Broadband is like water for thirsty enterprises

by Danny Bowman, President, Integrated Solutions Group, Sprint Nextel

The introduction of high-speed broadband over wireless connections enables true 'everything-wireless' ubiquity. For enterprises this turns emerging wireless technology into a powerful agent for change, enabling capabilities that can have a transformative effect on operations, cost structure and market-making strategy.

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Seasoned executives know all too well that market forces never cease driving companies to become more competitive. However the past couple of years have brought an unusually severe test - with a drought in both demand and capital that has challenged enterprises in every industry sector. Whether economic recovery comes slowly or quickly, companies are in need of relief, and many will find significant support from what could be an unexpected source.

That source has been described in many ways, but perhaps most succinctly by Connect-World's term, the 'everything-wireless world'. While an 'everything-wireless' environment certainly won't solve the global problems of demand creation and investment, it would be a mistake to underestimate its impact on individual companies as they manage through those challenges. Enterprises are in fact discovering what a powerful change agent wireless can be. The primary driver is found in the one characteristic of emerging wireless technology which enables true 'everything-wireless' ubiquity - the advent of high-speed broadband over wireless connections.

As we have seen with Sprint's introduction of 4G in the United States, high-bandwidth connectivity that was once available only in a fixed wireline form is beginning to ripple out wirelessly to embrace mobile workforces and many more assets. Corporate managers are learning to think of broadband as more than mere efficiency-expanding speed. In fact, it has far-reaching implications, enabling capabilities that can have a transformative effect on operations, cost structure and market-making strategy itself.

Put simply, broadband is like water for thirsty enterprises. At one level, enterprises thirst for ways to streamline operations and increase productivity. Beyond this, companies need to create more product value from scarce capital, while generating a faster return on investment. Whatever the need, the thirst-slaking 'water' of broadband is nothing less than a vital life-sustaining element for enterprise today.

Yet as indispensable as broadband now is, the process of applying broadband's varied manifestations in the commercial environment remains in its infancy. To understand why this is the case, it is helpful to consider how broadband is taking on different forms as it drives the evolution to everything-wireless.

The three states of broadband

Like water itself, we can think of broadband as existing in three potential forms:

- where water can be solid ice, broadband connections can be fixed in particular locations;
- where water can be fluid, broadband can be mobile, flowing seamlessly from one place to another;
- where water can be diffused into the very atmosphere itself, broadband can thoroughly permeate our work and lifestyles through a vast network of dispersed electronic devices, both fixed and mobile.

Each of these broadband states progressively contains, and releases, a higher level of purposeful human energy. Considered this way, we can see that broadband is evolving from a nuts-and-bolts necessity for business operations into a highly dynamic, shape-shifting phenomenon that can significantly influence strategic approaches across multiple industries. As we will see, it is already doing just that.

Broadband's impact on businesses is abundant at every stage of its development, beginning with its fixed wireline form.

Enterprises have long designed their IT infrastructures around fixed broadband. Since the number of Internet hosts worldwide first surpassed 10,000 in 1987, the use of carrier-

grade broadband connections has propelled forward at a staggering rate. As a result, application of productivity-enhancing solutions to virtually every business function imaginable is now so commonplace as to hardly merit mention. It's worth reminding ourselves, however, of the sheer scale and pervasiveness that accounting, HR, CRM and other mission-critical applications have attained in enterprises thanks in large measure to fixed broadband.

This compels serious consideration of what changes are in store as 'everything-wireless' broadband assumes the fluidity of its mobile state and the even more profound ubiquity of its dispersed state, especially in the emerging Machine-to-Machine (*M2M*) world.

The mobile effect of fluid broadband

The strategic and tactical advantages of mobility represent a second major step in broadband deployment that is well underway, with soaring adoption rates for broadband-based mobile applications. By arming sales forces and others in the field with smart devices, we have extended the central database and corporate applications beyond the office to virtually any customer touchpoint. By coupling broadband with GPS, we have seen a mini-revolution in the way companies track assets and people.

There are two pivotal points worthy of emphasizing about this rapidly advancing stage of the everything-wireless broadband evolution.

First, mobile fluidity has spawned a growing variety of specialized solutions to support mobile computing, nomadic workforces and fleet management. By introducing an unprecedented level of speed and flexibility in how assets and people can be deployed and re-deployed geographically, mobile broadband enables enterprises to innovate as never before - not merely allowing field associates to carry office functions with them, but discovering and implementing capabilities that were once unfeasible.

To site a well-proven example, no industry has explored advanced mobile applications more thoroughly than the transportation sector. Trucking companies and others operating large fleets are using mobile to remotely monitor the location, speed, performance and maintenance status of vehicles. At the same time, mobile technology can enable continuous tracking of individual cargo items, with all that implies in the way of efficiency, on-time delivery and customer satisfaction. Such levels of real-time management were simply not possible before mobile broadband.

Secondly, the benefits of mobile fluidity flow straight to the bottom line.

Whatever the particular industry application, mobile broadband is becoming a key factor in eliminating many costs by speeding the flow of information, cutting travel time, reducing fuel consumption and enabling the automation of processes that formerly involved paper-intensive workflow.

Advantages like these will only become more pronounced as devices become faster, more versatile and more numerous. And it is this very expansion of the universe of broadband devices and applications that is now taking us into a much wider space where the everything-wireless world can be fully actualized.

The transformative effect of dispersed broadband

In fact, we are already experiencing a rapid surge into the next stage of broadband - what I call fully integrated, dispersed broadband.

Although dispersed broadband involves many factors, its leading edge is arguably machine-to-machine communication. M2M is inherently complex, but it's based on a straightforward premise: a variety of ingenious - sometimes transformative - uses can be created by using broadband to connect a vast array of devices as diverse as smart meters, signboards, high-definition cameras, remote sensors, laptops and appliances.

Such a flexible and dispersed M2M-driven environment offers enterprises scalable, automated systems composed of widely disseminated devices that communicate directly with each other. Business managers can use these systems as a strategic tool for taking performance to another level. And the more thoroughly broadband applications diffuse into the business environment, the more impressive the return can be in terms of savings, operational efficiency, positive customer interactions and, most significantly, innovative products and services.

The evidence for this phenomenon is growing quickly in several sectors now taking the lead in M2M and related applications:

- Utilities are generating greater operational control and efficiencies by deploying SmartGrid solutions where thousands of smart metres are wirelessly connected into real-time automated metre-reading infrastructures.
- Insurance companies are helping customers get more competitive premiums through connected in-vehicle devices. Insurers can wirelessly receive secure information on a person's driving habits, then reward safe drivers while returning benefits to the company through better underwriting and claims reductions.
- Public safety agencies are protecting citizens by more closely monitoring hazardous conditions and potentially dangerous offenders. For instance, police can use 4G speed to receive images from high-resolution cameras in high-crime areas, and better identify offenders while lowering response times.
- Retailers are showing customers their most up-to-the-minute offerings with digital signage. Store managers can cultivate customer relationships with outdoor or indoor electronic signs featuring continuous updates on products or special offers.
- Medical providers are engaging broadband to change the healthcare paradigm. Applications include smartphone-equipped mobile health professionals with instant, secure access to medical images and vital signs. Looking ahead, 4G speeds could enable real-time virtual collaboration across states or streaming live video from an ambulance to the hospital.
- Manufacturers are exploring a wide spectrum of CRM, SCM and PLM solutions opened by dispersed broadband. These include sophisticated applications across the gamut of handheld computing, building automation, remote diagnostics, asset management and cloud computing.

This is only a sampling of dispersed broadband's role in satisfying the enterprise thirst for productivity, innovation and an accelerated return on investment. The key question, of course, is how to implement effective and affordable solutions. A few broadband carriers have mobilized resources and expertise to meet that need. In the case of Sprint, this encompasses every critical aspect of an effective collaborative partnership: an open and expanding ecosystem of M2M partners, network agnostic capabilities that include 4G, a long-standing open approach to applications and devices, and Internet Protocol (*IP*)-based convergence infrastructure to support mobile integration and unified communications.

Enterprises can look forward to the continued expansion of broadband in all its forms for the foreseeable future, secure in the knowledge that the opportunity and support is there to fully reap its benefits in the everything-wireless world. ●