

## Getting to "The Internet of Things" With Smart Services (An nPhase Acquisition Update) - 5/8/2007

In November 2006, QUALCOMM acquired nPhase, a provider of smart-service solutions that help machines talk to one another wirelessly. Steve Pazol, VP and General Manager of nPhase, which is part of the QWBS division, talks about the acquisition six months out, and how nPhase solutions fit into the QWBS fabric.

Do these sound like the kinds of problems QUALCOMM can solve?

A robot on an assembly line in Singapore breaks down. The robot's manufacturer is based in Ohio. The technician who can repair the robot is in Sweden.

A city government puts up a \$10 million parking garage. Deep excavation for a subway line near the garage makes the city nervous. The city's engineering firm needs to monitor ground movement but can't watch it 24/7.

A startup is looking to revolutionize the moving business. They want to let their customers schedule and track their possessions during the move.

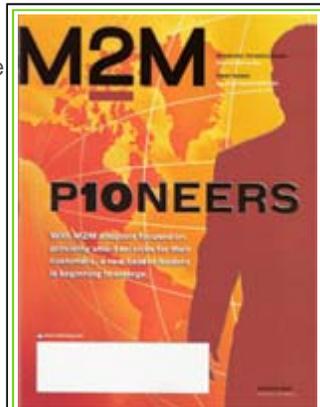
They are now. At the center of solutions for these very different problems are wireless "smart services" developed by nPhase, a recently acquired QUALCOMM business. At the moment, these smart services are connecting things like robots, air compressors, controllers and medical devices, but someday they will tie the ever-increasing number of devices – industrial and commercial equipment, chemical tanks, entertainment systems, satellites, product tags, medical equipment, household appliances, and of course, cellular phones – into an "Internet of Things."

The 12-person group based in Chicago has made a name for itself in the growing field of M2M – variously known as Machine to Machine, Machine to Mobile, and Mobile to Machine. M2M is a category of engineering that defines the connecting of machines to people via IT infrastructure – especially wireless infrastructure – and smart services are the solutions that manufacturers can now offer their customers for competitive advantage.

Six months into nPhase's life as a QUALCOMM business, Steve Pazol, VP and General Manager of nPhase, looks at what the acquisition has meant to M2M, as it becomes more accepted as a technology category. "With a lot of small companies in M2M, you may be very innovative, but prospects want to know whether you're going to be around in a couple of years. Adding QUALCOMM to the mix gives this a completely different level of stability and reassurance, and a global resource for companies that want this kind of competitive advantage."

"The focus of nPhase is really to help manufacturers put a differentiating service onto their products," Steve explains. "By wirelessly connecting to the product, they can offer better service at markedly reduced costs and enhance customer loyalty. And, they offer something that is very hard for competitors to replicate."

"A lot of companies have a device, and they have a back-end application. The hard part is the wireless connectivity, especially at the enterprise or global level. We abstract all of the complexity of what we call the 'messy network' – whether wired or wireless – and liberate them from having to worry about that. QWBS has been doing this for years, as part of a larger application suite. Now we're saying that even solving just the middle piece, the messy network, has value to some customers."



M2M magazine recently profiled 10 emerging leaders, or "pioneers" in the field, including QWBS President Joan Waltman. [Read an excerpt.](#)

Hear Steve Pazol describe smart services in a clip from Employee Communications' "QWBS Video Close-up:"

[Watch the clip.](#) (1.5 mins)  
[Watch full video](#) (15 mins)

“Together, we’re opening it up to the broader market. We can go beyond the traditional markets in which QWBS has owned the solution and where we can make a difference. One market we are looking at that has gotten a lot of press is Clean Technology -- or Clean Tech. This is where people are trying to use resources more efficiently with less impact on the environment. One facet of Clean Tech involves distributed and alternative energy, where although the energy may be generated by hydrogen or wind, the infrastructure needs to be managed as if it were centralized.”



The nPhase team.

[enlarge photo](#)

Steve describes examples of engineering challenges nPhase has overcome:

“We built a solution to do static IP over a wireless network. We can make a device’s cellular technology look like an Ethernet connection with a static, private IP address across disparate cellular networks so that it looks like an extension of the existing enterprise network. So, for instance, this allows you to monitor a device from a computer as if the device were another node on the network without having to touch the existing software or hardware.”

“Another customer, Air Products and Chemicals, has a hydrogen fueling project. They have a huge investment in their SAP back end and a huge investment in chemical monitors and controllers. They used to run very expensive phone lines to the controllers. Without changing a thing, we deployed cellular – both CDMA and GSM interchangeably – to track fixed and mobile assets and tie them to their SAP back end. They’d been trying to do it for some time before we came into the picture.”

“We can take SMS, CDMA, GPRS and phone lines and make them all look the same to the back-end application.”

And what about the Internet of Things? “Everything is going to have its own address and be on the Net,” Steve observes. “In the beginning, every house had a telephone; now everybody has a cell phone, and eventually everything worth connecting to, will be network-capable.”

“Of course, there’s nobody better positioned for leverage in that market than QUALCOMM. If you look at everything from the fundamental technology creation, to the chipsets, to video, to where QWBS is now, there’s nobody else with this unique position in the market.”