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1. Workstations

1.2 Platforms
Platforms define a group of systems that consist of the same hardware and basic configuration. Because a platform is a single type of hardware operating system it becomes easier to automation installations, configuration and updates and support is more standardized.

1.2.1 Laptops
The laptop platform consists of a laptop, docking station, monitor, keyboard, and mouse. This platform is preloaded with an operating system, office suite and configured for a network printer before being distributed.

1.2.2 Desktops
All desktop computers consist of a tower, monitor, keyboard and mouse. The platform is preloaded with an operating system, office suite, and configured to use a network printer.

1.2.3 Handheld devices/PDA
Handheld devices come preloaded with a mobile version of the inventory and merchandising software.

1.2.4 Cash Registers
All cash registers run the same specialty hardware and run the same operating system and software.

1.2.5 Smart Phones
All smart phones used by the company are the same model and run the same software version on the same wireless carrier.

2. Servers

2.1 Vendors
All server hardware comes from a single vendor with an exception to appliances, which come for the vendor who makes the product.

2.2 Requirements
All servers must be rack mountable; servers located in remote stores must have remote access cards, must support RAID and have multiple network ports.

2.3 Maintenance Contracts
- All servers have a 3-year parts/labor/onsite warranty
- All servers in a cluster (email, database, web) have a one day support contracts
- Servers that host the same service on multiple boxes to increase performance such as directory and VOIP have same day support contracts.
- Monitoring servers have 3 day contracts
- The SAN has a 2 hour support contract
• All servers located at stores have 2 hour contracts
• The backup server and SAN have a one-day contract.

2.4 Redundant Servers
Servers run in a cluster or have a backup. The back up is either a cold spare that will be used to replace a broken server or a hot spare. The hot spares primary duty is to increase performance of the service being hosted, but incase of the primary server failing the spare will handle the load until the broken server is repaired.

2.4.1 Clusters
Email, database, and web services are ran on a cluster because they are customer-facing services that need maximum uptime.

2.4.2 N + 1 Redundancy
The application server category contains a cold spare that will replace a broken application server. Web servers have a cold spare to replace a broken server in the cluster or to replace the internal web server if it should break.

2.5 Appliances
Servers that would be good candidates to get appliances for include

• DNS
• DCHP
• VOIP
• Security servers

3. Services

3.1 Directory
Directory service runs on two servers at the corporate office to increase performance. Each store has a read only directory to increase authentication performance at each remote location.

3.2 DNS
DNS is ran on two appliances at the corporate office, and DNS service is running on a server at each store to direct name requests to either the internet or corporate office. The DNS servers at corporate provide secondary DNS service to the stores.

3.3 Email/Calendar
Email runs off a cluster of three servers located at the corporate office. This service is dependent upon DNS and directory services.
3.4 VOIP
VOIP runs off two vendor-supplied appliances at the corporate office and one appliance at each store to handle local calls.

3.5 Web
Web services, which provide services to customers such as the online store, get hosted on a cluster of web servers. A single internal web server is used to host an internal version of the online store for viewing from store, this takes load off the customer facing online store. A cold spare is available to replace a broken web server. Web servers are dependent on database servers.

3.6 Database
A cluster of three servers host databases used for internal business applications, two servers answers requests and the third is a hot spare. Inventory database runs a two-server cluster one server serving requests and the second running has a hot spare.

3.7 Business Applications
All business applications run on a single server, and there is a single cold spare server to replace to broken application server. All business applications are dependent on the database server, and directory services.

3.7.1 Human Resources
3.7.2 Customer Relationship
3.7.3 Financial
3.7.4 Point of Sale
3.7.3 Merchandising/Promotion Planning
3.7.4 Inventory
3.7.5 Document management/Collaboration

3.8 Security applications
Security applications run on two appliances at each location, one appliance for monitoring building access, and another for monitoring security cameras.

3.9 Printing
Printing service for the corporate office is run off a print server, and each store has a single network printer with a built in print server. Printing at corporate office is dependent on directory services.

3.10 Storage
A storage area network is located at the corporate office to storing data for all services.
3.11 Monitoring
Two monitoring servers running at the corporate office provide network and service for the corporate office and each store. One monitoring is the primary server and the second acts as a backup, and provides a way to monitor the primary server.

3.12 Backup
All servers are backed to the backup server, which stores backups on the primary and secondary SAN’s. Data stored on the primary SAN is replicated to the backup SAN.