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GMS Config changes in domain.xml

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GMS Config in v2.1.1

- Config spread between 2 elements : cluster (cluster level) and config.group-management-service (instance level)
- New attributes needed for v3
- Some GMS config was introduced as properties since they came in late. Those need to graduate to attributes.
- Some attributes that are not used need to be removed.



conti..

```
<cluster config-ref="dev-cluster-config" heartbeat-enabled="true", heartbeat-
  address="any value in the range of 225.0.0.0 to 231.255..255.255", heartbeat-
  port="any integer" name="dev-cluster">
  <property name="gms-bind-interface-address" value="228.234.54.55"/>
</cluster>
<config dynamic-reconfiguration-enabled="true" name="dev-cluster-config">
  ...
  <group-management-service fd-protocol-max-tries="3"
    fd-protocol-timeout-in-millis="2000"
    merge-protocol-max-interval-in-millis="10000"
    merge-protocol-min-interval-in-millis="5000"
    ping-protocol-timeout-in-millis="5000"
    vs-protocol-timeout-in-millis="1500">
    <property name="failure-detection-tcp-retransmit-timeout"
      value="3000"/>
  </group-management-service>
</config>
```



GMS config in v3

- New attributes added :
 - *member-type* = CORE/SPECTATOR (instance level)
 - *is-bootstrap-seed* (only needed for JXTA) (instance level)
 - *list-virtual-multicast-uri* (WellKnownAddresses). The format of the values is subject to change since the implementation is work in progress. (cluster level)
 - *group-management-service.failure-detection*. All failure related attributes will be clubbed under this new element. (instance level)
 - 2 new Grizzly related attributes : *tcp-start-port* and *tcp-end-port*
This is subject to change since this is also a work in progress.
(instance level)
- Removed attributes :
 - *merge-protocol-max-interval-in-millis*
 - *merge-protocol-min-interval-in-millis*



conti..

- Properties changed to attributes :
 - gms-bind-interface-address
 - failure-detection-tcp-retransmit-timeout



conti..

- A few attribute names have been changed :

- *heartbeat-address* → *multicast-address*
- *heartbeat-port* → *multicast-port*
- *heartbeat-enabled* → *gms-enabled*

*The above 3 attributes have been moved from
"cluster" to "group-management-service"*

- *fd-protocol-max-tries* *failure-detection.max-missed-heartbeats*
- *fd-protocol-timeout-in-millis* *failure-detection.heartbeat-frequency-in-millis*
- *ping-protocol-timeout-in-millis* *group-discovery-timeout-in-millis*
- *vs-protocol-timeout-in-millis* *failure-detection.verify-failure-waittime-in-millis*
- *failure-detection-tcp-retransmit-timeout* *failure-detection.tcp-retransmit-timeout*



v3 domain.xml structure

```
<cluster config-ref="dev-cluster-config" gms-enabled="true" multicast-
  address="228.8.20.94" multicast-port="17227" list-virtual-multicast-uri=""
  bind-interface-address="228.234.54.55" name="dev-cluster" tcp-start-
  port="9120" tcp-end-port="9270"/>
<config dynamic-reconfiguration-enabled="true" name="dev-cluster-config">
  ...
  <group-management-service member-type="CORE"
    is-bootstrap-seed=""
    group-discovery-timeout-in-millis="5000"
  >

    <failure-detection max-missed-heartbeats="3"
      heartbeat-frequency-in-millis="2000"
      verify-failure-waittime-in-millis="1500"
      tcp-retransmit-timeout="3000"/>

  </group-management-service>
</config>
```



Open Issues

- Make sure that GMS logger works correctly
- set symbolic values per instance. Not sure if this feature exists in v3 or not. Need it for gms-bind-interface-address and tcp-*-port
- Config bean generation automated?



Reference

- GMS Config document

