**PUSL2010 Discussion & Conclusion**

By the provided scenario, the supermarket chain consists of a process that flows almost 24/7. This system must monitor the current activities of the chain flow and identify some of the goods running low on quantity. The head office administrative that operate the system for managing the supermarket chain must monitor the activity of the online users making purchase via their online store. This is check for any suspicious activity. Also, the physical activities like the transporting of goods, store goods quantity is monitored by the head office with the use of IoT and GPS tracking systems. All the data that is transmitted from the devices must be stored is central location for the head officer to access.

* + Option 1: I am proposing that the company responsible for this supermarket chain should implement a private cloud solution and store all their relevant information here. Head office administrative will monitor the activity by accessing the private cloud.
  + Option 2: There is another option where they could use a hybrid solution, where their employee information and user details from the inline store are stored in a in-house server whereas the other information like data on the location tracking of the transport fleet is store in a private cloud.
  + Benefits of Option 1:
    - Less costs for operating physical equipment and more resources can be accessed.
    - There is no need for additionally skilled employees to handle the physical servers.
    - All the data is easily accessible for the authorized user as everything is available in one place.
  + Drawbacks of Option 1:
    - Third party entity, cloud servicer provider is involved into the process.
    - Cloud service is accessed via the internet. With means that hackers could involve in security risks and threats.
  + Benefits of Option 2:
    - The company’s employee information is safely stored within the company premises.
    - This information is blocked from the outside world as a local area network would be used access this data no internet is involved. Hackers cannot access this data or send security threats like distributed denial of service attacks.
  + Drawbacks of Option 2:
    - Company data is stored in two physical places, meaning that the company should manage both.
    - Must obtain and maintain the physical servers and these servers will requires power and proper cooling which can costly.
    - Additional skilled workers are required to operate and maintain the physical servers.

Best Option –

Due to the fact that this company requires a central location to gather and store data from the supply chain, option 1 – using a private cloud, would be the best solution when comparing the various benefits and drawbacks of both options. It does require a dedicated network connectivity to access the data and there is a vulnerability of security threats from hackers. But if the supermarket chain company selects a cloud service provider that is surrounded by a trustworthy antivirus security protection like Amazon Web Services the security factor would be resolved.

Secure cloud service providers have powerful antivirus guards built in, software and hardware firewalls to track the activity of the incoming and outgoing data packets, IDS (Intrusion Detection System) and IPS (Intrusion Prevention System) to monitor any suspicious activity in the network. If the cloud service providers is certified for security protection and obtains a great reputation as a cloud service provider, the option 1 is the best solution this supermarket chain company could select.