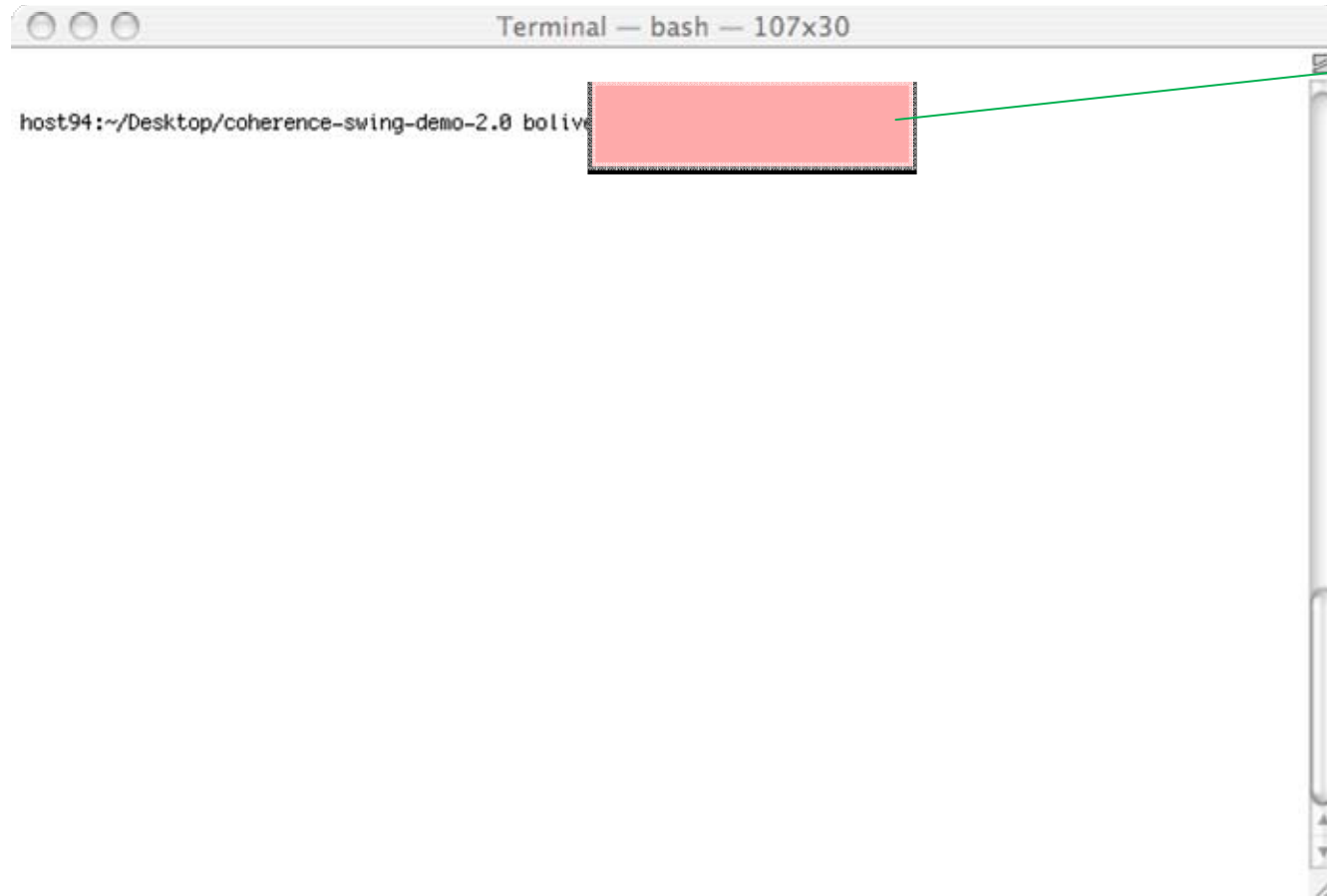




Coherence Demonstration

Starting a Cache Server (Data Management Process)



Starting a
Cache Server
to store data
in memory

Starting a Cache Server (Data Management Process)

The ID of the
first cluster
member

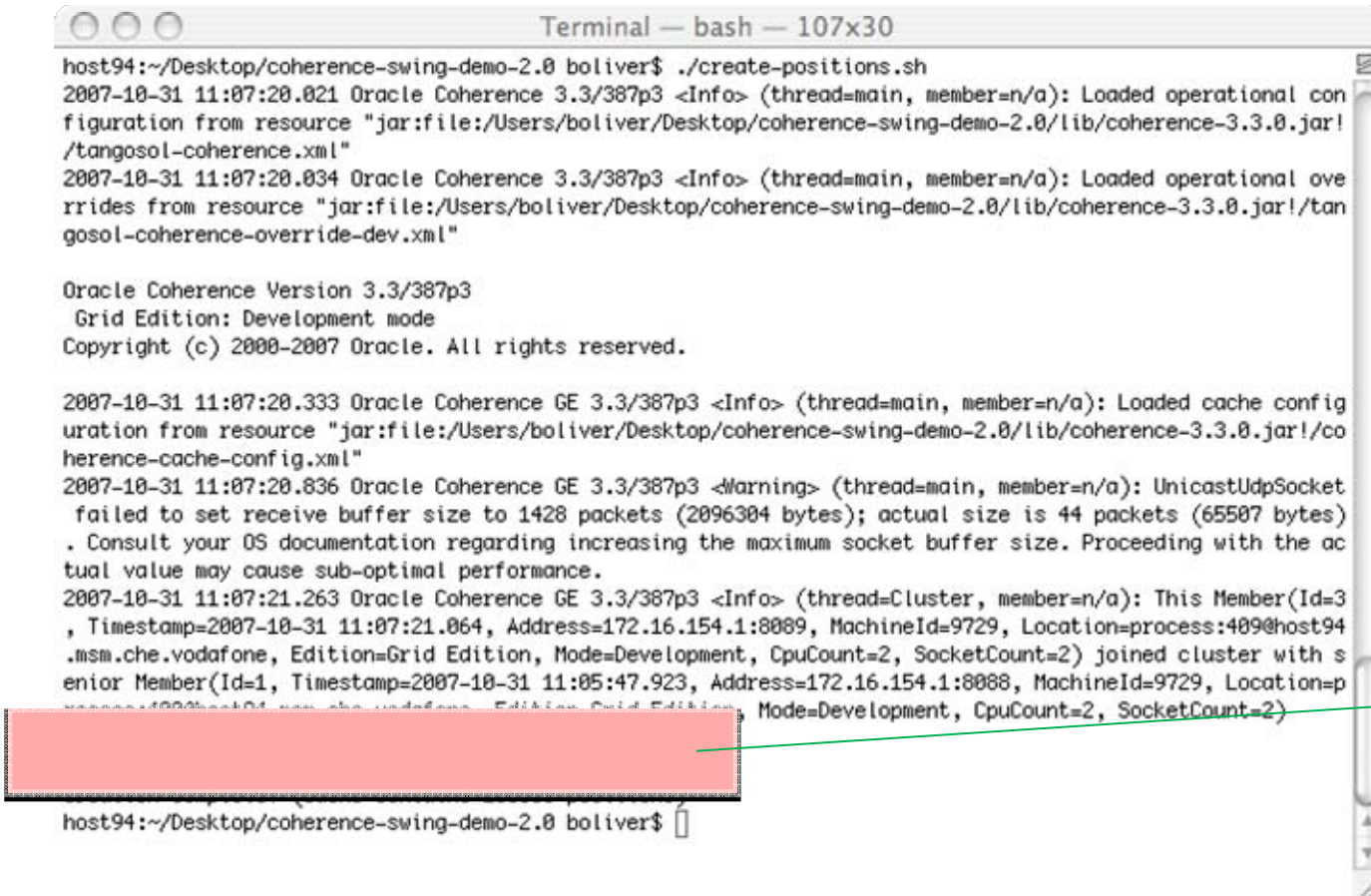
```
Terminal — java — 107x30
Group{Address=224.3.3.0, Port=33387, TTL=4}
MasterMemberSet
(
  ThisMember{Id=1, Timestamp=2007-10-31 11:05:47.923, Address=172.16.154.1:8088, MachineId=9729, Location=process:400@host94.msm.che.vodafone}
  OldestMember=Member(Id=1, Timestamp=2007-10-31 11:05:47.923, Address=172.16.154.1:8088, MachineId=9729, Location=process:400@host94.msm.che.vodafone)
  ActualMemberSet=MemberSet(Size=1, BitSetCount=2
    Member(Id=1, Timestamp=2007-10-31 11:05:47.923, Address=172.16.154.1:8088, MachineId=9729, Location=process:400@host94.msm.che.vodafone)
  )
  RecycleMillis=120000
  RecycleSet=MemberSet(Size=0, BitSetCount=0
  )
)
Services
(
  TcpRing{TcpSocketAcceptor{State=STATE_OPEN, ServerSocket=172.16.154.1:8088}, Connections=[]}
  ClusterService{Name=Cluster, State=(SERVICE_STARTED, STATE_JOINED), Id=0, Version=3.3, OldestMemberId=1}
  DistributedCache{Name=DistributedCache, State=(SERVICE_STARTED), Id=1, Version=3.2, OldestMemberId=1, LocalStorage=enabled, PartitionCount=257, BackupCount=1, AssignedPartitions=257, BackupPartitions=0}
  ReplicatedCache{Name=ReplicatedCache, State=(SERVICE_STARTED), Id=2, Version=3.0, OldestMemberId=1}
  Optimistic{Name=OptimisticCache, State=(SERVICE_STARTED), Id=3, Version=3.0, OldestMemberId=1}
  InvocationService{Name=InvocationService, State=(SERVICE_STARTED), Id=4, Version=3.1, OldestMemberId=1}
)
[]
```

Loading Some Data into Grid (creating financial positions)



Creating data in
the cluster
(Financial
Positions)

Loading Some Data into Grid (creating financial positions)



```
Terminal — bash — 107x30
host94:~/Desktop/coherence-swing-demo-2.0 boliver$ ./create-positions.sh
2007-10-31 11:07:20.021 Oracle Coherence 3.3/387p3 <Info> (thread=main, member=n/a): Loaded operational con
figuration from resource "jar:file:/Users/boliver/Desktop/coherence-swing-demo-2.0/lib/coherence-3.3.0.jar!
/tangosol-coherence.xml"
2007-10-31 11:07:20.034 Oracle Coherence 3.3/387p3 <Info> (thread=main, member=n/a): Loaded operational ove
rrides from resource "jar:file:/Users/boliver/Desktop/coherence-swing-demo-2.0/lib/coherence-3.3.0.jar!/tan
gosol-coherence-override-dev.xml"

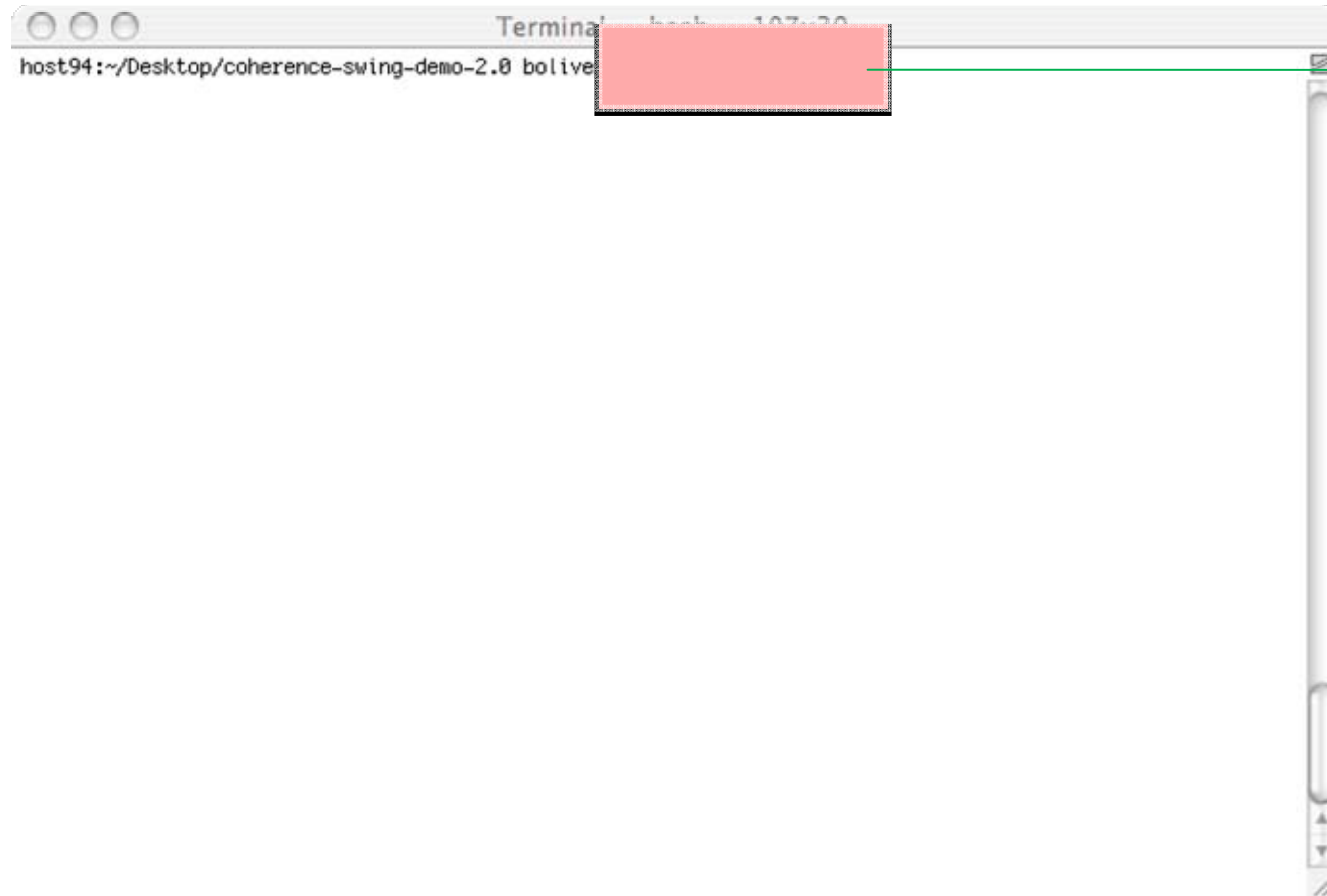
Oracle Coherence Version 3.3/387p3
  Grid Edition: Development mode
Copyright (c) 2000-2007 Oracle. All rights reserved.

2007-10-31 11:07:20.333 Oracle Coherence GE 3.3/387p3 <Info> (thread=main, member=n/a): Loaded cache config
uration from resource "jar:file:/Users/boliver/Desktop/coherence-swing-demo-2.0/lib/coherence-3.3.0.jar!co
herence-cache-config.xml"
2007-10-31 11:07:20.836 Oracle Coherence GE 3.3/387p3 <Warning> (thread=main, member=n/a): UnicastUdpSocket
failed to set receive buffer size to 1428 packets (2096304 bytes); actual size is 44 packets (65507 bytes)
. Consult your OS documentation regarding increasing the maximum socket buffer size. Proceeding with the ac
tual value may cause sub-optimal performance.
2007-10-31 11:07:21.263 Oracle Coherence GE 3.3/387p3 <Info> (thread=Cluster, member=n/a): This Member(Id=3
, Timestamp=2007-10-31 11:07:21.064, Address=172.16.154.1:8089, MachineId=9729, Location=process:409@host94
.msm.che.vodafone, Edition=Grid Edition, Mode=Development, CpuCount=2, SocketCount=2) joined cluster with s
enior Member(Id=1, Timestamp=2007-10-31 11:05:47.923, Address=172.16.154.1:8088, MachineId=9729, Location=p
rocess:100@host94.msm.che.vodafone, Edition=Grid Edition, Mode=Development, CpuCount=2, SocketCount=2)

host94:~/Desktop/coherence-swing-demo-2.0 boliver$
```

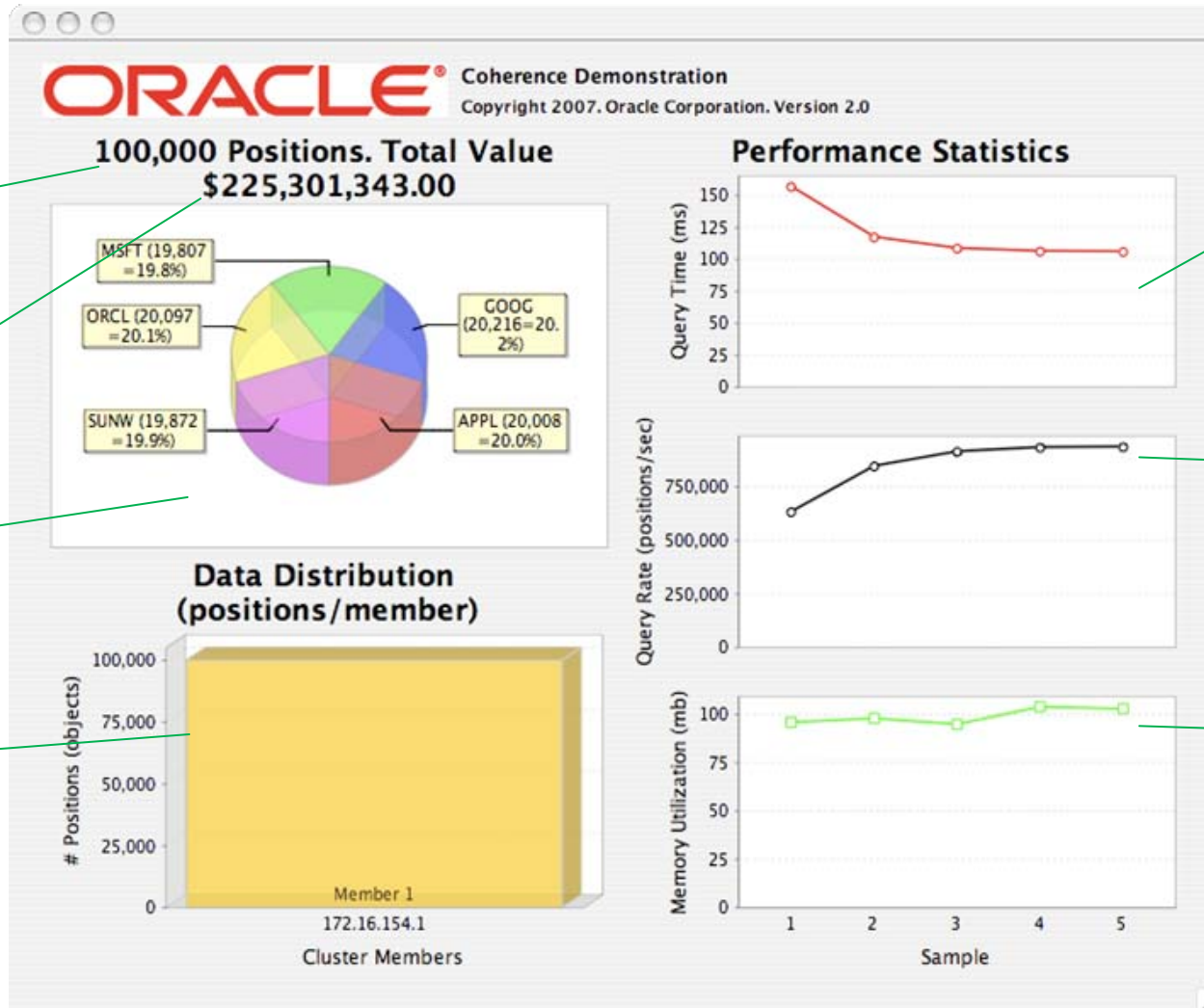
We index the positions to make queries event faster in memory

Starting GUI (client) Application



Starting the
Graphical
User Interface
(GUI)

Starting GUI (client) Application



Number of Positions in the Cluster

Total portfolio value

Position Break Down (6 separate queries)

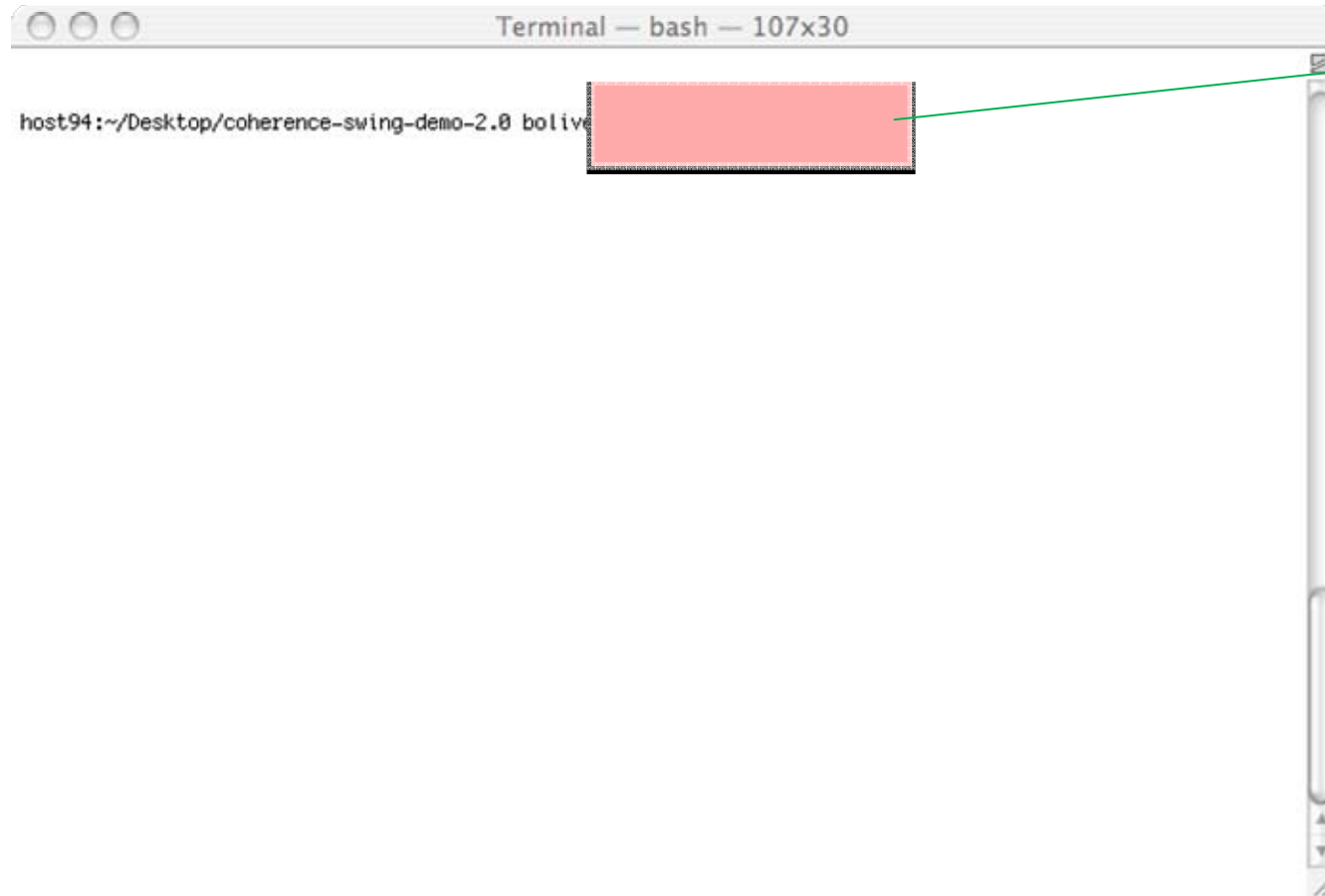
Positions managed per Cluster member (server)

Average Query Response Time (lower is better)

Average number of positions we can query per second (higher is better)

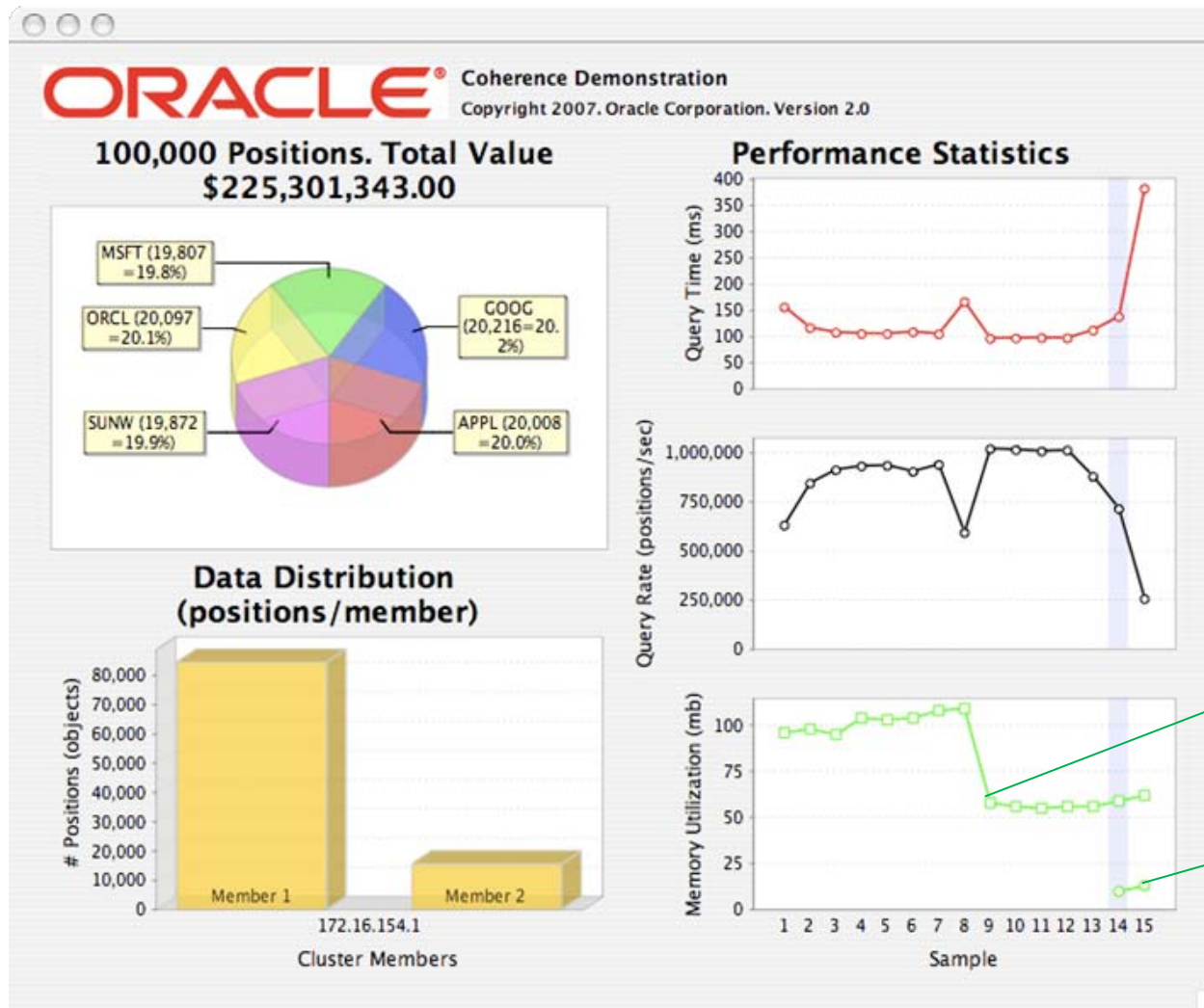
Memory Consumption per Cluster member (server)

Starting another Cache Server (Data Management Process)

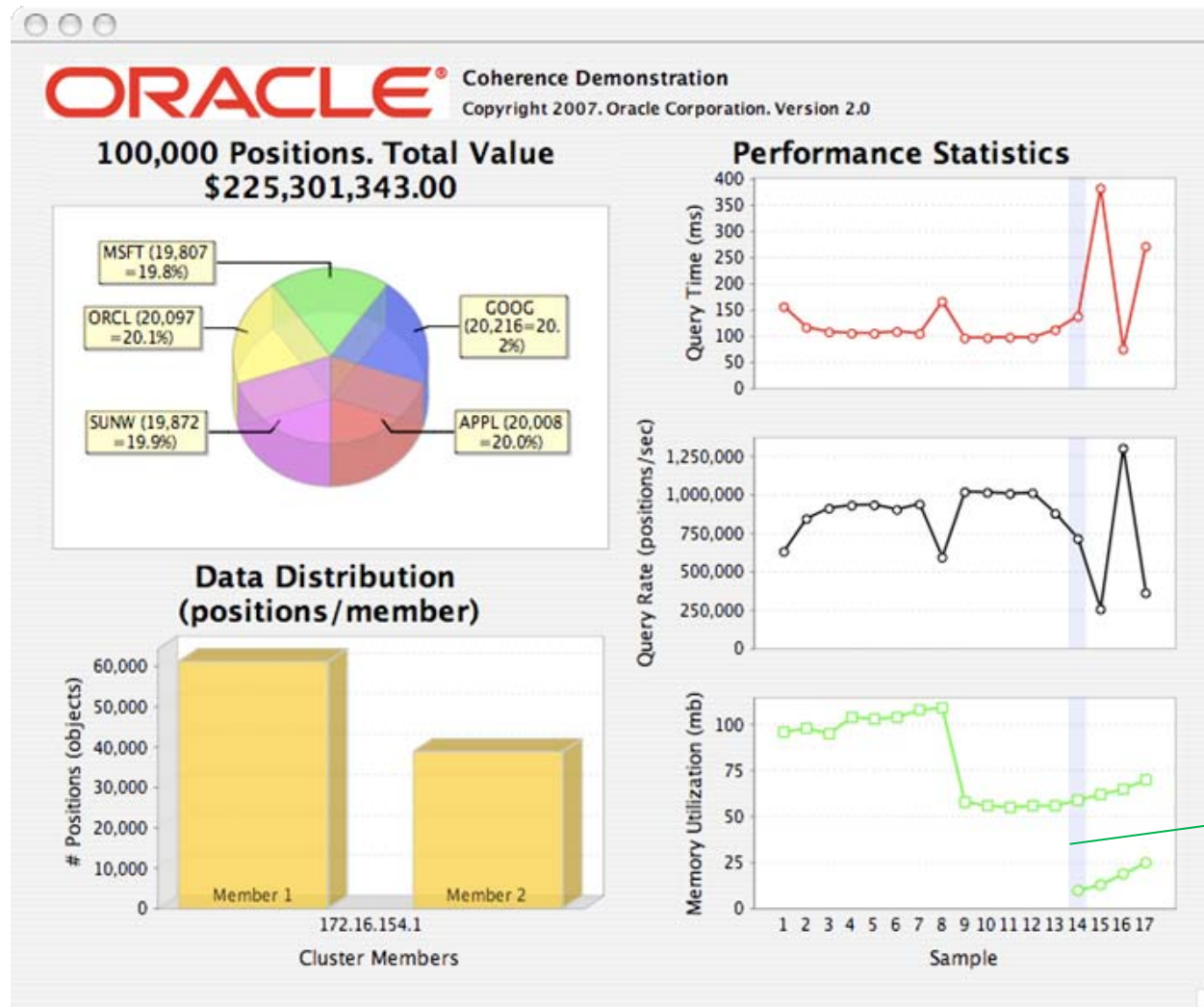


Starting another
Cache Server
to store data
in memory

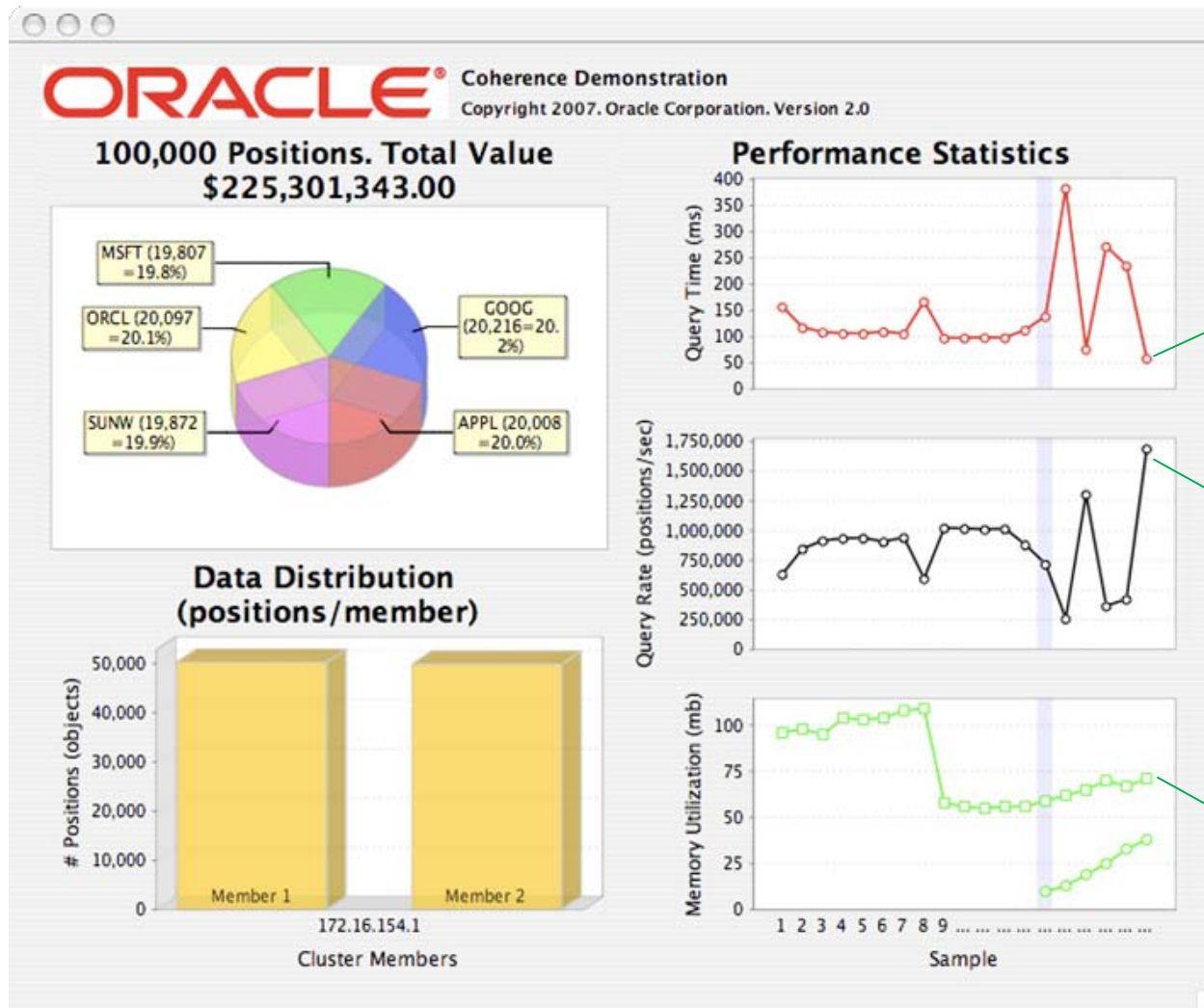
Automatic Load Balancing



Automatic Load Balancing



Data and Processing Scaled-Out



Killing a Cache Server (force data recovery)

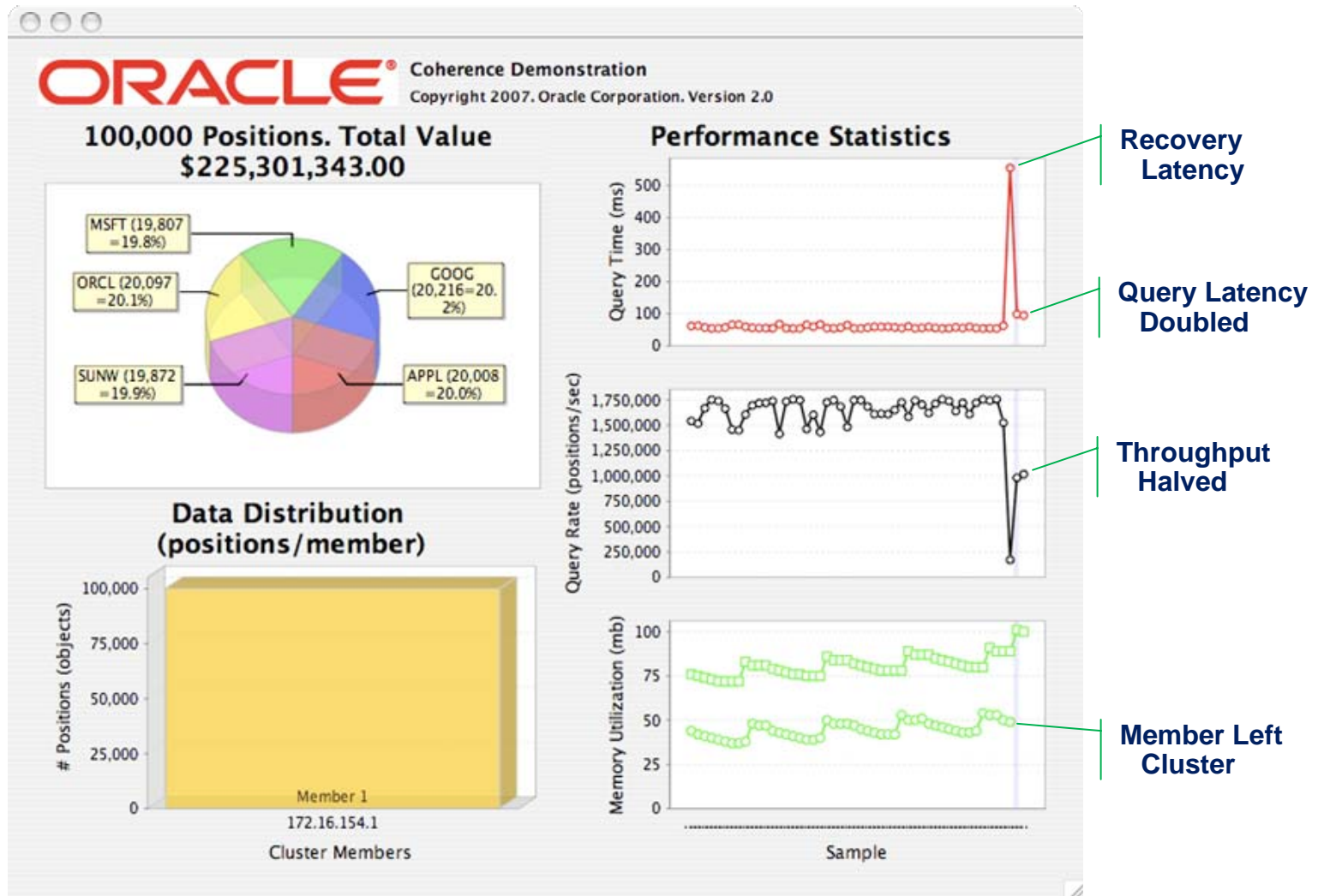
```
Terminal — bash — 107x30
(
  ThisMember=Member(Id=2, Timestamp=2007-10-31 11:08:54.836, Address=172.16.154.1:8090, MachineId=9729, Location=process:416@host94.msm.che.vodafone)
  OldestMember=Member(Id=1, Timestamp=2007-10-31 11:05:47.923, Address=172.16.154.1:8088, MachineId=9729, Location=process:400@host94.msm.che.vodafone)
  ActualMemberSet=MemberSet(Size=3, BitSetCount=2
    Member(Id=1, Timestamp=2007-10-31 11:05:47.923, Address=172.16.154.1:8088, MachineId=9729, Location=process:400@host94.msm.che.vodafone)
    Member(Id=2, Timestamp=2007-10-31 11:08:54.836, Address=172.16.154.1:8090, MachineId=9729, Location=process:416@host94.msm.che.vodafone)
    Member(Id=4, Timestamp=2007-10-31 11:08:04.635, Address=172.16.154.1:8089, MachineId=9729, Location=process:411@host94.msm.che.vodafone)
  )
  RecycleMillis=120000
  RecycleSet=MemberSet(Size=0, BitSetCount=0
  )
)

Services
(
  TcpRing{TcpSocketAcceptor{State=STATE_OPEN, ServerSocket=172.16.154.1:8090}, Connections=[1]}
  ClusterService{Name=Cluster, State=(SERVICE_STARTED, STATE_JOINED), Id=0, Version=3.3, OldestMemberId=1}
  DistributedCache{Name=DistributedCache, State=(SERVICE_STARTED), Id=1, Version=3.2, OldestMemberId=1, LocalStorage=enabled, PartitionCount=257, BackupCount=1, AssignedPartitions=0, BackupPartitions=0}
  ReplicatedCache{Name=ReplicatedCache, State=(SERVICE_STARTED), Id=2, Version=3.0, OldestMemberId=1}
  Optimistic{Name=OptimisticCache, State=(SERVICE_STARTED), Id=3, Version=3.0, OldestMemberId=1}
  InvocationService{Name=InvocationService, State=(SERVICE_STARTED), Id=4, Version=3.1, OldestMemberId=1}
)

^Chost94:~/Desktop/coherence-swing-demo-2.0 boliver$
```

Brutal ^C
to kill
Cache
Server

Data and Processing Scaled-Back



Continuous Availability

