

Initial “rough” Timeplan

~~[AP1] (by mid-January 2014): Setup a new virtual queue on one of the existing PROD brokers at either GRNET or SRCE to be used by the new SAM instance.~~

[AP2] (by end of January 2014): Setup a new set of 2 brokers (GRNET and SRCE)
- This requires packaging of ActiveMQ (probably a newer version than the one used currently on the PROD network)

[AP2] (by start of February 2014): Connect the 2 new brokers to the existing production network. As a result of this step we shall have a PROD network consisted of 6 broker endpoints.

[Risk 2.1]: The 2 new brokers are not compatible to be connected to the existing broker network
Probability of Risk 2.1: Low to medium

Impact likelihood of Risk 2.1: The existing broker network has to be decommissioned after **all** clients have moved to the new network.

[Workaround 2.1]: Package and re-deploy the new pair of brokers with a compatible (older) ActiveMQ version. As a result of this workaround we shall have a PROD network consisted of 6 broker endpoints.

[Workaround 2.2]: Continue with two sets of PROD networks. As a result of this workaround we shall have two PROD networks one consisted of 4 broker endpoints (the existing one) and one new one consisted of 2 broker endpoints.

Preferable workaround at the moment is Workaround 2.1 (thus do anything in our powers to have by mid-February a PROD network consisted of 6 broker endpoints).

[AP3] (by mid February 2014): Contact our clients to test and update their configurations so that they start using the two new brokers.

[Risk 3.1]: Connection issues

Impact likelihood of Risk 3.1: Low to medium

Workaround: Work out all issues with clients as they emerge

[AP3.1] (start of March): First broadcast the decommission of the existing 4 broker instances and the test network.

[AP3.2] (mid March): stop running resource bdiis on 4 “old” brokers

[AP4] (by end of March): Monitor clients that are still connecting to either of the 4 existing PROD broker endpoints or the TEST broker network endpoints and contact them to stop using these brokers or implement failover capabilities (based on information system information).

[AP5] (start of April): Second Broadcast the decommission of the existing 4 broker instances and the test network.

[AP6] (by end of April): Decommission 4 existing brokers from the PROD network (one by one) and TEST broker network instances (one by one).

Points to consider also within the general roadmap:

- * Documentation (have everything we will need from CERN beforehand)
- * Monitoring. At a basic level we can start with the ops monitor to check brokers. We should also ask to have any additional probes CERN has developed over the years and assess if we need some of them also (most probably some of these probes should continue to run).
- * Configuration management. Some configuration files contain sensitive information so we need to decide if and where we store (or backup) configuration files centrally.
- * Make changes/update list of people behind GGUS brokers support unit

Comments received by Lionel:

I would not recommend to run an heterogeneous network of brokers with different versions of ActiveMQ. FWIW, we use 5.5, the latest is 5.9.

You write nothing about future test brokers: will you setup some (like we currently have at CERN: dev + pilot)? Will you maintain your current test network of brokers?

I would prefer to stop the CERN _test_ brokers much before. The dev broker is virtually unused (only two clients told already to move to EGI prod). The pilot broker is only used by SAM validation. This latter should IMHO move to the new brokers ASAP to help testing these new brokers.

I don't know what you mean by "Setup a new virtual queue". The brokers currently have no security and each client can create a virtual queue when it subscribes. So the first time the SAM consumer will connect, the queue will be created. In other words: no work at all on the brokers side.

One key element is BDII: when will the brokers be removed from BDII? IMHO, the process should be:

- 1: add the 2 new brokers (this requires a reconfig of the old 4), inc. BDII
- 2: wait one week to make sure everything works fine
- 3: remove the 4 old from BDII
- 4: wait one week then chase the clients still using the old brokers
- 5: remove the 4 old brokers (this requires a reconfig of the new 2)

Ticket by Anastasis regarding mixed ActiveMQ versions within the same network:

<http://stackoverflow.com/questions/20284560/activemq-network-with-different-server-versions/20313891?noredirect=1>

Assess the full impact of the shutdown of the testing broker network before next meeting. Report about that in the December meeting

The test broker network (TBN) is used currently is used both by the broker operations team and end users.

The TBN is used in order to test and validate new upgrades of the broker network. In order to upgrade the network without downtime, it is required that each node in the broker network is upgraded separately. As a result, for a specific period, the broker network is consisted by mixed versions of Apache MQ. This mode of operation is something that officially is not recommended and the only way to ensure the smooth operation from our side, is to test the upgrades extensively in the TBN. Without the TBN, we will have to proceed with synchronous upgrades of all the nodes of the network, which will result downtime.

Regarding the end users, TBN is used by the SAM nightly validations. We expect that this traffic can be moved to the production network without affecting its performance. Furthermore the TBN can be used by new applications that want to make use of the EGI Messaging Infrastructure and that are still under development.