Grouper 2.1.0 vs 2.0.3 Performance

The following is performance results from Grouper API calls using both Grouper 2.1.0 and Grouper 2.0.3. 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: 105,918
Immediate memberships and privileges: 1,074,441
Attribute assignments: 125,400
Attribute def names: 41,880
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 2.1.0 (ms)	Grouper 2.0.3 (ms)
GroupFinder.findByName()	3	3
Group.hasImmediateMember(Subject)	37	33
Group.hasEffectiveMember(Subject)	28	23
Group.hasMember(Subject)	24	17
Group.hasOptin(Subject)	26	23
Group.getPrivs(Subject)	28	21
Group.getUpdaters()	4	5
Group.getEffectiveMembers()	3	3
Group.getEffectiveMemberships()	5	4
Group.getImmediateMembers()	3	4
Group.getImmediateMemberships()	4	4
Group.getMembers()	4	4
Group.getMemberships()	5	6
MemberFinder.findBySubject()	24	15
Member.getEffectiveMemberships()	7	10
Member.getImmediateMemberships()	8	8
Member.getMemberships()	4	4
StemFinder.findByName()	1	2
Stem.getPrivs(Subject)	36	23
Stem.hasCreate(Subject)	21	19
Stem.getStemmers()	3	3
Group create	268	323
Group delete	135	157
Role create	304	318
Attribute def name create	56	56
Assign role permission	64	52
Remove role permission	28	33
Attribute def name delete	21	30
Role delete	113	145
Stem create	142	125
Stem delete	82	90

AttributeDef create (type=perm)	119	155
AttributeDef delete (type=perm)	165	164
Membership add	53	59
Membership delete	28	37
Membership add where member is a group	88	95
Membership delete where member is a group	38	56
Membership add causes composite	74	79
Membership delete causes composite	41	55
Group privilege (update) add	35	36
Group privilege (update) delete	25	27
Stem privilege (create) add	31	35
Stem privilege (create) delete	19	27
Effective membership (1000) add	30	38
Effective membership (1000) delete	20	30