HTML5

White Paper

January 2011

net SCALE
Technologies, Inc.

www.net-scale.com

Background

- HTML5 intends to address shortcomings of web applications:

    – No off-line capability ("does not work in the subway").

    – No local storage.

    – "Sluggish" UI (page based, limited user interaction and graphic effects).

- To offer an open standard alternative to Flash.

- Attention of HTML increased along with the recent popularity gain of the term "Cloud Computing".

    – Web applications are a key component of cloud computing.

    – Cloud computing forces web applications to compete directly with traditional local PC applications in terms of user experience.
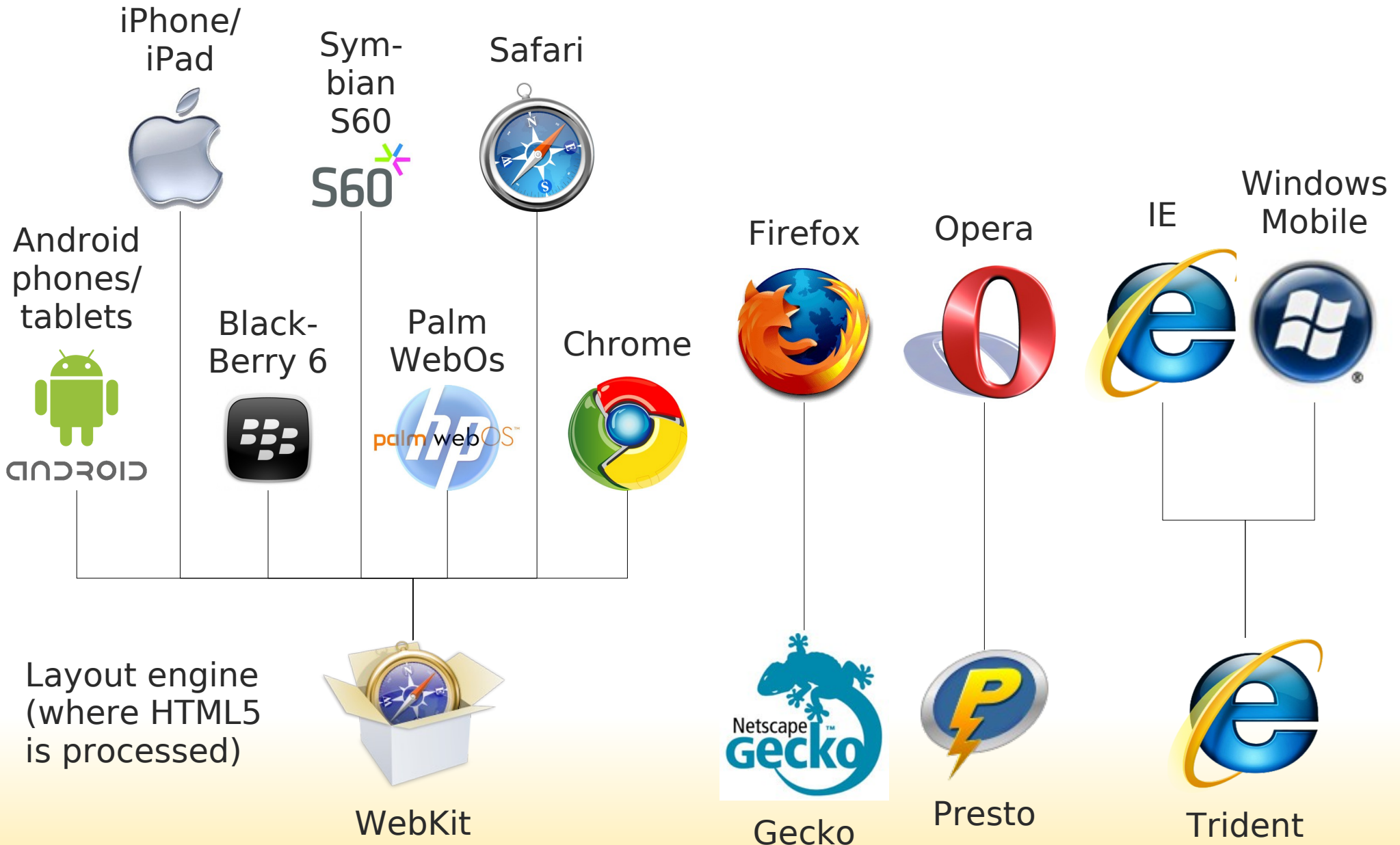
net SCALE
Technologies, Inc.

What is HTML5?

- An evolving standard for code that runs in web browsers both PC and mobile devices.

  – Developed by the World Wide Web consortium.

- Unlike earlier HTML standards HTML5 includes not only the markup language but also its interaction with style sheets and scripts.

- HTML5 applications consist of three parts:

  – **HTML** (Hypertext Markup Language)
  Specifies a hierarchical tree of UI elements, such as boxes and text blocks.

  – **CSS** (Cascading Style Sheets)
  Specify the graphical appearance of the HTML elements, such as size, position, border, text size, font, color, transparency, or transition effects.

  – **JavaScript**
  Is a programming language that can dynamically change HTML elements, their styles, and interact with the user through mouse, keyboard, or touch screen, and can exchange data with the network.

net SCALE
Technologies, Inc.

Important New Features in HTML5

- **Off-line capability**: applications can be permanently stored locally to make them available all the time.

- **Local storage**: applications can store data locally (e.g., to hold an outgoing e-mail until network connectivity is re-established).

- **Native media player** (does not require Flash or other plugins).

- **Server push** (e.g., for new e-mail notification).

- **Vector graphics** capability (called "canvas"), e.g., to create charts.

- **Geo location** to implement location aware applications.

- **Transition animations** (native, no emulation with JavaScript needed).

- **Drag-and-drop** (native, no emulation with JavaScript needed).

Who Supports HTML5?

iPhone/
iPad

Sym-
bian
S60

Safari

Windows
Mobile

IE

Android
phones/
tablets

Firefox

Opera

Black-
Berry 6

Palm
WebOs

Chrome

Layout engine
(where HTML5
is processed)

WebKit

Netscape
Gecko

Gecko

Presto

Trident

HTML5 Compatibility

	WebKit	Gecko	Presto	Trident
Off-line capability	Yes	Yes	Yes	No
Local storage	Yes	Yes	Yes	Yes
Native media player	Yes	Partial	Yes	No
Server push	Yes	No	Yes	No
Vector graphics	Partial	Partial	Partial	No
Geo location	Yes	No	Yes	No
Transition animations	Yes	No	No	No
Drag-and-drop	Yes	Yes	No	Yes

Last updated: January 15, 2011
Source: Wikipedia

net SCALE
Technologies, Inc.

Conclusions

- HTML5 allows for the creation of web applications that are virtually indistinguishable from their local application counterparts:
  - Responsiveness, interactivity, off-line capability, push, are no longer an issue.

- Low deployment and management cost:
  - No formal software installation required.
  - Updates are automatic.

- Platform independent:
  - E.g., a single app runs on iPhone, Android phones, BlackBerry, Symbian (Nokia) phones, and Windows Mobile.

- HTML5 applications are a natural GUI for cloud computing.

- Security advantages:
  - Little or no data stored on device.
 - Compartmentalized: unlike with VPN, one app cannot access the secure connection of another.

net SCALE
Technologies, Inc.

Limitations

- Web browser must be running for web apps to run.

- No background capability.

- No native device alerting capability (e.g., notification bar of iPhone or Android).

- No auto-start upon boot time.

- No access to peripherals, such as microphone, camera, Bluetooth, USB, phone dialer.

net SCALE
Technologies, Inc.

Solution: Hybrid Apps
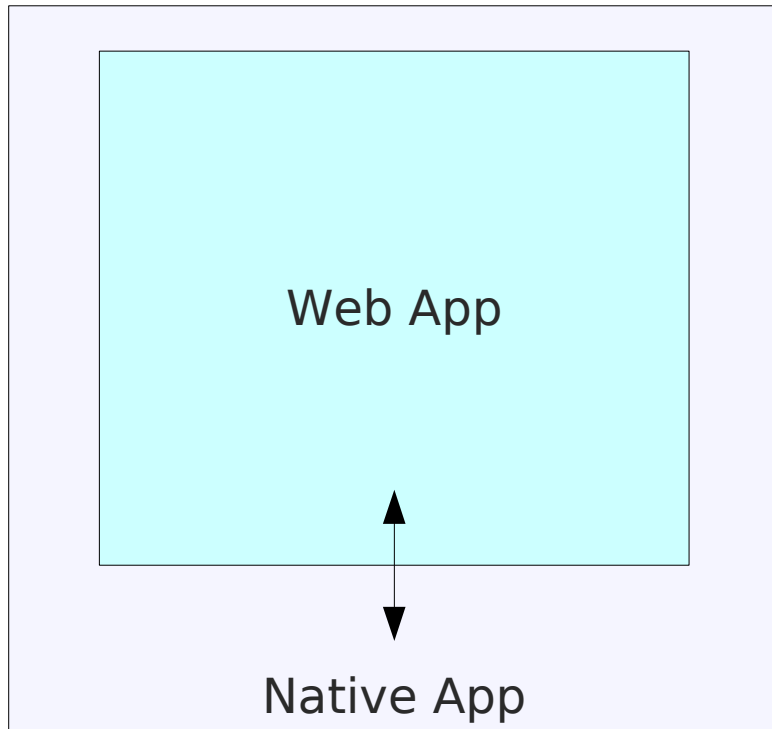
Web App

Native App

- Hybrid apps consist of a thin core that runs natively on the device and a web app part that controls most of the functionality.

- Web app and native app can communicate with each other and share screen real estate.

- A sensible road map often starts with a pure web app and extends it into a hybrid app later.

- Net-Scale has successfully deployed sophisticated hybrid apps on the iPhone.

- Net-Scale owns patent pending IP related to hybrid apps.

net SCALE
Technologies, Inc.

Contact Information

Urs Muller
President and CEO
urs.muller@net-scale.com
+1-732-970-1441

Net-Scale Technologies, Inc.

281 State Hwy 79
Morganville, NJ 07751-1157
USA

+1-732-970-1441
+1-732-879-0371 (fax)
info@net-scale.com
http://www.net-scale.com