

# APPLICATION OF IT IN THE LOGISTICS INDUSTRY

**ITAccountants Association**

**Sammy So**

# Challenges to the Industry

- Competitive market
- High cost of operation
- Lack of global data standard
- Lack of effective management tools



# Some useful technologies

1. CLOUD Computing
2. Remote Access Technologies
3. Logistics ERP Applications
4. Electronic Data Interchange (EDI)



# 1. CLOUD Computing



## Application



Monitoring



Content



Collaboration



Communication



Finance

## Platform



Object Storage



Identity



Runtime



Queue



Database

## Infrastructure



Compute



Block Storage



Network



The use of computing resources (hardware and software) that are delivered as a service over a network (typically the Internet)

*Source : Wikipedia*

# 1. CLOUD Computing

## FEATURES

- Highly fault tolerant
- Load balancing with high computing performance
- Can be accessed anytime / anywhere
- Can be accessed through a web browser, a desktop applications or mobile apps
- Environmental friendly

# 1. CLOUD Computing

## SERVICE MODELS

- ⦿ Infrastructure as a service (IaaS)
- ⦿ Platform as a service (PaaS)
- ⦿ Software as a service (SaaS)

# 1. CLOUD Computing

## DRAWBACKS

- Deployment of private CLOUD can be expensive
- For hosted CLOUD solution, data are stored on the CLOUD provider's data center / server

# 2. Remote Access Technologies

- Virtual Private Network (VPN)
- Remote Control Software
- Web Applications



# 2. Remote Access Technologies

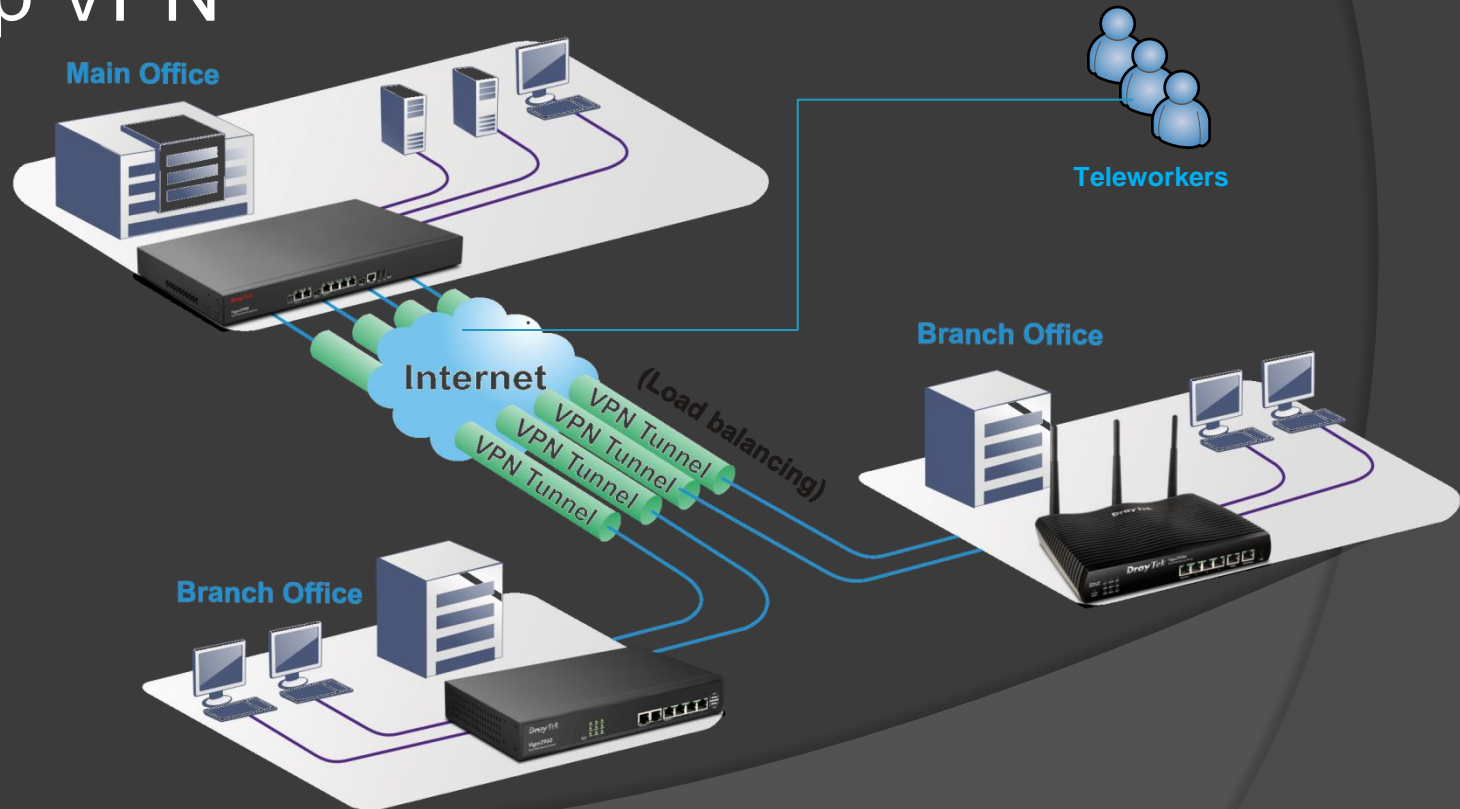
## WHAT IS A VPN?

- Extend a private network and the resources contained in the network across public networks like the Internet
- Enable equipment to send and receive data across shared or public networks as if it were a private network
- All data are encrypted for security reasons
- IT transit

# 2. Remote Access Technologies

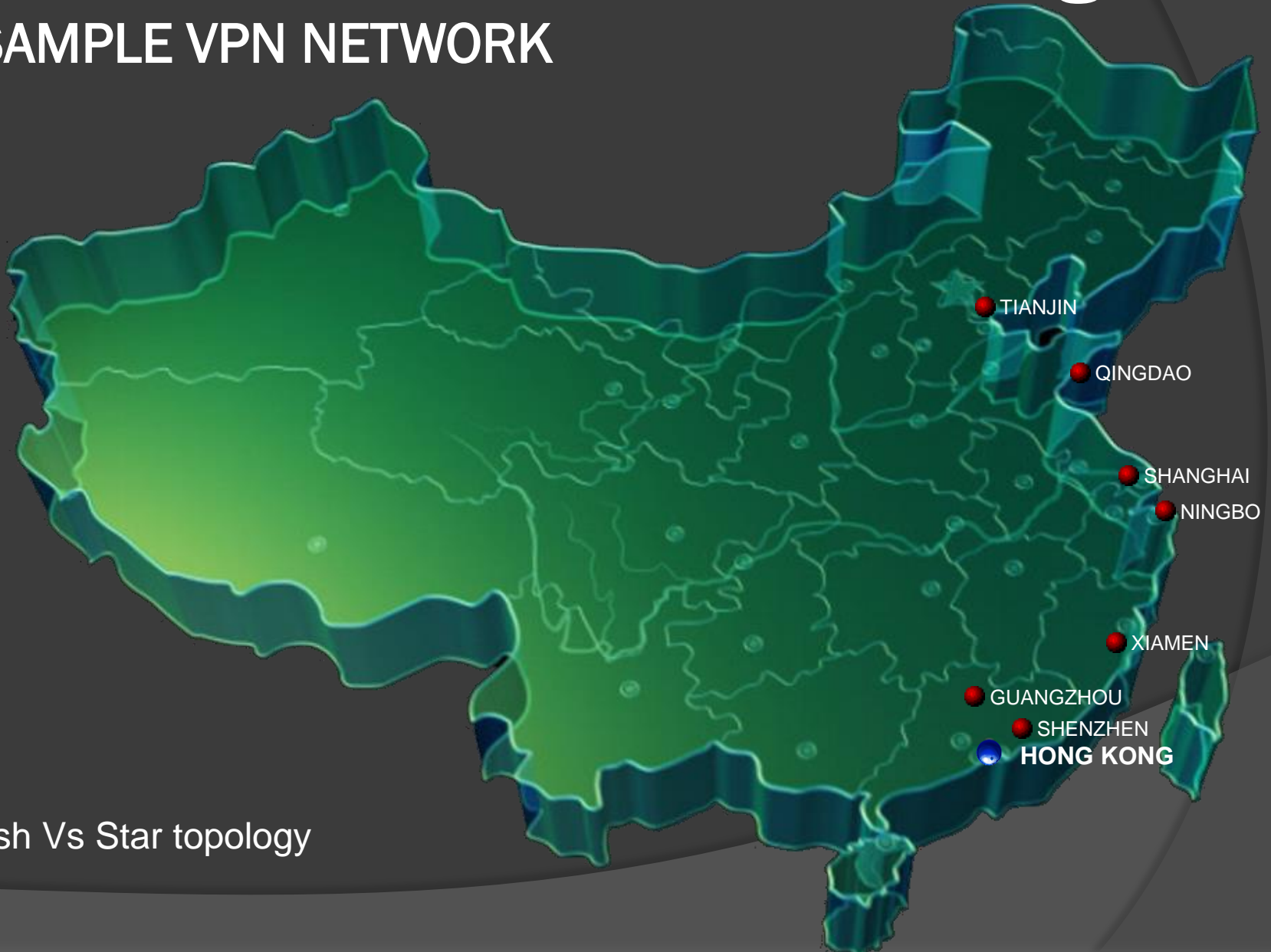
## VPN TYPES

- Site to site VPN
- Dial up VPN



# 2. Remote Access Technologies

## SAMPLE VPN NETWORK



Mesh Vs Star topology

# 2. Remote Access Technologies

## REMOTE CONTROL SOFTWARE

- Remote Desktop Protocol (RDP)
- Remote Web Workplace (RWW)
- Virtual Network Computing (VNC)

# 2. Remote Access Technologies

## WEB APPLICATIONS

- Same interface for all client equipment
- No need to install as nearly all IT equipment are now already equipped with web browsers
- HTML5 support for the latest multimedia while keeping it easily readable by humans and consistently understood by computers and devices
- Secure web applications (HTTPS)

# 3. Logistics ERP Applications

## SOME EXAMPLES

- Freight Management System
- Fleet Management System
- Feeder Management System
- Equipment Control System
- Warehouse & 3PL

# 3. Logistics ERP Applications

## FEATURES

- CLOUD based with multiple site management
- Integrated system with the following modules
  - Customer Relationship Management
  - Operation Management
  - Financial Accounting Management
- Other ERP modules examples
  - Document Management
  - Business Intelligence

# 3. Logistics ERP Applications

## MULTIPLE SITE MANAGEMENT

- Make use of features CLOUD
- Reduce the cost of investment and ownership
- Flexible to deploy and manage
- Uniform interface for all regional offices
- Same corporate data standards
- Easier for future data mining & analysis (e.g. consolidated reports)



# 3. Logistics ERP Applications

## CUSTOMER RELATIONSHIP MANAGEMENT

- ③ Sales & quotation management
- ③ Data analysis & forecasting
- ③ Extranet for customer
  - Shipping orders, load list, cargo tracking & tracing, inventory management, PO management, delivery instructions
  - Invoices & payment records
  - Customer data analysis
  - Electronic Data Interchange (EDI)

# 3. Logistics ERP Applications

## OPERATIONS MANAGEMENT

- Varies for different ERP systems, business nature dependent
- May consist of air freight management, sea freight management, feeder management, fleet management, warehouse management etc.
- Invoice issuance
- Need to integrate with other ERP modules

# 3. Logistics ERP Applications

## FINANCIAL ACCOUNTING MANAGEMENT

- ⦿ Integrate with other ERP modules
- ⦿ Automate & simplify business processes
- ⦿ Financial analysis
  - Balance sheet
  - Profit & loss reports
  - Aging reports
  - Cash flow analysis
  - Financial forecasting

# 3. Logistics ERP Applications

## DOCUMENT MANAGEMENT

- Stores scanned images of Master B/L, commercial invoices, import & export license, custom documents, cheque copies etc.
- Search and retrieve large amount of files quickly and easily and in a systematic way

# 3. Logistics ERP Applications

## BUSINESS INTELLIGENCE

- Obtain real time information from a large pool of data
- Help management better understand their business
- Help management make sensible decision
- Business forecasting & analysis

# 3. Logistics ERP Applications

## ENVIRONMENT FRIENDLINESS

- Single server cluster significantly reduces power consumption
- Use electronic documents instead of paper (e.g. PDF, XML)
- No installation is required at the branch offices and minimize travel



# 3. Logistics ERP Applications

## SECURITY MEASURES

- ⦿ All the communications between the head office and the branch offices are confined within the corporate Virtual Private Network
- ⦿ A dial up VPN service is deployed for mobile users (SSTP / PPTP / SSL)
- ⦿ Encryption is required between the CLOUD and the end users (e.g. https for web applications)
- ⦿ IP restriction to allow only authorized access
- ⦿ Application level user access control
- ⦿ User logs

# 3. Logistics ERP Applications

## SERVICE AVAILABILITY

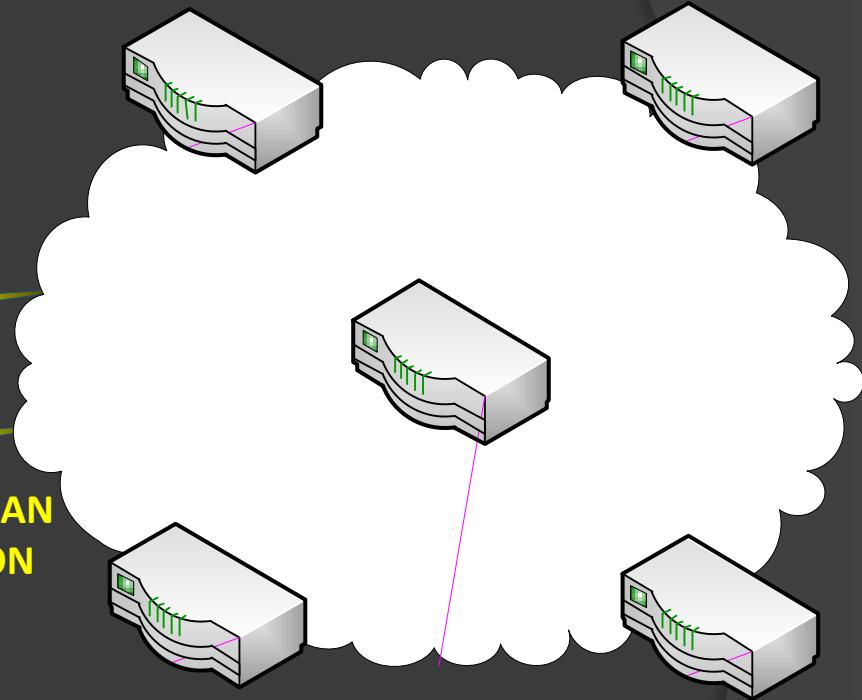


**DATABASE SERVER  
WITH RAID & HOT SPARE  
HARD DRIVES**



**WEB SERVER  
CLUSTER**

**MULTIPLE WAN  
CONNECTION**



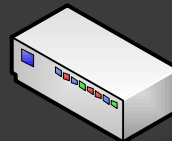
**FAULT TOLERANT DYNAMIC  
ROUTING VPN NETWORK**



**UNINTERRUPTED  
POWER SUPPLY**



**REMOTE BACKUP  
SERVER**



**ONLINE AND OFFLINE  
BACKUP DEVICES**



# 4. Electronic Data Interchange

## HIGHLIGHTS

- Through electronic files such as XML (relational, preferred) or Microsoft Excel (flat structure)
- Can be fully automated through web services (machine to machine) or through human
- Minimize human processes and hence possible errors

# 4. Electronic Data Interchange

## EXAMPLES

- Integrate with other parties such as customer (e.g. shipping reports, cargo movement records), business partners (e.g. pre-advices, ISAC) & government (e.g. custom clearance)
- Integrate with approved accounting systems in China (e.g. FlexAccount, Kingdee etc.) for tax purpose

# Thank you

For further information and enquiries, please contact:



## **ITAccountants Association**

- Email : [info@itaccountants.prg](mailto:info@itaccountants.prg)
- Url : [www.itaccountants.org](http://www.itaccountants.org)