

Migration from On-Premise to Cloud



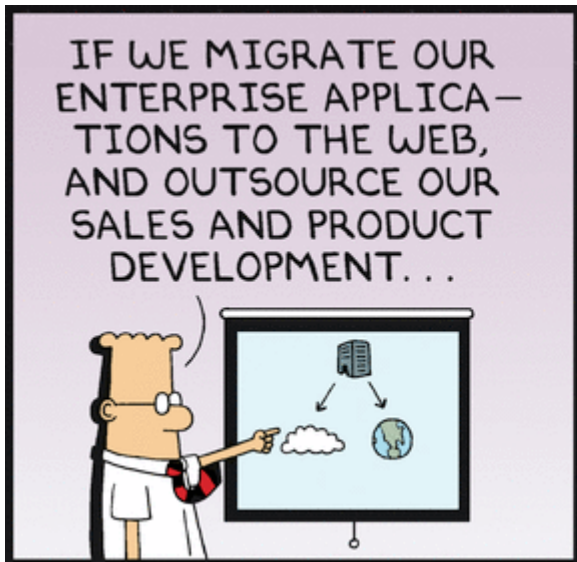
Lessons learned and things to remember

Will Gray

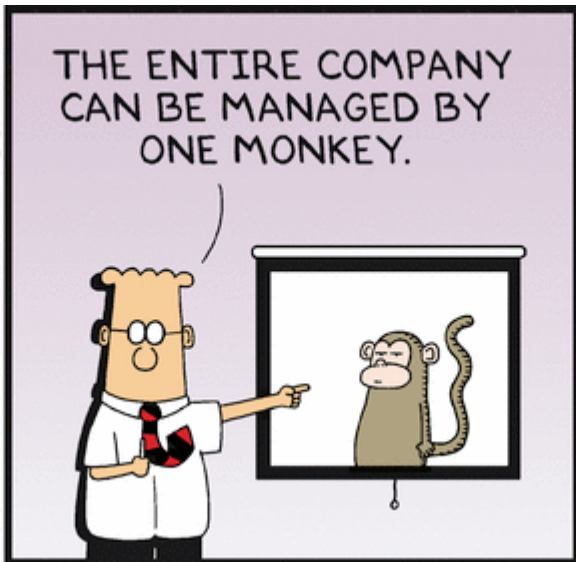


What is the focus of this workshop?

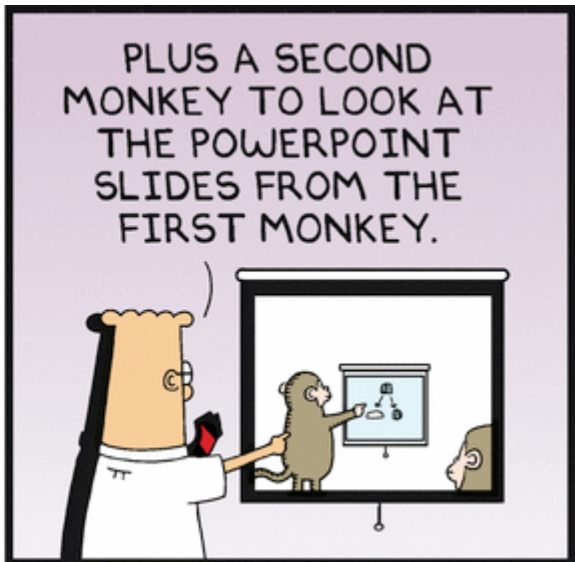
- On-Premise to Cloud and SaaS
 - What is this about and why would we want it?
- Current versus future state
 - Getting the full picture of an on-premise system
 - Understanding the potential of a cloud based system
- Overcoming Hurdles
 - Supported with reference to real world examples



Dilbert.com DilbertCartoonist@gmail.com



1-18-10 ©2010 Scott Adams, Inc./Dist. by UFS, Inc.



What is Cloud versus SaaS?

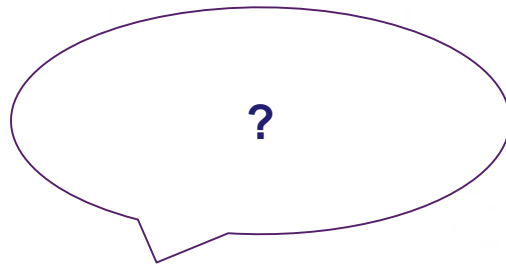
Cloud Computing is the practice of using a network of **remote servers** hosted on the Internet to store, manage, and process data, rather than a **local server** or a **personal computer**

What is Cloud versus SaaS?

Software as a service (**SaaS**; pronounced /sæs/) is a software licensing and delivery model in which software is licensed on a subscription basis and is **centrally hosted** (on Cloud). It is sometimes referred to as "on-demand software". **SaaS** is typically accessed by users using a thin client via a **web browser**.

Today we will talk about Cloud with a SaaS focus (case studies)

Reasons to Deploy SaaS (Top Drivers)



IT staff & IT Manager



Reasons to Deploy SaaS (Top Drivers)

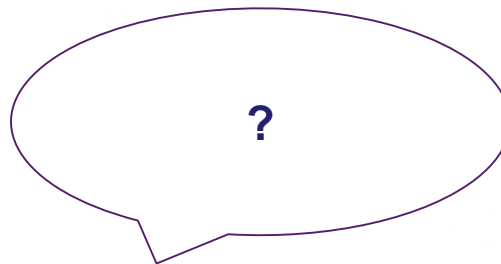
A purple-outlined speech bubble pointing downwards towards the silhouettes of the IT staff.

**Cost
Reduction**

IT staff & IT Manager



Reasons to Deploy SaaS (Top Drivers)



Senior Business Executives



Reasons to Deploy SaaS (Top Drivers)

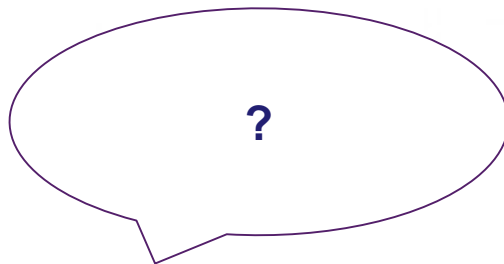
A purple-outlined speech bubble with a tail pointing towards the bottom left. Inside the bubble, the words "Cost" and "Reduction" are stacked vertically in a bold, dark blue, sans-serif font.

**Cost
Reduction**

Senior Business Executives



Reasons to Deploy SaaS (Top Drivers)



CIO & IT Directors



Reasons to Deploy SaaS (Top Drivers)

**Cloud is a
modern
approach**

Innovation

**Operational
Agility**

CIO & IT Directors



Other Drivers

- Business users dissatisfied with IT support (slow product updates)
- Maintaining IT systems is expensive (people, hardware, software, upgrades)
- IT time spent maintaining vs. implementing IT solutions

Hurdles to overcome

- Cost
- IP
- Security of Data and Communications
- Validation
- Integrations
- *Network Infrastructure*
- Application Design & Web (User Experience)

Hurdles - Cost

If one driver is to reduce total cost of ownership we need to understand a little bit about what it costs right now

“On-premise is lower cost option”

Considerations

Servers and configuration

Software Licensing

- Database

- Operating System

Database Support

Hardware Elasticity

IT staff

24x7 support monitoring

Vendor Software

FTE IT Support for Upgrade (1x per year)

Have you considered...

- Recovery of data in a disaster
- How often is your data backed up?
- Can you access the environment anywhere? VPN?
Citrix?
- Is the system secure?
- Software Uptime (SLAs?)
- Adding new capabilities/infrastructure

On-Premises

9%

Software Licenses

Customisation & Implementation

Hardware

IT Personnel

Maintenance

Training

Ongoing Costs

- Apply Fixes, Patches, Upgrade
- Downtime
- Performance tuning
- Rewrite customizations
- Rewrite integrations
- Upgrade dependent applications
- Ongoing burden on IT
- Maintain/upgrade hardware
- Maintain/upgrade network
- Maintain/upgrade security
- Maintain/upgrade database

Cloud Computing

68%

Subscription Fee

Implementation, Customisation & Training

Ongoing Costs

- Subscription fee



<https://www.peoplehr.com/blog/index.php/2015/06/12/saas-vs-on-premise-hr-systems-pros-cons-hidden-costs/>

On-Premise vs Cloud (the hidden cost)

Hurdles - Cost

- So can it be cheaper than on-premise?
 - Yes
- A customer with approximately 200 users estimated their yearly costs for on-premise, with a move to SaaS they will see a 31% reduction over 4 years.
 - Business value was also shown first as this would take advantage of new technology
- Opportunities – Subscription cost model

Hurdles – IP and Data Security

- IP – Where is my data stored?
 - Choice of Data Centres for SaaS providers
 - Private Cloud/Single Tenancy
 - Understand what the regulations are early and how SaaS might affect things
- Opportunities - Extensive backups and disaster recovery options

Hurdles – IP and Data Security

- Data Security and Communication
 - SaaS providers will typically have more security in place than on-premise, multiple security protocols supported
 - Penetration testing and proactive monitoring is standard
 - Adhere to standards (ISO 9001/27001)
- A global customer with >1000 users evaluated SaaS and found it adhered to all security requirements (for GxP too)
 - We have found that taking an early look at contracts and agreements has been beneficial whilst the solution is technically evaluated

Hurdles - Validation

- Can a Cloud system be Validated?
 - Yes, all of the same validation processes can be applied to the hosted software, however focus can switch away from IQ/OQ and more to PQ
- How is this impacted by upgrades?
 - Speaking to customers, updating validated on-premise is time consuming and is irregular (2-4 years)
 - There are also considerations regarding functionality changes, validating these in isolation can be difficult
- Opportunities - Validated environments can be upgraded more regularly and more confidently (scripting). Automated OQ could also be implemented

Hurdles - Integration

- If I'm outside the company network how do I get access to local servers and systems?
 - Can it be done – Yes.
 - This requires bi-directional communication through a secure connection
 - Some integrations could also be centralised and hosted if appropriate
- Opportunities - a chance to consolidate

Hurdles – Network Infrastructure

- We have really bad internet, will Cloud access be slow?
 - Possibly – Access is dependent on internet availability
 - Bulk of activity is performed on the servers so even limited speed can be manageable (compare with web)
 - Remote locations may be impacted but same issue with on-premise if this one of many sites
 - Get early access to an evaluation system
- Opportunities
 - Reason to improve network infrastructure
 - Consolidate systems, reduce variability at different sites

Opportunity – Application Design

- A lot of On-Premise systems are the result of years of deployments and incremental updates, often with several instances and desktop client applications.
 - **Do you really want to replicate this on the Cloud?**

Opportunity – Consolidate

- Reasons for several instances of the same application
 - Different Sites and Performance
 - Separate Projects that are not aligned
 - GxP
- Draw a line in the sand – what should be kept?
 - A customer with 1100 non-GxP ELN (4 systems) and around 160 GxP users (3 systems) determined that it was possible to move to just 2 systems to cover GxP and non-GxP users.

Opportunity – Web Application

- Many processes and workflows are constrained by the technology, years of development and updates means this could be a perfect opportunity to change.
- Web Applications have been designed from the ground up to improve user experience, often through simplified browser interfaces suitable for multiple devices (Tablets, MacOS)
 - Customers have typically evaluated stale workflows at this point too and only taken active ones forward.
- A large customer evaluated and found that performance and user experience with Web was significantly improved over desktop and as such went ahead with this as a phase 0 of SaaS migration

Summary

- Customers are looking to reduce total cost of ownership as well as move to more modern tech
- There are hurdles to overcome but these should not be a blocker to change
- Early planning is key, along with early engagement with SaaS providers to iron out data security concerns
- SaaS provides opportunities to think differently, you do not need to go 'as is on Cloud'
- Ultimately, SaaS is here it is viable

Any Final Questions...



*Appearance & taste is not guaranteed