

# Grouper 2.3.0 vs 2.2.2 Performance

The following is performance results from Grouper API calls using both Grouper 2.3.0 and Grouper 2.2.2. Each call was made several times and an average was taken. Both Grouper instances were prepopulated with equivalent data before performing this test. Default configuration was used with the exception of database settings in grouper.hibernate.properties.

Here's a summary of what was prepopulated:

Groups: 126,801  
Stems: 105,921  
Immediate memberships and privileges: 1,074,446  
Attribute assignments: 125,400  
Attribute def names: 41,895  
Permissions: 585,200

This data was mostly added by running edu.internet2.middleware.grouper.helper.LoadData.

Note that these tests were run on a test database server that's shared with other applications so your results will vary... A single Oracle 11g database instance was used for both Grouper versions. Both versions were installed on separate schemas. The test was executed by:

1. Using the Grouper API to add any required data for the operation. For instance, the effective membership add/delete tests required creating a group with 1000 members.
2. Then using the Grouper API to run the operation several times (mostly either 10 times or 100 times) and taking an average of the time.

Operation	Grouper 2.3.0 (ms)	Grouper 2.2.2 (ms)
GroupFinder.findByName()	3	4
Group.hasImmediateMember(Subject)	31	31
Group.hasEffectiveMember(Subject)	30	25
Group.hasMember(Subject)	21	19
Group.hasOptin(Subject)	34	23
Group.getPrivs(Subject)	26	33
Group.getUpdaters()	4	3
Group.getEffectiveMembers()	4	3
Group.getEffectiveMemberships()	5	5
Group.getImmediateMembers()	3	3
Group.getImmediateMemberships()	7	5
Group.getMembers()	3	3
Group.getMemberships()	5	5
MemberFinder.findBySubject()	30	26
Member.getEffectiveMemberships()	8	7
Member.getImmediateMemberships()	7	7
Member.getMemberships()	4	4
StemFinder.findByName()	2	2
Stem.getPrivs(Subject)	40	45
Stem.hasCreate(Subject)	23	21
Stem.getStemmers()	4	3
Group create	193	185
Group delete	117	117
Role create	195	204
Attribute def name create	74	76
Assign role permission	67	54

Remove role permission	32	32
Attribute def name delete	27	22
Role delete	110	107
Stem create	172	142
Stem delete	88	81
AttributeDef create (type=perm)	151	133
AttributeDef delete (type=perm)	81	85
Membership add	50	45
Membership delete	24	22
Membership add where member is a group	70	65
Membership delete where member is a group	29	34
Membership add causes composite	64	61
Membership delete causes composite	38	40
Group privilege (update) add	21	21
Group privilege (update) delete	16	18
Stem privilege (create) add	21	23
Stem privilege (create) delete	17	17
Effective membership (1000) add	22	25
Effective membership (1000) delete	17	18

