hello MQTT

About me

PAHRIZAL MA'RUP

Work   : PT PLN (Persero)
              Assistant Engineer of Measurement Devices
              2002 - present

Phone   : 081909027555

Email   : lombokthinker@gmail.com

MQTT is ...

- A Client Server publish/subscribe messaging transport protocol

- a very light weight and binary protocol

- Faster data transferring in comparison to protocols like HTTP

- extremely easy to implement on the client side

Little bit of History

- invented in 1999 by Andy Stanford-Clark (IBM) and Arlen Nipper
- a protocol for minimal battery loss and minimal bandwidth

MQTT Technology

- In Paho
  - Java, JavaScript, C and Lua client libraries
- Others client libraries outside Eclipse
  - Python, Perl, Ruby…
  - See http://mqtt.org/software for a list
- Server implementations
  - see http://mqtt.org/software

Facebook Messenger

Lucy Zhang, a software engineer at Facebook,
has written about their new Facebook Messenger app:

"One of the problems we experienced was long latency when sending a message. The method we were using to send was reliable but slow, and there were limitations on how much we could improve it. With just a few weeks until launch, we ended up building a new mechanism that maintains a persistent connection to our servers. To do this without killing battery life, we used a protocol called MQTT that we had experimented with in Beluga. MQTT is specifically designed for applications like sending telemetry data to and from space probes, so **it is designed to use bandwidth and batteries sparingly**. By maintaining an MQTT connection and routing messages through our chat pipeline, we were able to often achieve **phone-to-phone delivery in the hundreds of milliseconds, rather than multiple seconds.**"

Power Profiling: HTTPS Long Polling vs. MQTT with SSL, on Android

	3G		Wifi	
	HTTPS	**MQTT**	**HTTPS**	**MQTT**
% Battery / Hour	18.43%	**16.13%**	**3.45%**	4.23%
Messages / Hour	1708	**160278**	3628	**263314**
% Battery / Message *	0.01709	**0.00010**	0.00095	**0.00002**
Messages Received	240 / 1024	**1024 / 1024**	524 / 1024	**1024 / 1024**

Source: http://stephendnicholas.com/posts/power-profiling-mqtt-vs-https

Further Reading

All things MQTT
- http://mqtt.org

MQTT Specification
- http://www.ibm.com/developerworks/webservices/library/ws-mqtt/index.html

Eclipse Paho
- http://www.eclipse.org/paho/

Eclipse M2M
- http://wiki.eclipse.org/Machine-to-Machine

MQTT: the Smarter Planet Protocol
- http://andypiper.co.uk/2010/08/05/mqtt-the-smarter-planet-protocol/