Use Case –IT Cluster room usage

Scenario

With nearly 40 IT cluster rooms/lab throughout the Newcastle University campus, hosting over 1000 machines it is important that these facilities are accessible by their targeted user group. These cluster rooms can vary from being general open use rooms to rooms which provide access to specialised software for particular areas of study.

It is important that these machines, in particular the specialised rooms, are accessible to students when required so that they have access to the necessary tools to complete their work. Often is the case though with IT labs is that the machines are not always used for the purpose they were designed for and are often misused by users who may just be checking their email, or in the modern day checking social networks such as Facebook and Twitter. With this kind of user behaviour it leads to some students being denied the opportunity to make use of specialised tools, diminishing their study experience.

An example of this was highlighted by the School of Geography and Politics last year; they have a small IT computer cluster room which was targeted for use only by Postgraduate Research students. The room was setup specifically to ensure postgraduate students had the resources to carry out their research, the machines did not provide any specialised software. The room is openly accessible and the Postgraduate research students were finding that they were unable to make use of these machines as Undergraduate students were using these machines, therefore preventing legitimate access. This was only brought to the schools attention due to the students complaining to the School as there was no way of identifying misuse of machines. As a consequence of the students complaining, a mechanism was put in place to only allow a certain set of users to access these machines using a combination of Internet2's Grouper and the Active Directory.

This highlights one of the areas of concern which would be more disconcerting if this cluster room provided students with access to a piece of software which had limited license restrictions. Currently there is no mechanism in place to highlight or notify schools of possible misuse of their resources. It is important to highlight that the reference to misuse in this context refers to the wrong user group making use of machines rather than reporting use of social networks etc.

Over the past few years, resources have also been invested, particularly by the Library to provide 24 hour access to certain cluster rooms. Time and money has been invested in order for students to be able to make use of machines right through the night. Although it is possible to quantify how many users access the library throughout the night, currently there is no way to report on the usage of the machines in these 24 hour access areas. Reporting on this will help to identify peak usage times throughout the year and may help to identify times in the year where 24 hour access may not be required.

Approach

This use case aims to try and address the issue of IT cluster rooms not being used by their targeted user group. Accesses to machines in cluster rooms are logged and are stored by the Infrastructure Systems team at the University. Similar to the log data for Shibboleth and EZProxy, this log data is not used for any informational purposes. With the use of RAPTOR, it is hoped that a number of useful and timely reports can be produced to help present the usage of cluster rooms. The following areas will be looked at;

- o Total number of access - it is important to be able to demonstrate the overall usage of cluster rooms throughout the campus. Therefore graphing and reports will be made available to present usage statistics for accesses to cluster room machines. This data will be important in itself to identify cluster rooms that are popular throughout the student population, and those cluster rooms which are not utilised to their full capacity. This may highlight cluster rooms which students may not be aware of, and to target communications to promote cluster rooms which are under used.
    - o Further to this, the graphing and reporting will also highlight usage of cluster rooms at intervals throughout the day. This will be important for those cluster rooms which are accessible 24 hours a day. The reports will be able to help justify whether the cluster rooms should indeed by open for this period of time.
- o Number of accesses to cluster rooms by programme type – as discussed earlier in this use case, some cluster rooms are designed specifically to be used by a certain group of users. Therefore being able to quantify the usage of machines by a programme type can be invaluable to highlight any misuse of the machines. Therefore, for each cluster room, graphing and reporting will be made available which distinguishes between undergraduate and postgraduate use.
- o Number of accesses to cluster rooms by school/course – the ability to identify if school cluster rooms are being use by their students is also important. School cluster rooms will often provide students with access to software which is required specifically for their area of study. It is therefore important that schools are able to identify whether their students are making use of these machines and that students from other schools are not misusing these machines.