Grouper 2.4.0 vs 2.3.0 Performance

The following is performance results from Grouper API calls using both Grouper 2.4.0 and Grouper 2.3.0. Each call was made several times and an average was taken. Both Grouper instances were pre-populated 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 pre-populated:

Groups: 126,801
Stems: 105,921
Immediate memberships and privileges: 820,852 in v2.3.0, 588,108 in v2.4.0 (2.4.0 has fewer privileges because it doesn't create unnecessary privileges for GrouperSystem)
Attribute assignments: 125,400
Attribute def names: 41,895
Permissions: 585,200

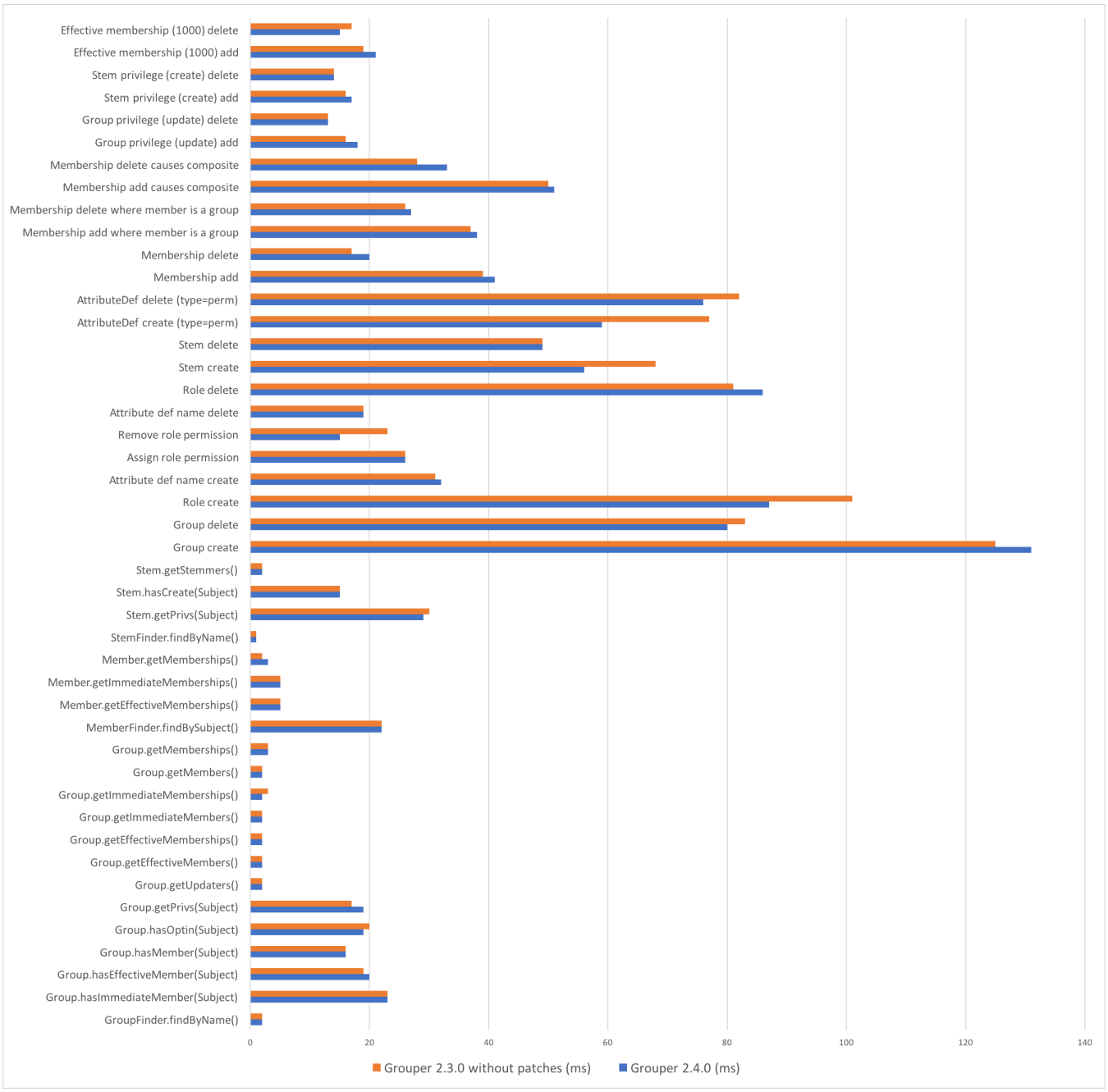
This data was mostly added by running edu.internet2.middleware.grouper.helper.LoadData.

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 2.4.0 (ms)	Grouper 2.3.0 without patches (ms)
GroupFinder.findByName()	2	2
Group.hasImmediateMember(Subject)	23	23
Group.hasEffectiveMember(Subject)	20	19
Group.hasMember(Subject)	16	16
Group.hasOptin(Subject)	19	20
Group.getPrivs(Subject)	19	17
Group.getUpdaters()	2	2
Group.getEffectiveMembers()	2	2
Group.getEffectiveMemberships()	2	2
Group.getImmediateMembers()	2	2
Group.getImmediateMemberships()	2	3
Group.getMembers()	2	2
Group.getMemberships()	3	3
MemberFinder.findBySubject()	22	22
Member.getEffectiveMemberships()	5	5
Member.getImmediateMemberships()	5	5
Member.getMemberships()	3	2
StemFinder.findByName()	1	1
Stem.getPrivs(Subject)	29	30
Stem.hasCreate(Subject)	15	15
Stem.getStemmers()	2	2
Group create	131	125
Group delete	80	83
Role create	87	101
Attribute def name create	32	31

Assign role permission	26	26
Remove role permission	15	23
Attribute def name delete	19	19
Role delete	86	81
Stem create	56	68
Stem delete	49	49
AttributeDef create (type=perm)	59	77
AttributeDef delete (type=perm)	76	82
Membership add	41	39
Membership delete	20	17
Membership add where member is a group	38	37
Membership delete where member is a group	27	26
Membership add causes composite	51	50
Membership delete causes composite	33	28
Group privilege (update) add	18	16
Group privilege (update) delete	13	13
Stem privilege (create) add	17	16
Stem privilege (create) delete	14	14
Effective membership (1000) add	21	19
Effective membership (1000) delete	15	17


Effective membership (1000) delete
Effective membership (1000) add
Stem privilege (create) delete
Stem privilege (create) add
Group privilege (update) delete
Group privilege (update) add
Membership delete causes composite
Membership add causes composite
Membership delete where member is a group
Membership add where member is a group
Membership delete
Membership add
AttributeDef delete (type=perm)
AttributeDef create (type=perm)
Stem delete
Stem create
Role delete
Attribute def name delete
Remove role permission
Assign role permission
Attribute def name create
Role create
Group delete
Group create
Stem.getStemmers()
Stem.hasCreate(Subject)
Stem.getPrivs(Subject)
StemFinder.findByName()
Member.getMemberships()
Member.getImmediateMemberships()
Member.getEffectiveMemberships()
MemberFinder.findBySubject()
Group.getMemberships()
Group.getMembers()
Group.getImmediateMemberships()
Group.getImmediateMembers()
Group.getEffectiveMemberships()
Group.getEffectiveMembers()
Group.getUpdaters()
Group.getPrivs(Subject)
Group.hasOptin(Subject)
Group.hasMember(Subject)
Group.hasEffectiveMember(Subject)
Group.hasImmediateMember(Subject)
GroupFinder.findByName()
0
20
40
60
80
100
120
140
Grouper 2.3.0 without patches (ms)
Grouper 2.4.0 (ms)