

## 2012 Cloud Forecast

Dec 15, 2011, Oleg Komissarov, Vice President, Enterprise Solutions, DataArt



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Not surprisingly, cloud computing will remain a hot topic in 2012. Leading Platform-as-a-Service providers will keep investing billions in huge datacenters with megawatts of power capacity. Software-as-a-Service platform development will be a main goal for software and Internet industry leaders and enterprises will all weigh in on the best approaches for adoption versus adaption to cloud strategies. 2011 may have been cloud's fifth birthday, but in 2012, the six-year-old will start making a truly distinctive name for itself.



On the PaaS and IaaS fronts, datacenter players continue their global foothold. Microsoft will invest additional \$150 million to expand new datacenters in Southern Virginia even as it is still completing the \$499 million first phase of the project. Overall the company will invest \$900 million in datacenters in US and Ireland in 2012 alone. Meanwhile, Google is expected to establish a \$600 million datacenter in Oklahoma, \$100 million in Ireland and worldwide datacenters in Singapore, Taiwan and Hong Kong. IBM proposed a 620,000 sq ft datacenter in Langfang, China which will provide infrastructure for exploding business growing in China and host numerous e-government services for food and drug safety systems, electronic medical records and other government projects. Microsoft, Google Yahoo, Amazon and Facebook building data centers to support expanding range of their Internet services, support ever growing demand of file sharing (image, video and documents). But what is more important, they are betting on growth of popularity of their Platform as a

Service and Application as a Service platforms. Higher number of Projects completed for our customers on PaaS and SaaS platforms in 2011 comparing to 2010 year confirms this trend. We expect that number of such projects will be tripled in 2012 and making all preparations on our side to support this demand. Because of the shortage of Cloud specialists on the market we are increasing our investments in specialists training and certification.

Software-as-a-Service platform development is another ubiquitous venture that has legacy stakeholders and impressive novices buzzing. So far the Salesforce platform remains the most mature SaaS platform especially after the Herocu acquisition, but the picture will change and new players will step in. The major shift to watch will be Facebook actively moving to Software-as-a-Service solution providers. Currently, they are building their own \$450 million datacenter in North Carolina and opened new development center in New York where they want to hire "as many developers as possible."

"Our future looks bright; we want the next Facebook to start here, in New York City," said Sheryl Sandberg, Facebook chief operating officer. Facebook will also probably start building Business applications and APIs for its highly-scalable social networking platform under the impression of Salesforce CRM success and will actively push "Social Enterprise" ideology globally.

Aiming to improve performance, scalability and quality of SaaS software and also due to "cloud buzz," enterprise leaders will start building strategies of adoption of cloud technologies. But SaaS platforms are still young and do not provide required software components for line of business applications. They will also face other challenges, such as licensing issues, impact of regulatory restrictions, cost justifications, and interoperability/integration with legacy solutions.

Even for IaaS platforms, there are many limitations. In the financial industry for example, broker-dealers have been regulated by the SEC (Securities and Exchange Commission) since 1934. Rule 301 specifies requirements including stress testing, security reviews, oversight procedures, disaster recovery plans, annual auditing and outages and changes reporting via periodically Form amendment. But regulations do not specify how of these responsibilities falls on cloud service providers and clients. The only way to reach Cloud by Regulator is to create a workaround and require broker-dealer to put specific provisions in their outsourcing agreement with the cloud service provider. So, instead of active cloud adoption by enterprise in 2012 (which will be mostly migration to private cloud) it will still be a year of early stage of cloud evaluation and new cloud business models. Enterprise and young cloud platforms have to go through a long learning curve before they start be effective for each other.

Cloud technologies are capable of processing billions of transactions and storing petabytes of data, making this environment very attractive for some industries where such capabilities are critical for business success. Energy and manufacturing are good examples and they will be actively utilizing cloud in 2012. For years energy utility companies were trying to build Smart Grid solutions containing hundreds of thousands of smart meters promising consumers to save on electrical bills. Overall they failed with this idea because of the high cost of installation, and the high cost and low scalability of the hosting infrastructure and device network. Combining new inexpensive wireless technologies like ZigBee with the advantages of cloud and emerging innovative technologies from companies like ThinkEco and Artemis Automation will enable energy management solutions that allow consumers to control energy consumption from mobile devices, conceivably lowering 15 percent reduction in energy costs. Giants like IBM and GE announced Smart Energy Cloud solutions for energy retailers and consumers. They support near real-time data gathering from millions of sensors, transfer it into the cloud databases and organize highly effective/scalable/elastic utility management systems supporting unbelievable scalability and two-way participation of consumers and providers.

In the UK, the Smart Meters Implementation Program will support up to 50 million of devices. Manufacturers will follow this trend because they have similar requirements. In 2011 we completed several projects for our customers where electronic devices were wirelessly connected to cloud and see growing demand in this area for 2012. In order to meet this demand, we keep actively developing our embedded practices together with cloud technologies.

Product companies with industry-specific solutions will start porting them to the cloud together with new Web interfaces. They develop Facebook-compatible applications connected through APIs, provide software components for SaaS platforms and applications registered on Salesforce App Exchange and Google Apps Marketplace. They will start to seriously consider social networking platforms as application platforms for their products and new marketing opportunities.

Lastly, 2012 will open up a new era for big data analytics for enterprises. Microsoft, IBM and Oracle rushed into this area and announced big data product releases. Oracle will release its Big Data Appliance Hadoop-based solution in January. Microsoft will release Hadoop-based SQL server in 2012 and it should have its beta Hadoop service on Azure by the end of 2011. So starting from 2012, Big Data and Big Data Analytics will be demystified and brought to the masses. It will change the way of making decisions. The financial industry will use it as an instrument for monitoring social media to predict customer buying behavior, incorporate analytics in trading decisions, detect complex patterns, and filter misinformation. Governments will use it to predict cyber-attacks and prevent crimes. There are wide range of use cases for real time big data analytics in healthcare, hospitality, telecommunications, and other industries. Organizations will suffer from a sharp shortage of specialists in this area. So, for those who tire of the cloud computing noise, big data analytics in the cloud promises to stimulate some interesting discussion.