



The Theory of Cloud set to Music



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Symphonic Metamorphoses on Themes of Enabling Technology”

Symphony Number 9

Technique – Theme and Variation

Melodic pattern – Cloud

Orchestrated for Healthcare

Key – B #

Symphonic Metamorphoses on themes of Enabling Technology – Number 9

Purpose:

To increase the participants knowledge of Cloud as an enabling technology and provide a point of view on leveraging Cloud in Healthcare applications.

Upon completion of this session the participant will:

- Obtain a base knowledge on Cloud as an enabling technology
- Understand how the “as a Service” enabler evolved over time
- Gain appreciation for some of the architectural decisions one must make when deploying Cloud applications
- Understand some of the challenges of leveraging “Cloud” using Healthcare as an industry model



Symphonic Metamorphoses on themes of Enabling Technology – Number 9

Agenda

- The theme of “Cloud”
- Cloud in terms of Music theory
- The roots of this “theme”
- A Great Hit!
- Composing for the Cloud
- Point and Counterpoint
- Healthcare Theory
- HP “Arranges” and “Composes”
- Questions and Answers
- Conclusion

“Cloud computing will be as influential as e-business”

Gartner

"When people talk about cloud computing, they're talking just about taking some stuff, putting it outside the firewall, and perhaps putting it on servers that are also shared or storage systems."

Steve Ballmer – CEO Microsoft

The Theme of “Cloud”

Engagement Model

Cloud
Service
Provider

Musician

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

Attendee

Provider perspective:

... 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

Concert

***Two very different
roles***



***Two very different
perspectives***

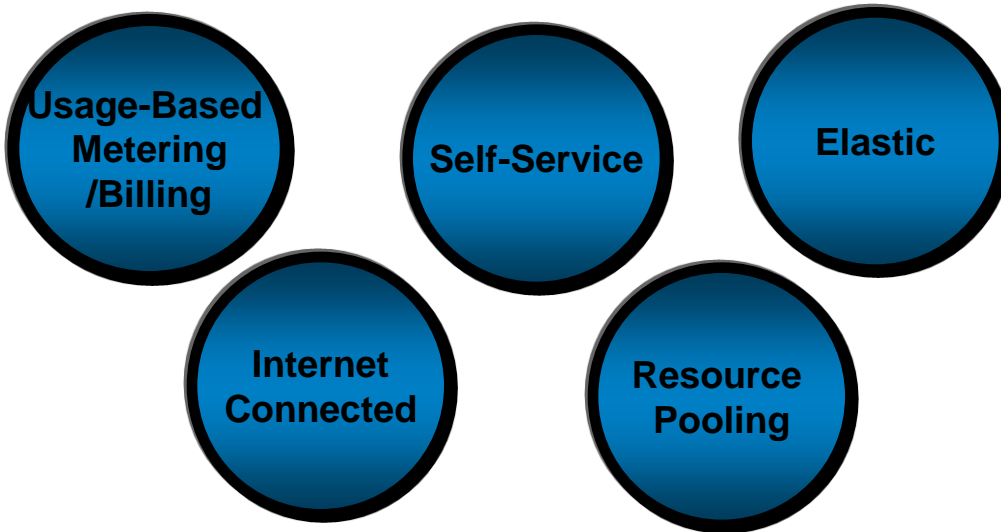
Consumer perspective:

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

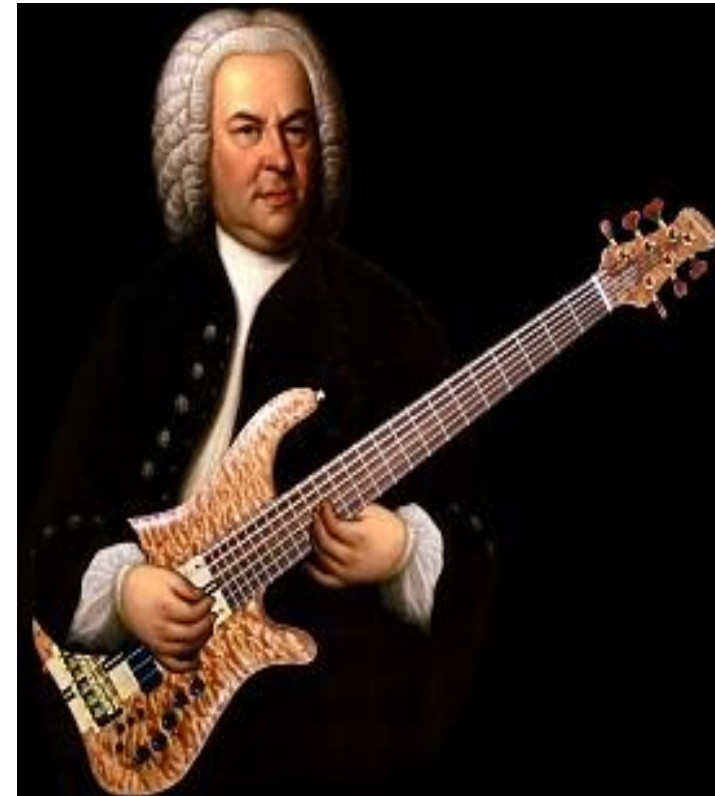
- You don't need software, hardware, technical knowledge.
- You don't own the assets.
- You don't assume the specific costs and risks of the service components



The Theme of “Cloud” – Melodic “break down”



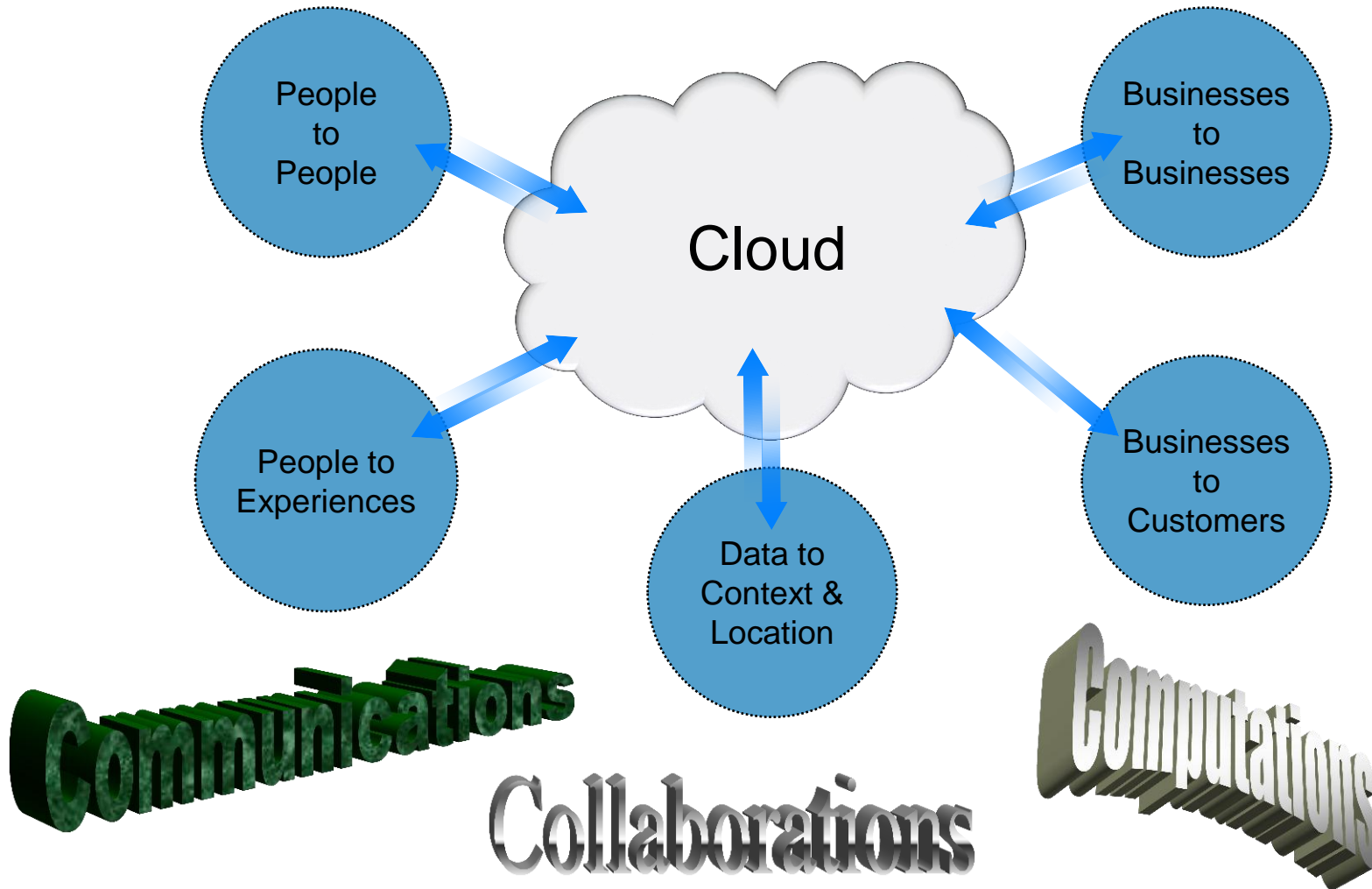
Consumers of the “Cloud” are concerned with services it can perform rather than the underlying technologies used to achieve the requested function.”



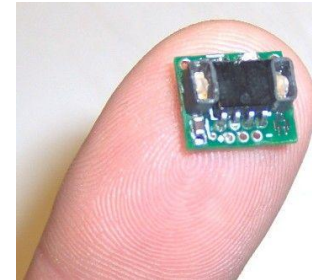
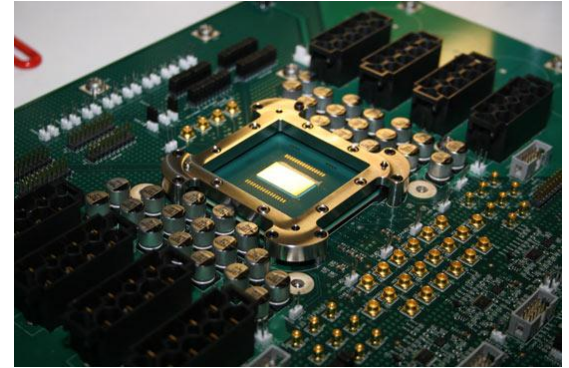
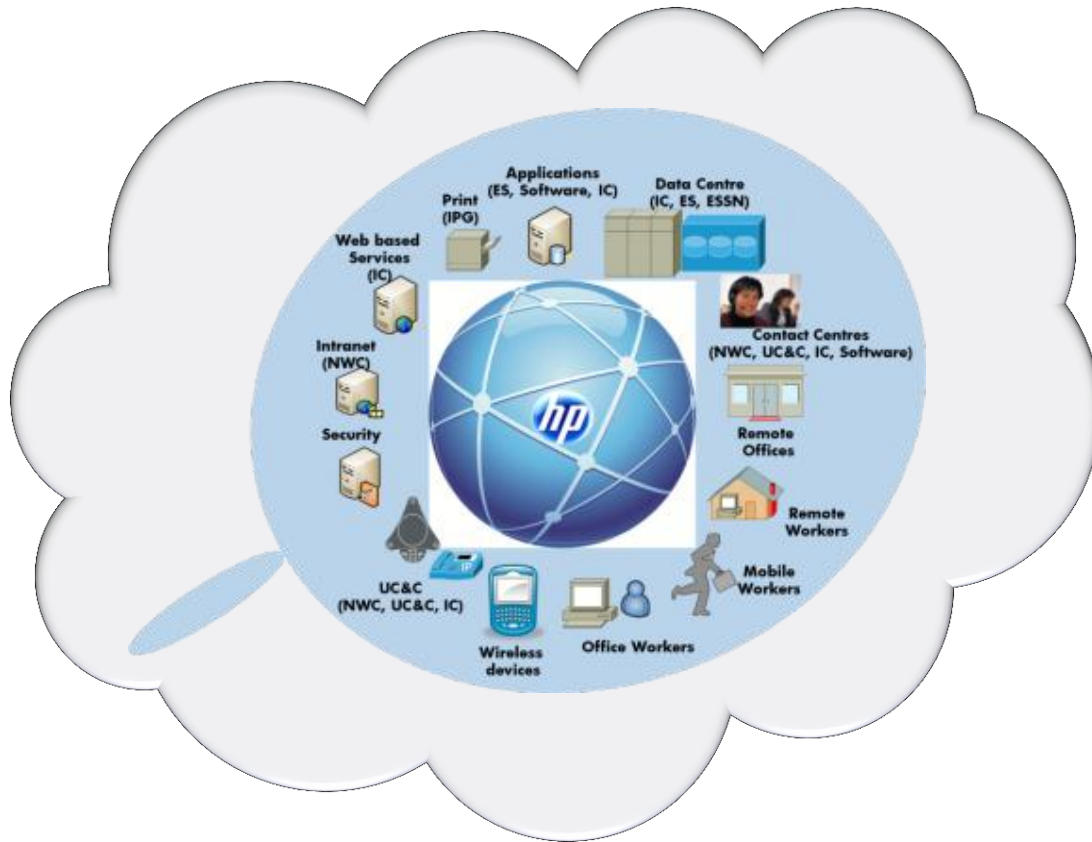
Picture from:
Arrangements for Electric bass
by Dave Grossman
<http://www.jsbach.net/bass/>

Cloud in the key of B#

In Cloud the key of B# = C³



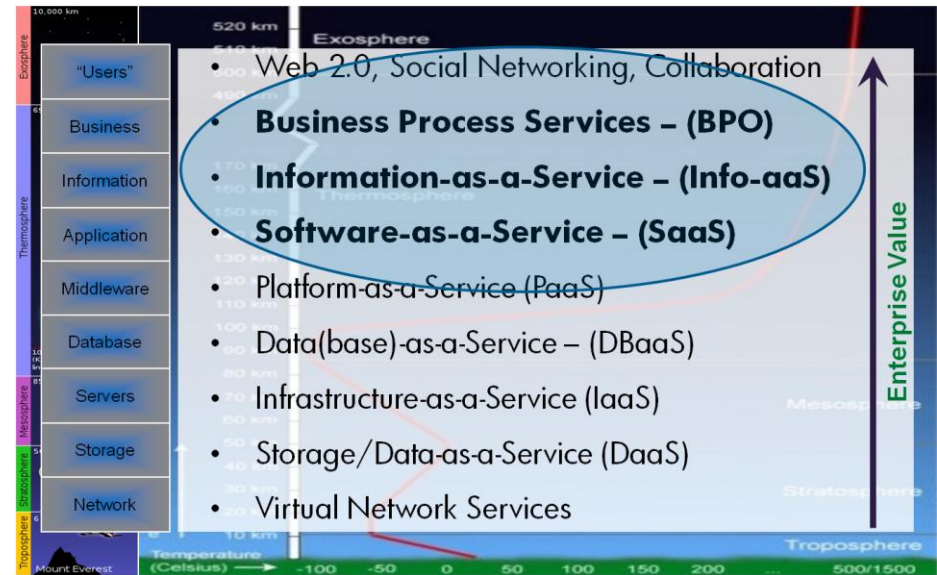
The Cloud “Mash-up”



**THE INSTANT-ON
ENTERPRISE IS HERE.**



Cloud “Arrangements”

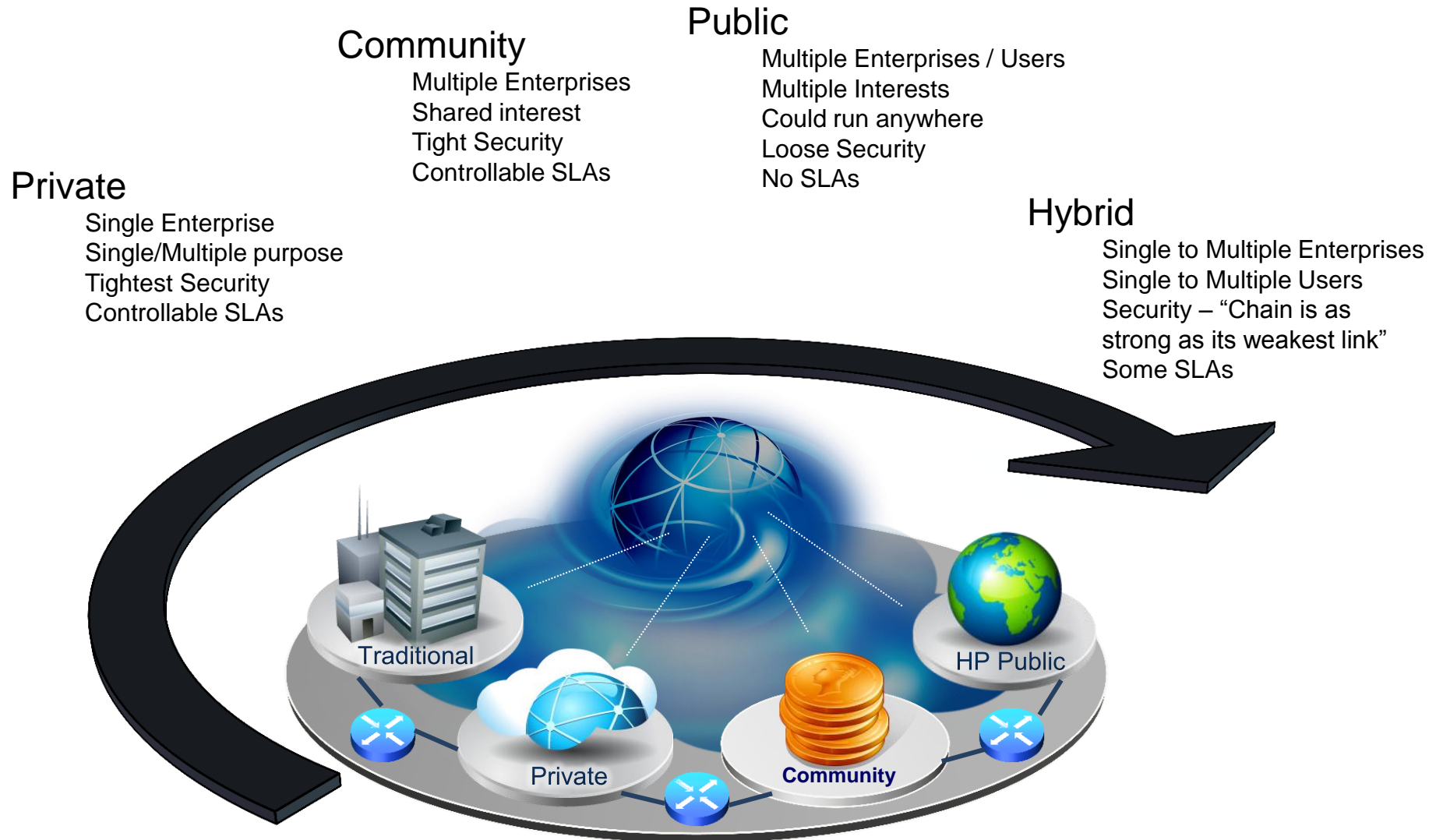


Infrastructure as a Service - IaaS - "Synthesizer"

Platform as a Service - PaaS - "Solo"

Software as a Service - SaaS - "Symphonic Band"

Cloud “Variations”



Cloud “Crescendo & Decrescendo”


SELF-SERVICE USER

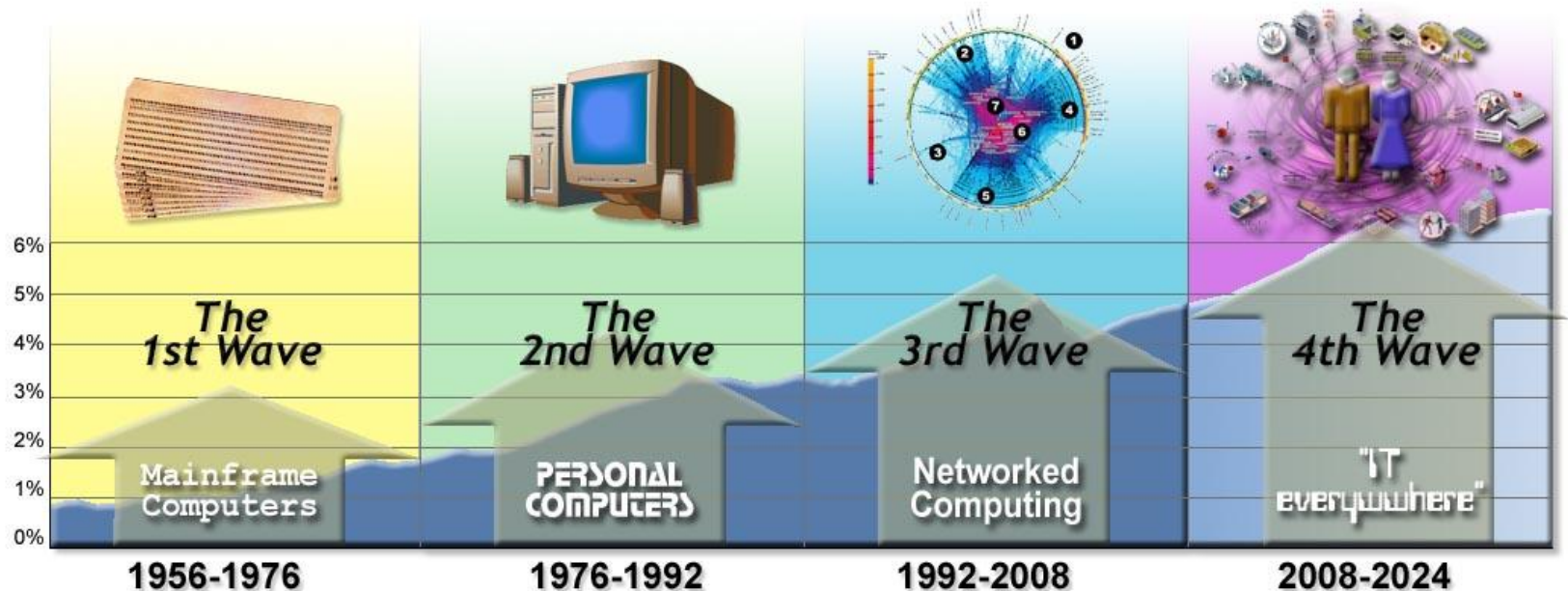
Hybrid delivery model can perform “Cloud-Bursting” and recovery based on orchestration configuration



Will your Data Rain
when the Cloud
Bursts?

Gartner Research
24 September 2010 -
ID:G00206825

The roots of this “theme”



The 4th Wave – IT Everywhere

Platform: Enterprise + Mobile/Consumer + “Cloud”

Threats: “Everywhere”

Security: Protect Data & Systems (everything private, everything secure)

CHALLENGE

The right mix of service delivery options (private cloud, public cloud, traditional data center) to optimize the access and use of new digital library

RESULTS

A hybrid solution to meet the specific needs of Paul's media business

Private cloud delivered from HP's state-of-the art, secure data center coupled with HP-built on-premise IT infrastructure

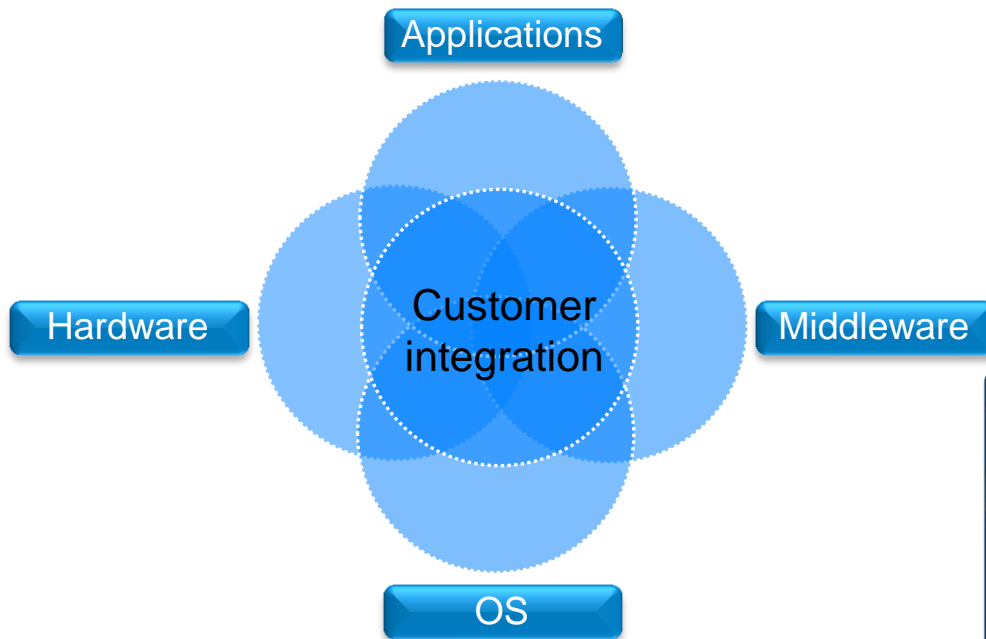
SOLUTION COMPONENTS

- HP Hybrid Delivery solutions
- HP CloudSystem Matrix
- HP Flexible Compute Service
- HP Storage solutions
- HP Services
- HP Converged Infrastructure solutions

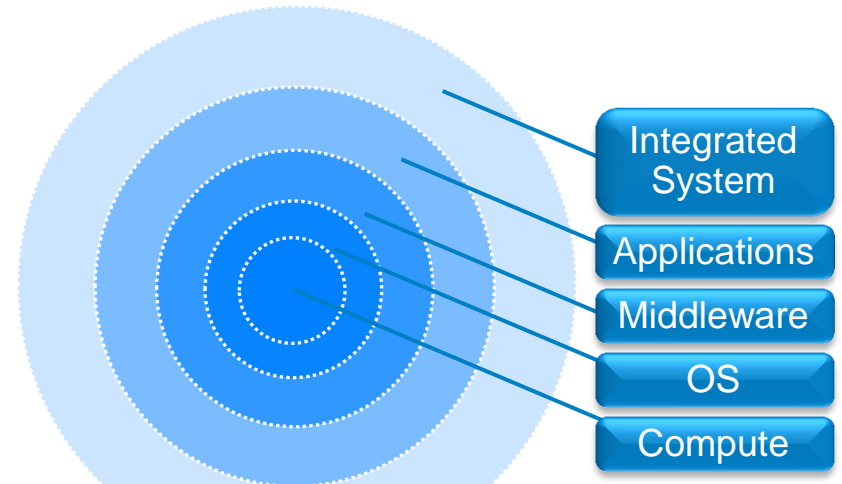


Composing for the Cloud

TRADITIONAL IT:
Distributed design



CLOUD:
Integrated design



Point and Counterpoint

Security

Scalability

Auditing

Control

Governance

Data security & protection

Performance

Cost

Reliability

Service levels

Availability

Compliance

Security or related component is #1 concern/issue for most customers.



Point and Counterpoint – Public Cloud



PT - We can lower the cost of compute....

CP - If your metered usage is 24 by 7 by 365 - You will pay for more

PT - We can provision servers quickly

CP - You must employ a "standard" configuration to provision quickly

PT - Our clerical staff can be more productive much faster

CP - What is your measurement of productivity?
Are you paying incentives for through-put?

Point and Counterpoint – Public Cloud



PT - We can reduce or even get rid of “fixed” assets...

CP - You are not likely to get a Public Cloud vendor to sign up for an SLA

PT - We will experience unlimited storage...

CP - Data Sprawl will become world-wide. Forget the concept of putting together a batch file for daily reporting from transactional data. Relational Query?

PT - Our Services can be available at any time

CP - In order to get true 24 by 7 by 365 you must replicate the data at 2X (or more) cost

Point and Counterpoint – Public Cloud



PT – We can provision services (SOA) quickly

CP – How will integration to the back-end systems work? When will there be no “back-end” systems?

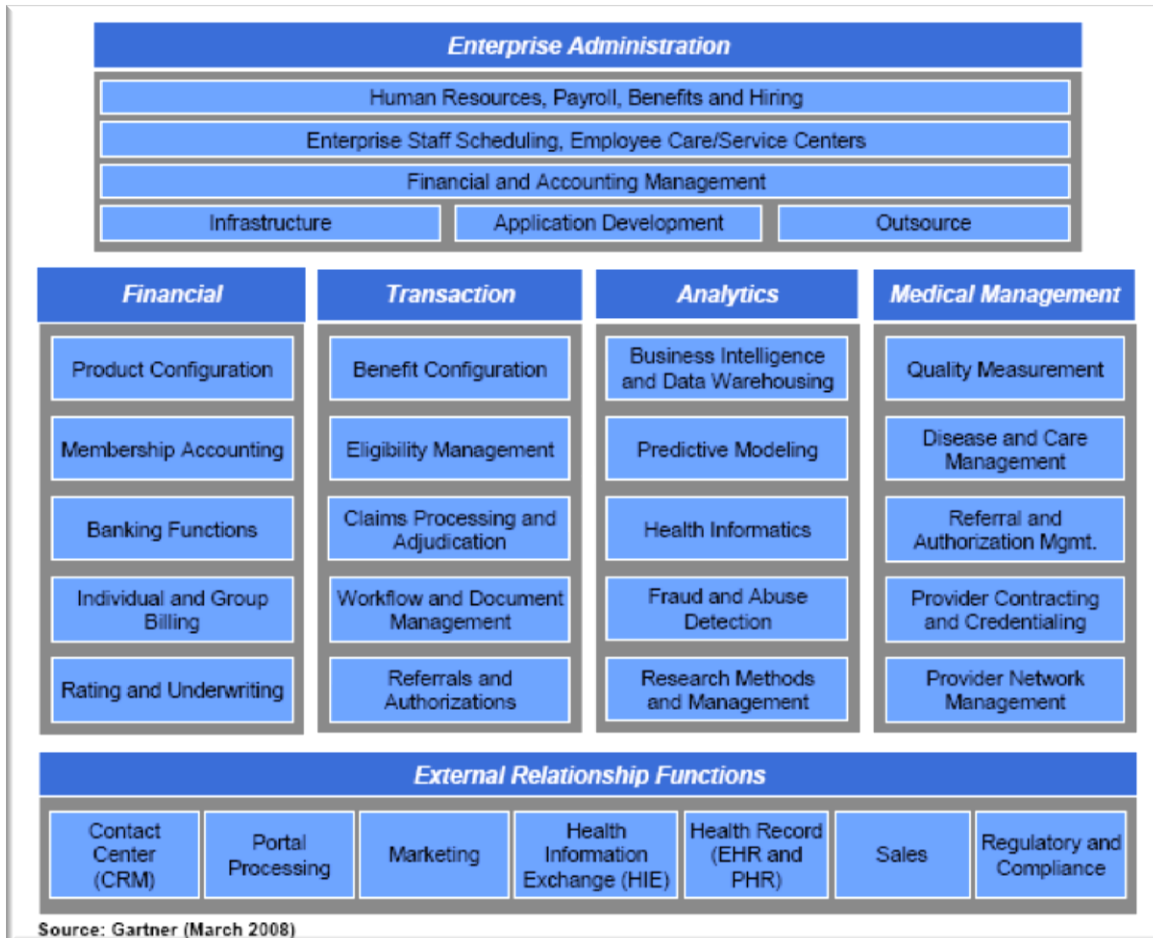
PT – We can take advantage of parallel processing

CP – True parallel processing requires new architectures

PT – We can move towards Green initiatives

CP – Will your Public Cloud Vendor sign up to the HIPAA regulations? Does your application have internal security?

Healthcare Theory



Most applications require
Private / Community
Cloud enablement

Privacy laws dictate
technology options

Both SORs and SOEs need
decent response time to
keep the user productive

Security and Privileges
“should” be imbedded in
the Application (last line
of defense)

Multi-tenant capabilities a
must for Server sharing

High I/O requirements
should not “virtualize”
the DBMS

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“Symphonic Metamorphoses on themes of Enabling Technology”

Keywords

Mash-up

Theme and Variations

Concert

B# = C-Cubed

Arrangements

- Synthesizer
- Solo
- Symphonic Band

Tight vs. Loose

Composing and Decomposing

Point and Counterpoint

Theory

Recordings vs. Live Concerts



Thank you

