**Week1 Individual Assignment**  
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POS/421 Windows Networking

**Windows Server Roles for Riordan Manufacturing**

Riordan Manufacturing is an organization that is located in three US cities and one remote location in China. They are considering the adoption of the Windows 2008 R2 platform and need to review which roles and security features would be of interest.

**Roles of Interest**

**Active Directory**

Active Directory is a solution for centralized management of users, group, computers, and setting control. Without such a system the company would not single sign on, and be forced to use unique logins per server. This would make password management impossible along with auditing who was accessing which resources.

**Domain Name Server (DNS)**

A DNS server allows translation of machine names to IP Addresses. This simplifies the usage of the network as people have to remember “fileserver.riordan.com” instead of say 128.222.128.19. This layer of abstraction also allows for that fileserver to be physically moved to a different subnet, without requiring a lot of reconfiguration.

**Hyper-V**

Hyper-V is a virtualization system that allows one physical servers resources to be shared among multiple virtual servers. This can significantly reduce cost attributed to power consumption, cooling, and mechanical defects.

**File Server**

Windows 2008 R2 supports a distributed and replicated file systems between different branch offices. Having such a system would allow the company to maintain a consistent folder structure and ensure documents were always available at the different offices.

**Improvements in Security**

**Read only DC**

In previous versions of Windows each branch office would either have a business risk that the remote corporate DC must always be contactable; or have a security risk that a person that compromised the branch office could change the corporate DC. With Windows 2008 R2 there is now read only domain controllers, which maintain a copy of all corporate polices, but do not allow any changes to flow back upstream.

**BitLocker for Server**

If an attacker walked into the server room, powered off the machine and stole the hard drive they would be able to read any secret on the hard drive. This attack vector bypasses any authentication check. Starting with Windows 2008 R2 encrypting the hard drive is now supported to block this from happening.

**Certificate Based IP Sec**

IP Security is encapsulates network traffic to ensure the sender and receiver is authenticated. In addition to the authentication properties it also encrypts all data so it cannot be sniffed off the wire. In previous versions it was only supported to use pre shared keys, which are less secure due to being hard to change. Windows 2008 R2 added support for using certificates which can easily be revoked and reissued if compromised.