

## About ENISA

The European Network and Information Security Agency (ENISA) is an EU agency created to advance the functioning of the internal market. ENISA is a centre of excellence for the European Member States and European institutions in network and information security, giving advice and recommendations and acting as a switchboard of information for good practices. Moreover, the agency facilitates contacts between the European institutions, the Member States and private business and industry actors.

## Contact details

e-mail: [Daniele.catteddu@enisa.europa.eu](mailto:Daniele.catteddu@enisa.europa.eu) and [Giles.hogben@enisa.europa.eu](mailto:Giles.hogben@enisa.europa.eu),

Internet: <http://www.enisa.europa.eu/>

Survey

## Background

### **ENISA Cloud Computing Security Risk Assessment**

ENISA (the European Network and Information Security Agency) has conducted a security risk assessment of cloud computing technologies aimed at giving advice to (among others) SME's on the most important risks in adopting cloud computing technologies, as well as ways to address those risks.

As part of this study, we have launched a survey of the actual needs, requirements and expectations of SMEs for cloud computing services.

The results of the survey were used to support the creation of a use case scenario: "An SME perspective on Cloud Computing".

On this scenario we have then base part of our analysis.

The results the analysis can be found in the report: "**Cloud computing Risk Assessment: Benefits, risks and recommendations for information security**".

Here you can find the raw data from the survey

## Contents

|   |    |
|---|----|
| About ENISA .....                           | 2  |
| Contact details.....                        | 2  |
| Background .....                            | 3  |
| Questionnaire .....                         | 5  |
| Company Size - Question 1 .....             | 6  |
| Company geo location - Question 2.....      | 7  |
| Drivers - Question 3 .....                  | 7  |
| Cloud Models - Question 4 .....             | 9  |
| Cloud Types - Question 5 .....              | 10 |
| Use of multiple providers - Question 6..... | 11 |
| Disaster Recovery options - Question 7..... | 12 |
| Cloud Services - Question 8 .....           | 13 |
| Main concerns - Question 9.....             | 15 |

Survey

### Questionnaire

The survey “An SME perspective on cloud computing” was launched the 16<sup>th</sup> of April 2009 through the on line survey service Survey Monkey. The survey is still available at this link:

[http://www.surveymonkey.com/s.aspx?sm=CZdVubBa9LizYIR3KNeZIQ\\_3d\\_3d](http://www.surveymonkey.com/s.aspx?sm=CZdVubBa9LizYIR3KNeZIQ_3d_3d), and ENISA will keep on collecting data until June 2010.

The survey is composed of nine questions, aiming to identify:

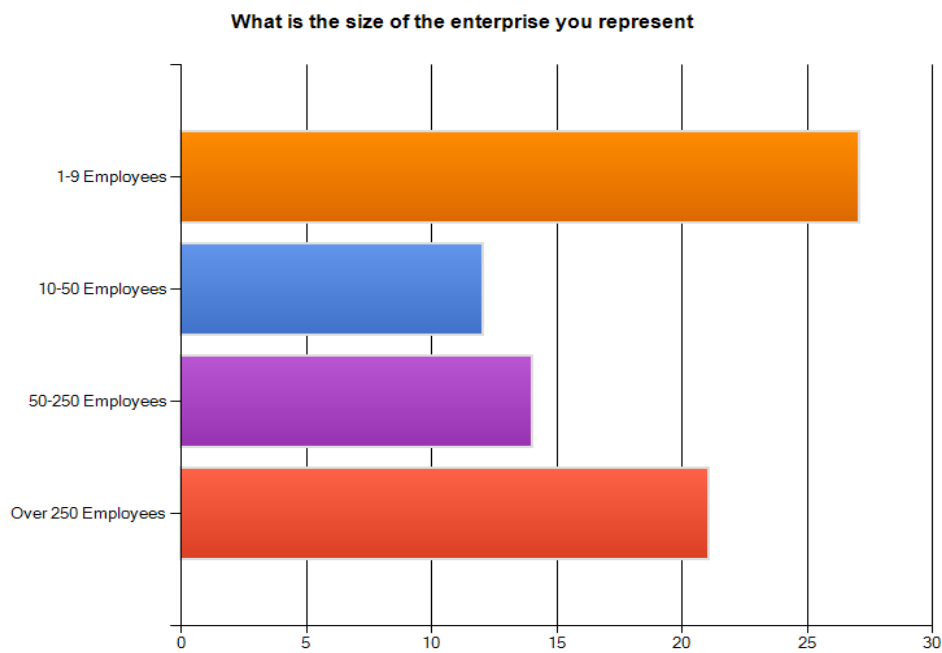
- the reasons behind a possible engagement of an SME in the Cloud Computing
- the most suitable cloud model (Private, Public, etc)
- the type (SaaS, PaaS, etc) of cloud service an SME will likely use
- the willingness to outsource to multiple providers
- the disaster recovery options considered
- the cloud computing services, in terms of IT services/Applications, are considered
- the main concerns

At the 1<sup>st</sup> of November 74 answers were collected.

Please find below the details

## Company Size - Question 1

| What is the size of the enterprise you represent |                  |                |
|--|------------------|----------------|
| Answer Options                                   | Response Percent | Response Count |
| 1-9 Employees                                    | 36,5%            | 27             |
| 10-50 Employees                                  | 16,2%            | 12             |
| 50-250 Employees                                 | 18,9%            | 14             |
| Over 250 Employees                               | 28,4%            | 21             |
| <b>answered question</b>                         |                  | <b>74</b>      |



Survey

## Company geo location - Question 2

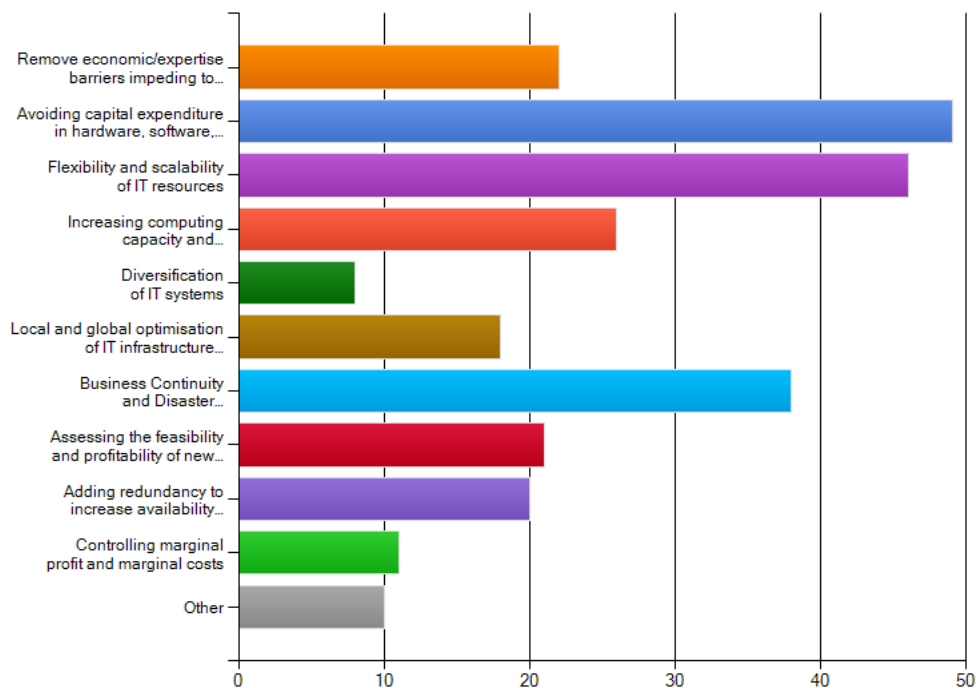
| Please choose the country your SME is based in        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |           |                |
|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----------|----------------|
| Country   | AT | BE | CY | CZ | DK | FR | DE | IE | IT | LU | NL | SI | ES | SE | CH | UK        | Response Count |
|   | 2  | 2  | 2  | 1  | 2  | 3  | 5  | 5  | 6  | 1  | 5  | 2  | 9  | 1  | 2  | 15        | 63             |
| Other (please specify): USA: 8 - INDIA: 2 - CANADA: 1 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |           |                |
| <b>answered question</b>                              |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |           |                |
|   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | <b>74</b> |                |

## Drivers - Question 3

| What are the reasons behind your possible engagement in the Cloud Computing area?   |                  |                |
|---|------------------|----------------|
| Answer Options  | Response Percent | Response Count |
| Remove economic/expertise barriers impeding to modernize business processes by the introduction of Information Technology             | 30,6%            | 22             |
| Avoiding capital expenditure in hardware, software, IT support, Information Security by outsourcing infrastructure/platforms/services | 68,1%            | 49             |
| Flexibility and scalability of IT resources   | 63,9%            | 46             |
| Increasing computing capacity and business performance  | 36,1%            | 26             |
| Diversification of IT systems   | 11,1%            | 8              |
| Local and global optimisation of IT infrastructure through automated management of virtual machines                                   | 25,0%            | 18             |
| Business Continuity and Disaster recovery capabilities  | 52,8%            | 38             |
| Assessing the feasibility and profitability of new services (i.e. by developing business cases into the Cloud)                        | 29,2%            | 21             |
| Adding redundancy to increase availability and resilience   | 27,8%            | 20             |
| Controlling marginal profit and marginal costs  | 15,3%            | 11             |
| Other (please specify)  | 13,9%            | 10             |
| <b>answered question</b>  |                  | <b>72</b>      |
| <b>skipped question</b>   |                  | <b>2</b>       |

| Number | Other (please specify)  |
|--------|---|
| 1      | Creating new business models and new revenue  |
| 2      | As small company our tasks and time should not be addressed to backup & system aspects                    |
| 3      | Simplification of updating, error correction and similar security functions automatically                 |
| 4      | Major knowledge of IT systems and methodologies and needs of security policy & infrastructure application |
| 5      | Access everywhere. Usually free to test.  |
| 6      | Providing cloud hosting services  |
| 7      | Unlimited storage capacity  |
| 8      | Research purposes   |

#### What are the reasons behind your possible engagement in the Cloud Computing area?



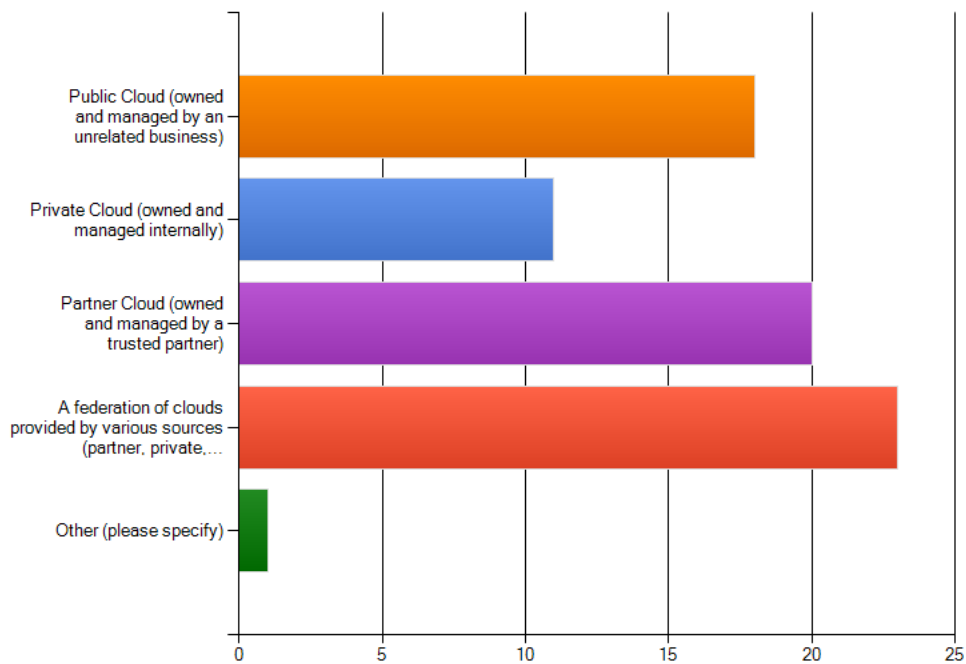


Survey

### Cloud Models - Question 4

| <b>Which solution do you see as the most suitable for an SME, according to this possible Cloud Computing taxonomy?</b> |                         |                       |
|--|-------------------------|-----------------------|
| <b>Answer Options</b>  | <b>Response Percent</b> | <b>Response Count</b> |
| Public Cloud (owned and managed by an unrelated business)  | 24,7%                   | 18                    |
| Private Cloud (owned and managed internally)   | 15,1%                   | 11                    |
| Partner Cloud (owned and managed by a trusted partner)   | 27,4%                   | 20                    |
| A federation of clouds provided by various sources (partner, private, etc).  | 31,5%                   | 23                    |
| Other  | 1,4%                    | 1                     |
| <b>answered question</b>   |                         | <b>73</b>             |
| <b>skipped question</b>  |                         | <b>1</b>              |

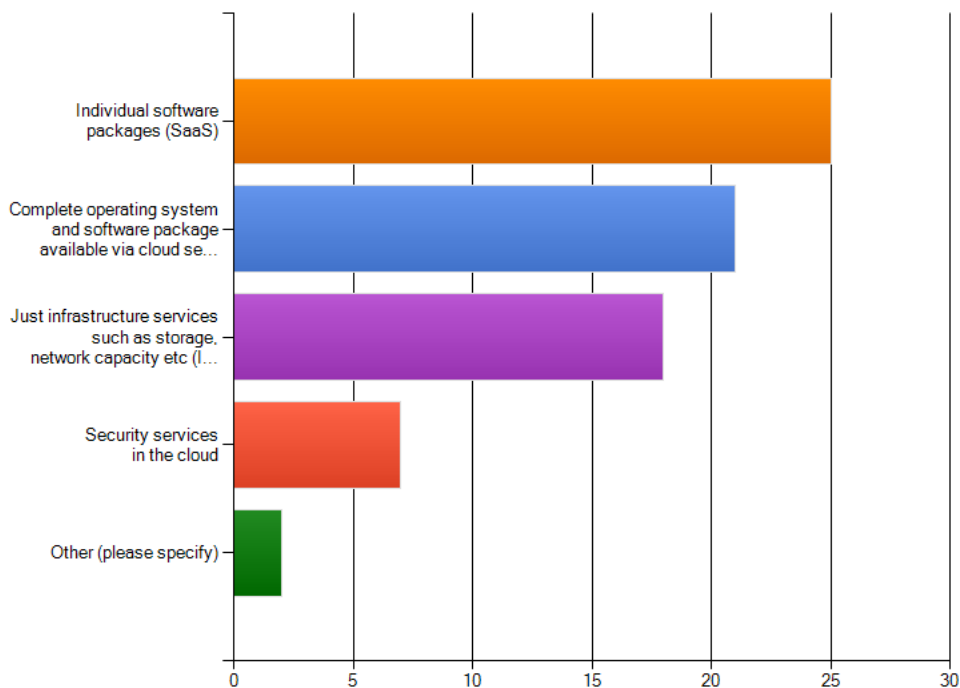
Which solution do you see as the most suitable for an SME, according to this possible Cloud Computing taxonomy?



## Cloud Types - Question 5

| Which "layer" of the Cloud would you be most likely to approach?                   |                  |                |
|--|------------------|----------------|
| Answer Options   | Response Percent | Response Count |
| Individual software packages (SaaS)  | 34,2%            | 25             |
| Complete operating system and software package available via cloud services (PaaS) | 28,8%            | 21             |
| Just infrastructure services such as storage, network capacity etc (IaaS)          | 24,7%            | 18             |
| Security services in the cloud   | 9,6%             | 7              |
| Other (please specify)   | 2,7%             | 2              |
| <b>answered question</b>   |                  | <b>73</b>      |
| <b>skipped question</b>  |                  | <b>1</b>       |

Which "layer" of the Cloud would you be most likely to approach?



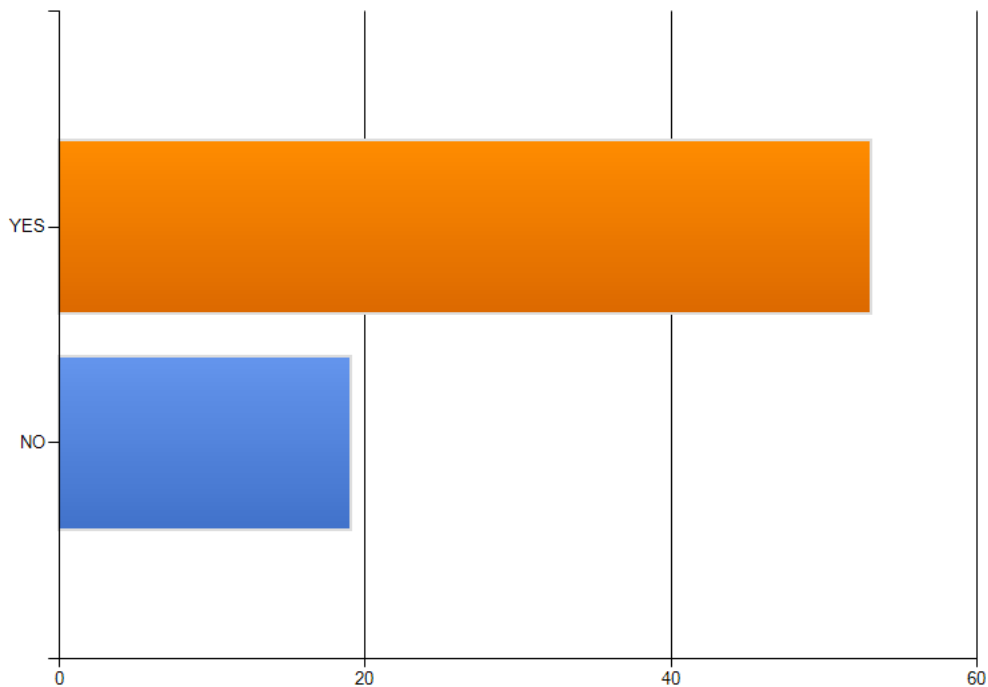
Survey

### Use of multiple providers - Question 6

| Would you be willing to outsource to multiple providers? |                  |                |
|--|------------------|----------------|
| Answer Options   | Response Percent | Response Count |
| YES  | 73,6%            | 53             |
| NO   | 26,4%            | 19             |
| Other (please specify)                                   |                  | 3              |
| <b>answered question</b>                                 |                  | <b>72</b>      |
| <b>skipped question</b>                                  |                  | <b>2</b>       |

| Number | Other (please specify)  |
|--------|---|
| 1      | Likely not.   |
| 2      | not sure  |
| 3      | we prefer single-source, but I expect reliability concerns to lead to multiple providers, just as it has in the network infrastructure area |

Would you be willing to outsource to multiple providers?



## Disaster Recovery options - Question 7

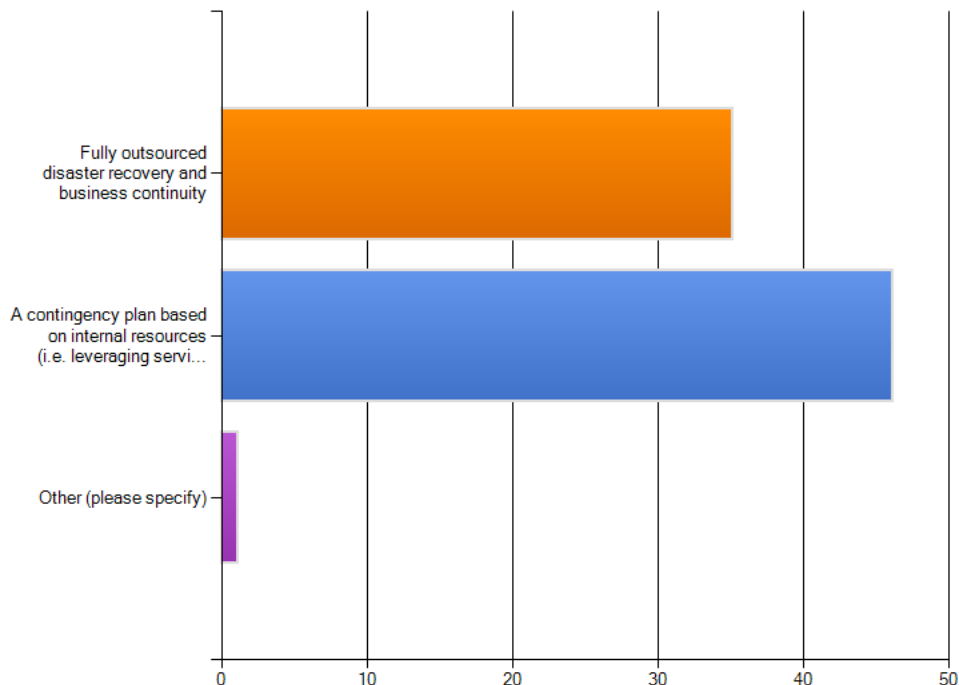
### Which of the following disaster recovery options are of interest to you?

| Answer Options  | Response Percent | Response Count |
|---|------------------|----------------|
| Fully outsourced disaster recovery and business continuity  | 48,6%            | 35             |
| A contingency plan based on internal resources (i.e. leveraging services/platform/infrastructure already in use 'before the Cloud') | 63,9%            | 46             |
| Other (please specify)  | 1,4%             | 1              |
| <b>answered question</b>  |                  | <b>72</b>      |
| <b>skipped question</b>   |                  | <b>2</b>       |

### Number Other (please specify)

- 1** Possibly a mix of Outsourced and Internal facilities.

### Which of the following disaster recovery options are of interest to you?

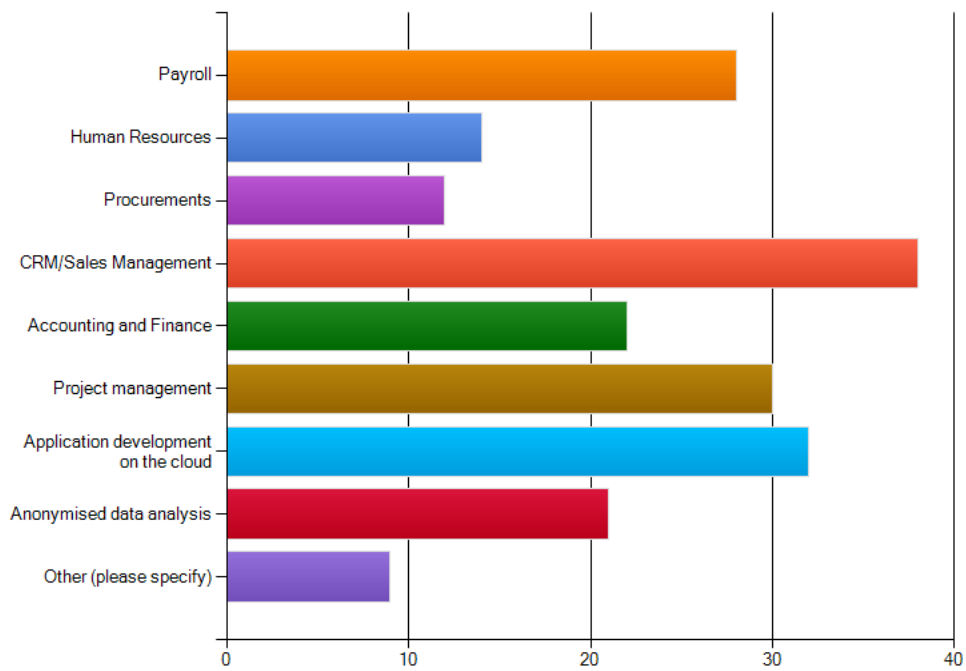


## Cloud Services - Question 8

| <b>Which IT services/Applications supporting business processes are most likely to be outsourced to a Cloud Computing service provider?</b> |                         |                       |
|---|-------------------------|-----------------------|
| <b>Answer Options</b>   | <b>Response Percent</b> | <b>Response Count</b> |
| Payroll   | 38,9%                   | 28                    |
| Human Resources   | 19,4%                   | 14                    |
| Procurements  | 16,7%                   | 12                    |
| CRM/Sales Management  | 52,8%                   | 38                    |
| Accounting and Finance  | 30,6%                   | 22                    |
| Project management  | 41,7%                   | 30                    |
| Application development on the cloud  | 44,4%                   | 32                    |
| Anonymised data analysis  | 29,2%                   | 21                    |
| Other (please specify)  | 12,5%                   | 9                     |
| <b>answered question</b>  |                         | <b>72</b>             |
| <b>skipped question</b>   |                         | <b>2</b>              |

| <b>Number</b> | <b>Other (please specify)</b>  |
|---------------|--|
| <b>1</b>      | Messaging/collaboration as well as 'standard office tools'   |
| <b>2</b>      | We are under development of a massive multiplayer game based on web browser. LAMP (Linux, Apache, MySQL and PHP) services must share resources and work together into servers cloud. |
| <b>3</b>      | Electronic Records Service, including Archiving  |
| <b>4</b>      | I don't want to be bothered with anything that isn't my core business.   |
| <b>5</b>      | Mail servers   |
| <b>6</b>      | Exchange, SharePoint, Hosted Desktop (Word, Excel ect)   |
| <b>7</b>      | Knowledge management infrastructure  |
| <b>8</b>      | Web presence   |
| <b>9</b>      | Call centre  |

**Which IT services/Applications supporting business processes are most likely to be outsourced to a Cloud Computing service provider?**



Survey

## Main concerns - Question 9

| What are your main concerns in your approach to Cloud Computing? |  |               |                   |                |             |                |                |
|--|--|---------------|-------------------|----------------|-------------|----------------|----------------|
| Answer Options   | Answer Options   | Not Important | Medium Importance | Very Important | Showstopper | Rating Average | Response Count |
|  | Privacy  | 0             | 7                 | 28             | 31          | 3,36           | 66             |
|  | Availability of services and/or data                                   | 3             | 9                 | 28             | 26          | 3,17           | 66             |
|  | Integrity of services and/or data                                      | 0             | 9                 | 28             | 27          | 3,28           | 64             |
|  | Confidentiality of corporate data                                      | 1             | 3                 | 17             | 43          | 3,59           | 64             |
|  | Repudiation  | 1             | 24                | 25             | 7           | 2,67           | 57             |
|  | Loss of control of services and/or data                                | 2             | 14                | 29             | 17          | 2,98           | 62             |
|  | Lack of liability of providers in case of security incidents           | 1             | 15                | 25             | 19          | 3,03           | 60             |
|  | Inconsistency between trans national laws and regulations              | 8             | 25                | 15             | 12          | 2,52           | 60             |
|  | Unclear scheme in the pay per use approach                             | 10            | 26                | 14             | 9           | 2,37           | 59             |
|  | Uncontrolled variable cost   | 4             | 21                | 26             | 7           | 2,62           | 58             |
|  | Cost and difficulty of migration to the cloud (legacy software etc...) | 7             | 31                | 14             | 6           | 2,33           | 58             |
|  | Intra-clouds (vendor lock-in) migration                                | 5             | 21                | 20             | 10          | 2,63           | 56             |
|  | Other (please specify)   |               |                   |                |             |                | 3              |
| <b>answered question</b>   |  |               |                   |                |             |                | <b>73</b>      |
| <b>skipped question</b>  |  |               |                   |                |             |                | <b>1</b>       |

### What are your main concerns in your approach to Cloud Computing?

