds0.example.com
  ds1.example.com
Replication hosts shown in ds1.example.com:
  ds0.example.com
  ds1.example.com
----- Mon Apr 30 14:39:26 PDT 2018 -----
Searching for objects...done searching in ou=People,dc=example,dc=com.
----- Mon Apr 30 14:39:50 PDT 2018 -----
Started Collating and sorting from full scan...
Total entries in ds0.example.com = 199998 /Users/rmfaller/projects/DSCheck/tmp/full-ds0.example.com.txt
Total entries in ds1.example.com = 199999 /Users/rmfaller/projects/DSCheck/tmp/full-ds1.example.com.txt
Done collating and sorting.
----- Mon Apr 30 14:39:58 PDT 2018 -----
If --fulldisplay is used data is written to /Users/rmfaller/projects/DSCheck/tmp/objects-20180430213918Z.err
Checking all objects...
Starting dscheck.DSCheck with 8 threads
Checking 199999 objects listed in /Users/rmfaller/projects/DSCheck/tmp/dns.txt in the following instances:
  ds0.example.com:1389
  ds1.example.com:1389
=====
```

Started modrate around this time with an average modrate of 500 - 680 modifies per second.
Note user.1 is expected to error as well as user.2 and user.3.

```
Object uid=user.1,ou=People,dc=example,dc=com checked 16 time(s) for 186ms = NOT MATCHING
Instance: ds0.example.com:1389 etag = 000000000580d466
Instance: ds1.example.com:1389 etag = 00000000d10ed433
```

Here is the first mismatched encountered due to modrate and replication delay.
Wlth a recheck after a specified sleep time this object converges.
This is the case with many of the following.

```
Object uid=user.101922,ou=People,dc=example,dc=com checked 1 time(s) for 41ms initial mismatch = MATCHED
Instance: ds0.example.com:1389 etag = 00000000fc9bdd92
Instance: ds1.example.com:1389 etag = 00000000fc9bdd92
```

Approximately 20.00% completed on Mon Apr 30 14:40:31 PDT 2018

```
Object uid=user.82065,ou=People,dc=example,dc=com checked 1 time(s) for 34ms initial mismatch = MATCHED
Instance: ds0.example.com:1389 etag = 00000000ece8e44a
Instance: ds1.example.com:1389 etag = 00000000ece8e44a
```

```
Object uid=user.195252,ou=People,dc=example,dc=com checked 1 time(s) for 22ms initial mismatch = MATCHED
Instance: ds0.example.com:1389 etag = 00000000f65adcf6
Instance: ds1.example.com:1389 etag = 00000000f65adcf6
```

```
Object uid=user.152743,ou=People,dc=example,dc=com checked 1 time(s) for 12ms initial mismatch = MATCHED
Instance: ds0.example.com:1389 etag = 00000000bfe3d9eb
Instance: ds1.example.com:1389 etag = 00000000bfe3d9eb
```

```
Object uid=user.85989,ou=People,dc=example,dc=com checked 15 time(s) for 141ms initial mismatch = MATCHED
Instance: ds0.example.com:1389 etag = 000000005dd9e603
Instance: ds1.example.com:1389 etag = 000000005dd9e603
```

```
Object uid=user.13122,ou=People,dc=example,dc=com checked 4 time(s) for 53ms initial mismatch = MATCHED
Instance: ds0.example.com:1389 etag = 00000000a35edb62
Instance: ds1.example.com:1389 etag = 00000000a35edb62
```

Approximately 40.01% completed on Mon Apr 30 14:41:00 PDT 2018

Object uid=user.199170,ou=People,dc=example,dc=com checked 2 time(s) for 22ms initial mismatch = MATCHED
Instance: ds0.example.com:1389 etag = 00000000c9c4da33
Instance: ds1.example.com:1389 etag = 00000000c9c4da33

Object uid=user.177254,ou=People,dc=example,dc=com checked 2 time(s) for 24ms initial mismatch = MATCHED
Instance: ds0.example.com:1389 etag = 00000000fffee183
Instance: ds1.example.com:1389 etag = 00000000fffee183

Object uid=user.2,ou=People,dc=example,dc=com checked 16 time(s) for 142ms = MISSING
Instance: ds0.example.com:1389 etag = NONEXISTENT
Instance: ds1.example.com:1389 etag = 00000000175fc400

Object uid=user.179286,ou=People,dc=example,dc=com checked 2 time(s) for 28ms initial mismatch = MATCHED
Instance: ds0.example.com:1389 etag = 00000000f0d8dd99
Instance: ds1.example.com:1389 etag = 00000000f0d8dd99

Object uid=user.112628,ou=People,dc=example,dc=com checked 2 time(s) for 45ms initial mismatch = MATCHED
Instance: ds0.example.com:1389 etag = 000000004515d9d3
Instance: ds1.example.com:1389 etag = 000000004515d9d3

Object uid=user.4538,ou=People,dc=example,dc=com checked 5 time(s) for 44ms initial mismatch = MATCHED
Instance: ds0.example.com:1389 etag = 00000000c6c1de20
Instance: ds1.example.com:1389 etag = 00000000c6c1de20

Approximately 60.01% completed on Mon Apr 30 14:41:30 PDT 2018

Object uid=user.114493,ou=People,dc=example,dc=com checked 1 time(s) for 37ms initial mismatch = MATCHED
Instance: ds0.example.com:1389 etag = 000000005fbadbee
Instance: ds1.example.com:1389 etag = 000000005fbadbee

Object uid=user.137465,ou=People,dc=example,dc=com checked 4 time(s) for 86ms initial mismatch = MATCHED
Instance: ds0.example.com:1389 etag = 000000004eaadf58
Instance: ds1.example.com:1389 etag = 000000004eaadf58

The following object "user.48918" does not converge even after repeatedly checking 16 times for a lapsed time of 200ms. While it is listed as "NOT MATCHING" here on further checks this object does converge. What this shows is that under heavy load there may be times where replication can take some time. DSCheck can be set to recheck more times as well as use a longer sleep time.

Object uid=user.48918,ou=People,dc=example,dc=com checked 16 time(s) for 200ms = NOT MATCHING
Instance: ds0.example.com:1389 etag = 00000000617fe82d
Instance: ds1.example.com:1389 etag = 000000006561e297

Object uid=user.116584,ou=People,dc=example,dc=com checked 7 time(s) for 88ms initial mismatch = MATCHED
Instance: ds0.example.com:1389 etag = 00000000e2f5e04c
Instance: ds1.example.com:1389 etag = 00000000e2f5e04c

Approximately 80.02% completed on Mon Apr 30 14:42:03 PDT 2018
Object uid=user.9657,ou=People,dc=example,dc=com checked 1 time(s) for 18ms initial mismatch = MATCHED
Instance: ds0.example.com:1389 etag = 00000000b794e1c5
Instance: ds1.example.com:1389 etag = 00000000b794e1c5

Object uid=user.164777,ou=People,dc=example,dc=com checked 4 time(s) for 63ms initial mismatch = MATCHED
Instance: ds0.example.com:1389 etag = 00000000c4fde546
Instance: ds1.example.com:1389 etag = 00000000c4fde546

Object uid=user.3,ou=People,dc=example,dc=com checked 16 time(s) for 161ms = NOT MATCHING
Instance: ds0.example.com:1389 etag = 000000008de6d89d
Instance: ds1.example.com:1389 etag = 000000005cacd86d

100% Complete

thread-0 pass = 24998 fail = 1; Average time per check = 6ms against 2 instances
thread-1 pass = 24999 fail = 0; Average time per check = 6ms against 2 instances
thread-2 pass = 24999 fail = 0; Average time per check = 6ms against 2 instances
thread-3 pass = 24999 fail = 0; Average time per check = 6ms against 2 instances
thread-4 pass = 24997 fail = 2; Average time per check = 6ms against 2 instances
thread-5 pass = 24998 fail = 1; Average time per check = 6ms against 2 instances
thread-6 pass = 24999 fail = 0; Average time per check = 6ms against 2 instances
thread-7 pass = 25006 fail = 0; Average time per check = 6ms against 2 instances

```
-----
Total      pass = 199995 fail = 4

Stats from DSCheck perspective with lapsed clock time = 2 minutes:
ds0.example.com:1389 called = 200112 times; Average time/call = 3ms; tx rate = 1279.4475/sec
ds1.example.com:1389 called = 200112 times; Average time/call = 3ms; tx rate = 1279.4475/sec
Cumulative transaction rate across all instances = 2558.895/sec
----- DSCheck completed on Mon Apr 30 14:42:35 PDT 2018 -----

End of full scan of 200,000 objects and took about 3 - 4 minutes. Modrate is still running.
DSCheck now scans objects either modified or created after the shown time.

Note: system date running DSCheck may differ from DS instances
Time stamp to be used: Create = 20180430213918Z & Modify = 20180430213918Z
----- Mon Apr 30 14:42:38 PDT 2018 -----
Checking replication topology
----- Mon Apr 30 14:42:41 PDT 2018 -----
Hosts:ports = ds0.example.com:1389~ds1.example.com:1389
Replication hosts shown in ds0.example.com:
    ds0.example.com
    ds1.example.com
Replication hosts shown in ds1.example.com:
    ds0.example.com
    ds1.example.com
----- Mon Apr 30 14:42:49 PDT 2018 -----
Searching for objects...done searching in ou=People,dc=example,dc=com.
----- Mon Apr 30 14:43:48 PDT 2018 -----
Started Collating and sorting from partial scan using: Create = 20180430213918Z & Modify = 20180430213918Z...

SAs shown 91,548 and 96,504 modified objects were discovered that meet the date/time criteria.

Created entries after 20180430213918Z in ds0.example.com: 0
Modified entries after 20180430213918Z in ds0.example.com: 91548
+++++
Created entries after 20180430213918Z in ds1.example.com: 0
Modified entries after 20180430213918Z in ds1.example.com: 96504
+++++
Done collating and sorting.
----- Mon Apr 30 14:43:53 PDT 2018 -----
Checking objects that meet criteria...
Starting dscheck.DSCheck with 8 threads
Checking 96504 objects listed in /Users/rmfaller/projects/DSCheck/tmp/dns.txt in the following instances:
    ds0.example.com:1389
    ds1.example.com:1389
=====

Object uid=user.2,ou=People,dc=example,dc=com checked 16 time(s) for 149ms = MISSING
Instance: ds0.example.com:1389 etag = NONEXISTENT
Instance: ds1.example.com:1389 etag = 0000000097a9d89c

Object uid=user.1,ou=People,dc=example,dc=com checked 16 time(s) for 120ms = NOT MATCHING
Instance: ds0.example.com:1389 etag = 00000000055cd465
Instance: ds1.example.com:1389 etag = 00000000d0ead432

Approximately 41.45% completed on Mon Apr 30 14:44:16 PDT 2018
Approximately 82.91% completed on Mon Apr 30 14:44:37 PDT 2018

Object uid=user.3,ou=People,dc=example,dc=com checked 16 time(s) for 129ms = NOT MATCHING
Instance: ds0.example.com:1389 etag = 0000000021e8d8e0
Instance: ds1.example.com:1389 etag = 00000000f09fd8b0

100% Complete
```

Only the expected fails are found, all other objects are found to be matched. Modrate was terminated in the beginning to this run.

```
thread-0 pass = 12061 fail = 2; Average time per check = 4ms against 2 instances
thread-1 pass = 12063 fail = 0; Average time per check = 4ms against 2 instances
thread-2 pass = 12063 fail = 0; Average time per check = 4ms against 2 instances
thread-3 pass = 12063 fail = 0; Average time per check = 4ms against 2 instances
```

thread-4 pass = 12062 fail = 1; Average time per check = 4ms against 2 instances
thread-5 pass = 12063 fail = 0; Average time per check = 4ms against 2 instances
thread-6 pass = 12063 fail = 0; Average time per check = 4ms against 2 instances
thread-7 pass = 12063 fail = 0; Average time per check = 4ms against 2 instances

Total pass = 96501 fail = 3

Stats from DSCheck perspective with lapsed clock time = 0 minutes:
ds0.example.com:1389 called = 96549 times; Average time/call = 2ms; tx rate = 1826.3657/sec
ds1.example.com:1389 called = 96549 times; Average time/call = 2ms; tx rate = 1826.3657/sec
Cumulative transaction rate across all instances = 3652.7314/sec
----- DSCheck completed on Mon Apr 30 14:44:46 PDT 2018 -----

Note: system date running DSCheck may differ from DS instances
Time stamp to be used: Create = 20180430214236Z & Modify = 20180430214236Z
----- Mon Apr 30 14:44:48 PDT 2018 -----
Checking replication topology
----- Mon Apr 30 14:44:50 PDT 2018 -----
Hosts:ports = ds0.example.com:1389~ds1.example.com:1389
Replication hosts shown in ds0.example.com:
 ds0.example.com
 ds1.example.com
Replication hosts shown in ds1.example.com:
 ds0.example.com
 ds1.example.com
----- Mon Apr 30 14:44:55 PDT 2018 -----
Searching for objects...done searching in ou=People,dc=example,dc=com.
----- Mon Apr 30 14:45:12 PDT 2018 -----
Started Collating and sorting from partial scan using: Create = 20180430214236Z & Modify = 20180430214236Z...
Created entries after 20180430214236Z in ds0.example.com: 0
Modified entries after 20180430214236Z in ds0.example.com: 47427
+++++
Created entries after 20180430214236Z in ds1.example.com: 0
Modified entries after 20180430214236Z in ds1.example.com: 47428
+++++
Done collating and sorting.
----- Mon Apr 30 14:45:15 PDT 2018 -----
Checking objects that meet criteria...
Starting dscheck.DSCheck with 8 threads
Checking 47428 objects listed in /Users/rmfaller/projects/DSCheck/tmp/dns.txt in the following instances:
 ds0.example.com:1389
 ds1.example.com:1389
=====

Object uid=user.2,ou=People,dc=example,dc=com checked 16 time(s) for 223ms = MISSING
Instance: ds0.example.com:1389 etag = NONEXISTENT
Instance: ds1.example.com:1389 etag = 0000000097a9d89c

Approximately 84.35% completed on Mon Apr 30 14:45:37 PDT 2018

Object uid=user.3,ou=People,dc=example,dc=com checked 16 time(s) for 142ms = NOT MATCHING
Instance: ds0.example.com:1389 etag = 0000000021e8d8e0
Instance: ds1.example.com:1389 etag = 00000000f09fd8b0

100% Complete

thread-0 pass = 5927 fail = 1; Average time per check = 4ms against 2 instances
thread-1 pass = 5928 fail = 0; Average time per check = 4ms against 2 instances
thread-2 pass = 5928 fail = 0; Average time per check = 4ms against 2 instances
thread-3 pass = 5928 fail = 0; Average time per check = 4ms against 2 instances
thread-4 pass = 5927 fail = 1; Average time per check = 4ms against 2 instances
thread-5 pass = 5928 fail = 0; Average time per check = 4ms against 2 instances
thread-6 pass = 5928 fail = 0; Average time per check = 4ms against 2 instances
thread-7 pass = 5932 fail = 0; Average time per check = 4ms against 2 instances

Total pass = 47426 fail = 2

Stats from DSCheck perspective with lapsed clock time = 0 minutes:
ds0.example.com:1389 called = 47458 times; Average time/call = 2ms; tx rate = 1880.4185/sec
ds1.example.com:1389 called = 47458 times; Average time/call = 2ms; tx rate = 1880.4185/sec
Cumulative transaction rate across all instances = 3760.837/sec

----- DSCheck completed on Mon Apr 30 14:45:41 PDT 2018 -----

Note: system date running DSCheck may differ from DS instances
Time stamp to be used: Create = 20180430214446Z & Modify = 20180430214446Z
----- Mon Apr 30 14:45:43 PDT 2018 -----
Checking replication topology
----- Mon Apr 30 14:45:45 PDT 2018 -----
Hosts:ports = ds0.example.com:1389~ds1.example.com:1389
Replication hosts shown in ds0.example.com:
 ds0.example.com
 ds1.example.com
Replication hosts shown in ds1.example.com:
 ds0.example.com
 ds1.example.com
----- Mon Apr 30 14:45:50 PDT 2018 -----
Searching for objects...done searching in ou=People,dc=example,dc=com.
----- Mon Apr 30 14:45:58 PDT 2018 -----
Started Collating and sorting from partial scan using: Create = 20180430214446Z & Modify = 20180430214446Z...
Created entries after 20180430214446Z in ds0.example.com: 0
Modified entries after 20180430214446Z in ds0.example.com: 0
+++++
Created entries after 20180430214446Z in ds1.example.com: 0
Modified entries after 20180430214446Z in ds1.example.com: 0
+++++
Done collating and sorting.
----- Mon Apr 30 14:45:58 PDT 2018 -----

Since modrate was terminated all objects have synced/converged and no changed objects found.

-->> There are NO objects to check <<--
----- DSCheck completed on Mon Apr 30 14:45:58 PDT 2018 -----

For grins DSCheck performs a full check on a quiet system with errors only the expected three objects.

rmfaller-forgerock-mac:DSCheck rmfaller\$./scripts/dscheck.sh full
Note: system date running DSCheck may differ from DS instances
----- Mon Apr 30 14:46:19 PDT 2018 -----
Checking replication topology
----- Mon Apr 30 14:46:21 PDT 2018 -----
Hosts:ports = ds0.example.com:1389~ds1.example.com:1389
Replication hosts shown in ds0.example.com:
 ds0.example.com
 ds1.example.com
Replication hosts shown in ds1.example.com:
 ds0.example.com
 ds1.example.com
----- Mon Apr 30 14:46:25 PDT 2018 -----
Searching for objects...done searching in ou=People,dc=example,dc=com.
----- Mon Apr 30 14:46:53 PDT 2018 -----
Started Collating and sorting from full scan...
Total entries in ds0.example.com = 199998 /Users/rmfaller/projects/DSCheck/tmp/full-ds0.example.com.txt
Total entries in ds1.example.com = 199999 /Users/rmfaller/projects/DSCheck/tmp/full-ds1.example.com.txt
Done collating and sorting.
----- Mon Apr 30 14:47:01 PDT 2018 -----
If --fulldisplay is used data is written to /Users/rmfaller/projects/DSCheck/tmp/objects-20180430214617Z.err
Checking all objects...
Starting dscheck.DSCheck with 8 threads
Checking 199999 objects listed in /Users/rmfaller/projects/DSCheck/tmp/dns.txt in the following instances:
 ds0.example.com:1389
 ds1.example.com:1389
=====

Object uid=user.1,ou=People,dc=example,dc=com checked 16 time(s) for 163ms = NOT MATCHING
Instance: ds0.example.com:1389 etag = 00000000055cd465
Instance: ds1.example.com:1389 etag = 00000000d0ead432

Approximately 20.00% completed on Mon Apr 30 14:47:26 PDT 2018
Approximately 40.01% completed on Mon Apr 30 14:47:51 PDT 2018

Object uid=user.2,ou=People,dc=example,dc=com checked 16 time(s) for 134ms = MISSING
Instance: ds0.example.com:1389 etag = NONEXISTENT

Instance: ds1.example.com:1389 etag = 0000000097a9d89c

Approximately 60.01% completed on Mon Apr 30 14:48:16 PDT 2018
Approximately 80.02% completed on Mon Apr 30 14:48:43 PDT 2018

Object uid=user.3,ou=People,dc=example,dc=com checked 16 time(s) for 141ms = NOT MATCHING
Instance: ds0.example.com:1389 etag = 0000000021e8d8e0
Instance: ds1.example.com:1389 etag = 00000000f09fd8b0

100% Complete

thread-0 pass = 24998 fail = 1; Average time per check = 4ms against 2 instances
thread-1 pass = 24999 fail = 0; Average time per check = 4ms against 2 instances
thread-2 pass = 24999 fail = 0; Average time per check = 4ms against 2 instances
thread-3 pass = 24999 fail = 0; Average time per check = 4ms against 2 instances
thread-4 pass = 24997 fail = 2; Average time per check = 4ms against 2 instances
thread-5 pass = 24999 fail = 0; Average time per check = 4ms against 2 instances
thread-6 pass = 24999 fail = 0; Average time per check = 4ms against 2 instances
thread-7 pass = 25006 fail = 0; Average time per check = 4ms against 2 instances

Total pass = 199996 fail = 3

Stats from DSCheck perspective with lapsed clock time = 2 minutes:
ds0.example.com:1389 called = 200044 times; Average time/call = 2ms; tx rate = 1617.3798/sec
ds1.example.com:1389 called = 200044 times; Average time/call = 2ms; tx rate = 1617.3798/sec
Cumulative transaction rate across all instances = 3234.7595/sec
----- DSCheck completed on Mon Apr 30 14:49:05 PDT 2018 -----