IEEE WoWMoM 2012 Panel

“Challenges and Emerging Techniques for Efficient M2M Data Transport over Wireless Mobile Networks “

Moderator: Dilip Krishnaswamy (Qualcomm)
Generalized M2M Networking & Wireless Distributed Processing

- M2M Cloud App
- M2M Cloud Server
- M2M Gateway Device
- Network Domain
- M2M End Device A
- M2M End Device B
- M2M End Device C
M2M data & Wireless network characteristics

• Typical M2M data characteristics
  – Small data sizes
  – Highly delay tolerant
  – Low priority
  – Variable mobility
    • Zero to low mobility – smart grid, eHealth, vending machines, asset monitoring, tracking
    • High mobility - connected vehicles, eHealth, tracking

• Less typical / less frequent scenarios
  – Urgent/high priority data
  – Large data sizes

• Similar requirements across multiple vertical applications
  – Smart grid, connected vehicles, wireless healthcare, industrial asset monitoring, vending machines tracking systems

• Wireless networks can have varying load and link conditions, and possible intermittent connectivity for m2m traffic

• E2E Messaging/Middleware needs to address such variable characteristics and communicate data reliably
Looking Ahead

• Multiple m2m verticals, many common challenges
• M2M service layer design useful to address commonality across verticals
  – Some functions could be common, and some could be different dependent on vertical needs
• OneM2M service layer middleware effort getting started
  – www.onem2m.org
• Need to understand where we are and where we need to go
Panelists

• Arlen Nipper
  – President & CTO, Cirrus Link Solutions

• Paul Congdon
  – HP Fellow, HP Labs

• Pete St. Pierre
  – Principal Member of Technical Staff, Oracle

• Tom O'Neill
  – Founder & CEO, Cluster Wireless

• Y.S. Rao
  – VP, Qualcomm
Question 1

Do you feel that something needs to be done to address the fragmentation in the m2m market? If so, what do you suggest?
Question 2

Will an open API help in developing m2m software on m2m device platforms?

What functions should such an API have?

Do you envisage any commonality of functions exposed by such API across different m2m verticals?
Question 3

Do you believe that a wireless service layer middleware can address different use-cases for a single m2m vertical?

A. Yes, for All of the use-cases
B. Yes, for Most of the use-cases
C. Yes, for Some of the use-cases
D. None of the use-cases
Question 4

Do you believe that a wireless service layer middleware can address different use-cases across multiple verticals

A. Yes, for All of the verticals
B. Yes, for Most of the verticals
C. Yes, for Some of the verticals
D. None of the above
Question 5

Why should a m2m client device be nice to a wireless network

A. Out of goodness of heart
B. Cost of service cheaper as network is more efficiently managed
C. Client device can save power
D. Client Device wants to earn good karma
Question 6

Which of the following about M2M devices is true

A. They have an identity (IPv6 ?)
B. They have a body
C. They have a mind
D. They are creative
E. They can think
F. They have a soul
G. They are alive!
H. What about marriage (BT pairing?) / death (crash?) / rebirth (remote device management?)?
I. Other?
Question 7

• What do you envision as the future of M2M?

• We have facebook for people → how about a facebook for M2M devices and get them all connected regardless of network heterogeneity or platform variability?
On to the panelists then!