Methodology

- Annual Upstream Oil & Gas Computing Trends Survey, funded by Microsoft and Accenture to:
  - Measure the level of focus and investment in upstream computing
  - Capture drivers for a more integrated upstream computing environment
  - Determine current thinking about the business value of these tools to enhance processes and workflows for oil and gas professionals
- Online survey of 200 individuals (a 14 percent increase in participation over last year)
- Thirty percent Engineers, 30 percent Management, 20 percent IT
High-Level Trends

- Investment is increasing — mainly, for reasons of better integration and efficiency
- Cyber Security is a hot topic, both in terms of adoption levels and its overall importance
- Operational Excellence is a recurring theme among respondents
- New Drilling Regulations have led to an increased focus on reduction of risk
High-Level Trends

- Most have plans to use Cloud Services and many have already adopted them ...
- ... for those that have not, security is the primary concern
- Mobility is a major new interest area with high expected take up in the next year
- Awareness of the Microsoft Upstream Reference Architecture (MURA) is rapidly growing (most respondents were “aware” or “very aware”)
Q. Indicate your company’s level of focus and investment in upstream software solutions this year (2011), when compared with last year (2010)
... to make operations more integrated and efficient.

Q. Indicate the reasons your company is focusing more on software solutions in the current upstream environment.
Expected benefits from a simpler, more integrated upstream computing environment are high ...

Q. Select the top three benefits you would expect from a simpler, more integrated upstream computing environment

- Easier access to volumes of data necessary for oilfield operational decision making: 64%
- Better asset management through more accurate information: 43%
- Lower costs due to streamlined operational workflows: 43%
- Reduced risk due to real-time decision support: 41%
- Faster time to first oil with new IT capabilities and applications: 33%
- Greater collaboration with other business units / assets / contractor / partners: 31%
- Heightened health, safety and environmental protection: 22%
- Improved Security: 12%
- Other: 1%
... especially finding data and information - topping the list this year again, as it has in previous years ...
... and mobile devices such as tablets are expected to offer new ways of accessing this data in simpler, more pervasive ways.

Q. If you could remotely access key production indicators and common information (e.g., Morning Reports) on a mobile tablet, to whom would you provide capability

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As a large number of oil & gas fields become mature, the upstream industry faces the new challenge of increasing or stabilizing production while maintaining available reserves at their present level. Which of these software solutions is your company focused on to achieve this?
The new drilling regulations have increased the focus on reducing risk ...

Q. Select the top three impacts of the new drilling regulations being implemented over the past year
... and improved incident response will drive greater software integration in the upstream environment.

Q. How well do you agree that the need for improved incident response has caused greater software integration in the upstream environment?
Cloud Services are moving into Oil & Gas Upstream — most have plans, many already use them.

Q. What are your plans for using Cloud Services in your current role

- Currently using Private Cloud Services: 23%
- There are plans to use Cloud Services in the future: 36%
- Currently using Public Cloud Services: 9%
- Cloud Services are not applicable to my role: 17%
- There are no plans to use Cloud Services in the future: 16%
Preferred components for the cloud are database and workflow.

Q. Please indicate how you would use the following key components available on the cloud if a vendor provided a software framework.

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Security in Cloud Services is top of mind.

Q. What are your concerns regarding the use of Cloud Services

- Security: 45%
- Loss of control: 26%
- Standards: 22%
- None: 5%
- Don't know: 2%
Social Media score is lower than last year — the sector may not yet have broadly developed the required business model.

Q. Which of the following do you see as promising for helping create a simpler more unified upstream IT environment?
Overall, respondents’ view an industrywide certification more positively than the year before ...

More respondents have a favorable view of this certification in 2011 than in 2010.

Respondents that have an unfavorable view, or indicate that they don’t know, each dropped at least 5 percent.

Q. How favorably do you view establishing an industry certification program that identifies companies with offerings that are compliant with industry interoperability standards
... underscoring Microsoft’s commitment to the Upstream Industry; twice as many are aware of MURA than are of similar industrywide initiatives to create a more effective computing environment.

Q. Rate your level of awareness of the following industrywide initiatives working to create a more effective upstream computing environment

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Accenture and Microsoft believe that organizations should focus on a set of key issues for 2012

- Ensure there is a strategy for increasing efficiency and integration in the Production Operations and Operations Support and Maintenance Systems domains
- Continue to focus on data issues — particularly the ability to integrate data across disciplines and to find and use that data
- Seek to leverage new technologies that are now mature
  - Cloud for Data Storage and Workflow
  - Mobility for simplified, pervasive information awareness
- Maintain an end-to-end architecture solution as a critical enabler to responding to changing business issues (new drilling legislation is just one example driving this)