Extreme Computing Notes

1   Computing as a Service

Patter Buster

- **Infrastructure as a Service** *(Utility Computing)*
    - The vendor provides and maintains the hardware, everything else is up to the client.
    - *Amazon EC2, Rackspace*
- **Platform as a Service**
    - The hardware and underlying operating system are abstracted away from the client, providing a platform for the development of and deployment of applications
    - *Heroku, Google App Engine*
- **Software as a Service**
    - Where the software is delivered to the client from a centrally hosted location. Mostly intended for end-users.
    - *GMail, Salesforce*

Why?

- Addresses issues of cost and feasability in regard to scalability
- Provides *elasticity*, such that resources required can be scaled in accordance with demand

2   The Cloud

The *first tier* handles client requests, should be lightweight and can be handled by simple PHP pages for example. *Replication* is akey concept such that the tier can handled most client requests without delay. This tier also takes away strain from the 'online load' from the second tier.

The *second tier* performs much of the heavy lifting and makes extensive use of *caching*, but does not need replication to the same extent of the first tier.