

RAL Tier-1 VO Support Survey 2009/2010

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Introduction

This report contains a review of VO support provided by the RAL Tier-1 computing facility to both LHC and non-LHC VOs. It covers the period from April 2009 to March 2010, and is based on responses to a survey distributed to VO operational contacts on March 25 2010.

The purpose of the review is to get feedback from the VOs of their experience of support offered by the Tier-1, and to identify key problems which we can then address.

Survey

The survey comprises sections for both qualitative and quantitative feedback. We asked for qualitative feedback on the following questions:

1. To what extent does the Tier-1 deliver services and support within agreed timescales and deadlines?
2. To what extent are you satisfied with the quality of the running of (a) the CPU batch system, (b) storage, and (c) grid middleware, and the support you receive for these services?
3. To what extent does the Tier-1 demonstrate good customer service? (e.g. being courteous, responsive to your needs, keen to help etc.)
4. How satisfied are you with the communication between you and the Tier-1? (e.g. keeping you updated with relevant information)
5. Do you think that the Tier-1's skills and expertise are at appropriate levels, and do they meet your expectations?
6. Do you think that the Tier-1 is focusing on key priorities and using its resources effectively?
7. To what extent are any problems or difficulties resolved in a satisfactory manner?
8. What one thing do you most value or appreciate about the service that the Tier-1 provides to you?
9. If you could change one thing about the service you receive what would it be?
10. Do you have any other comments?

and for quantitative feedback on the following questions of how good the Tier-1 is at:

1. Delivering services and support within agreed times and deadlines?
2. Running a high quality service and providing support for (a) the CPU batch system, (b) storage and (c) grid middleware?
3. Demonstrating good customer service?
4. Communication (e.g. keeping you updated with relevant information)?
5. Demonstrating the skills and expertise that you require?
6. Focusing on key priorities and making use of its resources effectively?

7. Resolving any problems or difficulties in a satisfactory manner?

In addition to the above questions, we asked for an overall rating for VO support, and for VOs which use other Tier-1s we asked for a rating for how RAL compares to other Tier-1s.

For the quantitative feedback, scoring was on a ten-point scale:

1. Couldn't be worse
2. Poor
3. Fair
4. Below average
5. Average
6. Above average
7. Good
8. Very good
9. Outstanding
10. Couldn't be better

Note that there is a one-to-one mapping for the first seven qualitative and quantitative questions.

Results

The results presented below are based on the completed surveys that we received from the representatives of the four LHC VOs and three non-LHC VOs. One non-LHC VO responded that they no longer used the RAL Tier-1, and nine non-LHC VOs did not respond.

Qualitative Feedback

1. To what extent does the Tier-1 deliver services and support within agreed timescales and deadlines?

There were no major concerns from any of the VOs, however one LHC VO mentioned delays in disk deployment compared to schedules but noted that there was no impact on operations.

2. To what extent are you satisfied with the quality of the running of (a) the CPU batch system, (b) storage, and (c) grid middleware, and the support you receive for these services?

All VOs were very happy with the stability of the CPU batch system and the support provided.

The responses about the storage service were less positive. One LHC VO has the perception of a high disk failure rate, while another was unhappy with data loss caused by CASTOR database issues, but at the same time thought that the support provided was very good. One non-LHC VO responded that their SRM is not stable,

while another said that “reliability was less than desirable” and that “irrecoverable data loss occurred more than once”.

The VOs were satisfied with the grid middleware, with responses ranging from “reasonably satisfied” to “very good”. One non-LHC VO commented:

Grid middleware is improving in terms of reliability and functionality and has reached production quality.

However, in a later question one non-LHC VO reported that they were unhappy in having to migrate from direct submission to the batch system to using the grid. In fact all non-LHC VOs went on to give low ratings for the grid middleware in the quantitative part of the survey.

3. To what extent does the Tier-1 demonstrate good customer service?

All VOs found the Tier-1’s customer service to be very good. The least positive comment was from one of the LHC VOs:

It would have been easy and useful to anticipate the problems rather than handling them after they occur (e.g. diskserver failures because of RAID5 deployment).

Another LHC VO commented that:

...responses have been very cautious recently, rather than implementing quick fixes.

This is likely a result of the introduction of the change management system which ensures that risks are assessed properly before changes are implemented.

4. How satisfied are you with communication between you and the Tier-1?

Most VOs were satisfied with the communication with the Tier-1. One non-LHC VO previously found RSS to be very useful for being informed about outages and requested that it be reinstated. One LHC VO thought that there was a delay of a few days before being informed of issues. There was a comment from another LHC VO that the weekly Experiment Liaison meetings are very useful, but found the detailed technical discussions very difficult to follow.

5. Do you think that the Tier-1’s skills and expertise are at appropriate levels, and do they meet your expectations?

All VOs agreed the Tier-1’s skills are at appropriate levels, but there was little information provided apart from the response “yes”.

6. Do you think the Tier-1 is focusing on key priorities and using its resources effectively?

The VOs either thought that the Tier-1's priorities were fine or they were unable to answer the question. One LHC VO, however, thought that the Tier-1 has forgotten about the need to upgrade some systems on a regular basis, in particular the SE.

7. To what extent are any problems or difficulties resolved in a satisfactory manner?

The responses from both LHC and non-LHC VOs were positive. The only negative comments were about issues caused by external factors, for example middleware limitations or having to wait for software updates.

8. What one thing do you most value or appreciate about the service that the Tier-1 provides to you?

Apart from one non-LHC VO who had no opinion, all responses were positive and showed that the VOs highly value the direct communication between them and the staff of the Tier-1. One non-LHC VO's response was:

How helpful and responsive they are to a small group that would be easy to ignore with all the demands placed upon them by the LHC.

9. If you could change one thing about the service you receive what would it be?

One LHC VO thought that the Tier-1 needs to "reduce disk server issues to levels below the expected failure rate", and another thought the Tier-1 has an aversion to risks even when the affected VOs are happy with them.

One non-LHC VO wished they still had direct submission access to the batch system, as the introduction of the grid cost them "1 man year of effort for absolutely no gain" and "in terms of reliability, it is a significant loss". Two non-LHC VOs thought that monitoring needs to be improved. One suggested that SE monitoring in particular needs to be improved, while another suggested that the Tier-1 should "test systems for failure, not for success".

10. Do you have any other comments?

Most VOs did not respond to this question. A non-LHC VO replied that they weren't making much use of the Tier-1 because of "slow network between UK sites and Europe", "incorrect scheduling of jobs" and "disabled access to the SE".

Quantitative Feedback

Weighting

We present both unweighted and weighted average scores from the quantitative part of the survey. We followed the method used in last year's survey and chose as weights the proportions of allocated disk relative to the total disk for the responding VOs. This scheme of course gives significant weight to the LHC VOs, in particular

ATLAS, who have been allocated 61% of the total disk capacity for the responding VOs.

Results

Question	All VOs	LHC VOs	Non-LHC VOs	All VOs (Weighted)
1 (service delivery support)	7.4	7.8	7.0	7.4
2a (CPU service / support quality)	8.3	8.8	7.7	8.4
2b (storage service / support quality)	5.9	7.3	4.0	7.2
2c (middleware service / support quality)	7.0	8.3	5.3	8.0
3 (customer service)	8.7	9.0	8.0	8.8
4 (communication)	7.7	7.8	7.7	8.4
5 (skills / expertise)	8.0	7.7	7.7	8.1
6 (priorities / resources)	7.8	7.0	7.0	8.1
7 (problem resolution)	7.3	7.5	7.7	7.2
8 (overall rating)	7.2	8.0	6.3	8.0
9 (rating compared to other Tier-1s)	7.0	7.0	N/A	6.3
Average	7.5	8.0	6.8	7.5
Key:				
Below Average				
Average				
Above Average				
Good				
Very Good				
Outstanding				

Discussion

The majority of scores were either “Good” or “Very Good”, and more than half of the weighted scores are “Very Good”, which suggests that we are generally providing good support. For a few questions there are large differences in the averaged scores between the LHC and non-LHC VOs, with the non-LHC VOs giving much lower scores than the LHC VOs. The averaged score of 4 (i.e. “Below Average”) from the non-LHC VOs for the storage service stands out as being the lowest average score.

The highest score for a single question was a 10 (i.e. "Couldn't be better") from one of the LHC VOs on the customer service question. The lowest rating from one of the LHC VOs was a 5 (i.e. "Average") for the storage service, due to the CASTOR database issues resulting in data loss. The lowest score from any VO was a 3 (i.e. "Fair"), which was from a non-LHC VO for the storage service. The next lowest scores were 4 (i.e. "Below Average"), and were given by non-LHC VOs for the storage and grid middleware services.

The low averaged overall rating for the non-LHC VOs is low mainly due to a score of 5 (i.e. "Average") given by one VO because of instances of data loss. The relatively low weighted score for the rating of RAL compared to other Tier-1s is mainly due to one LHC VO who was happy with the Tier-1's services and support, but said that there's "tough competition".

The storage service, as well as being the area which received some of the lowest scores, also received the widest range of ratings from different VOs, ranging from 3 (i.e. "Fair") all the way to 9 (i.e. "Outstanding").

From the quantitative responses from the VOs, we can identify the following as areas where we perform particularly well:

1. Customer service for all LHC and non-LHC VOs;
2. CPU service and support for the LHC VOs.

and the following as possible areas of concern:

1. Storage service for the non-LHC VOs;
2. Middleware service for the non-LHC VOs.

Conclusions

All four LHC VOs as well as three of the non-LHC VOs who use the RAL Tier-1 responded to the survey. In general the majority of the responses were positive, with customer service being highly rated from both LHC and non-LHC VOs.

The storage service is the main area where most VOs expressed criticism due to instability and data loss. This result is not surprising due to the CASTOR database problems which occurred over the past year. The non-LHC VOs were less happy with the storage service than the LHC VOs, and gave much lower ratings. The grid middleware service is another area where there was a large difference in ratings between the LHC and non-LHC VOs, and for which non-LHC VOs gave low scores. This contrast is perhaps explained by the fact that the LHC VOs have much more experience in using grid middleware than the non-LHC VOs, at least one of which only started submitting jobs via the grid over the past year.