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*50 Years of Growth, Innovation and Leadership*

# How Cloud Computing can Reduce Supply Chain Risks:

The Factors that are Driving Uptake of Cloud Solutions in the Manufacturing and Logistics Sectors

A  
White Paper by  
Frost & Sullivan

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## CONTENTS

<b>Executive Summary</b> .....	<b>3</b>
<b>The Take-up of Cloud Computing in Asia Pacific</b> .....	<b>4</b>
<i>Current usage of cloud computing</i> .....	<i>4</i>
<b>What Benefits does Cloud Computing Offer, Especially for ERP Users?</b> .....	<b>6</b>
<i>The perceived benefits of cloud computing</i> .....	<i>6</i>
<i>Concerns over cloud adoption</i> .....	<i>7</i>
<b>The Importance of ERP solutions in the Supply Chain</b> .....	<b>8</b>
<i>Asia Pacific a key global supply chain hub</i> .....	<i>8</i>
<i>The growth of lean manufacturing</i> .....	<i>9</i>
<i>Disruptions caused by external events</i> .....	<i>10</i>
<i>The impact of natural disasters on IT operations</i> .....	<i>11</i>
<i>The uptake of cloud-based ERP solutions</i> .....	<i>13</i>
<b>The Last Word</b> .....	<b>16</b>

## EXECUTIVE SUMMARY

Usage of cloud computing by businesses in the Asia Pacific region is becoming increasingly common. Cloud computing offers a number of well-known benefits including greater flexibility, scalability and lower IT costs. However a less-recognised benefit of cloud computing is the greater reliability that it can offer, particularly to a business that faces disruptions to its operations from external factors such as natural disasters. The past two years have seen a number of significant external events that have caused major disruptions to businesses, including the Christchurch earthquake in New Zealand in 2011, the Japanese tsunami in March 2011 and major floods in Thailand and Australia in 2010 and 2011. The business impact of these events has been extremely significant. The development of lean manufacturing and complex global supply chains have left businesses in the Asia Pacific region increasingly exposed to disruptions caused by natural disasters. This disruption not only impacts physical locations such as factories and warehouses but also IT systems. The key reason why IT disruptions impact supply chains is because of the critical role IT plays in supply chain management, and especially the role that ERP systems play in managing lean manufacturing.

Data in this whitepaper is based on an in-depth survey undertaken with a representative sample of 167 IT decision makers in March 2012, representing companies based in Australia, New Zealand, Hong Kong, Singapore and The Philippines. Respondents are from businesses operating in the Logistics, Distribution and Manufacturing industries. Overall some 26% of all organisations have experienced disruptions to their regional IT operations as a result of natural disasters over the past two years. In many cases the impact caused by natural disasters has been significant. 12% of all organisations rate their level of disruption as very critical, while for 58% it is somewhat critical.

65% of all organisations believe that if they had accessed IT applications via the cloud, the impact of these disruption(s) would have been lower. Hence the ability of cloud solutions to mitigate the risk of IT disruptions from external factors such as natural disasters is increasingly becoming recognised by IT decision makers in the region.

Over one third of organisations with an ERP application currently access it at least partly via the cloud (19% have a cloud-only solution and 16% have a combination of cloud and on-premises). The benefits of cloud-based ERP solutions are becoming better understood. Indeed, over 60% of organizations with on-premises ERP solutions plan to migrate this application to the cloud over the next 3 years.

The benefits that can be achieved by cloud based solutions for organisations that work across different locations are significant. 40% of organisations believe that cloud based solutions can more easily enable the setting up of multiple subsidiaries in different locations and currencies, and 30% of organisations believe that cloud based solutions enable better support of a decentralised business, spanning multiple locations.

Cloud is now widely adopted by companies throughout APAC, although there is still significant room for growth. However, take-up is likely to be stimulated by increasing recognition of the degree to which cloud computing can reduce supply chain risks, and this is increasingly becoming recognised as a major benefit of cloud based solutions.

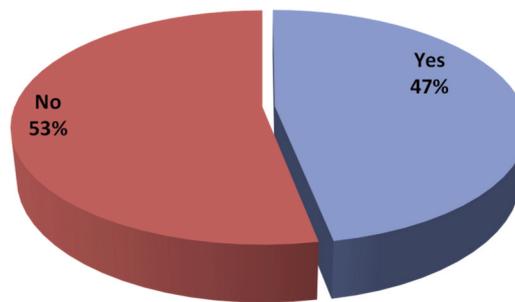
## THE TAKE-UP OF CLOUD COMPUTING IN ASIA PACIFIC

### Current usage of cloud computing

47% of organisations across Australia, NZ, Singapore and Hong Kong in the logistics, distribution and manufacturing industries are using cloud-based software or applications. Larger companies (over 200 employees) have higher levels of cloud adoption (63% vs 45%) than small to mid-size companies. There is still significant potential for adoption however. In particular companies in natural disaster prone areas like New Zealand could significantly reduce potential IT disruptions by deploying cloud-based solutions. Currently only 34% of NZ-based companies in these industries have deployed cloud-based solutions.

**Figure 1 – Current usage of Cloud Based Solutions**

Do you currently use any Cloud-based software or applications within your organization?



Source: Frost & Sullivan, APAC survey of 167 companies, in Logistics, Distribution & Manufacturing verticals

**Table 1 – Current usage of Cloud Based Solutions – by Country**

Do you currently use any Cloud-based software or applications within your organization?				
	Australia	New Zealand	Hong Kong	Singapore
<b>Yes</b>	44%	34%	50%	61%
<b>No</b>	56%	66%	50%	39%
<b>Total</b>	100%	100%	100%	100%

Source: Frost & Sullivan, APAC survey of 167 companies, in Logistics, Distribution & Manufacturing verticals

There is some variation in the take-up of cloud based solutions amongst the companies in the region. New Zealand had the lowest current adoption rate at 34% of organizations, reflecting a relatively immature market, while Singapore had the highest penetration at 61%. The higher take-up in Singapore may be influenced by the favourable taxation regime which allows companies to claim a tax credit for their cloud computing expenditure, within certain categories such as the acquisition or leasing of technological equipment, training expenditure, the acquisition and registration of intellectual property rights, actual costs of research and development, and costs incurred in the creation of new products and industrial designs.

Expenditure on cloud-based software/applications is expected to increase significantly over the next 12 months, with over 80% of businesses planning to increase their expenditure on cloud software or applications over the next 12 months, and 16% planning to increase their budget by over 20%.

**Table 2 – Anticipated Change in Cloud Expenditure**

<b>How do you anticipate your expenditure on Cloud software or applications will change over the next 12 months?</b>	
Decrease	6%
Remain the same	13%
Increase by <5%	20%
Increase by 5% to <10%	22%
Increase by 10% to <20%	21%
Increase by 20% to <30%	8%
Increase by 30% to <50%	3%
Increase by more than 50%	5%
Don't Know / Unaware at this stage	2%
<b>Greater than 10%</b>	<b>59%</b>
<b>Greater than 20%</b>	<b>16%</b>

Source: Frost & Sullivan, APAC survey of 167 companies, in Logistics, Distribution & Manufacturing verticals

The cost savings that organisations have gained by using cloud based solutions has been significant. 52% of all organisations have achieved cost savings of 10% or greater, whilst 26% of organisations have achieved cost savings of 20% or more. Large organisations (>200 employees) have generally achieved higher cost savings than small to mid-sized organisations (1 – 100 employees): 62% of organisations have achieved cost savings of at least 10%, compared to 43% for SMEs.

**Table 3 – Cost Savings Experienced via Cloud Usage**

<b>What cost savings in your IT budget have you experienced via using Cloud based solutions compared to on-premises solutions?</b>	
None	3%
0 - <5%	14%
5% to <10%	27%
10% to <20%	26%
20% to <30%	21%
30% to <50%	7%
more than 50%	5%
Don't Know / Unaware at this stage	5%
<b>Greater than 10%</b>	<b>52%</b>
<b>Greater than 20%</b>	<b>26%</b>

Source: Frost & Sullivan, APAC survey of 167 companies, in Logistics, Distribution & Manufacturing verticals

Storage is the most popular application currently accessed via the cloud. 60% of organisations that currently use cloud based solutions access storage via the cloud. Web Security (58%), Custom Applications (55%) and Server Computing (55%) are other popular applications. ERP (37%) is further down the list, although cloud based ERP solutions are used by over one third of companies that adopt cloud computing. The application that is most likely to migrate to the cloud in the next 12 months is email.

**Table 4 – Software or Applications Accessed via the Cloud**

<b>Which of the following software or applications does your organization currently access via the cloud, or plan to access via the cloud?</b>				
	Don't Have / Not Sure	Currently accessed via Cloud	Likely to migrate in next 12 months	Unlikely to migrate in next 3 years
Storage	9%	60%	26%	5%
Web Security	12%	58%	20%	10%
Custom Application	21%	55%	21%	3%
Server Computing	14%	55%	23%	8%
Email	6%	52%	38%	3%
Email Security	15%	49%	28%	8%
Deskstop	15%	48%	23%	14%
HRM	17%	43%	24%	17%
Conferencing	19%	43%	26%	14%
Office Productivity Suite	20%	42%	28%	12%
ERP	20%	37%	30%	13%
CRM	23%	36%	28%	13%

*Source: Frost & Sullivan, APAC survey of 167 companies, in Logistics, Distribution & Manufacturing verticals*

**WHAT BENEFITS DOES CLOUD COMPUTING OFFER, ESPECIALLY FOR ERP USERS?**

**The perceived benefits of cloud computing**

Cloud computing offers a flexible and scalable IT environment in which service providers leverage virtualization technologies to create and distribute computing resources to customers on an as-needed basis through a private or public network, and where the pricing is on a utility basis (pay-as-you-use). This model offers a number of advantages to the software user, such as rapid scalability and a “utility” based payment approach whereby users pay only for the resources consumed. Such tools can also help businesses to deploy Software as a Service (SaaS) solutions quickly and easily across multiple countries and currencies, without significant cost or complexity.

Of organisations that currently use cloud based solutions, the benefit mentioned most frequently is that it can be rapidly deployed and upgraded, indicated by 50%

of all organisations. However, the second most common benefit of cloud is that it reduces the risk of IT disruptions from external factors such as natural disasters. This is increasingly becoming recognised as a major benefit of cloud based solutions, particularly given the impact on business operations of natural disasters, and the ability of cloud based solutions to reduce this risk.

The benefits that can be achieved by cloud base solutions in operating globally across different locations also rate very highly:

- 40% of all organisations believe cloud based solutions can more easily enable the setting up of multiple subsidiaries in different locations and currencies.
- 30% believe that cloud based solutions enable better support of a decentralised business spanning multiple locations.

**Table 5 – Benefits of SaaS Cloud Solutions vs On-Premises Solutions**

<b>What advantages / benefits do you believe Software as a Service (SaaS) Cloud solutions offer over on-premises software?</b>	
Can be rapidly deployed and upgraded	50%
Reduced risk of IT disruptions from external factors such as natural disasters	45%
Enables accessibility via mobile devices (smartphone, tablet)	42%
Can easily set up multiple subsidiaries in different locations and currencies	40%
Seamless integration with in-house infrastructure.	38%
Can more easily keep up with regulatory changes	37%
More predictable monthly expenditure / lower overall costs (shift from CAPEX to OPEX)	31%
Enables better support of a decentralized business spanning multiple locations	30%
Can reallocate IT budget from maintenance to enable innovation	29%
Single integrated suite doing away with the need to integrate disparate systems	28%
Enables better collaboration with suppliers, customers and channels	24%
Lack of long term commitments	21%
I do not believe there are any benefits	0%

*Source: Frost & Sullivan, APAC survey of 167 companies, in Logistics, Distribution & Manufacturing verticals*

The ability to access applications via mobile devices such as smartphones and tablets, and access and update data in real-time is also seen as a key advantage of cloud-based solutions.

### **Concerns over cloud adoption**

Privacy and security concerns (55%) and data handling issues such as migration, recovery and archival (43%) are the two highest ranking concerns amongst organisations that use cloud based solutions. High latency issues are much more of a concern amongst larger organisations (54% vs 15% for SMEs), as are reliability issues (38% vs 17% for SMEs).

**Table 6 – Disadvantages of SaaS Cloud Solutions vs On-Premises Solutions**

<b>What disadvantages do you believe Software as a Service (SaaS) Cloud solutions offer over on-premise software?</b>	
Privacy and security concerns	55%
Data handling issues such as migration, recovery and archival	43%
High latency issues	33%
Inability to track location of data in the cloud	29%
Reliability issues	27%
Other – please specify	1%
I don't believe there are any disadvantages	5%

*Source: Frost & Sullivan, APAC survey of 167 companies, in Logistics, Distribution & Manufacturing verticals*

**THE IMPORTANCE OF ERP SOLUTIONS IN THE SUPPLY CHAIN**

**Asia Pacific a key global supply chain hub**

With manufacturing operations increasingly moving to lower-cost locations such as China, the Asia Pacific region has become the key hub in the global supply chain. As multi-national corporations have increasingly located manufacturing operations in this region, the Asia Pacific logistics market is growing at a significant rate. We estimate that the Asia Pacific transportation and logistics market will grow at a compound annual growth rate of over 7% from 2011-2016, to reach over \$4 trillion by 2016<sup>1</sup>. This growth is driven by the increasing globalisation of manufacturing operations, requiring raw materials, components and finished goods to be increasingly transported globally, as well as by an increased tendency to outsource logistics to specialist service providers. Logistics end-users are becoming much more sophisticated and demand more from their service providers. Customers want more visibility in the supply chain from their logistics service providers to optimize inventory, improve forecasting, increase communication and establish smoother supply chains. This is requiring logistics service providers to make significant investments in the IT infrastructure that they use to manage their business operations.

The table below highlights the importance of the manufacturing sector in the countries covered in this document. Even in relatively high-cost economies such as Australia, New Zealand and Singapore, Japan and Korea, manufacturing remains an important contributor to national economies:

<sup>1</sup> Frost & Sullivan logistics research

**Table 7 - Manufacturing Industry by Country, Asia Pacific**

Country	Manufacturing as a Proportion of GDP	Manufacturing Employment	Manufacturing as a Percentage of Total Employment	Main Manufacturing Sectors
The Philippines	15.4%	3.1 million	8.3%	<ul style="list-style-type: none"> <li>• Semiconductors and electronics</li> <li>• IT equipment</li> </ul>
Singapore	19.5%	0.42 million	14.6%	<ul style="list-style-type: none"> <li>• Computer, electronic and optical products</li> <li>• Chemicals</li> </ul>
Hong Kong	2%	0.12 million	3%	<ul style="list-style-type: none"> <li>• Metal products, machinery and equipment</li> </ul>
Australia	8.4%	0.94 million	8.4%	<ul style="list-style-type: none"> <li>• Food &amp; Beverage</li> <li>• Machinery &amp; equipment manufacturing</li> </ul>
New Zealand	11.9%	0.25 million	11.5%	<ul style="list-style-type: none"> <li>• Food &amp; Beverage</li> </ul>

Sources: Philippines National Statistical Office, Statistics Singapore, Census and Statistics Department Hong Kong, Australian Bureau of Statistics, Statistics New Zealand

### The growth of lean manufacturing

One of the critical factors in maintaining the relative competitiveness of manufacturing in higher-cost economies has been the introduction of more efficient manufacturing techniques, often based around the practice of Lean Manufacturing<sup>2</sup>. To support lean manufacturing, many manufacturers utilise enterprise resource planning (ERP) solutions. ERP is a comprehensive computer based operations management system which links all operational information systems of a business through specific applications and a shared database system which allows the sharing of information between applications to simplify many administrative tasks; from procurement and production scheduling to inventory, management accounting, sales and supply chain<sup>3</sup>.

However, whilst lean manufacturing and the ERP systems supporting it enable an increase in manufacturing efficiency, they also increase supply chain risks. With minimal inventories, manufacturing units are vulnerable to any disruption in supply chains, for example those caused by external factors such as earthquakes or floods. As well as disruptions to the physical transportation of goods, any disruption to the ERP system or other IT infrastructure that supports the manufacturing process can have significant impacts on production. The modern day supply chain has decentralized manufacturing; allowing large manufacturers to develop a multinational network of specialists to supply them with parts and to make sure those components arrived at assembly plants at the moment they were needed, resulting in a much more efficient production process. Natural disasters have exposed the fragility of this ecosystem – just one breakdown somewhere in the supply chain can have knock on effects all the way down the line.

<sup>2</sup> Lean Manufacturing or Lean is a manufacturing term used to describe a manufacturing, industrial or service operation which operates with little or no type of waste, thus making the operation very efficient and only consisting of value adding steps from start to finish

<sup>3</sup> Leanmanufacture.net

Hence, for manufacturers using the lean approach their business has become increasingly vulnerable to disruptions to their IT infrastructure.

### **Disruptions caused by external events**

Over recent months and years, we have seen a significant number of external events that have negatively impacted on supply chains and manufacturing production in the Asia Pacific region. These have included significant disasters such as the major earthquake and tsunami in Japan in March 2011, the Christchurch earthquake in New Zealand in February 2011, major flooding in Australia in the summers of 2011 and 2012, and major floods in Thailand in October and November 2011. Some examples of the impact that these events have had on manufacturing and supply chains are given below.

The automotive supply chains, especially for Japanese OEMs Toyota and Honda, were severely impacted by the Japanese earthquake and tsunami. Parts supplies severely constrained for several months, and production and sales dropped significantly, causing Toyota to lose its position as top global car producer in 2011. It shut down dozens of contractors and subcontractors that supply everything from glass to test parts. Also, a number of manufacturers suffered from supply chain disruptions caused by shortages of chemicals that represented a small but still vital component of their manufacturing processes. As those suppliers lost production capabilities, in some cases for months, manufacturers globally were forced to search for other sources or to find alternative materials.<sup>4</sup>

The floods in Thailand also impacted global supply capabilities in a number of high tech sectors, in particular the disk drive industry, which is concentrated in Thailand. This industry came to a near shut down for a number of weeks. For example, Intel claims it lost around US\$1 billion in Q4 2011 sales because computer OEMs were not buying its chips as they were unable to source the hard drives needed to make new computers. Other specialty manufacturing segments, such as the production of aircraft tires, were also severely impacted by the Thai flooding.<sup>5</sup> Computer hard-drive maker Seagate, which operates two factories in Thailand, predicts disruptions to its customers throughout 2012, and estimates that the industry will not be back to normal until 2013.<sup>6</sup> More than half of Allianz's insurance losses from the Japanese disaster were the result of business and supply chain disruptions.<sup>7</sup>

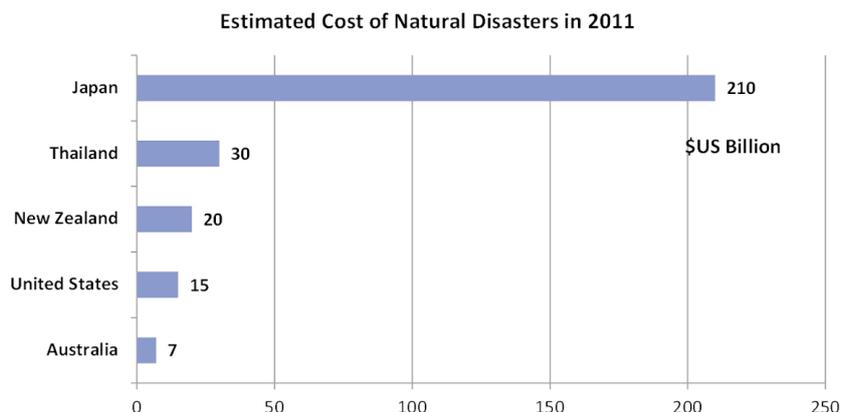
Global insurer Munich Re estimates the economic cost of the earthquake and tsunami in Japan at \$210 billion for the first nine months of 2011, while Thailand's insurance commissioner estimates around \$30 billion in losses from flooding up to December 2011. In total, the economic cost of natural disasters in 2011 is estimated to be almost \$300 billion.

<sup>4</sup> Supply Chain News: Did Major Supply Chain Disruptions from Natural Disasters in 2011 Really Change Approach to Supply Chain Risk Management?, Jan 19, 2012

<sup>5</sup> Supply Chain News, 'Did Major Supply Chain Disruptions from Natural Disasters in 2011 Really Change Approach to Supply Chain Risk Management?', Jan 19, 2012

<sup>6</sup> Fortune Tech, 'The global supply chain: So very fragile', Dec 12, 2011

<sup>7</sup> Resinsuranceonline.com, 'Supply chain risks demand transparency says Allianz', Mar 6 2012

**Figure 2 – Estimated Cost of Natural Disasters by Country in 2011**

*Source: Munich Re, Thailand Insurance Commission, 2011*

Unlike previous natural disasters, the 2011 earthquake in eastern Japan appears to have brought about a permanent change in how businesses regard supply chain risk. According to a UK survey by the Business Continuity Institute (BCI), 82% of companies whose supply chains were affected by the earthquake, or by the February 2011 earthquake in Christchurch, New Zealand, said they would change their supply chain policies as a result.<sup>8</sup>

#### **The impact of natural disasters on IT operations**

26% of all organisations based in Australia, New Zealand, Hong Kong, Singapore and the Philippines have experienced disruptions to their regional IT operations as a result of natural disasters over the past two years. New Zealand organisations have the highest incidence of disruptions as a result of the Christchurch earthquakes, whilst Australia had the lowest rate of disruptions. About a quarter of organisations based in Singapore, Hong Kong and The Philippines have experienced disruptions, often to their overseas operations in countries such as Thailand and Japan.

<sup>8</sup> [www.risk.net](http://www.risk.net), 'Japan earthquake produced 'cultural change' on supply chain risk', 15 Mar 2012

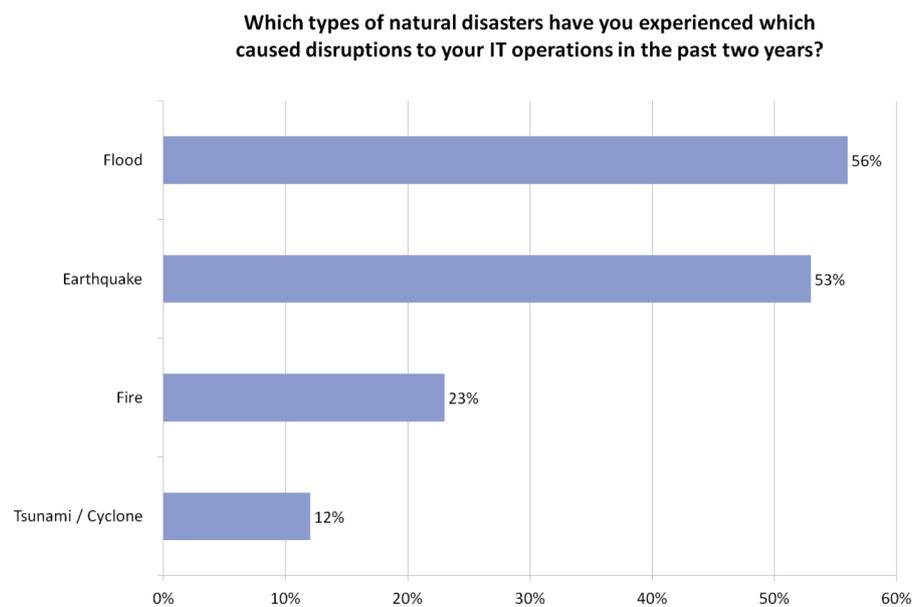
**Table 8 – Disruptions to IT Operations from Natural Disasters**

Has your organisation experienced any disruptions to your IT operations as a result of natural disasters such as earthquakes, floods or fires in the last two years?						
	Australia	New Zealand	Hong Kong	Singapore	Philippines	All Countries
<b>Yes</b>	19%	31%	27%	27%	24%	<b>26%</b>
<b>No</b>	81%	69%	70%	70%	67%	<b>71%</b>
<b>Unsure</b>	0%	0%	3%	3%	9%	<b>3%</b>
<b>Total</b>	100%	100%	100%	100%	100%	<b>100%</b>

Source: Frost & Sullivan, APAC survey of 167 companies, in Logistics, Distribution & Manufacturing verticals

Amongst companies that have experienced disruptions to their IT operations as a result of natural disasters in the last two years, earthquakes (53%) and floods (56%) are the two most common types of natural disasters experienced.

**Figure 3– Type of Natural Disasters Experienced**



Source: Frost & Sullivan, APAC survey of 167 companies, in Logistics, Distribution & Manufacturing verticals

In general, the impact caused of natural disasters on businesses across APAC has been significant. 12% of all organisations rate their level of disruption as very critical, while 58% rate it as somewhat critical. Only 30% of organisations indicate that the disruption(s) were not critical to their business.

**Table 9 – Level of Impact of Natural Disaster on Business**

How critical was the disruption caused by any natural disaster in terms of impact on the business?						
	Australia	New Zealand	Hong Kong	Singapore	Philippines	All Countries
<b>Not Critical</b>	14%	55%	12%	11%	50%	<b>30%</b>
<b>Somewhat critical</b>	57%	45%	88%	67%	38%	<b>58%</b>
<b>Very critical</b>	29%	0%	0%	22%	12%	<b>12%</b>

Source: Frost & Sullivan, APAC survey of 167 companies, in Logistics, Distribution & Manufacturing verticals

65% of all organisations believe that if they accessed IT applications via the cloud, the impact of their disruption(s) would have been lower. The ability of cloud solutions to mitigate the risk of IT disruptions from external factors such as natural disasters is increasingly becoming recognised as a major advantage of cloud based solutions

**Table 10 – Do Cloud Applications Reduce the Disruption of Natural Disasters?**

Do you believe if you had accessed more of your IT applications via the cloud that the impact of the disruption would have been lower?						
	Australia	New Zealand	Hong Kong	Singapore	Philippines	All Countries
<b>Yes</b>	43%	45%	88%	67%	88%	<b>65%</b>
<b>No</b>	14%	36%	12%	11%	0%	<b>16%</b>
<b>Unsure</b>	43%	18%	0%	22%	12%	<b>19%</b>

Source: Frost & Sullivan, APAC survey of 167 companies, in Logistics, Distribution & Manufacturing verticals

### The uptake of cloud-based ERP solutions

As mentioned above, ERP solutions are increasingly critical for enabling lean manufacturing. However, disruptions to on-premises ERP applications can have significant impacts on business operations. 54% of all organisations in the logistics, distribution and manufacturing industries across APAC currently have an ERP solution installed (69% for larger organisations vs 46% for SMEs).

**Table 11 – ERP Adoption**

Does your organisation currently have an Enterprise Resource Planning (ERP) solution?						
	Australia	New Zealand	Hong Kong	Singapore	Philippines	All Countries
<b>Yes</b>	47%	34%	53%	76%	64%	<b>54%</b>
<b>No</b>	47%	57%	47%	24%	18%	<b>39%</b>
<b>Unsure</b>	6%	9%	0%	0%	18%	<b>7%</b>

Source: Frost & Sullivan, APAC survey of 167 companies, in Logistics, Distribution & Manufacturing vertical

Over one third of organisations with an ERP application currently access it at least partly via the cloud (19% have a cloud-only solution and 16% have a combination of cloud and on-premises). Hence a significant proportion of organisations are still missing out on benefits that can be provided by cloud ERP based solutions, especially in relation to their ability to mitigate supply chain risks associated with natural disasters and other issues which companies have when operating across multi-locations and multiple countries.

**Table 12 – ERP – On-premises or Cloud?**

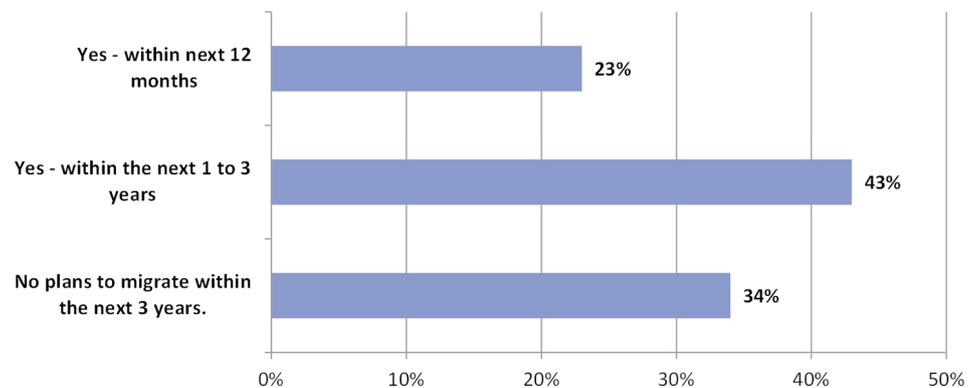
Is your ERP application hosted on-premises or accessed via the Cloud?						
	Australia	New Zealand	Hong Kong	Singapore	Philippines	All Countries
<b>On-premises</b>	59%	67%	75%	44%	29%	<b>52%</b>
<b>Cloud</b>	18%	25%	6%	24%	10%	<b>16%</b>
<b>Both</b>	6%	0%	19%	32%	9%	<b>19%</b>
<b>Not Sure</b>	18%	8%	0%	0%	100%	<b>13%</b>

Source: Frost & Sullivan, APAC survey of 167 companies, in Logistics, Distribution & Manufacturing verticals.

The benefits of cloud-based ERP solutions appear are becoming better understood. Indeed, over 60% of organizations with on-premises ERP solutions plan to move this application to the cloud over the next 3 years.

**Figure 4 – Plans to Migrate ERP to the Cloud**

Does your organisation plan to migrate your ERP application to the Cloud?



Source: Frost & Sullivan, APAC survey of 167 companies, in Logistics, Distribution & Manufacturing verticals

As well as the reduction in supply chain risk, location based criteria/concerns rank highly amongst the advantages perceived by companies with regards to cloud based solutions. 42% of companies that have ERP systems installed believe that ERP cloud-based software enables better support of a decentralized business spanning multiple locations, whilst 40% believe that it is easier set up multiple subsidiaries in different locations and currencies.

**Table 13 – Benefits of Cloud Based ERP Solutions vs On-Premises Solutions**

<b>What benefits / advantages do you believe Cloud based ERP solutions offer over on-premises software?</b>	
Enables accessibility via mobile devices (smartphone, tablet)	43%
Enables better support of a decentralized business spanning multiple locations	42%
Can easily set up multiple subsidiaries in different locations and currencies	40%
Can be rapidly deployed and upgraded	38%
Reduced risk of IT disruptions from external factors such as natural disasters	36%
More predictable monthly expenditure / lower overall costs (shift from CAPEX to OPEX)	35%
Can more easily keep up with regulatory changes	29%
Can reallocate IT budget from maintenance to enable innovation	27%
Lack of long term commitments	25%
Enables better collaboration with suppliers, customers and channels	25%
Single integrated suite doing away with the need to integrate disparate systems	20%
Seamless integration with in-house infrastructure	14%
I do not believe there are any benefits	4%

Source: Frost & Sullivan, APAC survey of 167 companies, in Logistics, Distribution & Manufacturing verticals

### The Last Word

The development of lean manufacturing and complex global supply chains have left businesses in the Asia Pacific region increasingly exposed to disruptions caused by natural disasters. This disruption not only impacts physical locations such as factories and warehouses, but also the IT systems that are critical in supporting manufacturing and logistics operations.

26% of all organisations based in Australia, New Zealand, Hong Kong, Singapore and the Philippines have experienced disruptions to their regional IT operations as a result of natural disasters over the past two years. In general, the impact caused by natural disasters has been significant. 12% of all organisations rate their level of disruption as very critical, while for 58% it is somewhat critical. The potential benefit cloud computing offers in reducing IT disruptions is recognised, with 65% of all organisations believing that if they had accessed IT applications via the cloud, the impact of their disruption(s) would have been lower. The ability of cloud solutions to mitigate the risk of IT disruptions from external factors such as natural disasters is therefore becoming increasingly recognised.

Cloud computing is now widely adopted by companies throughout APAC, but there is still significant room for growth, and many companies are still missing out on the benefits of a cloud based solution. Around 47% of all businesses in the APAC region are now using cloud computing to some extent. However, there is still significant potential for adoption. In particular, companies in natural disaster prone areas like New Zealand could significantly reduce potential IT disruptions by deploying cloud-based solutions. As well as the other benefits, the cost savings that organisations have gained by using cloud based solutions have been significant. 52% of all organisations have achieved cost savings of 10% or greater, whilst 26% of organisations achieved cost savings of 20% or more from adoption of cloud.

The benefits that can be achieved by cloud based solutions in streamlining the issues faced by organisations when they must work across different locations are also significant. 40% of organisations believe that cloud based solutions can more easily enable the setting up of multiple subsidiaries in different locations and currencies, and 30% believe that cloud based solutions enable better support of a decentralised business, spanning multiple locations.

Cloud computing therefore provides the opportunity for businesses to reduce the risk of disruptions to their business operations caused by natural disasters, whilst also offering a number of other business benefits. This is particularly critical in the manufacturing, logistics and distribution industries, where IT solutions such as ERP are critical for business operations. Although usage of cloud is increasing in these industries, many businesses are yet to achieve the benefits that cloud computing can offer.



## ABOUT FROST & SULLIVAN

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Frost & Sullivan, the Growth Partnership Company, enables clients to accelerate growth and achieve best-in-class positions in growth, innovation and leadership. The company's Growth Partnership Service provides the CEO and the CEO's Growth Team with disciplined research and best-practice models to drive the generation, evaluation, and implementation of powerful growth strategies. Frost & Sullivan leverages more than 50 years of experience in partnering with Global 1000 companies, emerging businesses and the investment community from more than 40 offices on six continents. To join our Growth Partnership, please visit <http://www.frost.com>.

## ABOUT NETSUITE

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Today, more than 10,000 companies and subsidiaries depend on NetSuite to run complex, mission-critical business processes globally in the cloud. Since its inception in 1998, NetSuite has established itself as the leading provider of enterprise-class cloud ERP suites for divisions of large enterprises and mid-sized organisations seeking to upgrade their antiquated client/server ERP systems. NetSuite excels at streamlining business operations, as demonstrated by the 2011 CODiE Award for Best Financial Management Solution, as well as a recent Gartner study naming NetSuite as the fastest growing top 10 financial management systems vendor in the world. NetSuite continues its success in delivering the best cloud business suites to businesses around the world, enabling them to lower IT costs significantly while increasing productivity, as the global adoption of the cloud accelerates.

For more information about NetSuite please visit [www.netsuite.com.au](http://www.netsuite.com.au).

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## INDEPENDENCE

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Although Frost & Sullivan was commissioned by NetSuite to write the whitepaper, the analysis contained in this report reflects the views of Frost & Sullivan analysts without any bias or influence from any third party.

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