



跨語言、零時差，企業行動應用全球化

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Innovate2013

The IBM Technical Summit

開發者大會



軟體全球化中心





主題:

- 全球化
- 全球化的考量
- 手機網頁應用程式
- IBM Worklight 與 Hybrid 應用程式開發
- 總結





全球化 (Globalization)

Make IT Global: To ensure that IBM business units **globalize** their deliverables to address the basic cultural requirements of customers **in support of revenue production** in non-US or non-English markets.

World population living in non-English-speaking countries

92%



World population that doesn't speak English at all

86%

World GDP that comes from non-English-speaking countries

72%

Non-English Internet users ? the fastest growing segment

71%





全球化 = 多文化格式支援 + 翻譯

Globalization = Multicultural Support + Translation

A product with which a user can access a server from **anywhere** in the world, using a client in the **language of his/her choice**, work with applications and interact with other users in the language and **cultural conventions of choice**

Montag, 17. November, 2008
Preis: 117,00 €



2008 年 11 月 17 日星期一
定价: ¥ 1,025.00



Monday, November 17, 2008
Price: US\$150.00



平成 20 年 11 月 17 日(月)
定価: ¥ 14,845





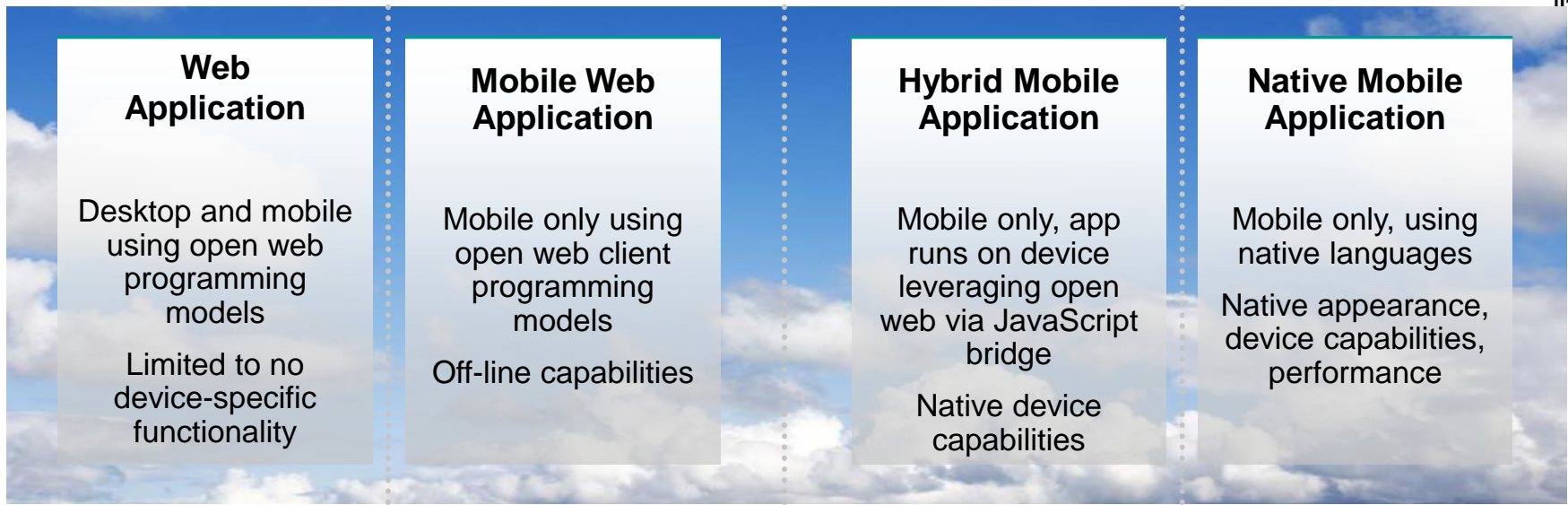
全球化的考量

- 多語言顯示和輸入
 - Correctly displaying and accepting Unicode text data
- 語言介面選擇
 - Choosing an appropriate language for the UI, Messaging, and Notifications
 - Delivering additional translations
- 文化相關格式
 - Properly displaying and formatting culturally sensitive data, e.g., dates and times and currency



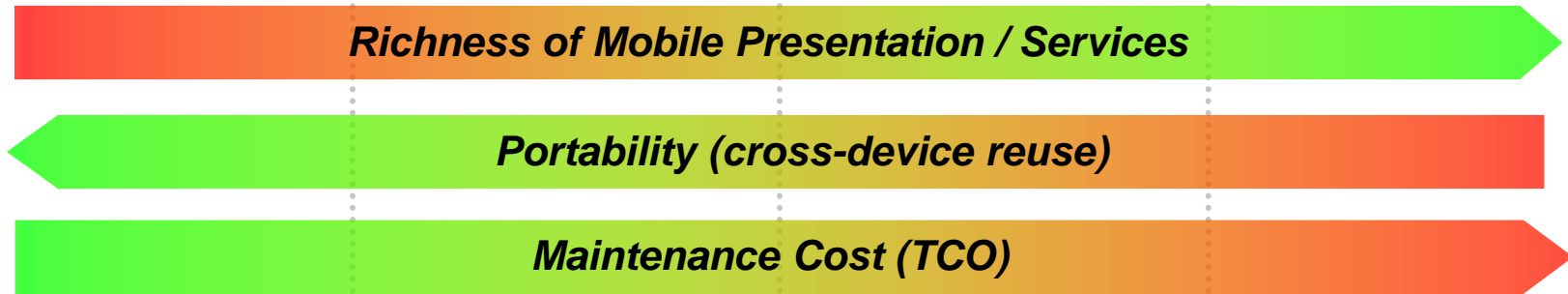


手機應用程式開發模式



Mobile Browser Execution

Application Store download and install





手機網頁應用程式

Mobile Web Applications





手機網頁應用程式 – 多語言顯示和輸入

- Nearly all modern smartphone browsers can render and accept input of **Unicode** encoded text
- Mobile web applications should use Unicode and more specifically **UTF-8** in their mobile web applications
- **HMTL5, JavaScript, Dojo, and CSS** all fully support **Unicode**





手機網頁應用程式 - 語言介面選擇

- If the application supports a **user profile**, then allow the user to store their language and cultural preferences
- If the application does not support a user profile, then the **HTTP Accept-Language** header value can be used, however, this value is not always equivalent to a locale
- Provide a **language selection widget** in the application





以iOS 設定為例:



navigator.language

Dojo Mobile language
HTTP Accept-Language

en-us





手機網頁應用程式 - 文化相關格式

- Globalization support in JavaScript does not honor the underlying device's preferences
 - Be careful when using the plain **JavaScript** APIs as some APIs may give incorrect results
 - Dojo's formatting APIs should be used as these APIs give culturally correct results, although they **don't honor user preferences** that are stored on the device





以iOS 設定為例:



navigator.language

Dojo Mobile language

HTTP Accept-Language

en-us

This value will **not** be in the **HTTP Accept-Language** header





IBM Worklight 與 Hybrid 應用程式開發

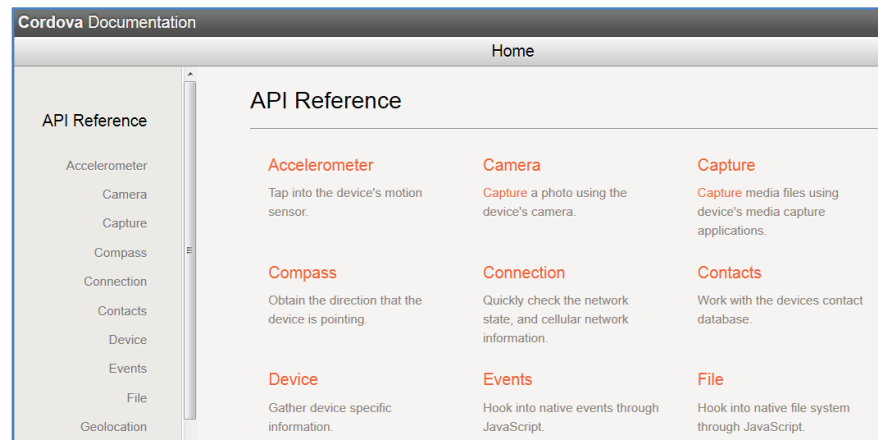
IBM Worklight and Hybrid Application Development





Apache Cordova

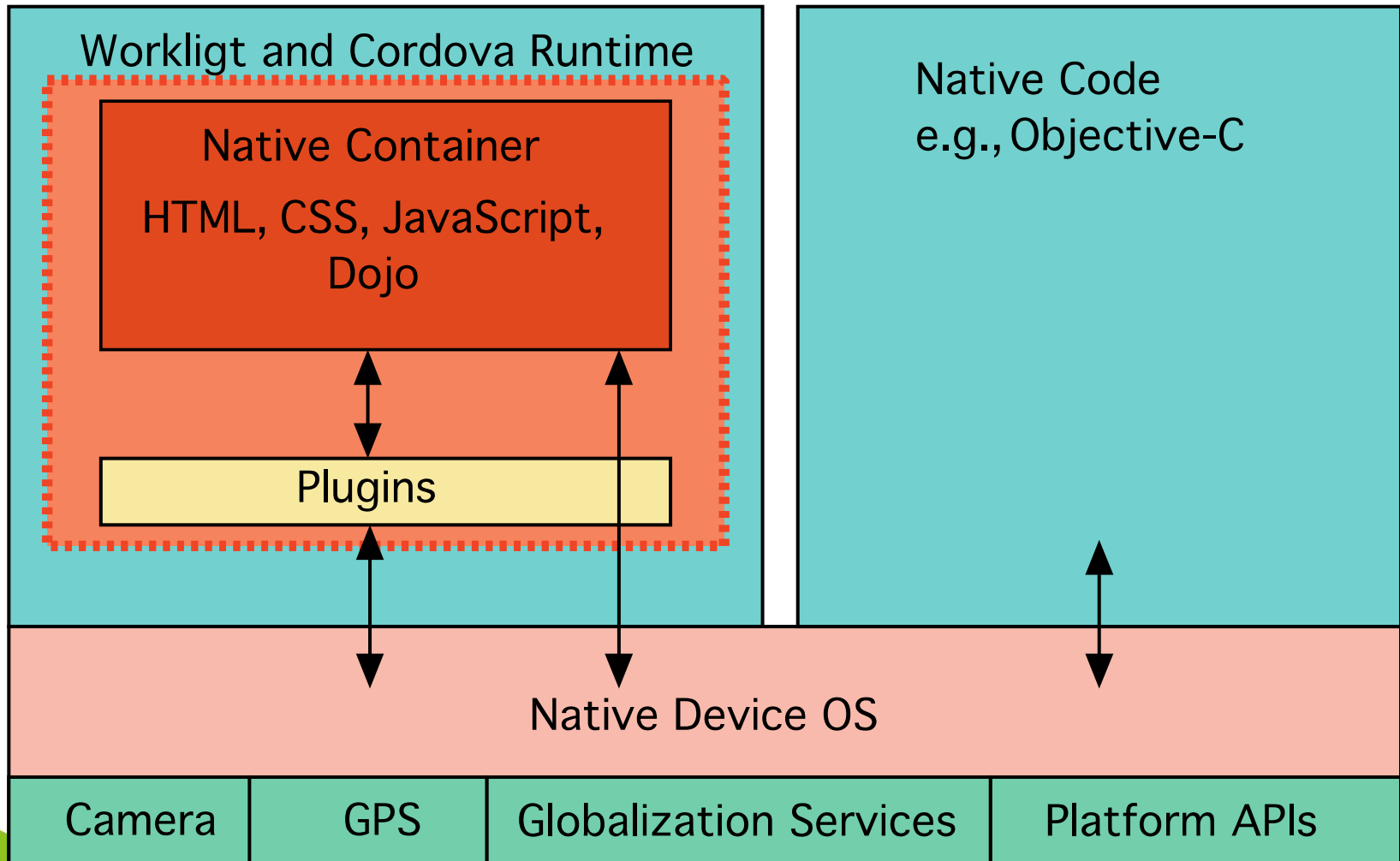
- **Apache Cordova** is an open source mobile development framework
- Cordova provides a **JavaScript API** that allows developers to access native mobile device features and even **execute native code** using JavaScript
- The Cordova framework is integrated into IBM Worklight® **generated iOS and Android projects**





IBM Worklight Application *appears as a native app*

Native Application





Hybrid 應用程式 - 語言介面選擇

- IBM has contributed a **globalization plugin** to the Apache Cordova open source hybrid framework that extends JavaScript functionality
 - Globalization Plugin accesses the **device's user preferences** and provides JavaScript APIs that wrapper native device functionality and are cross platform
 - The application container picks up UI language changes and makes this information available to JavaScript libraries such as Dojo through

navigator.language

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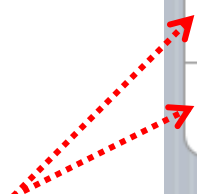


以iOS 設定為例:



navigator.language

Dojo Mobile language



Globalization Plugin APIs use these settings for cultural formatting



推播訊息

- Push notification is the ability of a mobile device to receive messages that are *pushed* from a server
- Notifications forms:
 - **Alert:** a pop-up text message
 - **Badge:** a small badge mark appearing next to the application icon
 - **Sound alert**



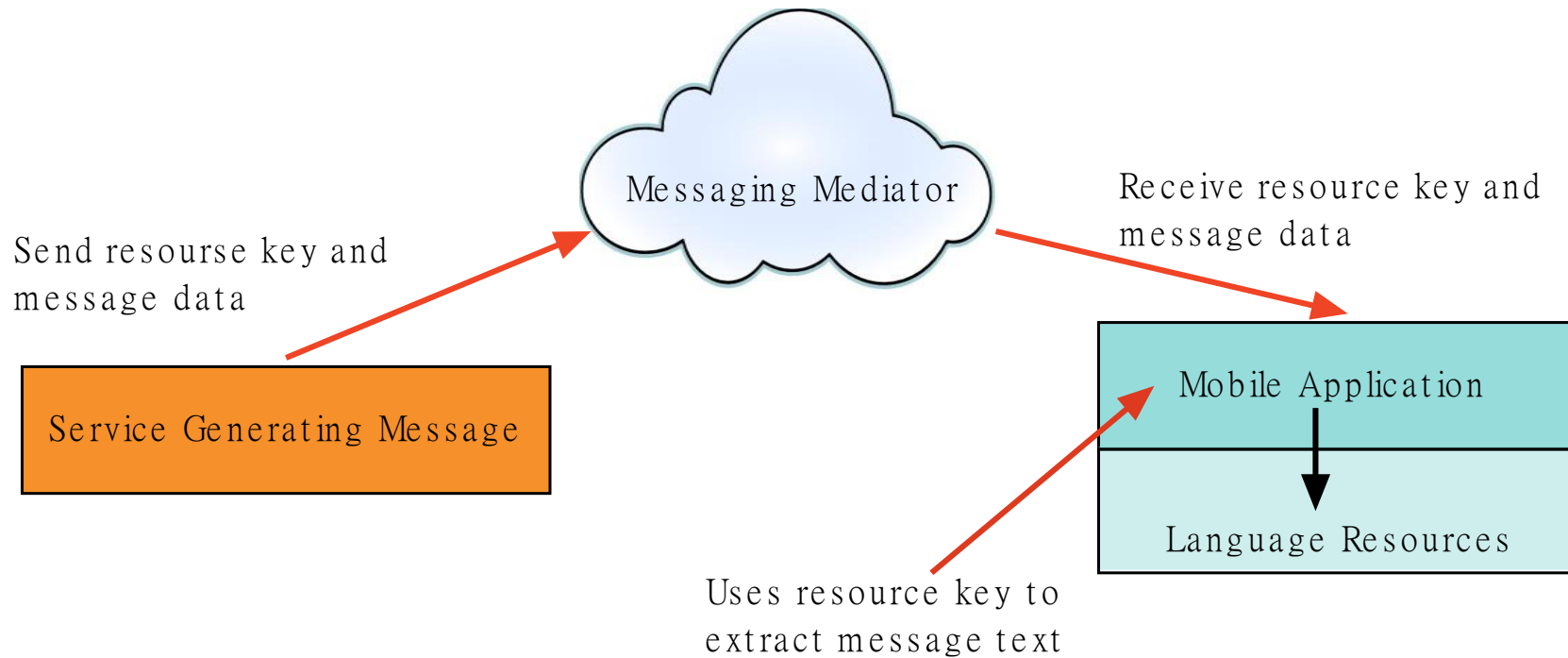


Hybrid 應用程式推播訊息

- IBM Worklight provides a **unified push notifications API**
- Push notification messages should be **translated and bundled** with the application where possible
 - Message text stored in **Dojo JSON** resource files
 - **Data** for push notifications should be sent in a **culturally neutral** form, e.g., **dates and time in UTC format**



推播訊息- 語言介面選擇



Hybrid應用程式更新 - 語言/翻譯新增和修改



- With IBM Worklight's **Direct Update** capability, hybrid iOS and Android apps can automatically be updated with new versions of their web resources, **without the user's active involvement or redeployment** to application store
- **Language updates can be easily added**, when the application launches web resources get updated when necessary



IBM Worklight – 語言/翻譯新增和修改



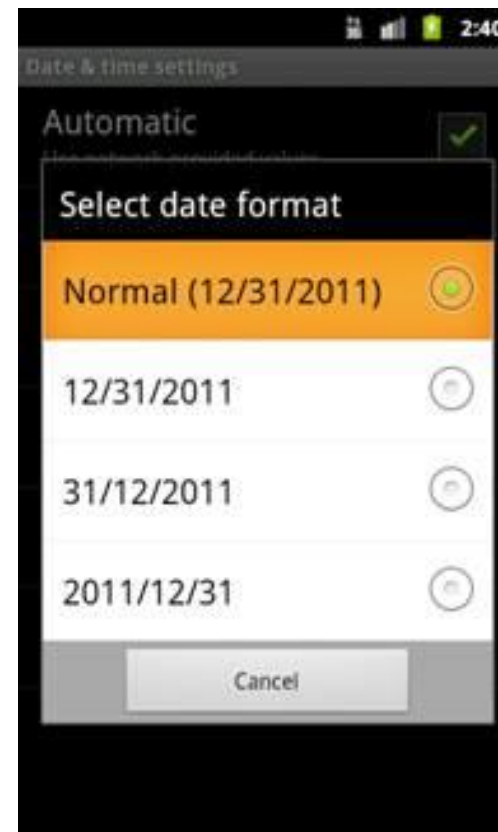


Hybrid 應用程式 - 文化相關格式

- **Globalization Plugin** JavaScript APIs in Apache Cordova utilize device's underlying globalization services
 - Common set of **wrappers** that support a wide range of mobile devices, e.g., iOS, Android, and BlackBerry
 - Honors **user preferences** and provides the same results as would be obtained through calling **native APIs**



全球化插件 Globalization Plugin – 參照手機上的區域設定來顯示文化相關格式



Cordova Globalization Plugin 和 Dojo Globalization



- Dojo
 - Results are the same across all browsers and devices
 - Does **not** honor user **regional preferences**
 - Need to bundle or **download locale data**
- Globalization Plugin in Apache Cordova
 - Results are the same as native APIs
 - **Honors** user **regional preferences**
 - Leverages platform locale data, **nothing to download**





總結





總結

- **IBM Worklight, Apache Cordova, and Dojo** provide a robust platform and framework for developing fully globalized hybrid applications
 - Multilingual support through **Unicode**
 - Flexible language updates and **language selection**
 - Unified **push notification** API
 - Honors **user's globalization preferences** and gives culturally correct results that match **native** applications





Worklight 全球化演示:

- Dojo UI
- Apache Cordova Globalization Plug-ins



Merci

French

Спасибо

Russian

Gracias

Spanish

شكراً

Arabic

감사합니다

Korean

תודה רבה

Hebrew

धन्यवाद

Hindi

多謝

Traditional Chinese

Tack så mycket

Swedish

Obrigado

Brazilian Portuguese

go raibh maith agat

Gaelic

Tak

Danish

Grazie

Italian

多谢

Simplified Chinese

Danke

German

ありがとうございました

Japanese

Dank u

Dutch

ขอขอบคุณ

Thai

Thank You

English

நன்றி

Tamil

Dekujeme Vam

Czech

