Deutsche Bahn cuts messaging costs by 60 percent

IBM WebSphere MQ Telemetry updates passengers on train status more cost-efficiently than SMS

Overview

The need

Deutsche Bahn, a major European train operator, wanted displays that informed passengers at smaller stations on train status, while also reporting back centrally about display and message status.

The solution

The company deployed IBM® WebSphere® MQ Telemetry because of its reliable messaging and a bidirectional capability that can send information to LED displays and report back on device status.

The benefit

IBM WebSphere MQ Telemetry cut messaging costs by 60 percent vs. SMS, and its bidirectional messaging enables remote monitoring and re-booting, significantly reducing maintenance costs.

For a lead software architect like Arpad Vasarhelyi, it's one of the toughest moments: What new architecture will save a project?

Vasarhelyi is on a development team for Deutsche Bahn, a German railway company that serves two billion passengers per year and is one of the world's biggest mobility and logistical carriers. In 2006, the team deployed prototype one-row LED displays at about 100 of the smallest stations. The displays notify passengers of train delays or schedule changes.

How do I get there?

Then a new senior manager joined the company and asked that the displays be implemented for all small train stations. "It was quite complicated because our system used short message service (SMS) and it wasn't scalable," Vasarhelyi explains. "We needed to deliver messages to every display within 10 to 20 seconds, and with so many displays, this wouldn't be possible. In addition, we had no way of knowing which displays had shown the messages within the required time. The system needed to be re-designed."

"It was a benefit for us that the bidirectional protocol of IBM WebSphere MQ Telemetry lets us see display status and send commands such as reboot modem or reboot device," says Arpad Vasarhelyi, lead software architect, DB Systel GmbH. "This avoids many maintenance visits to stations, saving significant costs."

Seeking near-instantaneous exchange

DB Systel wanted messaging that could scale cost-efficiently and was compatible with current displays. It evaluated solutions such as CeTEC Telematics, IVU.real-time, and M2MGate Network from INSIDE M2M, and chose IBM WebSphere MQ Telemetry.

The solution gives each display an access point name (APN) from a telecom provider and establishes a connection similar to a virtual private network (VPN). It also uses WebSphere MQ as a backend for two-way messages in the MQ Telemetry Transport (MQTT) format, communicating display status to central operations. Deutsche Bahn's scheduling application is integrated via the open-source JBoss Enterprise Application Platform.

Reducing costs by 60 percent

Deutsche Bahn sends over 100,000 messages per day during the summer and twice that number in winter. "IBM WebSphere MQ Telemetry makes messages appear on time, and it cut messaging costs by 60 percent vs. SMS," says Vasarhelyi. Deployment will expand to 7,000 displays in 2015.

On a recent morning, Vasarhelyi walked into his own train station and saw that one of his displays had been installed. It showed him train information so that he no longer had to open his smartphone app. "It felt great," he says. At Deutsche Bahn, both messages and trains are on the move.

Solution components

Software

- IBM® WebSphere® MQ Telemetry

For more information

To learn more about IBM WebSphere MQ Telemetry, please contact your IBM representative or IBM Business Partner, or visit the following website: **ibm.com**/websphere

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