



Enterprise Architecture

Building a Mobile Vision

David Hunt – DCH Technology Services
Gill Windall – University of Greenwich



What is Enterprise Architecture?

Definition

“**Enterprise Architecture** is the practice of applying a **comprehensive and rigorous method** for describing a current or future structure for an organization's processes, information systems, personnel and organizational sub-units, so that they align with the organization's **core goals and strategic direction**. Although often associated strictly with information technology, it relates more broadly to the practice of business optimization in that it addresses business architecture, performance management and process architecture as well.”

Enterprise Architecture is evolving ...

Objectives for EA :

- Ensure IT delivers best value in support of its businesses objectives and activities
- Ensure sustainability by building consensus across the organisation regarding the direction to be taken (what and how) and the value being delivered by the EA”

Outcomes - Measurement
Maturity
Assets and Value

Framework -Governance,
Capabilities
Services

Principles, Processes, Tools
and Techniques

**What issues does my EA address ?
(Outcomes)**

**What does my EA look like?
(Framework)**

How will I deliver my EA?

EA is the glue that binds the different elements of the IT organisation

ENTERPRISE ARCHITECTURE framework

Knowledge Framework

Supporting
the
decision
making
process

Outcomes, Asset, Maturity
and Value Models

Enterprise Architecture definition - content

Architecture process best practice approach

Architecture assurance – making it stick

Architecture governance – decision decisions

Architecture development - capability

Community - profession

Supporting the delivery
of programmes and projects

Enterprise Architecture (TOGAF View)

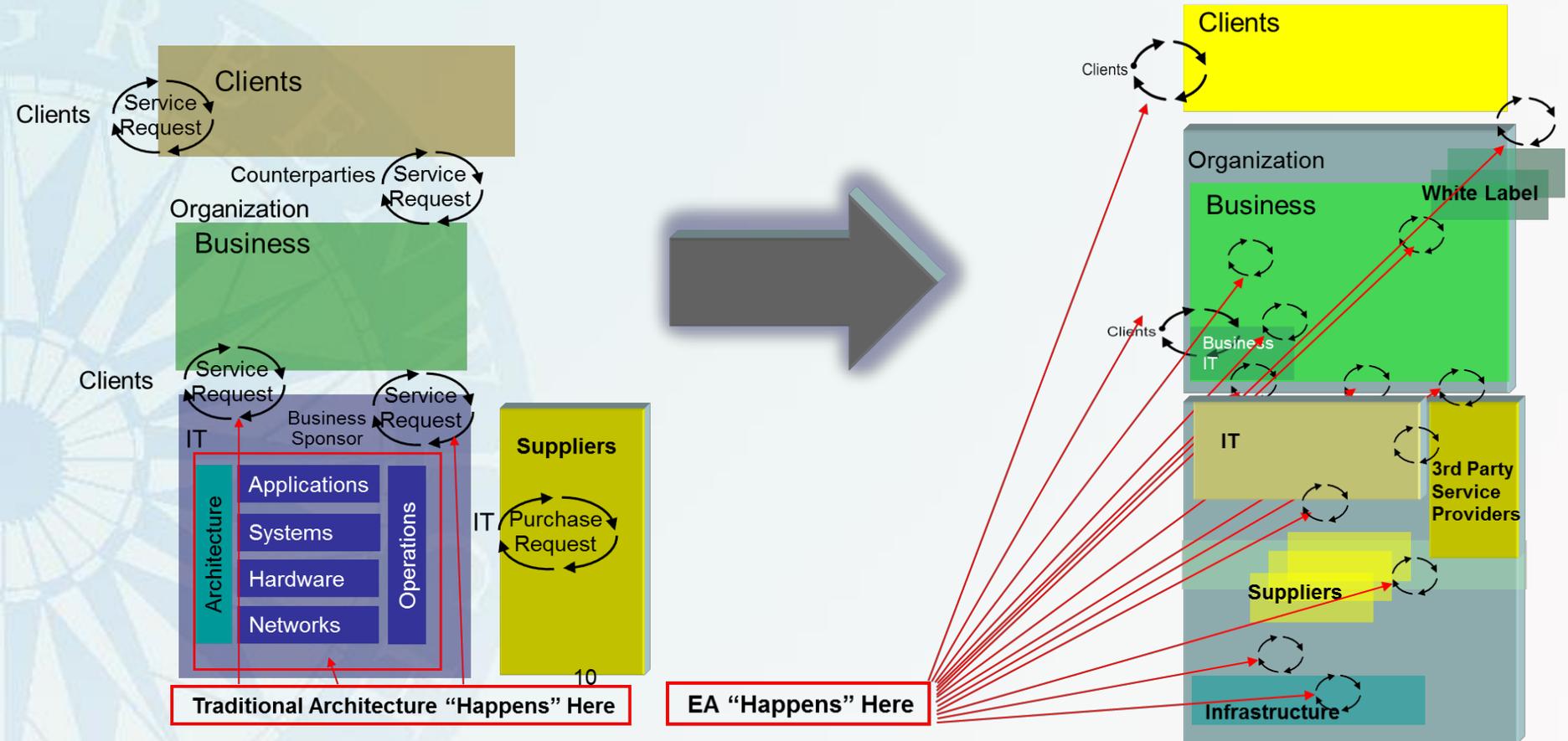
Business Architecture

Information Architecture

Application Architecture

Technical Architecture

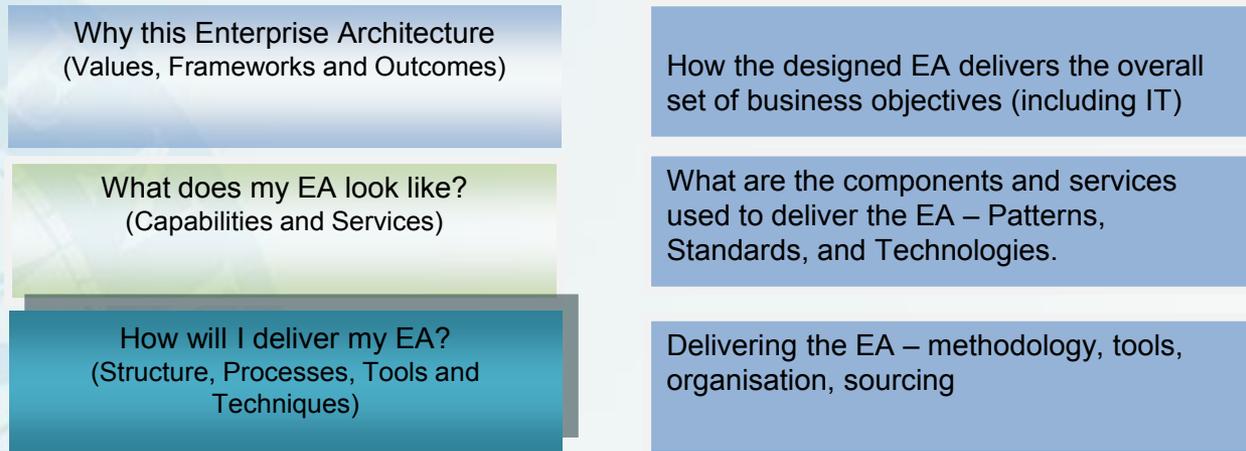
Changing Nature of EA scope



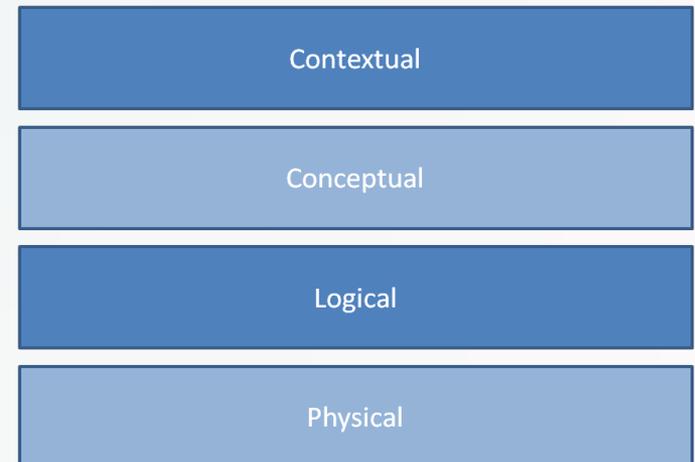
Leads to the conclusion that we need new ways to analyse and understand the complex relationships that drive the successful delivery of "strategic" IT systems.

We are dealing with complex problems;

Take a layered approach to the EA



Requires that we understand the appropriate abstractions to be used to describe and document the EA.



Imprecision and Perspectives on Modelling Context

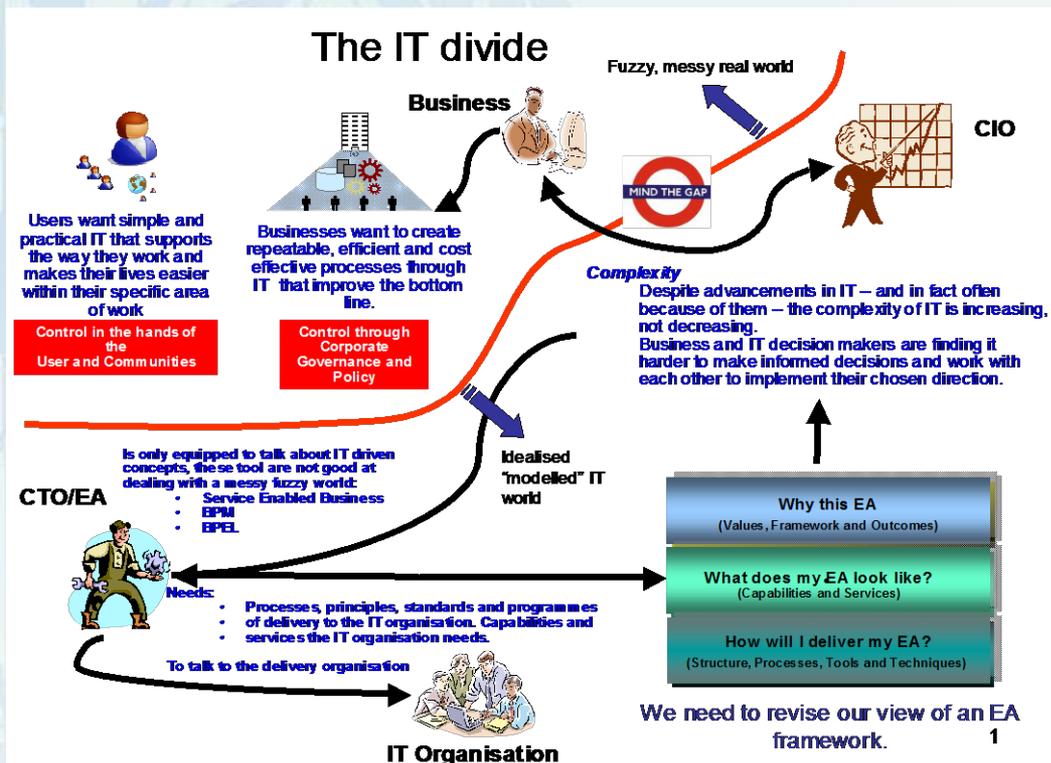
• In defining an EA we need to understand that this is not a precise science.

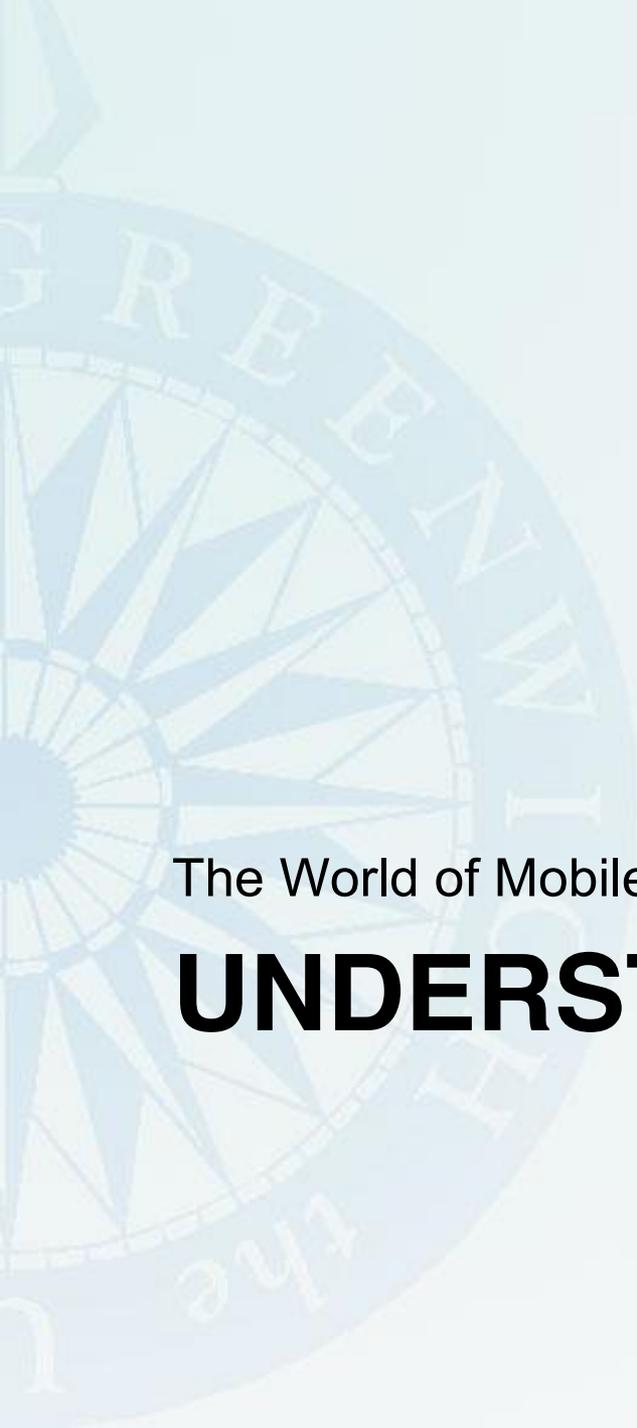
• “The IS Discipline, being a hybrid and dealing with social-technical hybrids, is hard to classify as a natural or human science”

“Business systems are analysed utilising the same means of representation as physical systems (the computer) or the quasi-mathematical abstractions of the data flows or entity-relationship graphs”

• Even though they are really hybrid systems.

Observations by C. Ciborra
The Labyrinths of Information – Challenging the Wisdom of systems





The World of Mobile

UNDERSTANDING CONTEXT

History - Smartphone

January 2007

Apple unveil the iPhone.

“the most expensive phone in the world” –Steve Balmer

April 2007

Windows Mobile has 18% Market Share Q1

November 2007

Google announces Android OS for free

“we have many millions of customers” – Steve Balmer

October 2008

iPhone has 13% market share, RM 15%

November 2008

Android based G1 launches.

December 2008

Microsoft kills Windows Mobile
– moves to Windows Phone

Autumn 2009

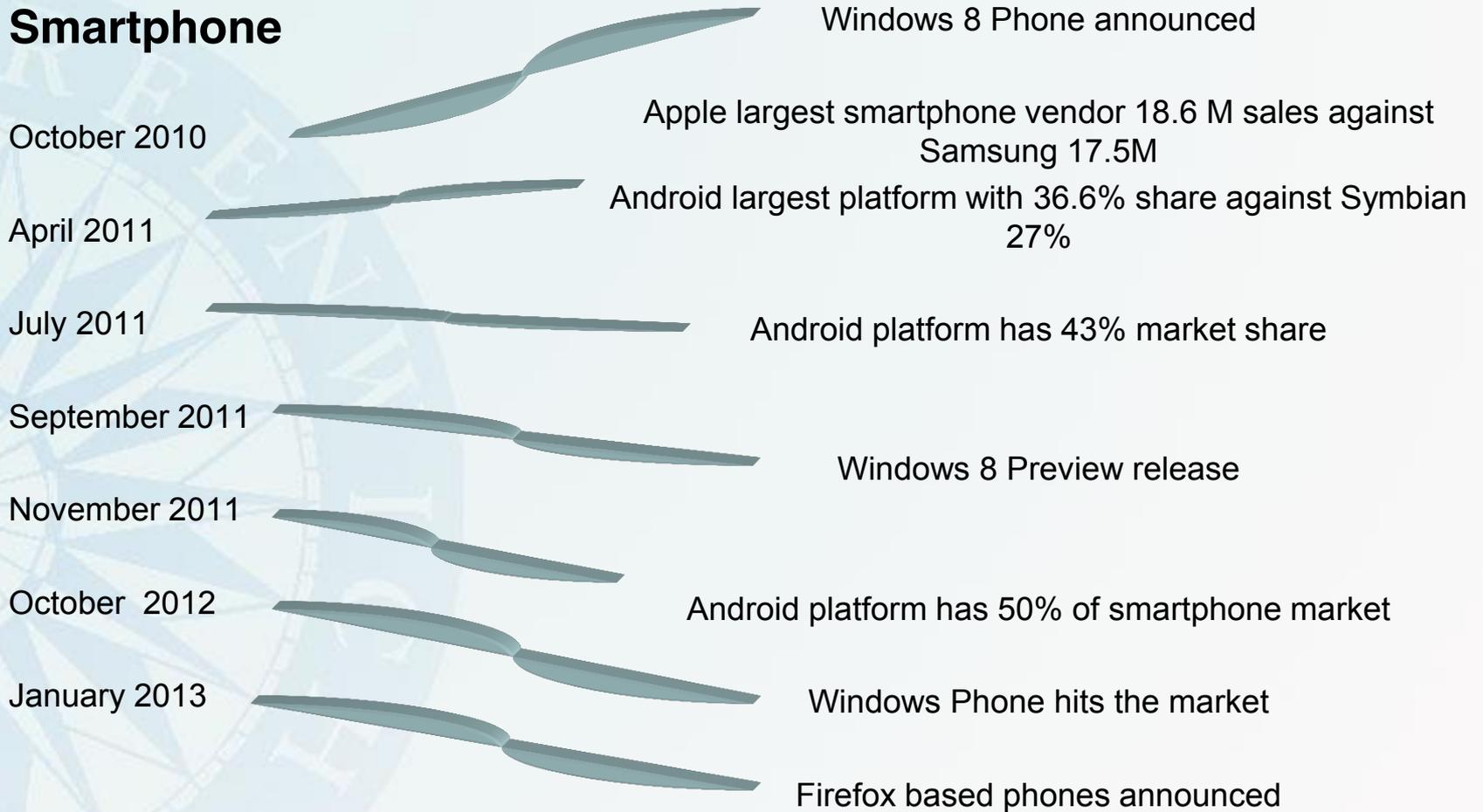
RM has 20% Market Share
Nokia Symbian 44%

Cross Platform
technologies
appear

April 2010

Q1 2010 Android has 10% market share

History - Smartphone



Technology Map

Technology

Java

Objective C

C++

Linux

WebKit

HTML5/CSS3 Javascript

Platforms

Symbian

Blackberry

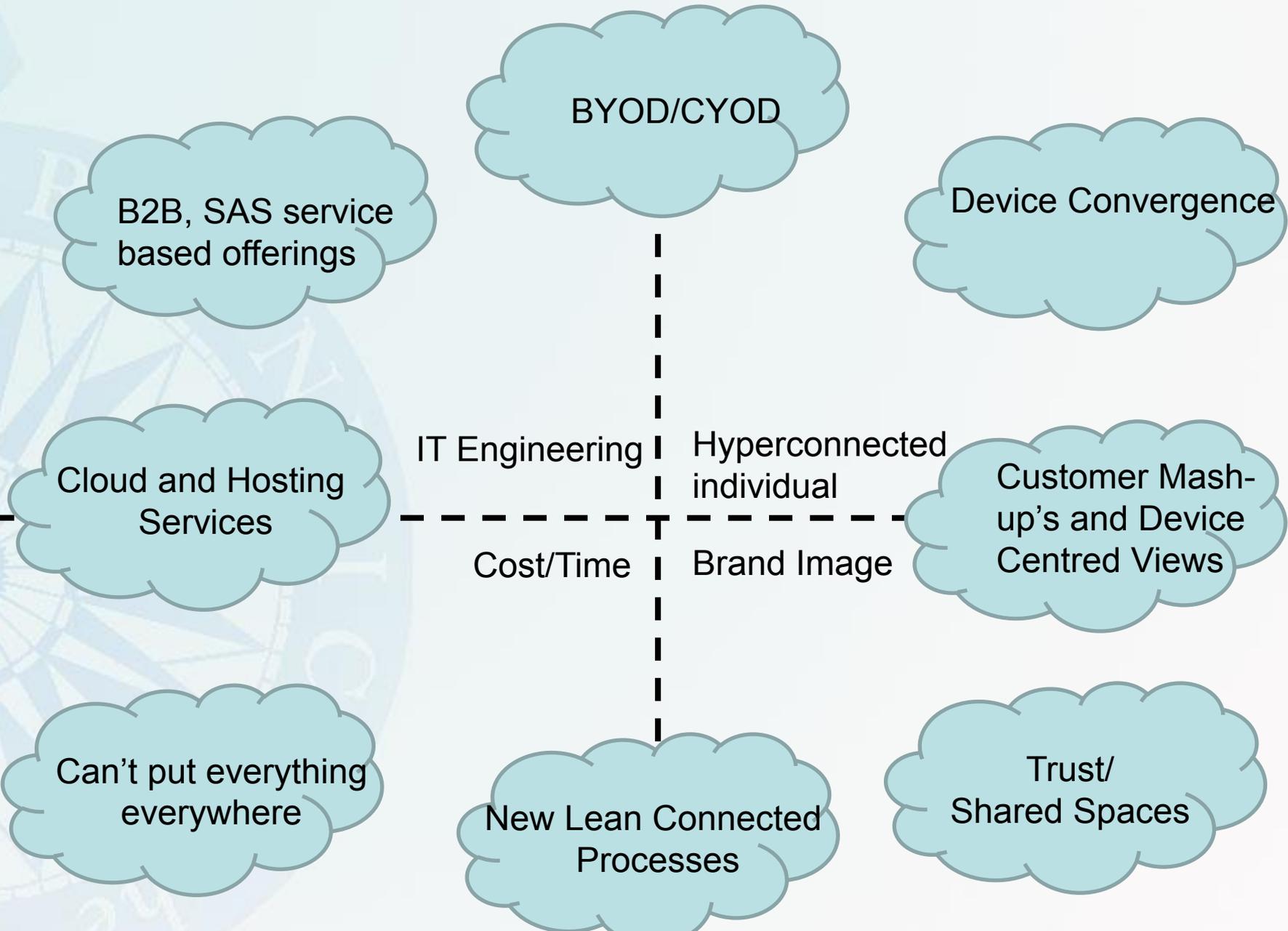
Android

iOS

Windows 8

Palm OS

Bada

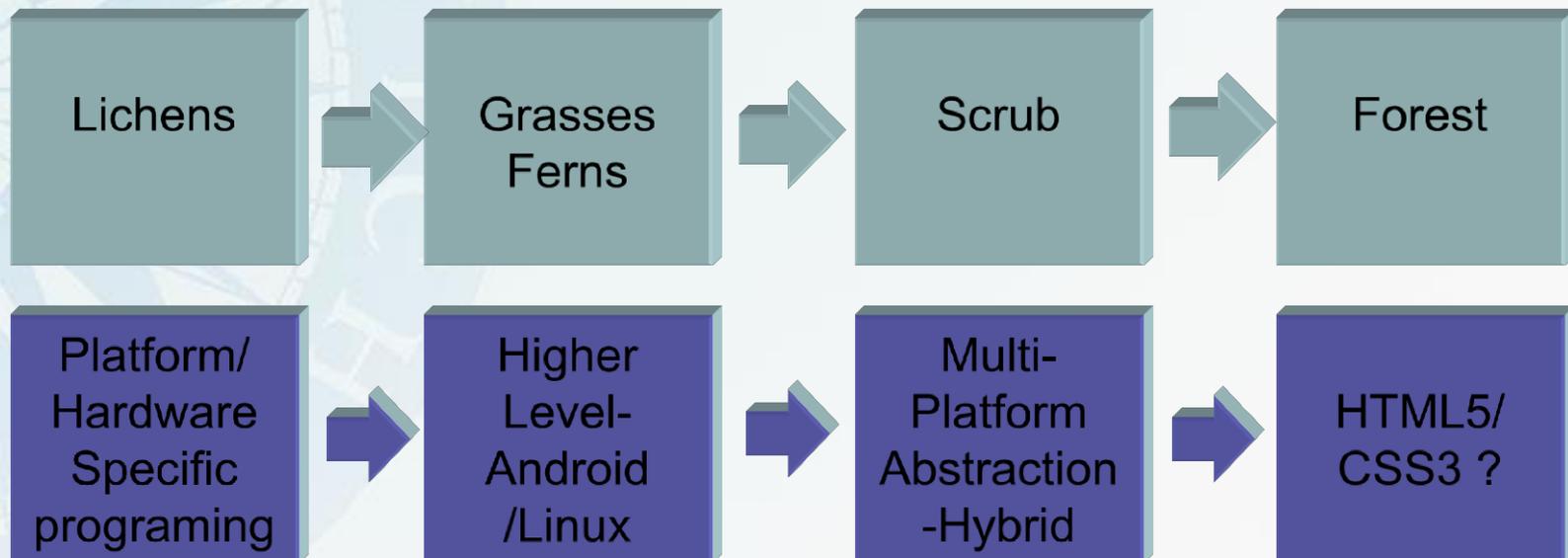


King, Brett (2012-10-25). Bank 3.0.

- For those of you who are thinking your organisation needs to watch for ROI (Return on Investment) to be demonstrated first or that maybe you'll be a fast follower, think of this :
 - “If it takes just months now for new emergent technologies to insert themselves into the mainstream and change behaviour, and if you've got a 12–24 month development and deployment cycle (typical of most banks' IT departments)—you'll be at least three to four years behind if you wait to see someone else's ROI demonstrated before you commit. Three to four years is the time it took Facebook to go from nowhere to half a billion users.”

A Thinking Framework

- Utilise concepts from Ecology – in particular the relationships between communities and a habitat:
 - A new habitat undergoes a number of phases of colonisation (succession) until the emergence of a dominant community creates a stable ecosystem until the next disruptive event:



Techno Chaos

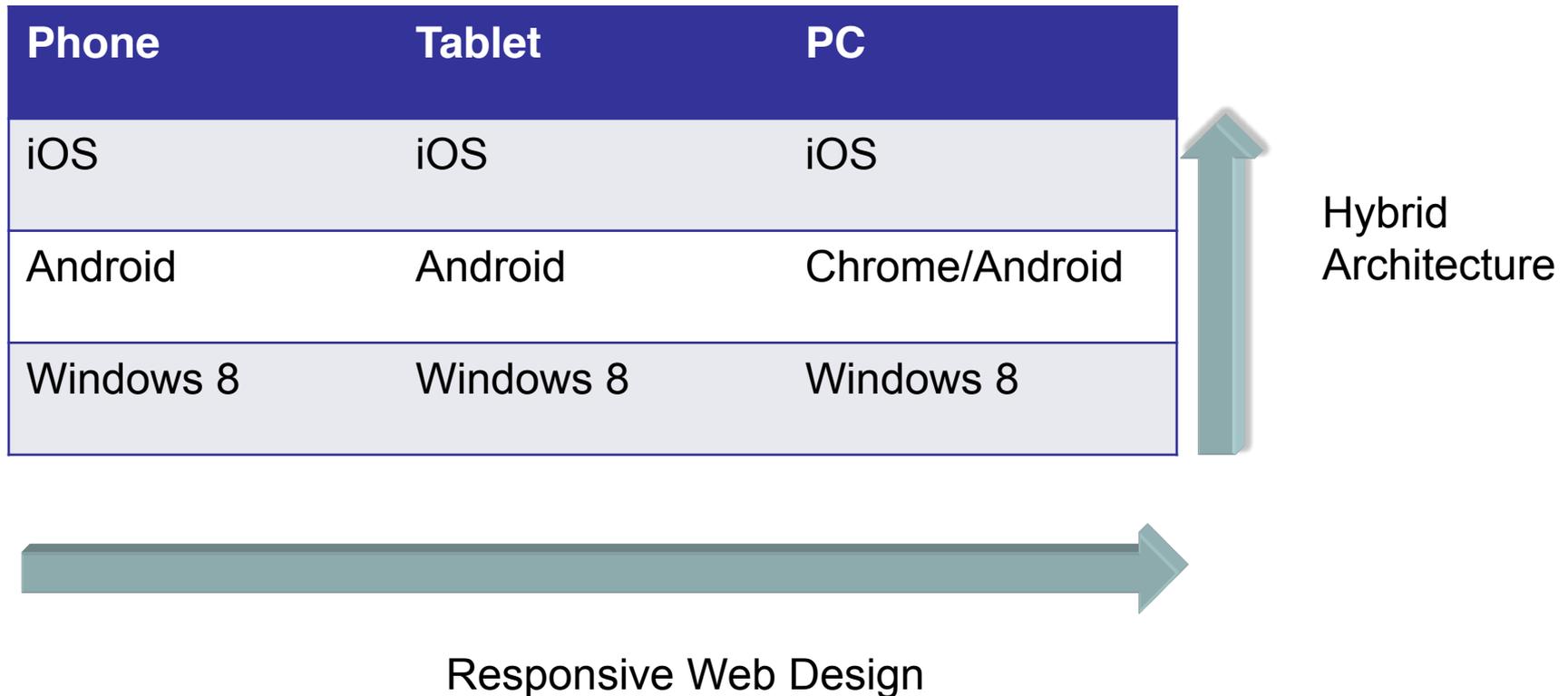
- Highlighted by the diversity of platforms and languages
- Lack of clarity of market winners - continuing to see many new entrants
 - VHS/Betamax all over again ... for those that remember
- **Decision is to take a risk reduction approach in order protect investment:**
 - **Componentisation to reduce delivery timelines**
 - **HTML5/CSS3 to future proofing the delivery roadmap.**



The World of Mobile

APPLYING OUR THEMES

A number of vendors are delivery common platform capabilities across a spectrum of devices. We can choose a number of architecture/design styles to leverage the available technology and programming techniques:



Hybrid Approaches

- Phonegap – now Cordova
 - Creates embedded web view inside the application
 - HTML5/CSS3
 - Works with most common platforms
- Appcelerator's Titanium Studio.
 - Compiles Javascript to Native code.
 - Supports most of the common platforms

Hybrid Embedded Route

Use an embedded webview utilising HTML5.

Put as much capability as is practicable into the webview.

Use as many opensource frameworks as possible:

Cordova

Sencha Touch

Create an architecture that can be readily ported.

Spend time on the design, don't rush into coding.

- To componentize or not to componentize ???
 - Tooling like Sencha Touch allows for the rapid creation of a mobile App.
 - But – its “Engineered.” around the GUI so harder to achieve

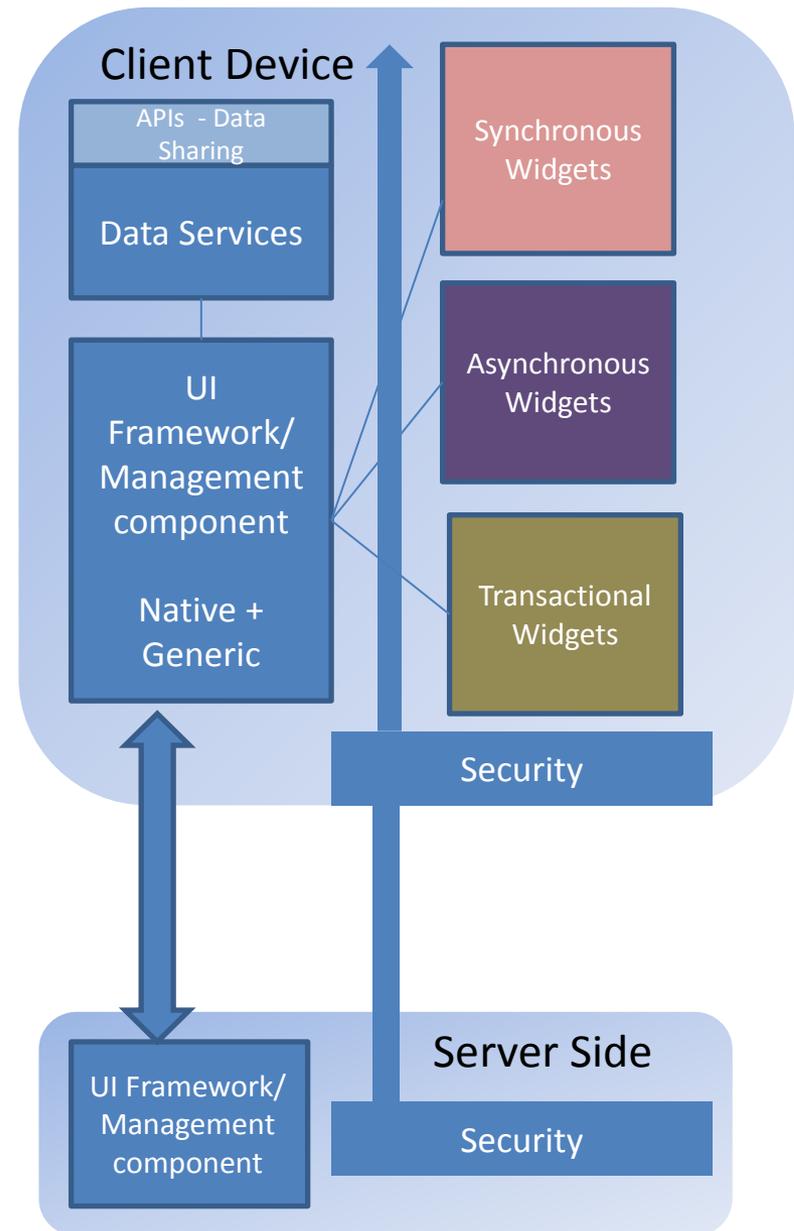
Hybrid Client

The app provides the basic framework for interacting with the consumer:

1. Synchronous processes.
2. Asynchronous processes
3. Transactional processes
4. Data services

The UI framework provides the control and overall look and feel for the app.

Sits on a security capability that defines role and context for the application. Components are context aware – that is understand the device capabilities and the level of trust to decide what services they will provide



Stretching the Technology

- To make Hybrid really work we need to create a Native quality application with HTML5/CSS3/Javascript:
 - Componentisation
 - Agile Delivery
 - Flexible Security
 - Context Aware Elements
 - Support for Client Mashups

The World of Mobile

END: QUESTIONS ????