**Security and Support in IT G (6689) – Assignment 1**

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**Answers:**

1. ‘Automation for uniformity’ mainly refers to automation of operating system installations, configuration and updates for workstations or desktops to maintain uniformity.

Automation is a good solution because it:

* results in machines which are uniform and identical in their configuration and setup.
* leads to easier support and management.

In an organization with 15 desktops and one system administrator (i.e. me), I would implement a fully automatic system if all the desktops have identical hardware. Fully automatic system is chosen because:

* automation will save time and resources during installation phase and subsequent user support
* automation will result in consistent and uniform machines

1. Following are the technologies used in server computers to improve reliability, availability and performance:

* redundancy – This includes redundant power supplies, multiple network connections, backups (full and n+1)
* Hot-swappable components – components which can be plugged in without having to halt the server computer, which avoids downtime
* RAID – Redundant Array of Independent Disks. Depending on its configuration, RAID provides difference features like reliability, availability, performance and capacity.

1. The “Scope of Coverage” of a Helpdesk operation is a policy defining the scope of support. It mainly defines what is being supported, who will be supported, when is the support provided and for how long the average support request takes to complete.
2. Trusted certificate authority are companies or government organizations which are trusted to issue online identification certificates. These certificates are used to verify the identity of people or organizations to enable secure communication. They are important because they play a crucial role to establish trust between entities like IT departments and students involved in the communication process.

To guarantee the authenticity of announcements, the department or the university can use public-key certificate. A public-key certificate consists of public key and ID of the department or university with the whole thing signed by a trusted certificate authority. Students can then use the public-key certificate to guarantee authenticity of the public announcements.

**References**:

1. Thomas A. Limoncelli, Christina J. Hogan and Strata R. Chalup, “*The Practice of System and Network Administration*” Second Edition, Addison-Wesley, 2007
2. William Stallings and Lawrie Brown, “*Computer Security: Principles and Practices*” third edition, Pearson Education Limited, 2015.