Benefits and Advantages of Software as a Service (SaaS) for Engineering Development

For some years now, it has been impossible to ignore the increasing presence of 'Cloud' In effect many of us use the Cloud every day without realising it, as it has enabled a plethora of social media, internet based shopping and Government services. The Internet of Things is growing exponentially. But let's consider the merits of using this Cloud as a means to execute software and systems engineering projects in a global 24/7 environment.
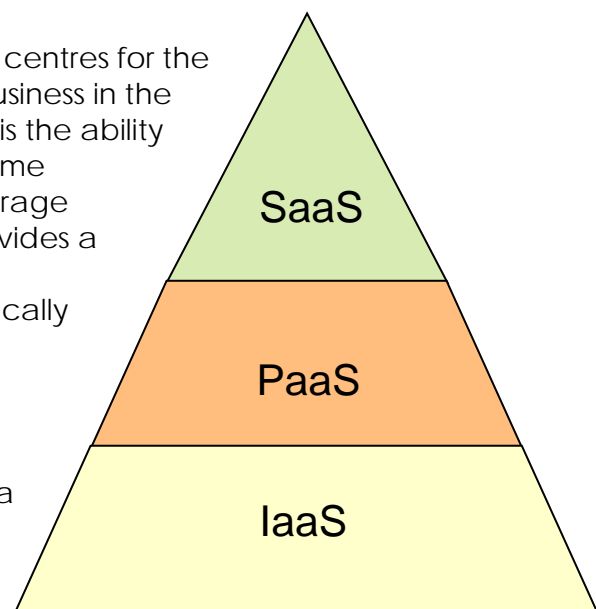
Traditional IT Services

Before the availability of Cloud, businesses increasingly required an Information Technology (IT) infrastructure on premise. This entails an overhead of facilities management, maintenance, including back-ups, storage management etc. There will always be a place for this structure depending on the applications and the data being processed. However, with the growth of Cloud services and the ability to use these as a development or delivery platform, there are now more options to consider for the IT Manager.

Infrastructure as a Service (IaaS)

It has been possible for some years to utilise data centres for the storage and data processing roles required for business in the 21st Century. IaaS takes this one step further and is the ability to programmatically create, manage and consume infrastructure elements which include images, storage volumes, network and compute resources. It provides a mechanism for users to scale their computing requirements on demand without having to physically go out and buy hardware and the supporting infrastructure.

Platform as a Service (PaaS)

For development of software or systems projects a development platform is built on top of the IaaS. IBM® Bluemix®, Microsoft Azure and Cloubees are examples. This is essentially the middleware interfacing the user with the underlying infrastructure which should in effect be invisible to the end user. The final piece in the pyramid is Software as a Service (SaaS).

SaaS

PaaS

IaaS

Software as a Service (SaaS)

SaaS is the delivery of specific actual applications which are provisioned on the Cloud on an on-demand basis. The key issue here and major benefit in terms of cost is that traditional licensing models providing perpetual access to the application are no longer required. Why pay for full time access to an application when it may only be required for several months? SaaS provides the means to significantly reduce the Total Cost of Ownership (TCO) of software applications. Use what you need when you need it and only pay for the applications when doing so.

Key Benefits

Cost

Elimination of up-front costs for purchasing and installation as well as ongoing maintenance and upgrades. Pay-as-you-go licensing models means business only pay for usage and not on costly unused licensing. For small businesses the software rental model on SaaS provides access to cutting edge software applications which traditionally would have been difficult to justify due to full time licensing cost.

Time

For many SaaS applications it is simply a case of firing up a web browser and logging in. There is less reliance on internal infrastructure and resources are not required to carry out updates and maintenance.

Scalability

The pay-as-you-go model of SaaS applications enables a great deal of flexibility and scalability. It is very easy to increase and decrease both licensing and performance as needed. The application can be made available to a user anywhere in the world with internet access.

Compatibility

As the applications are centrally hosted updates are only made once. The requirement to upgrade on multiple machines to maintain compatibility is no longer there, saving additional time and resource.

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