

IBM Tivoli Software



## IBM Tivoli Directory Server 6.0 - Replication

April 24, 2007  
Troubleshooting replica failures

**Support Technical Exchange Web site**  
[http://www-306.ibm.com/software/sysmgmt/products/support/supp\\_tech\\_exch.html](http://www-306.ibm.com/software/sysmgmt/products/support/supp_tech_exch.html)

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## Resuming replication using the webadmin

- Replication Management – Manage queues – select subtree – click on suspend/resume button

Manage queues Logout

Suspend/resume    Force replication    Queue details...

--- Select Action ---    Go

Select	Replica	Subtree	Last result	State	Queue size
<input checked="" type="radio"/>	peer2.389	cn=ibmpolicies	Not applicable	Suspended	2
<input type="radio"/>	replica1.389	cn=ibmpolicies	Not applicable	Suspended	2
<input type="radio"/>	peer2.389	o=ibm,c=us	Not applicable	Suspended	2
<input type="radio"/>	replica1.389	o=ibm,c=us	Not applicable	Suspended	2

To:

Manage queues Logout

Suspend/resume    Force replication    Queue details...

--- Select Action ---    Go

Select	Replica	Subtree	Last result	State	Queue size
<input checked="" type="radio"/>	peer2.389	cn=ibmpolicies	Ok	Ready	0
<input type="radio"/>	replica1.389	cn=ibmpolicies	Ok	Ready	0
<input checked="" type="radio"/>	peer2.389	o=ibm,c=us	Ok	Ready	1
<input type="radio"/>	replica1.389	o=ibm,c=us	Ok	Ready	0

There is a change in the queue... do I panic?



Basic Debugging - I cannot stress firmly enough the first rule of replication!



## Errors in replication are easy to solve

- In this case, what we see is not actually an error. Let's look again at our queue:

Manage queues Log

Suspend/resume    Force replication    Queue details

--- Select Action ---    Go

Select	Replica	Subtree	Last result	State	Queue size
<input type="radio"/>	peer2:389	cn=ibmpolicies	Ok	Ready	0
<input type="radio"/>	replica1:389	cn=ibmpolicies	Ok	Ready	0
<input checked="" type="radio"/>	peer2:389	o=ibm,c=us	Ok	Ready	1
<input type="radio"/>	replica1:389	o=ibm,c=us	Ok	Ready	0

- Because the last result is OK and not Failed we actually do not have an error, and should we make any change to the o=ibm,c=us tree this will clear itself. However, since we see something in Queue we might want to figure out what it is... select the subtree and click on the [Queue Details](#) button



## Queue Details

Queue details : peer2:389

Status	Last attempted details	
Last attempted details	Replica	peer2:389
Pending changes	Subtree	o=ibm,c=us
	Entry DN	cn=peer2:389,cn=peer1
	Last replicated at	Apr 27, 2007 12:55:08 A
	Update type	modify
	Last result	Ok
	Failed LDIF	<div style="border: 1px solid gray; height: 20px;"></div>
	Additional error messages	<div style="border: 1px solid gray; height: 20px;"></div>

Keys: no information in the Failed LDIF indicates there is not a failure  
When there is a failure we will typically give more info in this section

Last refreshed at 7:10:52 PM CDT on April 26, 2007

Skip blocking entry Refresh



## A little log analysis shows the root cause.

- The **FIRST** place to start on any replication problem is the **ibmslapd.log**
- **Default location:**  
`/home/inst_name/idsslapd-instname/logs`
- **File Name:** `ibmslapd.log`
- A little research shows the change we have stored in queue:

```
04/26/07 19:55:08 GLPRPL043W Replication continuing for
replica 'CN=PEER2:389,CN=PEER1:389,IBM-
REPLICAGROUP=DEFAULT,O=IBM,C=US' after skipping add
for entry 'cn=replica1:389,cn=peer1:389,ibm-
replicaGroup=default,O=IBM,C=US' because of error: 68
Already exists .
```

## Our options to resolve?

- **We can deal with this one of two ways:**
  - 1. Do Nothing! On the next real add/modify/delete will skip over this change as it is not a blocking entry**
  - 2. Use the “Skip Blocking Entry” button in the Queue Details section of the WebAdmin**
  - 3. Use an extended op to skip the blocking entry**

## Skipping a blocking entry

Queue details : peer2:389

Status	Last attempted details
Last attempted details	Replica: peer2:389
Pending changes	Subtree: o=ibm,c=us
	Entry DN: cn=peer2:389,cn=peer1
	Last replicated at: Apr 27, 2007 12:55:08 A
	Update type: modify
	Last result: Ok
	Failed LDIF: <input type="text"/>
	Additional error messages: <input type="text"/>
	Last refreshed at 7:10:52 PM CDT on April 26, 2007
	<input type="button" value="Skip blocking entry"/> <input type="button" value="Refresh"/>

peer1:389

**i** 1 changes skipped.

## What your queues will look like when everything is perfect

- **All subtrees should show:**
  - **Last result: OK**
  - **State: Ready**
  - **Queue size: 0**

Select	Replica	Subtree	Last result	State	Queue size
<input checked="" type="radio"/>	peer2:389	cn=ibmpolicies	Ok	Ready	0
<input type="radio"/>	replica1:389	cn=ibmpolicies	Ok	Ready	0
<input checked="" type="radio"/>	peer2:389	o=ibm,c=us	Ok	Ready	0
<input type="radio"/>	replica1:389	o=ibm,c=us	Ok	Ready	0

Last refreshed at 7:00:55 PM CDT on April 26, 2007

## A quick test – adding a new user to Peer1

I want to test my replication to make sure its working as I expect.

1. Add and entry to Peer1:  
`ldapadd -h Peer1 -D cn=root -w secret -f /tmp/add.ldif`

Where /tmp/add.ldif reads:

```
dn: CN=TESTUSER,o=ibm,c=us
objectclass: inetOrgPerson
objectclass: organizationalPerson
objectclass: person
objectclass: top
sn: TEST
cn: TEST
cn: TESTUSER
description: user added to Peer1
```

Will return:  
Adding new entry CN=TESTUSER,o=ibm,c=us

## A quick test – Checking for that user on Peer2/Replica1

- I would run a simple search to each of the hosts to see if that user exists:  
`ldapsearch -h peer2 -D cn=root -w secret -b CN=TESTUSER,o=ibm,c=us objectclass=*`
- And:  
`ldapsearch -h replica1 -D cn=root -w secret -b CN=TESTUSER,o=ibm,c=us objectclass=*`
- Both should return:

```
CN=TESTUSER,o=ibm,c=us
objectclass=inetOrgPerson
objectclass=organizationalPerson
objectclass=person
objectclass=top
sn=TEST
cn=TEST
cn=TESTUSER
description=user added to Peer1
```

I could further test this by adding another user to Peer2 and checking for the user on Peer1 and so on.



## The basics for troubleshooting.

- **Any time I hit an error the first place I check is the `ibmslapd.log` on BOTH servers involved. There may not be useful information as to why the error is occurring on the supplier, but the consumer may clearly point out root cause.**
- **It is a good idea to copy off the `ibmslapd.log` so you are only dealing with the errors effecting us at this time**



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