CAPITA

High availability solutions

Introduction

High availability solutions to support UNIT-e are taking an increasingly high profile in many organisations. This is because customers both appreciate that hardware is reliable yet acknowledge the risk of unavoidable, unpredictable failure. Undoubtedly, problems at a mission-critical time in the academic year could be catastrophic.

The following list illustrates how unpredictable failures can be:

Jan 2009
J Crew website crashed after America's first family selected its affordable designs to wear on inauguration day

July 2009
O2 website crashed under 3G iPhone demand

April 2008
Inland Revenue extend the tax return deadline because its web site could not cope with last minute online tax return

September 2007
Northern Rock web site failed due to unprecedented demand

Imagine the impact on your income or credibility if your database server or website failed during or close to:

- Enrolment
- The production of statutory funding returns
- Clearing
- Assessment boards
- External examination deadlines.

High Availability

The UNIT-e Student Record and Tracking System hosts a number of mission-critical technologies that work together to form an integrated data management solution. High levels of reliability, performance, functionality and access are key to the solution's success.

Most UNIT-e customers have one server-based area of functionality, risking a single point of failure. Through high availability technologies, this vulnerability is removed, ensuring that computing systems are fully operational, with less than 9 hours of downtime per year, even during hardware failures.

Capita Education Services can help customers implement high availability technologies for UNIT-e, including:

- Network Load Balancing
- Database Clustering
- Network Card Teaming.

Network Load Balancing

Network Load Balancing, commonly used to deliver websites and web-based services, enables load processing to be spread across multiple servers, providing high performance.

Should a single server fail, it is automatically managed, maintaining uninterrupted access to the website or service. Each server can be removed from the installation for upgrades and maintenance in a controlled manner, without disrupting users. Servers can also be added to the installation when required, to improve performance and resilience during peak usage times.

Database Clustering

Clustering is commonly used in conjunction with Oracle or SQL Server databases, consisting of a group of servers - or nodes - acting as a single entity for database service delivery.

Should a node fail, or need to be taken offline for maintenance, the other nodes in the cluster will maintain full database availability. The cluster can alert an administrator of a failure, allowing repair and resolution without service disruption. Nodes can also be added to the cluster without interrupting users.

Dedicated, fault-tolerant, external disk storage is shared by all of the nodes in the cluster, holding database files, transaction logs and other key information.

Network Card Teaming

Network Card Teaming links two or more network cards within a server. This permits continual communication with the network, even in the event of card failure.

This approach can be extended to the cabling infrastructure, network switches, routers and power supplies, all of which can be vulnerable to failure.

Implementation

Capita Education Services has adopted a flexible approach to the implementation of high availability solutions. Requirements are likely to be customer-specific and the final solution implemented in a number of ways.

For example, the service could be:

- Provided as part of Managed Services
- Installed by Capita and maintained by the institution
- Installed and maintained by the institution with support / consultancy from Capita
- Determined by the customer.

For further information, please contact your Capita Account Manager

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