Grouper 2.0 vs 1.6 Performance

The following is performance results from Grouper API calls using both Grouper 2.0 and Grouper 1.6. Each call was made several times and an average was taken. Both databases (using Oracle) were prepopulated with equivalent data before performing this test. Here's a summary of what was prepopulated:

Groups: 126,801
Stems: 105,900
Immediate memberships and privileges: 1,074,400
Attribute assignments: 125,400
Attribute def names: 41,800
Permissions: 585,200

This data was mostly added by running edu.internet2.middleware.grouper.helper.LoadData. The version in trunk was run for both the 2.0 and the 1.6 databases.

Note that these tests were run on a test database server that's shared with other applications so your results will vary... 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 2.0 (ms)	Grouper 1.6 (ms)
GroupFinder.findByName()	3	3
Group.hasImmediateMember(Subject)	28	17
Group.hasEffectiveMember(Subject)	22	18
Group.hasMember(Subject)	16	11
Group.hasOptin(Subject)	17	17
Group.getPrivs(Subject)	19	13
Group.getUpdaters()	4	3
Group.getEffectiveMembers()	3	3
Group.getEffectiveMemberships()	4	4
Group.getImmediateMembers()	3	2
Group.getImmediateMemberships()	4	4
Group.getMembers()	4	2
Group.getMemberships()	5	5
MemberFinder.findBySubject()	12	6
Member.getEffectiveMemberships()	9	10
Member.getImmediateMemberships()	9	7
Member.getMemberships()	4	4
StemFinder.findByName()	1	2
Stem.getPrivs(Subject)	34	17
Stem.hasCreate(Subject)	17	12
Stem.getStemmers()	3	3
Group create	416	317
Group delete	212	193
Role create	430	312
Attribute def name create	86	60
Assign role permission	91	39
Remove role permission	44	15
Attribute def name delete	38	15
Role delete	207	182
Stem create	206	165
Stem delete	119	105
AttributeDef create (type=perm)	224	159

AttributeDef delete (type=perm)	192	149
Membership add	76	59
Membership delete	53	43
Membership add where member is a group	134	127
Membership delete where member is a group	71	60
Membership add causes composite add	109	86
Membership delete causes composite delete	81	70
Group privilege (update) add	51	44
Group privilege (update) delete	34	26
Stem privilege (create) add	50	42
Stem privilege (create) delete	30	26
Effective membership (1000) add	216	169
Effective membership (1000) delete	162	148