Healthcare in the Cloud

HUS HUS

Dan Gonos CTO/HP Fellow, HP Enterprise Services Risto Laakkonen HUS IT Production Manager May 15th, 2012

© Copyright 2012 Hewlett-Packard Development Company The information contained herein is subject to change with

Service Delivery Concept

Everything as a Service
Software a Service
Platform as a Service
Infrastructure as a Service

5.Which One is Right One ?



Deployment Models

1.Private Cloud

Enterprise owned or leased

2.Community Cloud

Shared infrastructure for specific community

3.Public Cloud

Sold to the public, mega-scale infrastructure

4.Hybrid Cloud

Composition of two or more clouds





Service Delivery Concept and SLA

1.SLA or SLM means: Service Level Management2.That could mean that we have Confrontation as a Customer



Service Delivery Concept and Deployment Models and SLA

1.Which one is the right combination ?



Service Delivery Concept and Deployment Models and SLA

One of the views to look closer this question is SLM view

SLA or SLM means: Service Level Management

This means that we have as a Customer some requirements

Some examples.....





Service Delivery Concept and SLA

1.SLA or SLM means: Service Level Management which Vendor has to commit

2.TYPICAL SLA:s in HUS Contracts

- 1. Response Time
 - from 30 min to 4 hour
- 2. Time limit when Service has run normally
 - from 1 hour to 4 hours up to NBD

3. Reaction time

• From 30 min to 1 day

4. Delivery time



Global Mega Trends

Evolving Business Models

Technology Advancements

> Changing Workforce

8 © Copyright 2012 Hewlett-Packard Development Company, L.P. The information contained herein is subject to change without notice.





Waves of Information Technology

9 © Copyright 2012 Hewlett-Packard Development Company, L.P. The information contained herein is subject to change without notice.

The 4th Wave



2008-2024





X - **I**

Seek simplification

Explosion at the edge

Move to Cause & Effect

Deliver personalization



Leverage automation & simulation

Understand the flattening world



Variablize resources



Ensure security & privacy



Embrace sustainability



Accelerating innovation & change



11 © Copyright 2012 Hewlett-Packard Development Company, L.P. The information contained herein is subject to change without notice.

л



Cloud Perspective

Cloud Service Provider

Provider Perspective:

An environment where highly scalable and elastic services can be easily consumed over the internet through a low-touch, pay-per-use business model

Cloud Service Consumer

... all the details related to providing a complete solution, at an attractive price, on a cost structure that leads to a profitable business model are your responsibility.

- You own and manage all of the IT assets
- You assume the specific costs and risks of the service components

Two very different roles

Two very different perspectives

Consumer Perspective:

...all you need is a device and an internet connection to get the value.

- You don't need software, hardware, technical knowledge.
- You don't own the assets.
- You don't assume the specific costs and risks of the service components.

Consumers of the "Cloud" are **concerned with services it can perform rather than the underlying technologies used** to achieve the requested function."



12 © Copyright 2012 Hewlett-Packard Development Company, L.P. The information contained herein is subject to change without notice.

-

Cloud Levels - Everything-as-a-Service



Design drives Cloud Economics



Software-as-a-Service (SaaS)

Software-as-a-Service (SaaS) is a <u>business model and a technical architecture</u> for delivering applications as network-available services rather than as locally-deployed packaged software.

SaaS solutions are typically hosted by a vendor supporting multiple clients with one application (multi-tenant) solution.

SaaS solutions also <u>contrast with application service provider</u> (ASP) models which usually deliver applications as hosted single-tenant solutions.

SaaS is also a key component of successful BPO offerings, which include SaaS applications and the staff needed to execute the outsourced business function.

SaaS applications are priced "by the drink", which means that clients pay for their actual usage of the application.

<u>Usage is measured in meaningful business terms</u> like number of applications processed in the period, or number cases processed, or number of agency employees, or number of notices generated, or number of active members, or number of transactions...



Case Study: CalWIN

California Work Opportunity & Responsibility to Kids (CalWORKs) Information Network (CalWIN)

- Integrated eligibility, enrollment and case management system
- Federal, state and county programs including Medicaid, Temporary Assistance Needy Families (TANF), Supplemental Nutrition Program (SNAP), In-home Supportive Services, Foster Care, Adoption Assistance, County General Assistance, Child Care, Cash Assistance Program for Immigrants (CAPI), and County Medical Service Program (CMSP)
- Scope:
 - Serves 43% of California's Social Services population
 - 30,000 users across 850 sites
 - Issues benefits to 2.8 million families
 - Total transactions 21 million daily...sub-second response time
 - Over 4 million client correspondences per month in 14 languages soon to be 21
- Technical Architecture
 - Tiered / Service Oriented Architecture (SOA)
 - Web-based



CalWIN at a Glance

CalWIN is an integrated social services enrollment and case management system fully operational since January 2005

Serving 43% of California's caseload across 18 counties:



17 © Copyright 2012 Hewlett-Packard Development Company, L.P. The information contained herein is subject to change without notice.

The CalWIN Journey



The information contained herein is subject to change without notice.

CalWIN Model



ROI Targets



Strategic Outcomes

The project provides users with automated tools to increase the accuracy of benefits administration by increasing productivity and efficiency, reducing payment errors, and reducing the overall cost of program administration.

Business Results		Metrics
\downarrow	Total Cost of Ownership	****
↑	End User Productivity (benefits administration)	****
\downarrow	Payment Errors	****
\downarrow	Applications Operations Cost	****
1	Return on Investment	****



Case Study: Health-e Connect



Members PHR



Providers without EMRs EMR-EHR Access



Data Sources

Labs

Pharmacy

Claims



Providers with EMRs EHR Access

21 © Copyright 2012 Hewlett-Packard Development Company, L.P. The information contained herein is subject to change without notic Health-e Connect

(EMR-EHR-PHR SaaS) Subscription-based

- Improve health quality and patient safety
- Demonstrate measurable health improvement
- Achieve cost reductions



Other HIE data sources



Information Services...Autonomy

















It will be a journey...with different on-ramps

Organizations will start with different use cases...and create unique paths



Applications "destinations" determined by their current and future state capabilities

- Transformational "Purgatory"
- Not able to be transformed or moved
- Mission critical, hardened workload
- Security and manageability requirements
- At least "minimum" transformation of apps
- Not transformable to pure cloud stack

- New development or transformable to Public Cloud
- Less heavy interaction with other apps
- · Less security and non critical workload



Thank you

