Unit 6 Scenario for Labs 6.1, 6.2, and 6.3

PK Industries Incorporated, a family owned multistate corporation in the retail industry, owns and operates a chain of more than 500 convenience stores across a number of states in the USA. They also own and operate their own fuel delivery service to supply fuel to all their convenience stores, and they have their own brand of ATMs providing cash services in all their convenience stores. They process over 250,000 credit card transactions a day across the enterprise, and process in excess of 10,000 ATM transactions a day. They currently have about 3,000 employees. Active Directory currently shows about 1,500 users on a 2,300 node network.

Currently, each convenience store has a firewall that connects to the corporate office to establish an always on point to point VPN which is currently used only for convenience store sales and credit card transactions, as well as the store manager's PC. The ATMs in each store currently use a modem to connect to a customer's bank for processing cash withdrawals. Phase one of the project includes creating a secure Vlan in the network for processing credit card transactions and store sales, as well as converting all ATM transactions to go over the secure Vlan. The ATMs already have NICs in them so this will not be complex. The modems in the ATM will be used only as a backup in case the store's network is down.

PK Industries' president is retiring and his son is taking over. His son is tech savvy and has ambitious plans to grow the business 20% a year, measured by number of stores and sales, as well as invest in infrastructure for better efficiency. He has approved plans to convert the corporate data center to virtual machines to save hundreds of thousands of dollars a year in IT related costs. The IT Director of the company has recommended VMware for the datacenter and the CIO agrees.

The current data center has the physical equipment shown in the PDF titled PK Industries Physical Equipment.

Phase one of the IT project to virtualize the data center has plans to virtualize everything possible, with the exception of one physical Domain Controller, since best practices call for one physical Domain Controller. Project plans include adding at least one SAN to replace individual drives in the physical servers. This will allow the company to implement vMotion and an ESXi cluster for HA. To allow for future growth and for HA, the IT Director has stipulated that 70% of SAN storage will be unused on day one. The CIO and IT Director understand that increasing sales and store count means that data needs grow and will plan accordingly. Phase one of the project involves implementing Payment Card Industry Data Security Standards (PCI-DSS) to protect customer card payment data. See the resource titled pci_ssc_quick_guide.pdf in this unit for details and requirements. Use the PCI-DSS PDF as only a guide for planning network security. You will not be graded on how well you implement the PCI-DSS standard, but how well you secure the network, all nodes on it, and all data moving over it. Project plans also call for installing vCenter and NSX as VMs so as to virtualize firewalls, routers, and switches, as well as implement strong security and administration. This will also set the stage for phase two of the virtualization project mentioned below. Phase two of the project does not have to be considered when performing any of the labs in this unit.

After the physical to virtual project has completed and the virtual data center has proven reliability and survivability, the second phase of the project will begin the following year to use VMware to implement a private secure cloud from which all the convenience stores will connect to the home office through the point to point VPN at each store.