



# **Security, Scalability and Reliability in the Cloud**



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# Big Data and the Supply Chain

Data and the supply chain will both be increasingly important

# Big Data and the Supply Chain

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**Fusing Big Data and the Supply Chain: The Future is NOW**

By Jim Taylor 36

**Tags:** Logistics I.T., Transportation Management, Transportation

Only 8% of shippers and 5% of 3PLs surveyed have implemented Big Data initiatives involving the supply chain, according to the 2014 18th Annual Third-Party Logistics Study produced by Dr. C. John Lavelle and Capgemini Consulting

WHAT THE PAN... IS CO

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# Big Data

Big Data is a buzzword often used these days, but is data that has variety, volume and velocity.

It is increasingly important in Supply Chains

# Big Data and the Supply Chain

The scale, scope and depth of data supply chains are generating today is accelerating, providing ample data sets to drive **contextual intelligence**.

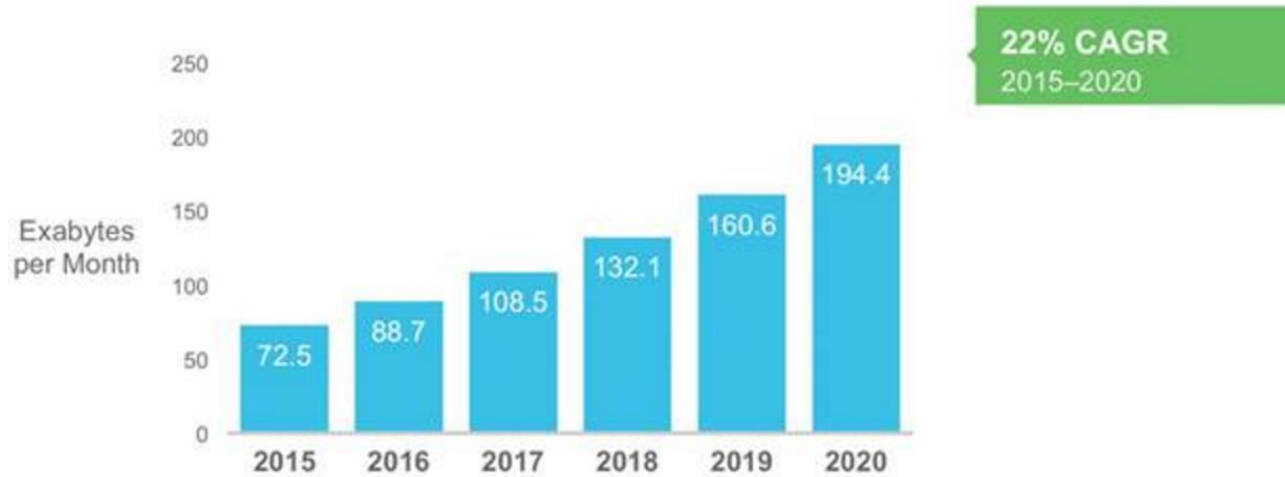
# Big Data and the Supply Chain

Enabling more complex supplier networks that focus on **knowledge sharing and collaboration** as the value-add over just completing transactions.



# Data Scalability

Figure 1. Cisco VNI Forecasts 194 EB per Month of IP Traffic by 2020



1EB =

$10^3$ PB =

$10^6$ TB

Source: Cisco VNI Global IP Traffic Forecast, 2015–2020

# Data Scalability

Is it possible/efficient for companies to keep growing their local storage?

Do companies have a need for elastic storage, processing and bandwidth?



# **Are Cloud Services Scalable?**

Undoubtedly

# Data Reliability

Having reliable data can be interpreted as having data replication or computation replication (generally in space rather than time)

# Are Cloud Services Reliable?

Much more likely and cost effective than companies using local models to ensure their own data is reliable

# What is Cyber Security?

We will restrict attention to

Confidentiality

Integrity

Availability

# **What is the cost of Information (Cyber) Security?**

# What is the cost of Information (Cyber) Security?

Intrusion detection

Server management

AV tools

Authentication services

# **What is the cost of Information (Cyber) Security?**

Upskilling and training

Threat monitoring

Vulnerability scanning





# Can we eliminate security risk?



# Risk Management Strategies

- ▶ Risk is commonly defined as the combination of the likelihood or probability of an event occurring and its impact or consequence. The classical model for risk can be defined as:

$$\text{Risk} = \text{Likelihood} * \text{Impact}$$


# Risk Management Strategies

- ▶ **Avoid.** Action planned so no impact on the project or probability of occurrence is zero.
- ▶ **Reduce.** Reduce probability of risk occurring or the impact of the event should it occur.
- ▶ **Contingency.** Action is planned but only implemented should risk occur.



# Risk Management Strategies

- ▶ **Transfer.** Reduce financial impact of threat (insurance or clauses in contract.)
- ▶ **Accept.** Take no action. Chosen because risk has low probability and/or low impact. Also if cost of action exceeds impact.



# Are Cloud Services Secure?

🏠 > Technology

## Ministry of Defence switches to the cloud as Microsoft opens first UK data centres



# Conclusions

- Cloud services, whether private, public or hybrid are clearly important now and in the future
- How you manage *your* assets is a decision for the business, but cloud will definitely be a part of the solution