Assignment 2: SQL Security and High Availability  
Due Week 10 and worth 135 points  
  
Trend Works Management, or TWM, provides management consultant services nationally throughout the United States. It currently has three (3) sites, New York, NY, Denver, CO, and San Diego, CA. with the latter as its home office. The NY and CO site have a total of sixty (60) employees. The NY site has fifteen (15) administrative staff members, and four (4) IT support technicians, whereas the CA site houses a thirty (30) member sales / marketing team, five (5) member HR team, and the executive management team.  
  
Currently, TWN runs one (1) SQL server 2008 instances on Windows Sever 2008 that houses a database of every consultant, their skill qualifications, locale, and their rates. Each site has one (1) server that merges the data to the main database server in San Diego. Each office is responsible for maintaining the information concerning consultants.  
  
The sales team enters consulting inquiries and enters consulting jobs into the database. The administrative staff queries the database to determine the availability of all consultants with the particular skill, and determines local. The TWM Website links to the database so customers can inquire about consulting.  
  
The company is experiencing a four percent (4%) annual growth and plans to expand into two (2) new markets at the rate of one (1) new market every two (2) years. The database is growing at a rate of 5% and will exceed hard-disk space in the future. The server capacity is overloaded, resulting in poor performance and long delays. A large portion of the database is historical information, dating back fifteen (15) years.  
  
TWM plans on opening one (1) additional site in Seattle WA, and hiring ten (10) administrative staff. To improve performance TWM wants to upgrade to Microsoft SQL 2012 and add two (2) additional servers. Additionally, all of the servers need to be secured properly. Currently, only SQL server logins are used, but TWM, wants to integrate Active Directory login services to ensure that a strong password policy can be implemented.  
  
TWM is requesting that a high-availability system be set up between all of the sites to protect the systems from potential disruptions.  
  
The company has asked you to develop an archive plan for its outdated historical information. The company wants to maintain only the data within a five (5) year range and archive the remainder with the ability of accessing if required. TWM also wants to remove the physical load on the servers by adding a database server to its branch office, and would like these databases to be accurately updated daily. TWM has asked that you include a plan for replication.   
  
Write a five to eight (5-8) page paper in which you:

1. Identify whether the growth of the database or the business growth is going to influence your design. Justify your response.
2. Outline any potential concerns of upgrading the SQL Server to a 2012 platform.
3. Recommend a solution for the login accounts, and explain how consultants can adhere to the current password policy at the database and object level.
4. Recommend two (2) ways to address the issue of high availability. Outline your recommendations.
5. Design a replication topology to copy data between the branch offices to the headquarters' database, outlining any latency, autonomy, and consistency issues.
6. Using Visio or an open source alternative such as Dia, outline the proposed changes that will accommodate the plan for replication. Note: The graphically depicted solution is not included in the required page length.
7. Use at least three (3) quality resources in this assignment not including the textbook. Note: Wikipedia and similar Websites do not qualify as quality resources.

Your assignment must follow these formatting requirements:

* Be typed, double spaced, using Times New Roman font (size 12), with one-inch margins on all sides; references must follow APA or school-specific format. Check with your professor for any additional instructions.
* Include a cover page containing the title of the assignment, the student's name, the professor's name, the course title, and the date. The cover page and the reference page are not included in the required page length.

The specific course learning outcomes associated with this assignment are:

* Demonstrate the ability to plan and design security into the database and server environment.
* Demonstrate the ability to design MSSQL, database-level and object-level security.
* Explain and design an MSSQL solution for high availability

Click here to view the grading rubric.