APPLICATION OF IT IN THE LOGISTICS INDUSTRY
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

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

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

- Sales & quotation management
- Data analysis & forecasting
- 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
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-advises, 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:

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