

Groupier in Action at NYU

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NYU Groups Management Project

Current State

Grouper manages high level institutional groups

- Affiliation, Location, Department
 - E.g, Student, NYC, Stern Buisness School

Grouper provides APIs to consume Groups Data

- currently in use for NYU intranet portal site

Grouper syncs groups information with LDAP Groups

- Another way of consuming groups information using isMemberOf Attributes

Planned enhancements for Fall 2016

Self service groups management that support following functions

- Create and Manage Groups
- Search and View Groups
- Join and Unjoin Groups

Integration with end user applications

- Starting Linux Groups, possibly utilizing LDAP POSIX groups
- Extending the integration to File Management Systems
- Published APIs and Methods to consume Groups information by end-user applications

Sakai, Grouper, and Google

Basic Requirement

Ability to create a Google Group based on membership of a Sakai course site and keep memberships in sync.



Why Grouper?

- Grouper provides an integration point to expose **course site membership** information to other systems within NYU.

Why Grouper?

- Grouper provides an integration point to expose course site membership information to other systems within NYU.
- Other systems could potentially populate Grouper in order to provision Google Groups



Manage Google Groups

Site Groups

NYU Classes Group Name	Google Group Details
All site members Members	Create Google Group

Section groups

NYU Classes Group Name	Google Group Details
Classroom Scheduling Reserve, Section 002 FA15_ROOMS-AC_1_1_002 Members	Create Google Group
Classroom Scheduling Reserve, Section 003 FA15_ROOMS-AC_1_1_003 Members	Create Google Group

Ad hoc groups



Manage Google Groups

Site Groups

NYU Classes Group Name	Google Group Details
All site members Members	Bio 101 Edit Google Group Address bio-101-FA15-4e74@nyu.edu  

Section groups

NYU Classes Group Name	Google Group Details
Classroom Scheduling Reserve, Section 002 FA15_ROOMS-AC_1_1_002 Members	Create Google Group
Classroom Scheduling Reserve, Section 003 FA15_ROOMS-AC_1_1_003 Members	Create Google Group



Manage Google Groups

Site Groups

NYU Classes Group Name

All site members

Members

Google Group Details

Bio 101

Edit

Google Group Address

bio-101-FA15-4e74@nyu.edu



Section groups

NYU Classes Group Name

Classroom Scheduling Reserve, Section 002
FA15_ROOMS-AC_1_1_002

Members

Google Group Details

Create Google Group

Classroom Scheduling Reserve, Section 003
FA15_ROOMS-AC_1_1_003

Members

Create Google Group

Groups



- My groups
- Home
- My discussions
- Starred

▼ Favorites

- ▼ test
- ▼ another

▶ Recently viewed

▼ Recent searches

- pilots
- lms/icms
- nyu-classes-proje...
- nyu classes team
- nyu-classes-comm..

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Biology 101 Section 1

Shared privately

[Manage](#)



[Topics](#) · [Manage](#) · [About](#)

Sorted by name [Sort by join date](#)

Showing 11 of 11 members



me ([jwp292 change](#))
joined Nov 17, 2015
(Manager)



kjb355
joined Nov 17, 2015
(Manager)



tst281
joined Nov 17, 2015
(Manager)



tst282
joined Nov 17, 2015
(Member)



tst283
joined Nov 17, 2015
(Member)



tst284
joined Nov 17, 2015
(Member)



tst285
joined Nov 17, 2015
(Member)



tst286
joined Nov 17, 2015
(Member)



tst287
joined Nov 17, 2015
(Member)



tst288
joined Nov 17, 2015
(Member)



tst289
joined Nov 17, 2015
(Manager)

Using Google Groups

Email lists





Search people...

Turnkey S Tester

cb2610

Do Not Reply

Mark Triggs

Classes Next Week

Bio101-FA15-4e74@nyu.edu

Classes Next Week

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

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Send



Saved



My groups
Home
My discussions
Starred

▼ Favorites


Biology 101 S... 32

▼ Recently viewed

Biology 101 Sectio...
Manual Group Mix...








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Biology 101 Section 1

By  **me** (Tabla S Tester, Esquire [change](#))

Subject

 [Attach a file](#) [Add Cc](#)

Normal ▼ Normal ▼ **B** *I* U  ▼  ▼  [Link](#)          

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NEW TOPIC



Mark all as read

Filters ▾



My groups

Home

My discussions

Starred

Biology 101 Section 1 Shared privately

25 of 25 topics (31 unread) ★

Members · About ▾

**New York University Confirmation - Send Mail as nyu-classes-evalsys-group@nyu.edu** (3)

By New York University Team - 3 posts - 0 views

1/23/15

**Test email** (3)

By Tacy S Tester - 3 posts - 0 views

12/5/14

**test support group from email** (1)

By Jeff Pasch - 1 post - 0 views

5/6/14

**test** (1)

By jwp292 - 1 post - 0 views

5/6/14

**Re: Test!** (1)

By Talka S Tester - 1 post - 0 views

2/19/14

**Re: testing** (1)

By NYU Classes Course Eval Support - 1 post - 0 views

2/19/14

**Re: Please Complete Your Course Evaluation for Global Perspect on Society I, Sections 016/022** (3)

By NYU Classes Course Eval Support - 3 posts - 0 views

12/18/13

**Re: Course Evaluation for Law, Business, & Society, Section 001 is Now Available** (1)

By NYU Classes Course Eval Support - 1 post - 0 views

12/14/13

**New York University Confirmation - Send Mail as nyuclasses-evalsys-group@nyu.edu** (3)

By New York University Team - 3 posts - 0 views

12/12/13

**test email** (1)

By Jeff Pasch - 1 post - 0 views

12/7/13

**I am student tst460** (1)

By Test1 Tester - 1 post - 0 views

12/3/13

▼ Favorites

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▼ Recently viewed

Biology 101 Sectio...

Manual Group Mix...

Privacy - Terms of Service



Sharing Google Content

Google Group email address provides permissions



Manage Google Groups

Site Groups

NYU Classes Group Name	Google Group Details
All site members Members	All site members Edit Google Group Address <input type="text" value="all-members-FA15-4e74@nyu.edu"/>   Press ⌘-C to copy to clipboard

Section groups

NYU Classes Group Name	Google Group Details
Classroom Scheduling Reserve, Section 002 FA15_ROOMS-AC_1_1_002 Members	Create Google Group
Classroom Scheduling Reserve, Section 003 FA15_ROOMS-AC_1_1_003 Members	Create Google Group


Sharing Google Content

Google Drive Content







Extending the Integration

Share with others

Get shareable link 

People

 Bio101-FA15-4e74@nyu.edu  [Add more people...](#)  Can edit 

Add a note

Shared with Madan Dorairaj, Julio Macavilca Notify people

[Send](#) [Cancel](#) Advanced



Drive

My Drive > **_6 Product Team**



NEW

- My Drive
- Shared with me
- Google Photos
- Recent
- Starred
- Trash

52 GB used

Name ↑	Owner	Last modified	File size
Feedback from Schools (NYU)	me	Jan 17, 2016 me	—
Open Apereo 2016	Kyle Blythe	May 13, 2016 Kyle Blythe	—
Product/Tool Research	Blythe	Apr 10, 2015 Kyle Blythe	—
UX Testing		Mar 28, 2016 me	—
Videos / Scripts	Blythe	Apr 18, 2015 Kyle Blythe	—

- Open with >
- Share...
- Get shareable link
- Move to...
- Add star
- Change color >
- Rename...
- View details
- Download
- Remove

Sharing Google Content

Google Calendar



Sharing Google Content

Google Calendar Settings

Share this calendar with others

Make this calendar public [Learn more](#)

See all event details

Share this calendar with everyone in the organization **New York University**

See only free/busy (hide details)

Share with specific people

Person

Permission Settings [Learn more](#)

Bio101-FA15-4e74@nyu.edu

See all event details

Add Person

tst282@nyu.edu

Make changes AND manage sharing

[« Back to calendar](#)

Save

Cancel

Calendar

Today



May 22 – 28, 2016

Day

Week

Month

4 Days

Agenda

More ▾



CREATE ▾

▼ May 2016 < >

S	M	T	W	T	F	S
24	25	26	27	28	29	30
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	1	2	3	4

▼ My calendars ▾

■ Tabla S Tester, Esquire

■ **Biology 101 Section 1**

■ Birthdays

■ Reminders

▶ Other calendars ▾

GMT-04	Sun 5/22	Mon 5/23	Tue 5/24	Wed 5/25	Thu 5/26	Fri 5/27	Sat 5/28
8am							
9am							
10am			10 – 11:30 Bio 101 Lecture		10 – 11:30 Bio 101 Lecture		
11am							
12pm							
1pm							
2pm						1:30p – 3:30p Prepare for Aperoo Conference	
3pm		3p – 4p Study Group					
4pm							
5pm							
6pm							
7pm							
8pm							

Keeping Memberships in Sync is the Key

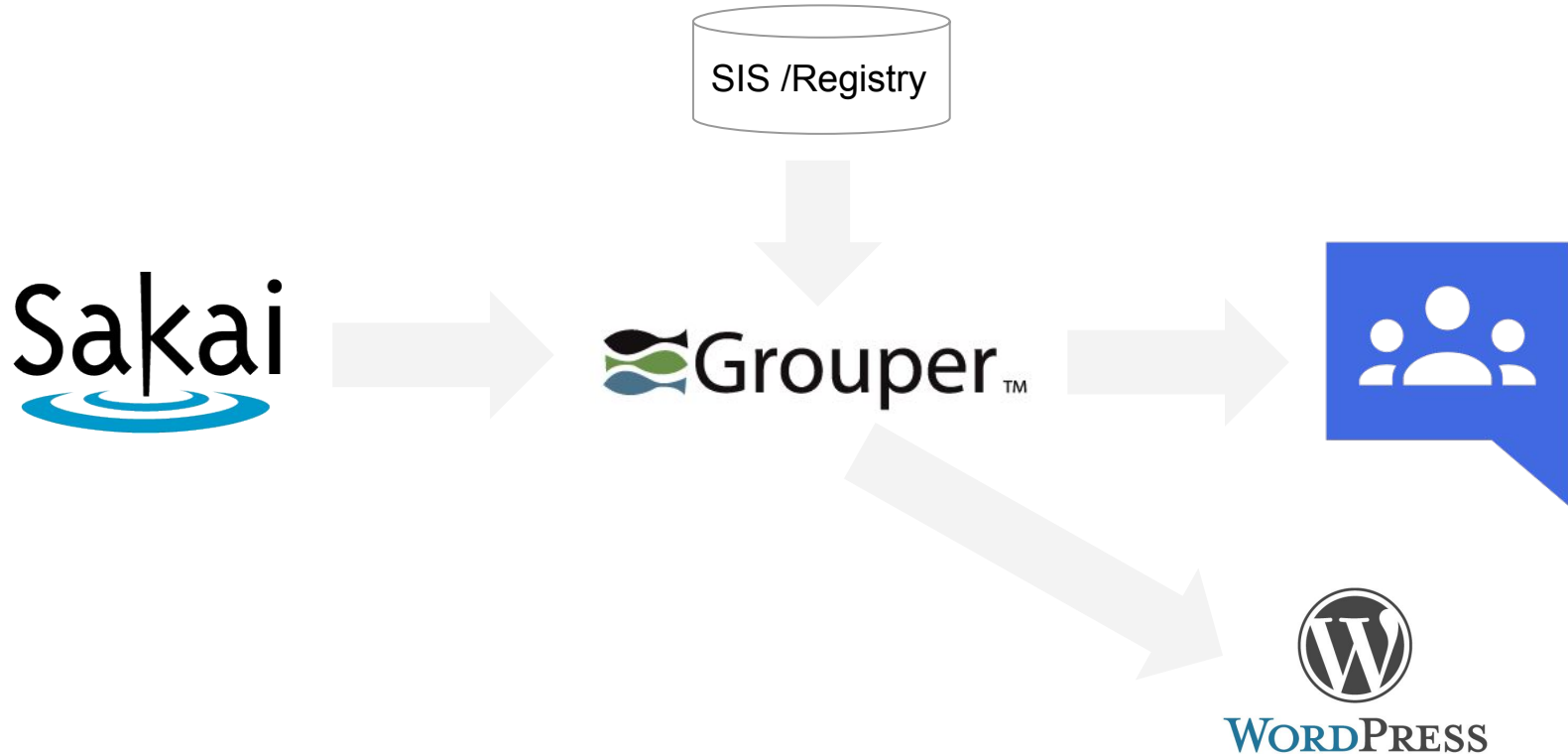
Sakai

The Sakai logo features the word "Sakai" in a black, sans-serif font. Below the text is a blue graphic consisting of three concentric, slightly overlapping circles that resemble ripples in water.

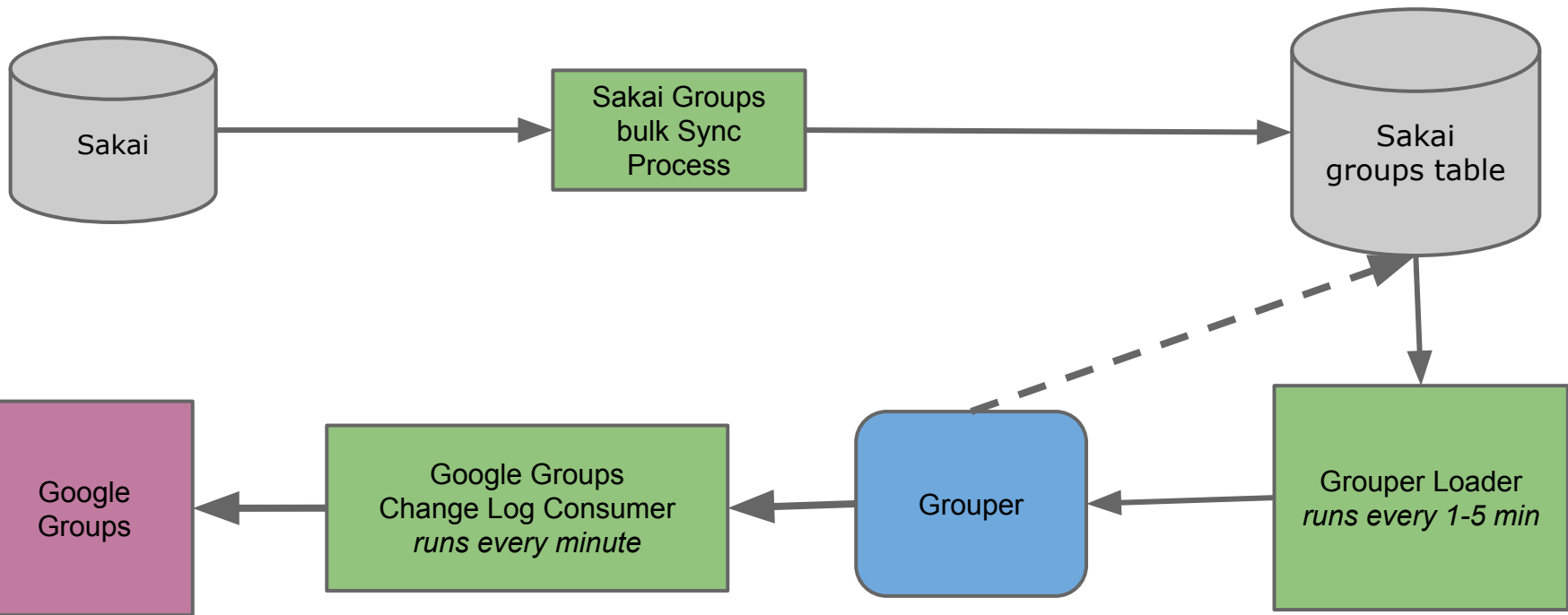
 Grouper™

The Grouper logo features a stylized graphic of three overlapping waves in blue, green, and black. To the right of this graphic is the word "Grouper" in a black, sans-serif font, followed by a trademark symbol (TM).

Extending the Integration



Implementation



Google API Manager

- Create a new project
 - Create service account
 - Service account ID
 - Client ID key
 - Project owner email
 - Domain
- Client ID scopes needed to be granted:
 - `admin.directory.user`, `admin.directory.group`, `apps.groups.settings`
 - OR custom role: read/create/update users and read/create/update/delete groups.

Adding the Google Provisioner

- Download or clone from repo: <https://github.com/Internet2/grouper/tree/master/grouper-misc/googleapps-grouper-provisioner>
- With Maven, build the module and pull dependencies
- Move the module (google-apps-provisioner-1.X.X-SNAPSHOT.jar) and the dependency jars to GROUPER_HOME/lib/custom directory

Grouper configurations

- Configs from Google
 - `changeLog.consumer.<consumername>.quartzCron = 50 * * * * ?`
- Default group settings
 - `whoCanJoin=INVITED_CAN_JOIN`
 - `whoCanViewMembership=ALL_MEMBERS_CAN_VIEW`
 - ...
- Additional settings
 - `whoCanManage = update`
 - `handleDeletedGroup = archive`
- Groups full sync filter
- Marking the groups
 - `GoogleProvisioningHook.include.regex.1=^app:. *classes.*:.*:*(?!_grouperupdaters)$`
 - `GoogleProvisioningHook.attributeDefName=etc:attribute:googleProvisioner:syncToGoogle<consumername>`

Sakai data and loader job

- Groups: group_name | group_description

apps:classes:sp16:04cb:catching-grouper-101 | lures and baits

- Memberships: group_name | subject_id

apps:classes:sp16:04cb:catching-grouper-101 | ab123

apps:classes:sp16:04cb:catching-grouper-101 | cd456

- Managers: group_name | subject_id

apps:classes:sp16:04cb:catching-grouper-101 | ef789

- catching-grouper-101-sp16-04cb@nyu.edu

grouperLoaderAndGroups	
grouperLoaderDbName	nyuclasses
grouperLoaderGroupQuery	select distinct group_id as group_name,Substr(Group_Id, 1, Instr(Group_Id, ':', -1)) Description As Group_Display_Name, group_id '_grouperupdaters' as updaters, 'auto-created by NYU Classes' as group_description from grouper_groups UNION ALL Select Distinct Group_Id '_grouperupdaters' As Group_Name, Substr(Group_Id, 1, Instr(Group_Id, ':', -1)) Description '_grouperupdaters' As Group_Display_Name, " as updaters, 'auto-created by NYU Classes' as group_description From Grouper_Groups
grouperLoaderGroupTypes	
grouperLoaderGroupsLike	app:classes:%:%:%
grouperLoaderIntervalSeconds	
grouperLoaderPriority	
grouperLoaderQuartzCron	0,30 * * * * ?
grouperLoaderQuery	Select Group_Id '_grouperupdaters' As Group_Name, Netid As Subject_Id From Grouper_Managers Union All Select Group_Id As Group_Name, Netid As Subject_Id From Grouper_Memberships
grouperLoaderScheduleType	CRON
grouperLoaderType	SQL_GROUP_LIST

Syncing

- Classes authoritative
 - Will overwrite changes done to the Google side
- Limiting which Google Groups to compare
 - `changeLog.consumer.<consumername>.googleGroupFilter=^.*-(fal|ja|sp|su|wi)?([0-9]{2})-([0-9a-f]{4})$`
- Daily full syncs
 - `googleAppFullSync <consumername> --dry-run`

Monitoring

- Full sync
- Loader job
- Google provisioning
- Grouper daemon
- Update Sakai with group status

Classes to Google transactions (last 7 days) 1h ago		
groupname	customtimestamp	classes_status
app:classes:FA15:4e74:classroom-scheduling-reserve-section-003	10:44:2 05-16-2016	synced
	10:43:29 05-16-2016	skipping
	10:42:59 05-16-2016	skipping
	10:42:28 05-16-2016	skipping
	10:41:58 05-16-2016	skipping

More on details Sakai integration code...

Piloting a new integration between Sakai and Google

Tuesday 10:45 AM - 11:30 AM in GC 269 (i.e., This Room)

Questions?

Thanks!

Jeff Pasch

LMS Product Director
jeffpasch@nyu.edu

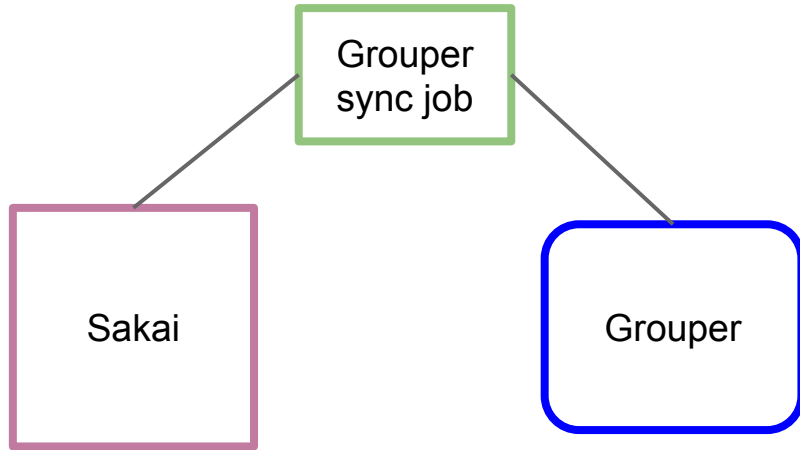
Madan Dorairaj

Solutions Architect
dorairaj@nyu.edu

Julio Macavilca

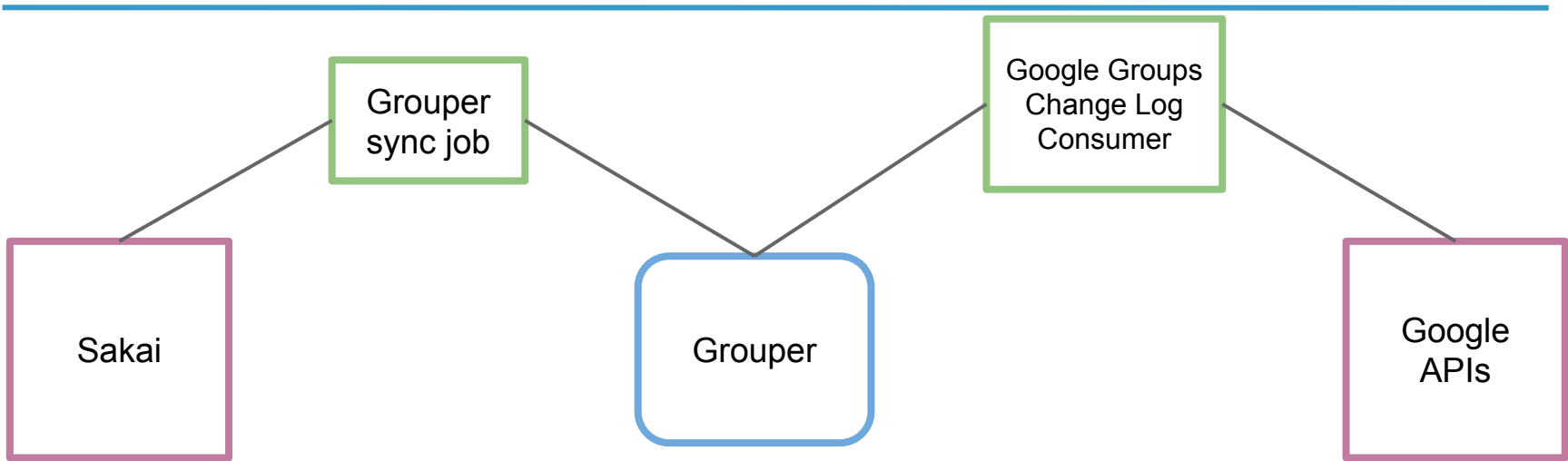
Senior Application Developer,
Identity Services
julio@nyu.edu

Extra Slides



Group membership
information replicated from
Sakai into Grouper

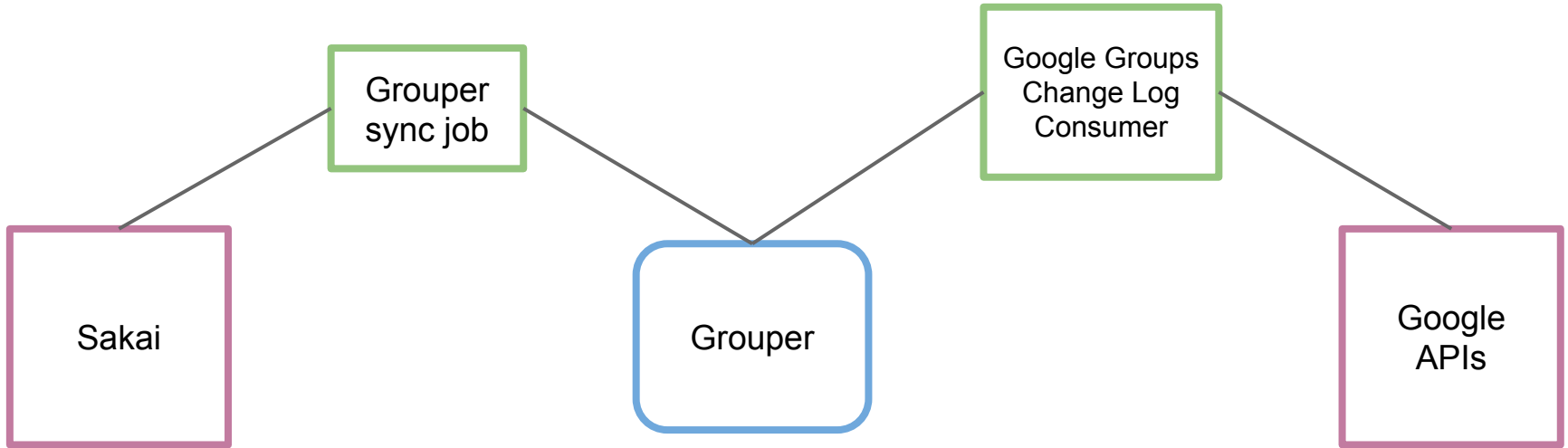
- Groups in Sakai are marked as “Shared with Google Groups”
- We want the members of those groups kept in sync with a corresponding Google Group.
- Each change in Sakai needs a corresponding change in Google.
- Sync job watches Sakai and applies changes to Grouper



Group membership
information replicated from
Sakai into Grouper

Corresponding groups
created in Google

Done. Thanks, Unicon.



Group membership
information replicated from
Sakai into Grouper

Corresponding groups
created in Google

[Redacted content]