Introduction

The aim of Group Services Metrics is to measure the impact of our group services on two dimensions:

- ✓ The benefit of Group Services to our clients as measured by adoption and usage rates
- ✓ The IAM effort necessary to roll out and support Group Services as measured by size and volume indicators

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Metrics Overview

The following 6 metrics are calculated monthly and included in this report.

- Applications using Groups for Authorization
- <u>Effort to Onboard Applications using Groups for Authorization</u>
- <u>Reference Group Growth by Affiliation</u>
- Group Growth by Type
- Growth of Grouper UI Users
- Growth of Delegated Group Administration

Metric 1: Applications using Groups for Authorization

This metric counts the number of applications each month which began using Groups integrated with HarvardKey to control their application authorization.

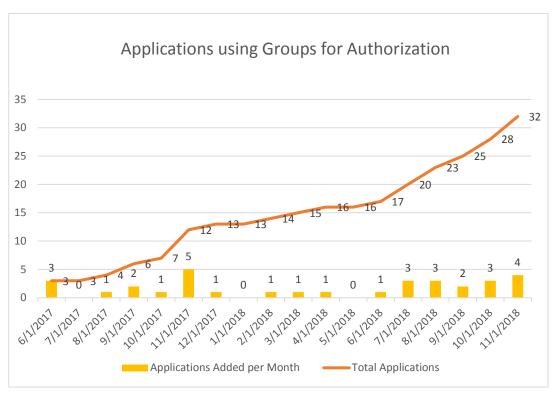
Indicates: Group Services adoption

Analysis and Projection:

- Steady increase in the number of applications using groups for authorization which now totals 32.
- Average onboarding remains fairly constant with an average of 1.8/mo.

How is it counted?

 An application is counted if it utilizes one or both of the group features integrated with HarvardKey in Production; regardless of whether the application has

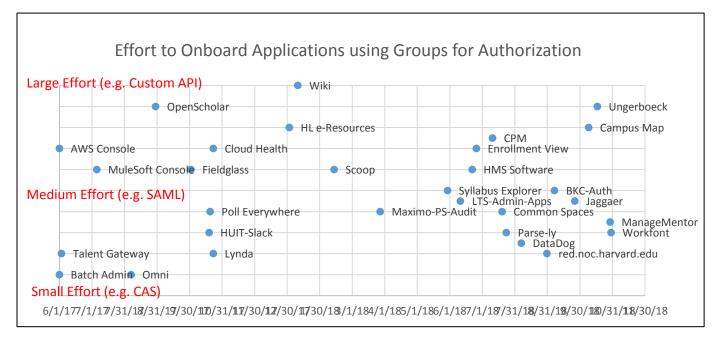


previously been on-boarded without using the feature.

• An application is counted only once regardless of whether it uses one or two methods. It is not counted again if it uses one method at one date, and then incorporates the other method at a later time.

Metric 2: Effort to Onboard Applications using Groups for Authorization

This metric estimates the IAM effort to onboard applications that use Groups integrated with HarvardKey to control their application authorization.



Indicates: IAM effort

Analysis and Projection:

- > The onboarding effort remains scattered with some repeat clients, especially in HUIT (e.g. ATS, ITS, Ac-Tech)
- Some clients are beginning to set up their own application authorization groups due to the creation of a "Guide to Create and Manage Application Authorization Groups" and training offered as an extension to the "Managed Groups" training session or separately.

- An application is given a subjective effort rating from 1-10 indicating the effort involved in completing the onboarding request through to production.
- CAS integrations are considered easy, SAML as medium and custom integrations as large. Other factors are enterprise versus local applications, delegated or IAM-managed group administration, was training necessary, how much did the request go back and forth between the client and IAM, and did the client require a test environment before production.

Metric 3: Reference Group Growth by Affiliation

- This metric counts the number of Reference groups each month by the affiliation types of Employee, Student, POI, Library Borrower and Guest (XID holders).
 - o Metric does not include Bundled groups, which are bundles of reference groups.
 - Metric does not include the 357,000+ Academic Course groups generated from the Academic Technology course database and used primarily for the wiki.

Indicates:

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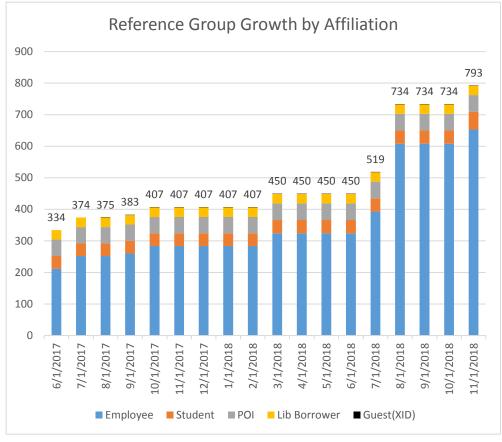
- ✓ Group Services adoption; after the initial offering of reference groups in June 2017, they are now built by request or IAM analysis.
- ✓ IAM Effort; reference groups require both business and development resources to implement.

Analysis and Projection:

Reference groups pertaining to a person's affiliation (e.g. student, employee, school, and department) total 793.

IDENTITY & ACCESS MANAGEMENT

- Employees make up 82% of reference groups, up 10% from last month.
- Increase in October is mainly due to adding "basis" reference groups which have only one employee code type per group. These can be used to filter out individual employee types from a standard employee group.
- Employee reference group increase in June was largely due to request by VPAL to buildout reference groups for 54



FAS departments to facilitate rollout of their Enrollment-View application.

How is it counted?

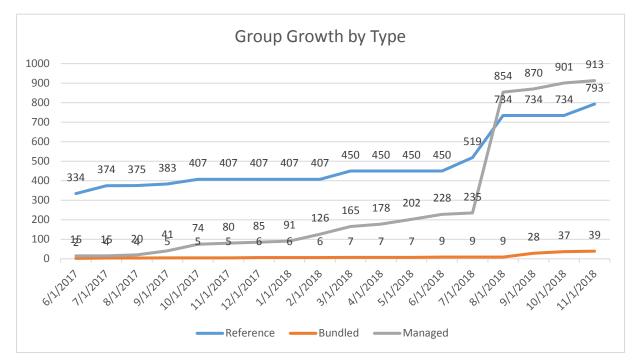
• Reference groups are counted at the first of each month from the decision table spreadsheet for each affiliation type (e.g. student decision table).

Metric 4: Group Growth by Type

This metric counts the number of groups each month by their type; reference, bundled or managed. Managed groups does not include the approx. 1,300 iSites legacy groups in the Academic Technologies "managed" folder.

Indicates:

- ✓ Group Services adoption; managed groups are built out by delegated group administrators within the schools/departments.
- IAM effort; bundled groups, and delegated group folders are built out by IAM business and QA resources.



Analysis and Projection:

- Jump in bundled groups in August was due to the addition of "All" groups for schools, and "Employee and POI" groups for departments as decided upon by the Group Services Workgroup.
- Large increase in managed groups in July was due mainly to the addition of 616 groups representing the PeopleSoft HCM Roles create by ATS using the Grouper API to populate the groups.
- \geq Managed groups outnumber reference groups since July, 2018.
- Increases in reference groups is explained in the "Reference Group Growth by Affiliation" Metric. \geq

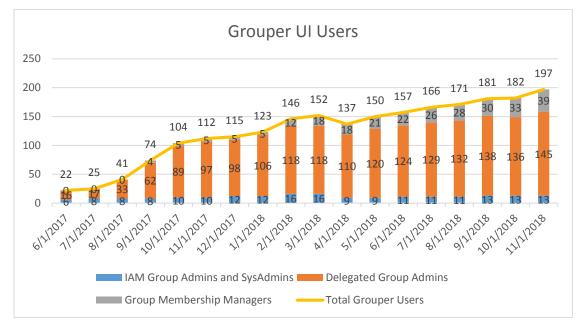
- Reference groups are calculated as the total of the affiliation reference groups counted in the Reference Group Growth metric.
- Bundled groups are calculated using Grouper search for "bundle:" and filter on Groups and use the total count of groups listed minus the two security groups for read and view access.
- Managed groups are calculated using Grouper search for "managed:" and filter on Groups. Get the total count and then subtract the count for "managed:legacy:" groups in order to remove the legacy groups imported for iSites migration.

Metric 5: Growth of Grouper UI Users

This metric counts the increase in the number of users who are authorized to access the Grouper User Interface

Indicates:

- Group Services adoption; users managing their own groups within Grouper
- ✓ IAM effort; training and self-service guides



Analysis and Projection:

- Delegated Group Admins make up 75% of the Grouper users. Delegated Group Admin must attend a one hour in-person training session.
- > Average increase is 11 users per month.
- Project Membership Managers to be an increasing user population. Membership Managers can only add/remove people to specific groups. Training is a self-service guide.
- > Drop in Grouper UI users in April was due to tightening of IAM Grouper users in the production environment.

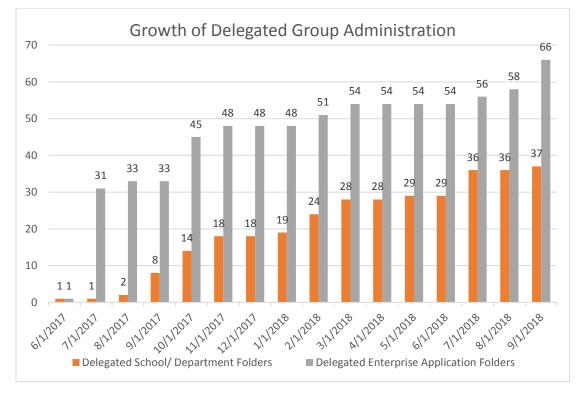
- Grouper users are counted as the total *indirect* members in the etc:UiUsers group as of the 1st of each month
- Delegated Group Administrators are counted as the total indirect members of the roll-up of school and department Delegated Group Administrators.
- Group Membership Mangers are counted as the total indirect members of the roll-up of school and department Group Membership Mangers.

Metric 6: Growth of Delegated Group Administration

This metric counts the increase in the number of delegated school/department folders in the org hierarchy, plus enterprise application folders in the harvard:apps hierarchy each month. Delegated school/department folders include both "managed" and "app" folders.

Indicates:

 Group Services adoption*; delegating group administration to schools and departments is a fundamental goal of Group Services.



✓ IAM effort; initial folder build-out, training and consultation

Analysis and Projection:

- Delegated school/department folders and enterprise application folders continue a steady increase. School/department folders increase on average 2.5/mo, while enterprise application folders is 3.8/mo.
- * At this time all delegated enterprise application folders belong to the AWS Console application. A delegated folder is created whenever an AWS account is added, however it may not actually be delegated to tenant group administrators to manage, so this metric is somewhat misleading in terms of measuring Group Services Adoption

- Delegated School/Department Folders are counted using Grouper search for "org etc" and filter on "folders" as of the 1st of each month.
- Delegated Enterprise Application Folders are counted using Grouper search for "harvard:apps etc" and filter on "folders" as of the 1st of each month.