



# **Bringing Cloud to Earth**

Using Hybrid solutions to deliver IT in areas where connectivity is a challenge

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Software-as-a-Service (SaaS), Big Data and Cloud computing have been some of the buzzwords in the IT industry in recent times. But what are they, why should you be interested, and can they work with some of the challenges posed by oil & gas companies?

In 2013, in our article 'The Forecast in oil & gas is clear with a touch of Cloud', we concluded that, despite the low uptake of cloud solutions within oil & gas to date, early adopters would see real benefits.

This article explores the option of Hybrid solutions, addressing the issues many multi-located organisations face in using Cloud based services. With many E&P companies operating in remote locations where reliable connections are lacking, we consider options that allow the benefits of Cloud computing to be realised, whilst providing enhanced solutions for when the practicalities provide challenging.

## Firstly, what are SaaS, Big Data and the Cloud?

SaaS is where IT software is provided to organisations as a service and licensed via a subscription. The SaaS provider will centrally host the applications, and generally be responsible for all maintenance, updates and support issues. A White Paper by Frost Sullivan Cloud Research states that 40% of all organisations use a SaaS model for at least one of their main business apps (1500 organisations in Australia, Hong Kong, Japan, Philippines, Singapore, UK and US, across all main industry sectors).

**Big Data** is a more recent concept, commonly described using the 3 V's - Volume, Variety and Velocity - of data. These days, organisations are heavily data driven, with information coming from IT systems, social media, etc. oil & gas is no different - specialists need powerful processing abilities for large data files and geographical modelling, as well as the standard backroom functions. This has driven a huge increase in the amount of data organisations need to manage (Volume), the different types of data it has (Variety) and the speed at which it needs to process and manage that data (Velocity).

**Cloud** refers to any hosted technology that provides software and / or IT infrastructure as a service. The storage of IT applications and data is on remote servers on the internet, rather than on local hard drives or computers, and includes everything from simple web interface software systems to vast computer networks. Many providers deliver SaaS services using the Cloud as their central storage. The Cloud is also seen as a solution for managing Big Data, with the agility to interact and process large amounts of data.

#### What are the benefits?

The ability to deliver IT to your organisation through a SaaS, Cloud or Hybrid solution has the potential to deliver major benefits, including:

- **Reduced Costs** Overall cost of IT ownership is reduced, as well as less cost in implementation, development, upgrading and support costs, as these all form part of the managed service. SaaS and Cloud services tend to be supplied on a subscribed metered basis and can be scaled rapidly according to need. Resources you need are always available, but you only pay for what you use!
- Centralised, single set of information especially beneficial to multi-located companies and remote working, data can be accessed and shared more easily across secure servers, but with a central repository containing a single version of the truth
- Better management of large amounts of information Cloud and SaaS services provide agility and flexibility to manage large amounts of information without needing significant investment in hardware
- Better access to information when it's needed provides the right people with the right access to the right information, wherever they are. With more and more users accessing information and systems via mobile devices, which don't have the same storage capacity as traditional hardware, centrally stored data and applications are becoming even more essential
- More robust business continuity centrally stored data and applications significantly reduces the risks from burglary, flood or fire.

#### So, what are Hybrid solutions?

**Hybrid** solutions cover a range of options from a combination of Cloud, SaaS and more traditional onsite solutions. They provide the benefits of being able to manage the Big Data challenges satisfied by Cloud and SaaS, such as centralised storage and processing of data, but may also provide a backup if connectivity is a challenge.

Oil & gas companies have traditionally shied away from fully utilising Cloud-based solutions. Despite the grandiose plans of Google and Facebook to have internet connectivity beamed down from the skies 24/7 around the globe, E&P companies need to be realistic. In major international hubs, you can normally be certain of good connectivity. But out in the field and offshore, providing large redundant data connectivity can be cost prohibitive. Although the obvious solution is to deploy systems to the field locations, this would result in each site working in its own data silo.

Hybrid solutions provide a real, workable option for oil & gas, enabling a single repository of information, with linkages both on and offline to enable all sites to work in the same way with the same information. The diagram below demonstrates solutions we recently deployed to two E&P companies. These Hybrid solutions included:

- Cloud & SaaS components for locations with good data connections
- Onsite solutions, for locations with less reliable data connections, which seamlessly synchronise to the centralised cloud solution when data connectivity is available
- Hybrid solutions, enabling onsite solutions to synchronise data between sites when data connections are available.



### **BENEFITS OF A HYBRID SOLUTION**

To maintain your cost competitive advantage, the ideal scenario is a Hybrid solution that allows all sites to synchronise between each other when the data links are available, but operate offline when the data connection is down. This Hybrid solution would ensure that operations continue, all sites are working to a single version of the truth, and that HQ will have a record of all transactions.

#### And what will this look like in practice?

So for those working in remote locations, a Hybrid solution means that they can work collaboratively with others in their local site, with those on other sites and with HQ, accessing shared data from their local PC, tablet or mobile. They will always have access to the most up to date information - the same information that is available to other sites and HQ. They can continue to work as normal, making any updates and changes to the information as needed. If data connectivity is online, this will automatically update any data they are working on, as would be the case for any centralised system. However, if connectivity is down, they will still have offline access to the data they need and can continue to work as normal. Updates and changes will be stored locally, but automatically synchronise with the centralised systems as soon as the connection is available.

Centrally, this means that system access can be controlled, with permissions and security either controlled centrally, or instantly updated with any changes made locally and an audit trail completed. Data can be monitored centrally, with records of when and where information was updated. Company-wide reporting can be completed in real time, with no chasing for information from sites, and based on up to date, accurate information at any given time.

### The benefits of Hybrid solutions

A practical Hybrid model can address the challenges of organisations with multiple sites in remote locations. In addition to the cost and security benefits of working with a Cloud or SaaS solution, a Hybrid solution can offer:

- Fast deployment to remote locations
- Decreased cost due to reduced reliance on expensive data connections
- Enforcement of controls, whilst allowing an approved level of autonomy
- Ability to collaborate across offices, even where connectivity is poor
- Mobile access to files, via tablets and phones, as well as PCs for authorised users
- Ability to control access to key systems centrally, but deploy and use locally, e.g. finance systems, time recording, asset management etc.
- Faster access to centrally stored information, even when in remote locations
- Reduction in the cost of delivering IT at site level.

#### About the author

Chris is a Director at Progressive - the only Consultancy dedicated to providing Business Systems to the oil & gas industry. He has developed solutions for a range of companies working in remote and challenging environments. In recent years Chris has been predominantly focussed on West Africa where E&P companies have great opportunity but there are often significant environmental challenges including erratic power supply, high cost of data connectivity and the security of locations. Hybrid solutions have allowed Chris's clients to operate world class systems with significantly reduced operating costs, helping maximise investor's returns.



As the only Consultancy dedicated to providing Business Systems to the oil & gas industry, we call on over 25 years of sector expertise.

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All key project roles are resourced by our own people, and we develop holistic solutions based on best fit for you. At each stage, we consider every aspect of the end user experience as much as the IT systems themselves.

With in-house expertise covering finance professionals, IT systems experts and high calibre management consultants, every element is given total attention to detail. What's more, as an Infor Gold Channel Partner (focused on ION Workflow, EAM and SunSystems), utilising tried and tested IT systems within our solutions, we understand how to maximise benefits for our client partners.

The result?

We build lasting relationships

We deliver impressive results

And, we always look to change the game for our clients' benefit

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