

TROUBLESHOOTING USER DATA PROPAGATION

Michele Buccarello

05/10/13

Table of Contents

Author.....	3
Abstract.....	3
DATA FLOW CONCEPT.....	3
DATA FLOW SCHEMA.....	4
TROUBLESHOOT THE DIFFERENT AREA.....	5
Point 1.....	5
Point 2.....	5
Point 3.....	6
Point 4 5 6 7.....	6
SPECIAL THANKS TO.....	7

Author

Michele Buccarello

Mail: buccarello.michele@gmail.com

Abstract

The propagation of user data in IBM Connections is a complex mechanism that allows synchronization of information between different applications of IBM Connections. In this document we will try to highlight and explain its working, to enable efficient troubleshooting and an effective problem determination.

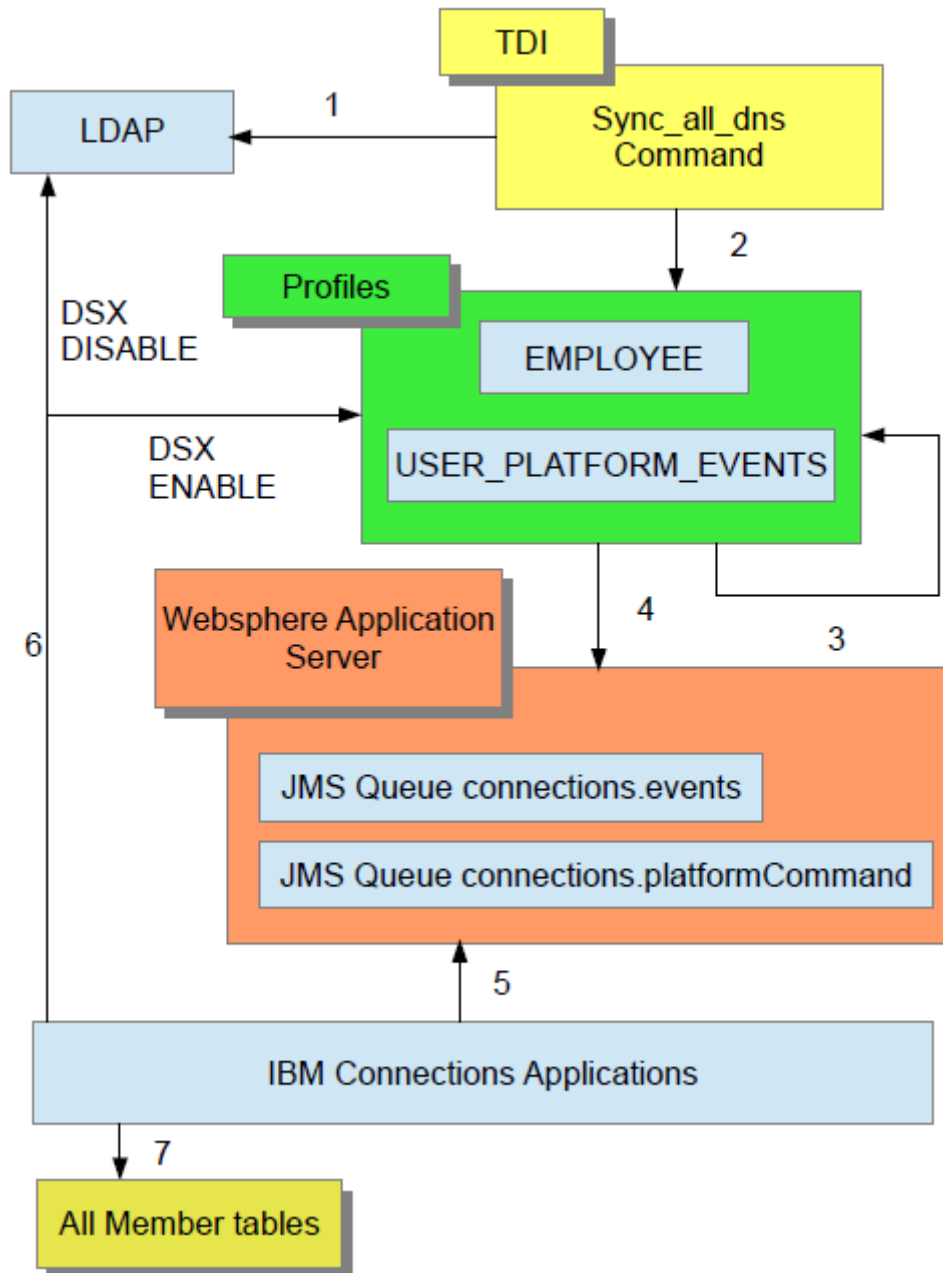
DATA FLOW CONCEPT

IBM Connections can pull and synchronize user informations between applications in two ways:

- With Directory Extensions enabled (DSX). In this mode every application pulls the required information directly from the EMPINST.EMPLOYEE table through JMS messages.
- With Directory Extensions disabled. In this mode every application pull the user information directly from the LDAP.

Normally DSX feature is disabled if the profiles application is not installed in the Connections Environment. To check if DSX is enabled search LotusConnections-Config.xml and confirm the following parameter is set `profiles_directory_service_extension_enabled="true"`.

DATA FLOW SCHEMA



1. LDAP is the source of users information.
2. To populate EMPINST.EMPLOYEE table we can use the “sync_all_dns.sh” script or the Jython command of Profiles such as `ProfilesService.updateUser(String user_email_addr, updated_properties_list)`¹, after the update is completed the event of update is stored in the USER_PLATFORM_EVENTS table in this format

```
INSERT INTO USER_PLATFORM_EVENTS (EVENT_KEY, EVENT_TYPE, PAYLOAD, CREATED, TENANT_KEY)
VALUES (values, 'user.record.update', '{"_prof.old.guid":"44911B31-2492-4AF3-91B7-BA099A7E6334","_prof.email":"TEST@example.com","_prof.key":"884de397-1024-4b2f-920d-d0142aca8b8a","_prof.workLocationCode":"","_prof.orgId":"","_prof.employeeTypeCode":"","_prof.countryCode":"","_prof.usrState":0,"_prof.old.uid":"TEST_UID","_prof.lastUpdate":1378203594400,"_prof.displayName":"TEST DISPLAYNAME","_prof.distinguishedName":"CN=TEST,ou=Users,dc=EXAMPLE,dc=COM","_prof.uid":"TEST_UID","_prof.eventType":"user.record.update","_prof.guid":"44911B31-2492-4AF3-91B7-BA099A7E6334"}', TIMESTAMP '2013-09-03
```

¹ Note: ProfilesService.updateUser() does not query LDAP. It simply considers the data provided in the Jython script.

06:19:54', '00000000-0000-0000-0000-040508202233')

The real informations are in the PAYLOAD column

```
{ "_prof.old.guid": "44911B31-2492-4AF3-91B7-BA099A7E6334",
  "_prof.email": "TEST@example.com",
  "_prof.key": "884de397-1024-4b2f-920d-d0142aca8b8a",
  "_prof.workLocationCode": "",
  "_prof.orgId": "",
  "_prof.employeeTypeCode": "",
  "_prof.countryCode": "",
  "_prof.usrState": 0,
  "_prof.old.uid": "TEST_UID",
  "_prof.lastUpdate": 1378203594400,
  "_prof.displayName": "TEST_DISPLAYNAME",
  "_prof.distinguishedName": "CN=TEST,ou=Users,dc=EXAMPLE,dc=COM",
  "_prof.uid": "TEST_UID",
  "_prof.eventType": "user.record.update",
  "_prof.guid": "44911B31-2492-4AF3-91B7-BA099A7E6334" }
```

3. A “profile worker” thread runs by internal scheduled task of Profiles application and reads every row in the USER_PLATFORM_EVENTS , the profiles scheduled tasks are documented here:
- http://www-10.lotus.com/ldd/lcwiki.nsf/xpDocViewer.xsp?lookupName=IBM+Connections+4.5+Documentation#action=openDocument&res_title=Managing_Profiles_scheduled_tasks_ic45&content=pdcontent
The name of the scheduled task is **ProcessLifeCycleEventsTask**.
4. The profile worker thread every 30 second reads the records. The worker task then sends a JMS message to two topic spaces **connections.events** and **connections.platformCommands**. The scheduler gets a batch of records, processes them and deletes them from the table. When the scheduler is done reading all batches the table becomes empty.
5. Every Application subscribes to the command topic.
6. When the DSX is enabled every application pulls the information from the message payload. If the DSX is disabled every application reads directly from LDAP the users information via WALTZ.
7. Every member table is updated with the new information.

TROUBLESHOOT THE DIFFERENT AREA

For every point there are different ways to troubleshoot the problem.

Point 1

In this area you must check:

- If port 389 is open.
- If “profiles_tdi.properties” file contains the right settings

Point 2

In this area you must check:

- The TDI logs if there is something wrong during the update process
- If the logs are not clear you can enable the debug on the TDI side.

To enable logging you may edit the profiles_tdi.properties and edit these variables:

- debug_managers=false
- debug_photos=false
- debug_pronounce=false
- debug_fill_codes=false
- debug_draft=false
- debug_update_profile=false
- debug_collect=false
- debug_special=false

For a deep analysis you can enable detailed traces by editing the log4j.properties in the <TDI>/etc directory. Detailed information can be found here

http://www-10.lotus.com/ldd/lcwiki.nsf/xpDocViewer.xsp?lookupName=IBM+Connections+4.5+Documentation#action=openDocument&res_title=Troubleshooting_Tivoli_Directory_Integrator_ic45&content=pdcontent&sa=true

Point 3

In this area you must check if the table EMPINST. USER_PLATFORM_EVENTS is empty, if the table isn't empty you must check the profiles scheduler status via jython command and trace.

Follow this link for jython command

http://www-10.lotus.com/ldd/lcwiki.nsf/xpDocViewer.xsp?lookupName=IBM+Connections+4.5+Documentation#action=openDocument&res_title=Managing_Profiles_scheduled_tasks_ic45&content=pdcontent

Follow this link for enable the trace

http://www-10.lotus.com/ldd/lcwiki.nsf/xpDocViewer.xsp?lookupName=IBM+Connections+4.5+Documentation#action=openDocument&res_title=Verifying_that_the_Profiles_Worker_is_running_correctly_ic45&content=pdcontent

Point 4 5 6 7

In this area you must check if the JMS Queue receives the message sent from the profiles worker and every application consumes the message. A simple way to check if the messages are consumed is described here:

- http://www-10.lotus.com/ldd/lcwiki.nsf/xpDocViewer.xsp?lookupName=IBM+Connections+4.5+Documentation#action=openDocument&res_title=Troubleshooting_the_user_lifecycle_SPI_ic45&content=pdcontent
- <http://www-01.ibm.com/support/docview.wss?uid=swg21266769>

After the messages are consumed by all applications every member table is updated with the user information. Now to check the new value we can use the following sql queries (replacing 'DISPLAY_NAME' with the display name of the user of interest):

- select * from "HOMEPAGE"."PERSON" where PERSON.DISPLAYNAME_LOWER = lower('DISPLAY_NAME');

- select * from "SNCOMM"."MEMBERPROFILE" where MEMBERPROFILE.LOWER_DISPLAY = lower('DISPLAY_NAME');
- select * from "FORUM"."DF_MEMBERPROFILE" where lower(DF_MEMBERPROFILE.MEMBERDISP) = lower('DISPLAY_NAME');
- SELECT * FROM "FILES"."USER" where "USER"."LOWERCASE_NAME" = lower('DISPLAY_NAME');
- select * from "ACTIVITIES"."OA_MEMBERPROFILE" WHERE OA_MEMBERPROFILE.LMEMBERDISP = lower('DISPLAY_NAME');
- select * from "DOGEAR"."PERSON" WHERE LOWER(PERSON.DISPLAYNAME) = lower('DISPLAY_NAME');
- select * from "WIKIS"."USER" where lower("USER"."NAME") = lower('DISPLAY_NAME');
- select * from "BLOGS"."ROLLERUSER" WHERE LOWER(ROLLERUSER.USERNAME) = lower('DISPLAY_NAME');

SPECIAL THANKS TO

Michael Ahern and Francesco De Collibus from IBM for the review of this article.