User’s location

Date or range of 14 dates for which user would like to schedule an appointment

Location of blood drives and donation centers within 30 mi and with appointments during user’s window

User selection of blood drive or donation center, and appointment time

User selection of blood drive or donation center, and appointment time

Confirmation and reminder of appointment

Identification of user

Blood drive and donation center locations and appointment schedules

Date, location, and quantity of all previous donations for identified user

User Location

Blood drive and donation centers locations

Distance between user and blood drive locations

Red Cross Blood Donation Application

Red Cross Patient, Blood Drive, and donation center database

Mapping service
1.0 verifies identity of user

6.0 records & stores date, location, and amount of blood given at previous donations

User’s identification information

1.1 Determines which blood drive and donation centers have open appointments during user’s specified time window

User location

2.0 Determines which blood drive and donation centers are within 30 mi of user

User’s desired dates for appointment

Location of blood drives and donation centers

3.0 Registers and stores the time, date and location of user’s selected appointment

Location of blood drives and donation centers with appointments available during users requested window

4.0 Determines what the date is one day before user’s scheduled appointment

User selection of blood drive or donation center and appointment time

5.0 Sends appointment reminder to user 24hrs before scheduled appointment

User location

459x757 Red Cross Patient, Blood Drive, and donation center database

Mapping Service

Distance from user to each blood drives and donation centers with appointments available during user’s specified time window

User location

Blood drives and donation center location and appointment availability data

User

Location of blood drives and donation centers

2.0

3.0

4.0

5.0

6.0

1.1

1.0

1.0
Move scanner head to reading position

Read input/output on tape cell

Identify algorithm rule that corresponds to current state

Update state, position, and step

Read cell

If there is a rule
Move scanner head to erase position and erase

If there is no rule
Stop run
Part 3:

1) Review the five characteristics of infrastructure architecture and rank them in order of their potential impact on the Tribune Co.’s business

The term infrastructure architecture refers to the various software, hardware, and telecommunication equipment that organizations use to support their goals. There are five primary characteristics of infrastructure architecture: flexibility, scalability, reliability, performance and availability. Flexibility refers to a system’s capability to adapt and work as an organization’s goals and needs change. Scalability is similar, but it refers specifically to the ability of the system to handle a greater load or increase in demand. Reliability is the ability of the system to consistently function as intended and produce accurate results. Performance refers to how efficiently, and at what speed a system can execute its intended functions. Availability refers to how accessible a system is. Can all intended users (i.e. employees, customers) easily access the system?

The five characteristics of infrastructure architecture, ranked in order of their potential to impact the Tribune Co.’s business are, reliability, performance, availability, flexibility, and scalability. Major system delays, crashes, and errors brought on by coding errors have cost the Tribune Co close to a million dollars in losses. It is for this reason that improved system reliability would have the greatest impact on the company’s business. While scalability and flexibility are important for every business, the Tribune Co. is not in the midst of a large expansion. The Tribune Co. is however in the midst of attempting to improve their standardization. As the company works to consolidate their servers, it will become even more crucial for the company to have the proper backups and redundancies in place to ensure the system’s consistent performance and accessibility.

2) Define backups and recovery. What are the risks to the Tribune Co.’s business if it fails to implement an adequate backup plan?

The term recovery refers to the ability of a system to be restored and return to functioning as intended after a system error, failure, or crash. Backups are stored copies a system’s information, and are often a key part of the recovery process. Failure to implement an adequate backup plan would put Tribune Co. at a risk a huge financial loss. Previously, a coding error that occurred during Tribune CO’s server consolidation cost the company nearly one million dollars in lost revenue. If the company had, had a proper backup and recovery system in place system functionality could have been restored faster, and delivers would not of been as delayed. The risk is even greater now that Tribune CO. is consolidating their billing and application into a single system.

3) Why is a scalable and highly available enterprise architecture critical to current operations and future growth?
Having highly available and scalable enterprise architecture is critical to current operations and future growth because these characteristics allow for a more efficient, responsive, and less expensive IT systems. Utilizing efficient information architecture can lower operational cost, improve standardization, and make it easier to implement new systems. As to future growth, without accessibility it is more difficult for organizations to generate increased demand, and without scalability it becomes more costly for organizations to expand and keep pace with a growth in demand.

4) Identify the need for information security at the Tribune Co.

The need for information security at the Tribune Co. is two fold. First, as a newspaper company, the Tribune collects highly sensitive information from its customers (i.e. billing information, home addresses). Second, like any other business, the Tribune likely has proprietary information relating to their finances, advertising deals, and other business partners that must remain confidential. While utilizing highly accessible IT systems to store and access this information allows the Tribune to operate more efficiently, it also leaves the information vulnerable to hackers. A system breach could lead to millions of dollars of lost revenue, and loss of their customer base.

Part 4:

1) Write a brief pro/con assessment of public sector adoption of cloud computing services

There are many potential benefits that could stem from the adoption of cloud computing by the public sector. It would greatly reduce the cost of public services, improve the efficiency of government IT systems, and forever revolutionized the way that citizens interact, and supply information to the government. Additionally, it would also help the public sector catch up to the private sector in terms of technology, and go a long way to addressing the technology take up lag that the public sector is so often know for. The potential cons of adopting cloud computing are the initial cost and security. While cloud computing would producing savings in the long term, the initial investments needed to implement the system would be very expensive. Cloud computing systems also often lack adequate information security and leave information vulnerable to hackers.

2) Provide a technical description of IUanyWare as an implementation of virtualization.

IUanyware is a client virtualization system that allows students, faculty and staff to instantly access virtualizations of software applications such as GIS, SAS, Photoshop, and many more. Rather than downloading these programs to their personal
computers or devices, users may access these programs virtually via their web browsers. IUAnware has the capabilities to allow for broad network access, resource pooling, and instant access to date. IUanwayre also has the ability to quickly respond to changes in demand and reallocate bandwidth based on users needs, a characteristic known as resource pooling.

3) **What circumstances would be required for machine intelligence to be employed as part of public administration?** For example, an information system that issues administrative orders in the field of environmental law, or a system that is responsible for sanctions in relation to speeding or financial fraud.

One of the challenges to employing machine intelligence in public administration is the differing ways in which individuals interact with, and perceive technology. Societal norms and values greatly influence how individuals perceive technology. In the United States for example, films and books often promote an image that associates increased machine intelligence in the public sector with increased governmental oppression. In order to allow for increase integration of machine intelligence there must first be more technical literacy. Much of the confusion and distrust associated with intelligent machines stems from a lack of understanding of how these systems operate. On the technical side, these machines would need to be able to past the Turing test. If the responsibility of administrating environmental permits, for example, were to be handed over completely to machines, than these machines must be able to perform at the same level of person. For this to occur the functions, rules, and processes that are currently performed by people would have to be translated into algorithms. Algorithms are the sets of rules that allow a machine to appear as though it can think.