Dynamic Computer groups that send heartbeat alerts

Instructions for creating dynamic computer groups that send heartbeat alerts when a server is offline

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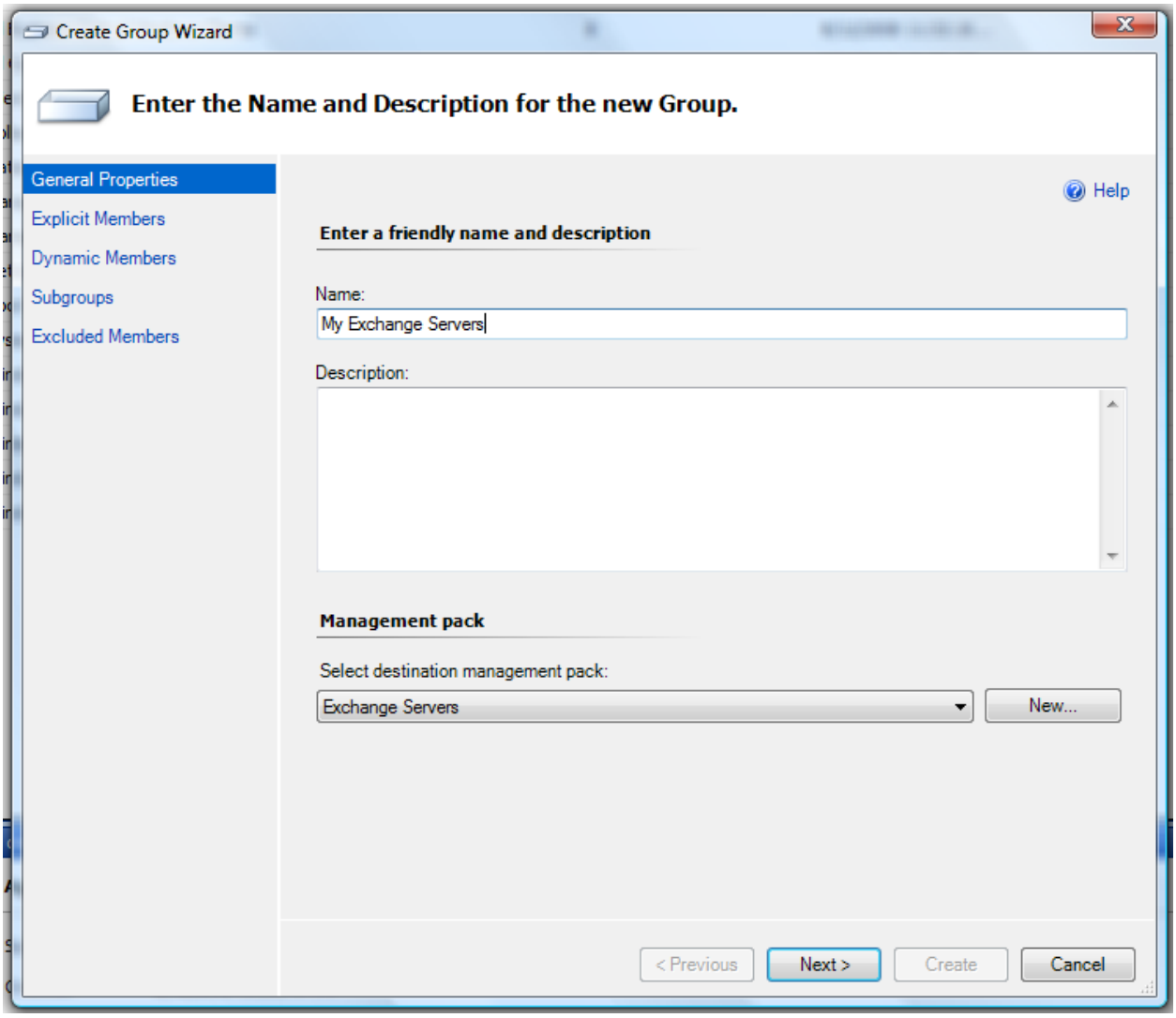
Introduction

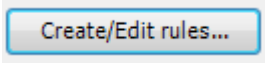
Something that has always puzzled me with MOM 2005 and now System Center Operations Manager 2007 is that when I create a dynamic group of computers and one of the computers goes offline I don't get a heartbeat. This seems like something that should "work out of the box" as all other monitors are dependent upon the server being up. Last year I posted a tool called the "watchanator" that addressed this issue. The "watchanator" worked well but was complicated to setup and needed to be run every time the dynamic group changed. Well now I have a better solution. This new solution may seem a little complicated as well first but is really very easy if you follow my simple steps.

1. **Create the dynamic group using the group wizard.**

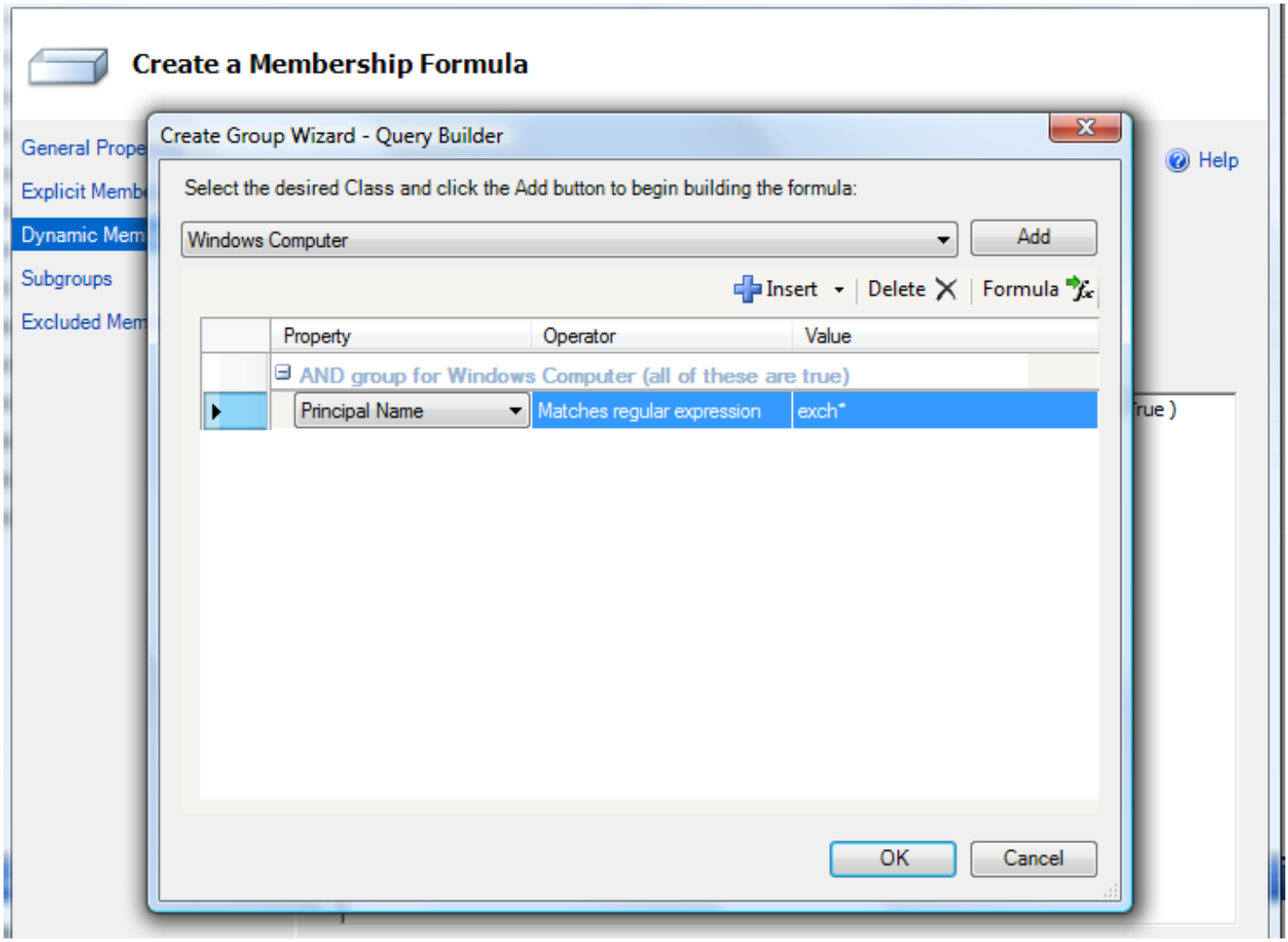
    a. Give your dynamic group a name and select the unsealed management pack you want to store the group in.



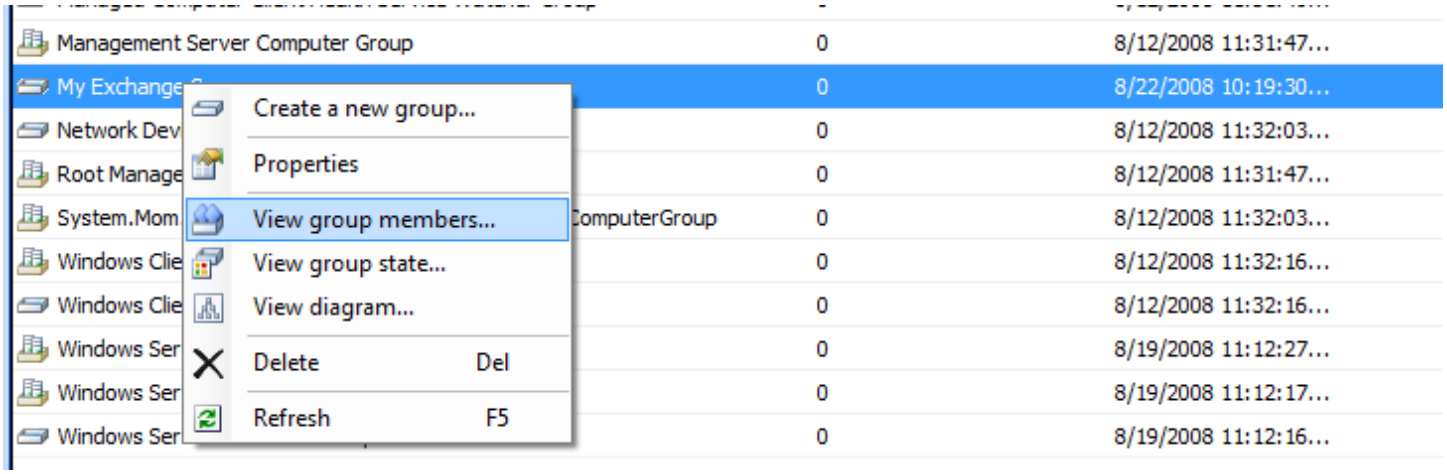
b. On the Explicit Members tab click next.

c. On the Dynamic Members tab click 

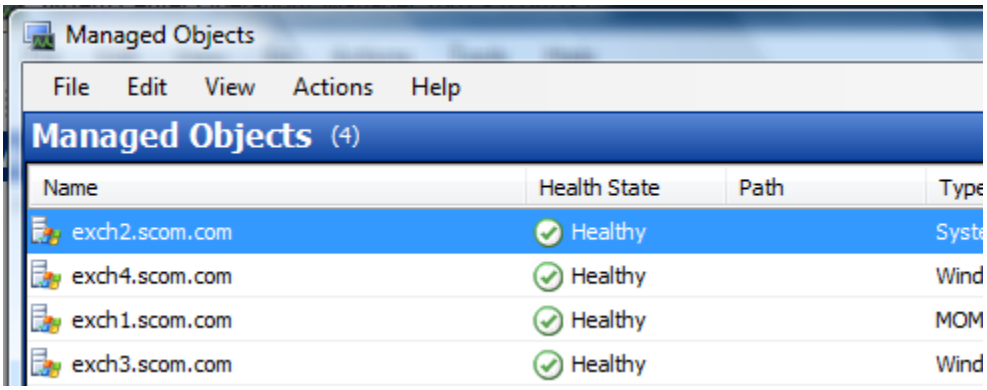
and create the formula you want to use to create you dynamic group. I used a simple one that dynamically includes all of my exchange servers.



d. From the groups window, right click to verify that your dynamic group includes the computers you want.



As you can see the dynamic group only contains windows servers and does not contain the heartbeat object  (or agent watcher as it is know in scom)



2. Export the Management pack

3. **Open up the Management pack in any xml editor. I am using visual studio**

```
Exchange.Servers.xml*
<DiscoveryTypes>
  <DiscoveryRelationship TypeID="MicrosoftSystemCenterInstanceGroupLibrary6062780!Microsoft.SystemCenter.InstanceGroupContainsE
</DiscoveryTypes>
<DataSource ID="GroupPopulationDataSource" TypeID="SystemCenter!Microsoft.SystemCenter.GroupPopulator">
  <RuleId>$MPElement$</RuleId>
  <GroupInstanceId>$MPElement[Name="UINameSpace2ef96df6b00e4317872ff62df2c018c3.Group"]$</GroupInstanceId>
  <MembershipRules>


    <MembershipRule>
      <MonitoringClass>$MPElement[Name="MicrosoftWindowsLibrary6062780!Microsoft.Windows.Computer"]$</MonitoringClass>
      <RelationshipClass>$MPElement[Name="MicrosoftSystemCenterInstanceGroupLibrary6062780!Microsoft.SystemCenter.InstanceGroup
      <Expression>
        <RegExExpression>
          <ValueExpression>
            <Property>$MPElement[Name="MicrosoftWindowsLibrary6062780!Microsoft.Windows.Computer"]/PrincipalName$</Property>
          </ValueExpression>
          <Operator>MatchesRegularExpression</Operator>
          <Pattern>exch*</Pattern>
        </RegExExpression>
      </Expression>
    </MembershipRule>


  </MembershipRules>
```

4. **Search for <MembershipRules>. The membership rules make up the dynamic group. As you can see the first membership rule between <MembershipRule> and </MembershipRule> contains the formula that creates my dynamic group.**

5. **Now we need to add the code to include the health watchers. Open up watchers.xml available at http://www.scom2k7.com/downloads/watchers.xml and copy the xml code.**

Here is the code.

```
<MembershipRule>

<MonitoringClass>$MPElement[Name="SystemCenter!Microsoft.SystemCenter.HealthServiceWatcher"]$</M
onitoringClass>
<RelationshipClass>$MPElement[Name="MicrosoftSystemCenterInstanceGroupLibrary6062780!Microsoft.Sys
temCenter.InstanceGroupContainsEntities"]$</RelationshipClass>
<Expression>
<Contains>
<MonitoringClass>$MPElement[Name="SystemCenter!Microsoft.SystemCenter.HealthService"]$</Monitoring
Class>
    <Expression>
        <Contained>
        <MonitoringClass>$MPElement[Name="MicrosoftWindowsLibrary6062780!Microsoft.Windows.Comp
        uter"]$</MonitoringClass>
      <Expression>
```

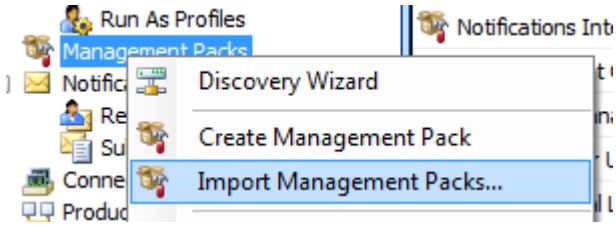
```
        <Contained>
          <MonitoringClass>$Target/Id$</MonitoringClass>
        </Contained>
      </Expression>
    </Contained>
  </Expression>
 </Contains>
</Expression>
</MembershipRule>
```

6. **Paste this code after the first </MembershipRule> and before </MembershipRules> then save the file.**

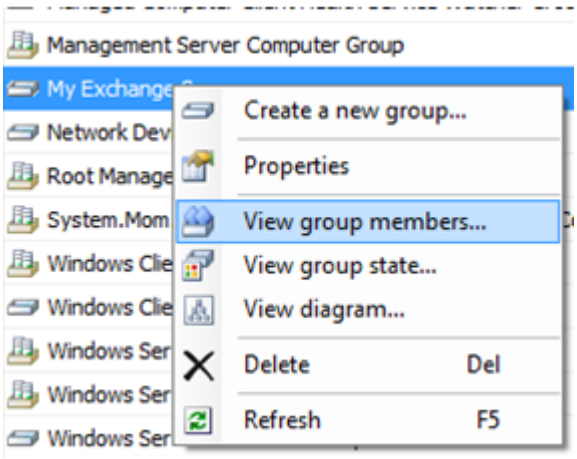
   ***Note if you choose another class other than Microsoft.Windows.Computer to create you dynamic group you will have to replace the line from watchers.xml with the matching line in your dynamic group membership rule.**

```
<MonitoringClass>$MPElement[Name="MicrosoftWindowsLibrary6062780!Microsoft.Windows.Computer"]$</MonitoringClass>
```

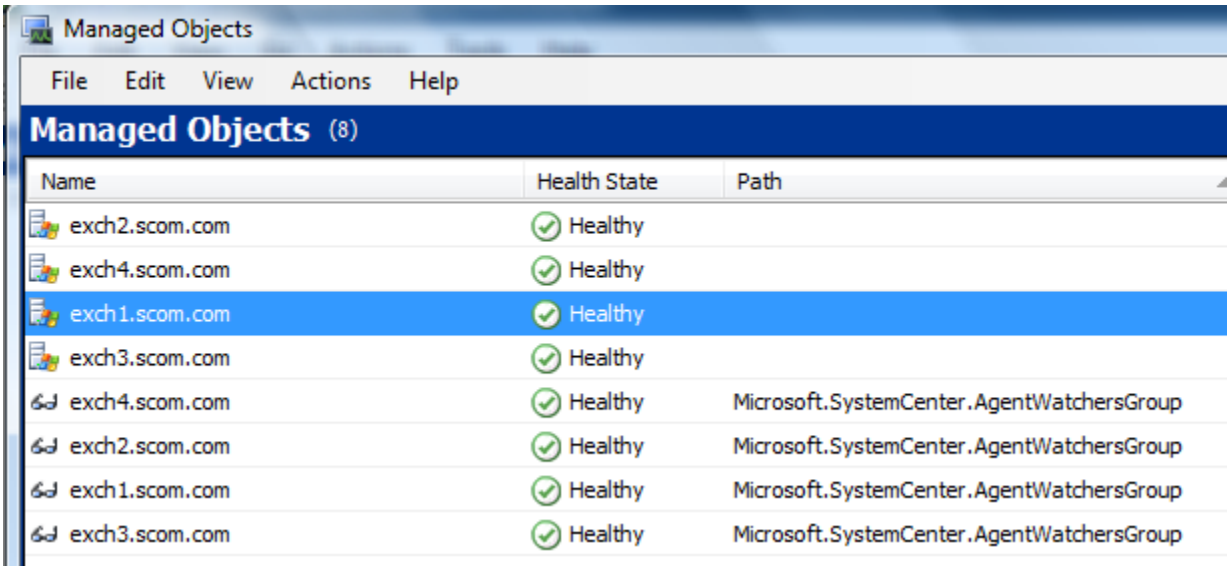
7. **Save the MP and re-import the Management Pack into SCOM.**



8. **Go back to your group and right click View group members**



9. **The health watchers may up to 20 seconds to populate. Push F5 a couple of times to refresh the screen.**



Now when we create a subscription to this group and a server in the group goes offline, we will now get the heartbeat alert.