Microsoft Exchange Consolidation and Optimization

Challenge

Microsoft Exchange is the backbone to many organizations communication systems. Whether it is being used for email, profile storage or saved documents, the ability to have these assets available at several locations quickly is extremely important for productivity. When a large school in Western New York approached Vandis Services to help ensure that users could access their profiles as they traveled from building to building as well as optimize their Exchange Server, we knew it was imperative to perform a complete on-site inspection to see where the problems were originating from.

Selection Criteria

The district originally reached out to Vandis as part of a recommendation from another school that we had previously performed services for. After a two-day on-site review of the schools' Microsoft Exchange 2010 messaging environment, we determined that issues on both the Exchange and server environments were the problem. Vandis then came up with several recommendations that would help optimize the system.

Solution

The schools' messaging infrastructure consisted of on premises Microsoft Exchange 2010 deployment with some components, mainly inbound spam filtering, being hosted at a separate location. Vandis' first recommendation was to increase backup frequency. Increasing the backup process to occur at least daily will stop mailbox servers from processing mail once the free space on the log drive fills up.

Another issue was that the school was not making use of the AutoDisover service. AutoDiscover is a critical component to an Exchange infrastructure. Without it, some end users would not be able to configure their devices (iPhones, non-domain joined computers, etc.) without manual steps. Vandis then removed remnants of the old 2003 Exchange information from Active Directory. In addition to these changes, Vandis then cleaned up the schools' configurations by removing corrupted Mailbox search catalogs, ensuring that some servers were no longer activation blocked, and replace Windows NLB for CAS/HT services with a fully proxy architecture hardware load balancer. The reason being is that NLB does not account for:

- Service outages such as HTTP/RPC as traffic is still sent to the server.
- Adding or removing a server causes all clients to reconnect.
- No L4/L7 traffic inspection.
- Limited persistence options.
- No TCP connection multiplexing. NLB is a pass through architecture, not a proxy architecture.

Industry
Education

Location
West Nyack, New York

Technology Solution
Microsoft Exchange Solutions

Partners

Microsoft

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Setting up a fully proxy architecture hardware load balancer would eliminate these issues and ensure a cleaner environment. In addition to the Exchange server fixes, Vandis also increased server performance. Of the five servers, three were performing the combined Hub Transport (HT) and Client Access Server (CAS) roles and two were performing the Mailbox (MBX) role. For the first two servers performing HUT and CAS services, Vandis reduced the number of CPUs from 4 to 2 as the servers were mostly idle. The server also only have 4 GB of RAM, which was left it with very little free memory, Vandis increased it in 2GB increments until it was sufficient. Finally, the CAS/HT servers that were exposed to the internet had not been updated in over 6 months, Vandis performed Windows Updates to bring them up to date. For the third HUT/CAS server, Vandis setup NIC teaming, as a single NIC failure would bring down the server.

For the two servers performing all MBX services, Vandis setup NIC teaming, separated iSCSI networks into different subnets as DAG cannot properly recognize the networks if they are on the same subject, and updated the servers with Windows Updates.

Results

Teachers, students and faculty were able to bring their Exchange profiles from building to building and access necessary emails and documents. After Vandis performed the necessary optimization on both the Exchange and Server environments, the school noticed a substantial increase in speed, reliability, and user friendliness that streamlining productivity for all users.