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**IDG Research Services**

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Executive Summary

- 93% agree with VMware’s definition of cloud computing
- 95% agree that virtualization is critical to cloud
- 88% rate cloud computing as priority over the next 18 months
- Adoption is maturing quickly; 2/3 of respondents planning or adopting cloud today, 22% already in department and enterprise-wide deployments
- Most companies are starting cloud with IT Infrastructure Transformation initiatives
- Business Agility is the top driver for cloud (75%)
- Highest cloud deployments in private clouds today; ~ 20% (and growing) using hybrid cloud today
- 88% would use cloud more if they could achieve the same or better security as their internal datacenter
- 26% of IT budget allocated to cloud; software spend 27% but IT Staff and training is 30%
- Requirements for Enterprise-Class cloud emerge; (high performance, enterprise-level security, enterprise-level QoS)
Methodology

- This study was conducted globally among IT decision-makers at enterprise companies (500 or more employees in the U.S., and 250 or more employees in EMEA and APAC; mean number of employees approx 25,000) to better understand cloud computing adoption, implementation practices, challenges and perceived benefits.

- Respondents were required to be employed at the management level or higher with involvement in the purchase process for cloud computing solutions at their organizations. Respondents were also required to be employed at companies who are currently considering, planning, evaluating, piloting or utilizing computing infrastructure or applications via the cloud.

- The survey was administered online. Each sample member received an email invitation containing a URL link to access the survey, which they could click on or paste into their browser. All surveys were programmed in the native languages of the countries involved.

- The U.S. survey was completed among qualified members of the CIO audience. Non-U.S. surveys were completed among an international panel of IT decision-makers. Additionally, the survey was fielded by VMware among a selection of customers in the U.S. and in EMEA.

- The study was conducted between October 7, 2010 and November 2, 2010. A total of 636 surveys were completed as follows:
  - 234 in the U.S. (34 from VMware customer contact list)
  - 202 in EMEA (77 in the UK, 66 in Germany and 59 in France; 2 from VMware customer contact list)
  - 200 in APAC (75 in China, 75 in Japan, and 50 in Australia)

- The margin of error for a sample of 636 is +/- 3.9 percentage points at the 95% confidence level.

Source: CIO Global Cloud Computing Adoption Survey January 2011
93% Agree with Definition of Cloud Computing

Q2: Based on your knowledge and understanding of the cloud computing approach, how well do you feel the following description describes cloud computing?

Cloud computing is an approach to computing that leverages the efficient pooling of on-demand, self-managed virtual infrastructure, consumed as a service.

93% Agree
7% Disagree

Base: 636 Total respondents; 234 US respondents; 202 EMEA respondents; 200 APAC respondents
Source: CIO Global Cloud Computing Adoption Survey January 2011
Q3a: How would you rate cloud computing as a priority at your organization over the next 18 months?

- **88%** Rate Cloud Computing as Priority Over the Next 18 Months
- **16%**

**Priority of Cloud Computing at Organization - Next 18 Months**

(5) Critical priority
- All respondents: 16%
- U.S.: 10%
- EMEA: 15%
- APAC: 23%

(4) High but not critical priority
- All respondents: 35%
- U.S.: 31%
- EMEA: 37%
- APAC: 37%

(3) Moderate priority
- All respondents: 37%
- U.S.: 37%
- EMEA: 44%
- APAC: 31%

(2) Low priority
- All respondents: 11%
- U.S.: 12%
- EMEA: 12%
- APAC: 9%

(1) Not a priority
- All respondents: 1%
- U.S.: 3%
- EMEA: 1%
- APAC: 1%

Base: 636 Total respondents; 234 US respondents; 202 EMEA respondents; 200 APAC respondents

Source: CIO Global Cloud Computing Adoption Survey January 2011
Q4: At what stage is your organization with regard to utilizing cloud computing?

<table>
<thead>
<tr>
<th>Stage with Regard to Utilizing Cloud Computing</th>
<th>All respondents</th>
<th>U.S.</th>
<th>EMEA</th>
<th>APAC</th>
</tr>
</thead>
<tbody>
<tr>
<td>No plans</td>
<td>4%</td>
<td>7%</td>
<td>9%</td>
<td>7%</td>
</tr>
<tr>
<td>Considering</td>
<td>23%</td>
<td>20%</td>
<td>22%</td>
<td>27%</td>
</tr>
<tr>
<td>Evaluating</td>
<td>16%</td>
<td>13%</td>
<td>12%</td>
<td>16%</td>
</tr>
<tr>
<td>Planning</td>
<td>17%</td>
<td>12%</td>
<td>16%</td>
<td>17%</td>
</tr>
<tr>
<td>Piloting</td>
<td>22%</td>
<td>18%</td>
<td>14%</td>
<td>16%</td>
</tr>
<tr>
<td>Department-wide</td>
<td>13%</td>
<td>9%</td>
<td>11%</td>
<td>11%</td>
</tr>
<tr>
<td>Enterprise-wide</td>
<td>12%</td>
<td>11%</td>
<td>11%</td>
<td>11%</td>
</tr>
</tbody>
</table>

Base: 636 Total respondents; 234 US respondents; 202 EMEA respondents; 200 APAC respondents
Source: CIO Global Cloud Computing Adoption Survey January 2011
95% Agree that Virtualization is Critical to Cloud

Q5: How critical is virtualization to enabling cloud computing at your organization?

Base: 636 Total respondents; 234 US respondents; 202 EMEA respondents; 200 APAC respondents
Source: CIO Global Cloud Computing Adoption Survey January 2011
Q6: Considering the services or applications that your organization is already piloting or has deployed to cloud, with the total equal to 100%, how are these services or applications distributed across each of the following cloud deployment models?

- **Public Cloud**
  - All respondents: 35%
  - U.S.: 28%
  - EMEA: 34%
  - APAC: 35%

- **Private Cloud**
  - All respondents: 46%
  - U.S.: 46%
  - EMEA: 46%
  - APAC: 48%

- **Hybrid Cloud**
  - All respondents: 19%
  - U.S.: 12%
  - EMEA: 24%
  - APAC: 25%

Base: 271 Total respondents; 110 US respondents; 82 EMEA respondents; 79 APAC respondents currently using or piloting services or applications via the cloud

Source: CIO Global Cloud Computing Adoption Survey January 2011
Q8a: Which of the following best describes your organization’s starting point for cloud computing?
IT Infrastructure Initiatives Ranks Highest as Starting Point

**25%**
- 43% Email
- 40% Collaboration
- 39% Human Resource
- 34% Sales Force Auto

**10%**
- Business case, Strategy & plan

**26%**
- 69% Test & Dev
- 51% Pre-Production
- 50% Quality Testing
- 44% Load Testing

**39%**
- Roadmap, service catalog, reference architecture

Base: 271 Total respondents; 110 US respondents; 82 EMEA respondents; 79 APAC respondents currently using or piloting services or applications via the cloud
Source: CIO Global Cloud Computing Adoption Survey January 2011 (For Internal Use Only)
Q9: Which of the following are top drivers of cloud computing initiatives at your organization? (Please check all that apply)

- Business agility (faster time to market, increased user satisfaction) - 75%
- Reducing IT infrastructure investment - 56%
- Reducing IT management and maintenance resources - 53%
- Increasing capacity/availability (data center, storage etc.) - 50%
- Increasing productivity of IT - 46%
- Disaster recovery/business continuity - 40%
- Improving IT control - 32%
- Industry regulatory changes - 17%

Base: 636 Total respondents; 234 US respondents; 202EMEA respondents; 200 APAC respondents
Source: CIO Global Cloud Computing Adoption Survey January 2011
Q12: If your organization could achieve the same or better level of security with your cloud computing environment as it can within your internal data center, how would this impact its cloud utilization plans?

Impact on Likelihood of Using Cloud Computing if the Same or Better Level of Security as the Internal Data Center Could be Achieved

- My organization would be much more likely to use or expand usage of cloud computing: 40%
- My organization would be somewhat more likely to use or expand usage of cloud computing: 48%
- This would have little to no impact on my organization's plans to use or expand usage of cloud computing: 10%
- Don't know: 2%

Base: 636 Total respondents; 234 US respondents; 202 EMEA respondents; 200 APAC respondents
Source: CIO Global Cloud Computing Adoption Survey January 2011
Q17: Approximately, what percent of your organization’s IT budget will be allocated to cloud computing initiatives in the next 12 months (including software, services, staff resources, training, etc.)?

Q18: Approximately, what percent of your organization’s cloud computing budget in the next 12 months will be allocated to each of the following areas?

Average Percent of IT Budget Dedicated to Cloud Computing – Next 12 Months

- 26%

Average Percent of Cloud Computing Budget Allocated to Each Area

- Software: 27%
- Outsource services: 18%
- Hosting: 17%
- Training: 12%
- Other: 10%

Base: 636 Total respondents; 234 US respondents; 202 EMEA respondents; 200 APAC respondents
Source: CIO Global Cloud Computing Adoption Survey January 2011
Q20: What are the top five capabilities your organization considers important when evaluating cloud computing vendors or technologies? (Please select no more than five)

Enterprise-class Capabilities Rise as Most Important

Top Capabilities Organization Considers Important when Evaluating Cloud Computing Solutions

- High performance (reliability and availability): 68%
- Provides enterprise-level security: 63%
- Provides enterprise-level quality of service: 59%
- Application portability: 44%
- Regulatory standards/compliance: 42%

Base: 636 Total respondents; 234 US respondents; 202 EMEA respondents; 200 APAC respondents
Source: CIO Global Cloud Computing Adoption Survey January 2011

US respondents more likely to rate higher on performance and security
Respondent Profile
Company Size

QS1: Approximately how many individuals are employed in your entire organization, including all branches, divisions and subsidiaries?

Number of Employees

Base: 636 Total respondents; 234 US respondents; 202 EMEA respondents; 200 APAC respondents
Source: CIO Global Cloud Computing Adoption Survey January 2011
QS3: Which of the following best describes your title within your organization?

<table>
<thead>
<tr>
<th>Job Title</th>
<th>All respondents</th>
<th>U.S.</th>
<th>EMEA</th>
<th>APAC</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>(NET) IT Management</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CIO, CTO</td>
<td>20%</td>
<td>15%</td>
<td>24%</td>
<td>24%</td>
</tr>
<tr>
<td>Manager, Supervisor</td>
<td>19%</td>
<td>32%</td>
<td>12%</td>
<td>11%</td>
</tr>
<tr>
<td>Director</td>
<td>13%</td>
<td>21%</td>
<td>8%</td>
<td>9%</td>
</tr>
<tr>
<td>Executive VP, Senior VP, General Manager</td>
<td>4%</td>
<td>2%</td>
<td>7%</td>
<td>5%</td>
</tr>
<tr>
<td>VP</td>
<td>4%</td>
<td>8%</td>
<td>1%</td>
<td>2%</td>
</tr>
<tr>
<td>CSO</td>
<td>2%</td>
<td>2%</td>
<td>3%</td>
<td>2%</td>
</tr>
<tr>
<td>Managing Partner</td>
<td>1%</td>
<td></td>
<td></td>
<td>2%</td>
</tr>
<tr>
<td><strong>(NET) Business Management</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manager, Supervisor</td>
<td>14%</td>
<td>7%</td>
<td>14%</td>
<td>23%</td>
</tr>
<tr>
<td>Director</td>
<td>8%</td>
<td>8%</td>
<td>5%</td>
<td>12%</td>
</tr>
<tr>
<td>Other Corporate, Business Manager</td>
<td>3%</td>
<td>2%</td>
<td>6%</td>
<td>1%</td>
</tr>
<tr>
<td>CFO, Controller, Treasurer</td>
<td>2%</td>
<td>-</td>
<td>4%</td>
<td>2%</td>
</tr>
<tr>
<td>Executive VP, Senior VP, General Manager</td>
<td>2%</td>
<td>1%</td>
<td>2%</td>
<td>3%</td>
</tr>
<tr>
<td>VP</td>
<td>2%</td>
<td>3%</td>
<td>1%</td>
<td>2%</td>
</tr>
<tr>
<td>Managing Partner</td>
<td>2%</td>
<td>-</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>CEO, Chairman, President</td>
<td>2%</td>
<td>-</td>
<td>3%</td>
<td>2%</td>
</tr>
<tr>
<td>COO</td>
<td>1%</td>
<td>-</td>
<td>2%</td>
<td>2%</td>
</tr>
</tbody>
</table>

Base: 636 Total respondents; 234 US respondents; 202 EMEA respondents; 200 APAC respondents
Source: CIO Global Cloud Computing Adoption Survey January 2011
QS2: In which of the following ways are you involved in the purchase process for cloud computing solutions at your organization? (Please check all that apply)

- Evaluate
- Determine the business need
- Recommend and select vendors
- Determine requirements
- Approve/authorize
- Sell internally (e.g. outside of the IT team)

Base: 636 Total respondents; 234 US respondents; 202 EMEA respondents; 200 APAC respondents
Source: CIO Global Cloud Computing Adoption Survey January 2011
### Purchase Involvement for Cloud Solutions (By Job Title)

**QS2: In which of the following ways are you involved in the purchase process for cloud computing solutions at your organization? (Please check all that apply)**

**PURCHASE INVOLVEMENT BY TITLE**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Executive IT (VP+)</th>
<th>IT Director/Manager</th>
<th>Business Executive (VP+)</th>
<th>Business Director/Manager</th>
</tr>
</thead>
<tbody>
<tr>
<td>Determine the business need</td>
<td>79%</td>
<td>62%</td>
<td>67%</td>
<td>49%</td>
</tr>
<tr>
<td>Determine requirements</td>
<td>70%</td>
<td>66%</td>
<td>51%</td>
<td>57%</td>
</tr>
<tr>
<td>Evaluate</td>
<td>80%</td>
<td>74%</td>
<td>42%</td>
<td>61%</td>
</tr>
<tr>
<td>Recommend and select vendors</td>
<td>75%</td>
<td>67%</td>
<td>48%</td>
<td>51%</td>
</tr>
<tr>
<td>Sell internally (e.g. outside of the IT team)</td>
<td>44%</td>
<td>38%</td>
<td>26%</td>
<td>18%</td>
</tr>
<tr>
<td>Approve/authorize</td>
<td>72%</td>
<td>38%</td>
<td>52%</td>
<td>30%</td>
</tr>
<tr>
<td><strong>Base:</strong></td>
<td><strong>204</strong></td>
<td><strong>203</strong></td>
<td><strong>69</strong></td>
<td><strong>160</strong></td>
</tr>
</tbody>
</table>

Source: CIO Global Cloud Computing Adoption Survey January 2011
## QS4: Which of the following best describes your organization's industry or function?

<table>
<thead>
<tr>
<th>Industry</th>
<th>All respondents</th>
<th>U.S.</th>
<th>EMEA</th>
<th>APAC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing/Auto/Industrial</td>
<td>16%</td>
<td>9%</td>
<td>12%</td>
<td>28%</td>
</tr>
<tr>
<td>Banking &amp; Financial Services</td>
<td>10%</td>
<td>12%</td>
<td>7%</td>
<td>11%</td>
</tr>
<tr>
<td>Public sector/Nonprofit (including government and education)</td>
<td>9%</td>
<td>13%</td>
<td>11%</td>
<td>3%</td>
</tr>
<tr>
<td>Technology</td>
<td>7%</td>
<td>9%</td>
<td>7%</td>
<td>5%</td>
</tr>
<tr>
<td>Healthcare</td>
<td>6%</td>
<td>10%</td>
<td>7%</td>
<td>2%</td>
</tr>
<tr>
<td>Information Media &amp; Entertainment</td>
<td>6%</td>
<td>6%</td>
<td>5%</td>
<td>6%</td>
</tr>
<tr>
<td>Hardware/Software/Networking</td>
<td>5%</td>
<td>6%</td>
<td>3%</td>
<td>6%</td>
</tr>
<tr>
<td>Chemicals/Energy/Utilities</td>
<td>5%</td>
<td>4%</td>
<td>5%</td>
<td>6%</td>
</tr>
<tr>
<td>Business/Professional Services</td>
<td>5%</td>
<td>2%</td>
<td>7%</td>
<td>5%</td>
</tr>
<tr>
<td>Construction</td>
<td>4%</td>
<td>2%</td>
<td>4%</td>
<td>7%</td>
</tr>
<tr>
<td>Transportation &amp; Logistics</td>
<td>4%</td>
<td>2%</td>
<td>6%</td>
<td>3%</td>
</tr>
<tr>
<td>Wholesale/Retail trade</td>
<td>4%</td>
<td>2%</td>
<td>5%</td>
<td>4%</td>
</tr>
<tr>
<td>Insurance</td>
<td>3%</td>
<td>4%</td>
<td>3%</td>
<td>2%</td>
</tr>
<tr>
<td>Aerospace/Defense</td>
<td>2%</td>
<td>2%</td>
<td>4%</td>
<td>2%</td>
</tr>
<tr>
<td>Consumer Goods Food &amp; Beverage</td>
<td>2%</td>
<td>4%</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>Travel &amp; Hospitality</td>
<td>2%</td>
<td>2%</td>
<td>1%</td>
<td>4%</td>
</tr>
<tr>
<td>Communications</td>
<td>2%</td>
<td>3%</td>
<td>2%</td>
<td>1%</td>
</tr>
<tr>
<td>Life Sciences, Pharmaceuticals, Biotechnology</td>
<td>2%</td>
<td>3%</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>Other</td>
<td>5%</td>
<td>5%</td>
<td>4%</td>
<td>7%</td>
</tr>
</tbody>
</table>

Base: 636 Total respondents; 234 US respondents; 202 EMEA respondents; 200 APAC respondents
Source: CIO Global Cloud Computing Adoption Survey January 2011