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Week 3 Discussion: SharePoint via LAN and WAN

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Microsoft SharePoint 2010 is an Enterprise collaboration platform which allows users to access and share documents, lists, forums, calendars, and much more through an internet browser (Microsoft Corporation, 2011). Its primary function is to increase productivity through the sharing of knowledge in a collaborative space. It is used by organizations around the world, including a large percentage of fortune 500 companies (Top SharePoint Sites, 2012).

A SharePoint configuration includes the following: primary database, backup database, development database, SharePoint webserver, backup webserver, and development webserver. Within an enterprise LAN a router, switch, Ethernet, via TCP/IP setup will need to be maintained in order to connect each of the servers with the client nodes. Also, a gigabit connection to each of the servers with standard megabit connections at the clients would suffice at this level.

As SharePoint is a Web based application, there should not be conflicts with other applications. However, SharePoint can cause conflicts internally which are not related to the LAN. Specifically, there can be application compatibility issues with the services available within the SharePoint suite of products. For instance, while Excel services will allow the upload/download of .xls files, it will only render in browser .xlsx files, which are the new xml based Excel documents from Microsoft.

Evaluation of the network’s capacity to handle SharePoint would begin by observing the recommended hardware load from Microsoft. From there, I would determine the approximate capacity of users who will be accessing the site at any given moment, and whether this is above the load balance given by Microsoft. If the load balance is greater, then hardware requirements would need to increase (RAM, CPU, Bandwidth, HDD speeds and capacity).

Independently of the hardware requirements, I would observe the local bandwidth and whether it is capable of supplying the connection speeds required to use the SharePoint application suite. As users will be accessing the site through a single node, the bandwidth of that node and the routers/switches which connect to that node, must be able to handle a theoretical max load without causing an inadvertent DOS (denial of service).

Fortunately, SharePoint 2010 is compatible with all major internet browsers, which is its primary interface. As such, the choice here is whether the organization wants to use a single browser as its SOE (standard operating environment) or if it is happy for users to use any browser. In any case, the method of access from the user perspective is simple and elegant. Hardware wise, any device/workstation with access to an internet browser, and available on the domain, is capable of using SharePoint.

However, the backend interface for development purposes is not so simple. A combination of SharePoint Designer, SSMS (SQL Server Management Studio), Visual Studio, and PowerShell, is required to get the suite up and running. However, day to day maintenance of the site collection can be done through the browser, once the site is operational.

Infrastructure hardware would include the servers the software runs on and the LAN connections between network clients and the SharePoint servers. In a small enterprise setup, the SharePoint infrastructure could be maintained through simple Ethernet and Bandwidth over such large distances, as well as latency between servers and clients can cause the interactive services of SharePoint to fail in regards to user experience. They would still work, but at a greatly reduced capability. For instance, SharePoint Excel services allow users to access and modify the same document at the same time. However, given a WAN which crosses international boundaries, the latency would make such interactions sluggish and possibly prone to errors. Also, if such an interaction were taking place and a link failure were to occur, the overall document maybe lost and/or corrupted beyond use.

These issues can be resolved one of a two ways. The simplest and least useful is to disable the multi-user editing option within Excel services. However, this takes away from the SharePoint experience and does not actually solve the problem. Another way to work around this is by ensuring that the clients at both ends of the connection to the server have a stable connection with enough bandwidth and appropriate QoS such that drop-outs are less likely to occur. Combining this with an appropriate backup and recovery plan will help users in the case where a catastrophic failure is unavoidable.

While there are some compatibility issues internally, the fact SharePoint is a browser based experience means there should be no interference with other enterprise applications. While not mentioned above, the entry hardware is of such sufficient quality, that generally further expansion is not required (unless you are planning on having an enterprise of 1k+ users). WAN connections can be worrisome. Nevertheless, they are possible and can be rewarding for the collaboration SharePoint offers. The key things to remember is that proper planning, maintenance, and development is required for the continued operation of a stable and user friendly SharePoint environment.

Reference

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