

BlackBerry Push APIs: Accessing the power of BlackBerry Push Technology

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Using BlackBerry Push APIs to push data to BlackBerry users

One of the cornerstones of the BlackBerry solution has been the ability to proactively deliver, or “push”, data to BlackBerry devices. BlackBerry Push Technology has been used to push emails to users and to synchronize calendar information.

However, although BlackBerry Push Technology has been available to developers creating enterprise-based solutions for BlackBerry users registered with a BlackBerry Enterprise Server for some time, until now, it has not yet been available to those wishing to develop applications for BlackBerry users outside of an enterprise environment.

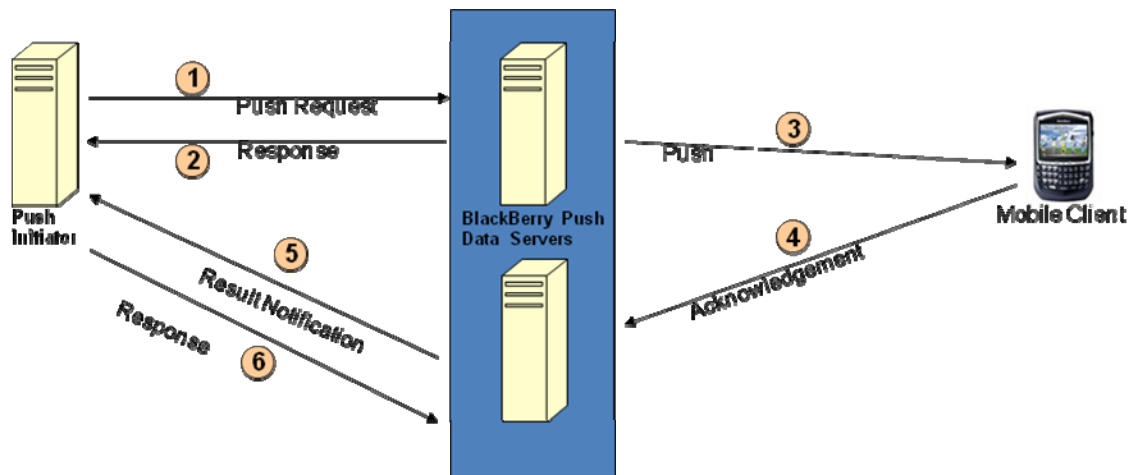
With the introduction of BlackBerry Push APIs, BlackBerry Push Technology can be extended beyond the enterprise to all BlackBerry users, establishing a quality of service that is unparalleled in the industry. Developers can now create applications that push data to any BlackBerry user, providing them with the information they need, whenever and wherever they need it.

Components of a push application service

A push application service is comprised of three components:

- **The server-side push service:** Content providers develop a push service that offers users some consumable data, for example, stock information, sports injury reports, news bulletins, banking information, etc. When new data is available, content providers can submit a push request, using the WAP PAP 2.2 standard, to have the data delivered to users.
- **A client-side application:** Content providers develop a client-side Java application that makes use of the data offered by the associated push service. The client application incorporates a listener, which listens in the background for incoming data from the server.
- **The BlackBerry Infrastructure:** The BlackBerry Infrastructure provides the middleware that receives requests to push data from the content provider, and then delivers the given data to the associated client application on the BlackBerry Device.

Process flow: BlackBerry push request



1. The content provider sends a PAP push request to the BlackBerry Infrastructure. This request includes a list of the subscribed BlackBerry devices to which the data should be delivered, as well as the data to be delivered.
2. The BlackBerry Infrastructure returns a response to the content provider, acknowledging receipt of the request, and queues the request for delivery.
3. The BlackBerry Infrastructure pushes the data to the specified BlackBerry devices.
4. Each BlackBerry device returns a response to the BlackBerry Infrastructure, acknowledging receipt of the data.
5. The BlackBerry Infrastructure forwards the acknowledgement on to the content push initiator.
6. The Read notification is returned to the BlackBerry Infrastructure.

The benefits of designing applications with BlackBerry Push APIs

BlackBerry Push APIs offer a number of concrete benefits for BlackBerry users and application developers alike.

Provides information immediately

Pushing data to the BlackBerry device is the most time-efficient way to get information to BlackBerry users. With BlackBerry Push APIs, developers can deliver data to their Java applications on the BlackBerry device as it becomes available, when it matters.

In addition, developing applications using BlackBerry Push APIs considerably reduces the impact of network latency. Because wireless networks have considerably less bandwidth than wired networks, data transfer rates are much slower over wireless connections. However, because BlackBerry Push APIs deliver data to BlackBerry devices in the background without user involvement, from the user's perspective, there is no wait time; the most recent data is synchronized and available on their BlackBerry devices the moment they open the application.

Optimizes network efficiency

For retail consumers and prosumers, most of whom pay for a wireless data plan, network efficiency is paramount. Each network transaction has a financial implication, since exceeding their data allotment incurs charges from their wireless service provider. As a result, frivolous or excessive network usage has a tangible financial cost to the user.

Applications that are developed using BlackBerry Push APIs are very network efficient.

Firstly, applications no longer need to repeatedly poll servers for new data. Although these polling requests and responses are small individually, these can add up quickly with frequent polling intervals across multiple applications. In polling scenarios, the user receives limited return on their data investment.

Secondly, BlackBerry Push API's are designed to push consumable amounts of data. Content providers can push up to 8KB of data to a BlackBerry device with any given push request. If more data is available, the user can decide whether to retrieve it or not, providing them a measure of control over how much data they transfer, and by extension, how much they pay.

Preserves the battery life of the BlackBerry device

Preserving battery life is an important consideration for developers of wireless device applications. After all, applications can only function if the host device has enough battery power to operate.

In order to retrieve needed data from a server, some applications repeatedly poll the servers to determine whether new data is available. These applications can quickly drain the device battery, reducing the effectiveness of that application, and worse, compromising the convenience of the BlackBerry device itself.

BlackBerry Push APIs minimize the impact on battery life; instead of actively checking for new data, the application simply listens in the background for the server to push data to it. Once delivered, the application can process it as required.

Reduces complexity for developers

BlackBerry Push APIs build upon the established WAP PAP 2.2 standard, which uses XML to define the push parameters for the BlackBerry Infrastructure.

Because the BlackBerry Infrastructure handles the process of managing and delivering push requests, much of the complexity of a pushed-based data delivery service is hidden from application developers.

If developers are already familiar with the PAP standards, then they already know all that is needed to access BlackBerry Push Technology and begin pushing data to users.

Improves developer margins

BlackBerry Push APIs are offered as an addition to BlackBerry development partners. By gaining access to these APIs, development partners receive an even greater return on their investment.

Because developers can now create applications which can exploit the unique capabilities that only the BlackBerry Infrastructure provides, they can create applications for BlackBerry users that are much more compelling, that can address a wider variety of use cases, and that result in a true BlackBerry experience for the user.

Research In Motion has already demonstrated that pushing data to users results in more user engagement. Developers who can enhance their applications with BlackBerry Push Technology can benefit from this user engagement to drive more traffic back to revenue generators such as transaction, subscription, or advertising.

Conclusions

BlackBerry Push APIs offer exciting opportunities for content providers to produce compelling services for BlackBerry users. Developers can tap into the power of BlackBerry Push Technology while simultaneously benefiting from the stability, resilience, and security that is inherent in the BlackBerry Solution.

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