Criteria to start replacing the LCG CE with the CREAM CE

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- **The following are the criteria for starting the replacement of the LCG CE by the CREAM CE. These are not the criteria for the roll-out of the CREAM CE – this has already happened!**

List of criteria (1)

1. **The CREAM CE should provide at least equivalent functionality and performance as the LCG CE**
   - NB: It would be preferable for there to be no ability for users to fork processes on the CE. However, this would not be considered a show-stopper.
2. **There must be no no significant bugs outstanding on either the CREAM CE, the CREAM clients, the Condor-G submission path or the WMS ICE functionality.**
   - Whether a bug is considered “significant” will be decided by the grid operations team.
3. **Direct submission through the CREAM clients must provide a suitable mechanism for the retrieval of job results (logs and sandboxes)**
4. **Condor-G submission to CREAM must be available in production.**
5. **The ICE enabled WMS must be available and working in the production service.**
6. **The ICE / CREAM job submission chain should be able to meet the performance criteria of point 9 and otherwise perform at least as well as the WMS / LCG CE submission chain.**
7. **The proxy renewal mechanism must not rely on open incoming ports on the WN.**

List of criteria (2)

8. **There is a clear plan, with agreed timelines for implementation, for migration of CREAM away from gJAF.**
9. **An adequate set of monitoring probes are available for the CREAM CE.**
10. **The following criteria for performance and reliability must be met:**
    - Performance
      - At least 5000 simultaneous jobs per CE node
      - Unlimited number of user/role/submission node combinations from many VO's (at least 50), up to the limit of the number of jobs supported on a CE node
    - Reliability
      - Job failure rates in normal operations due to the CE < 0.1%
      - Job failures due to restart of CE services or reboot < 0.1%
      - 1 month unattended running without significant performance degradation
      - Graceful failure or self-limiting behaviour when the CE load reaches its maximum (e.g. if a CE node can support only 5000 jobs it must not crash or become unresponsive with more than that)
11. **The following batch systems must be integrated by default:**
    - LSF
    - PBS-Torque/Maui
    - Sun Grid Engine
    - Condor
12. **The process for integrating the CREAM CE with other batch systems must be fully documented.**