



Health First

Health First is a group of three hospitals located in Florida's Space Coast, and is recognized as one of the top integrated healthcare networks in the country. When this unique organization looked to expand its current IT systems, the clear choice was a BlueSecure™ 5000 Controller from Bluesocket®.

**Health
First**

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BLUESOCKET DEPLOYMENT AT HEALTH FIRST

- Wireless network based on two Bluesocket BlueSecure 5000 Controllers, one installed as a failover and support backup
- More than 400 Cisco access points (APs) distributed throughout three geographically-dispersed hospitals
- Wireless network is part of a larger fiber-based, line-of-sight wireless and wide area wireless network (installed in more than 45 remote locations and mobile clinics)
- Hospital personnel rely on wireless network for patient data and critical applications, as well as VoIP network (using more than 450 Vocera wireless devices)
- Guest users connect to Internet through BlueSecure Controllers and Cisco interface, with checking through access control lists (ACLs)

Recognized as one of the 100 "Most Wired Hospitals" in the country¹, Health First has a long history of using the latest technology to expand medical services to the more than 60,000 people it now serves in and around Florida's Brevard County. It is also at the forefront in terms of deploying new wireless services, which are now managed by two BlueSecure™ 5000 Controllers.

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While the Health First medical collaborative is an integral part of Florida's Space Coast and today provides services to thousands of people who live nearby and work for NASA, the hospital network got its start long before the U.S. first started to think about launching rockets into space.

In fact, the history of Health First can be traced back to 1937 and the opening of Brevard Hospital, a 27-bed facility located in Melbourne that eventually grew to become the Holmes Regional Medical Center (HRMC), now one of the largest healthcare centers in the area. The not-for-profit Health First network was formed in 1995 when HRMC merged with the Cape Canaveral Hospital (CCH), which was originally established for the Apollo astronauts, and Palm Bay Community Hospital, formerly a satellite of the HRMC. The result is a state-of-the-art medical resource that offers more than 720 beds and presently has more than 900 physicians on staff.

The Challenge for Health First

Last year, the healthcare collaborative decided to add 802.11 wireless networks to its three main hospitals, and consider wireless as an option at more than 45 remote hospital locations and mobile clinics. The primary reason was to 'mobilize' clinical applications

within each of these hospitals, and to eventually add guest coverage for patients and family members, says Marvin Reece, manager of network and telecom services at Health First. "Ultimately, the idea is to tie all of our remote clinics back into our network in some way, shape or form throughout our county," he notes.

Cost-savings was another driving factor, since wireless is a much less expensive option than dedicated circuits or fiber-based connections. Health First already employed Cisco dense wave division multiplexing (DWDM) fiber connections between its three major facilities in a ring configuration, and had line-of-site wireless networks connecting remote locations back through a central site at HRMC. However, individual 802.11 wireless networks at each of the three main hospitals, and eventually at many of the remote sites, seemed to be a good third alternative because of the lower cost, relative ease of installation, and the security and control offered by the wireless local area network (WLANs) solutions being considered by the hospital's IT staff.

Kevin Johnson, wireless administrator at Health First, points to yet another reason why the hospital decided on an 802.11 wireless network: To stay on the leading edge of technology. "We wanted to retain that edge among our competitors, create a more robust



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“We needed to ensure that network bandwidth would remain available for critical traffic and that the proper security was in place. The BlueSecure Controllers give us a way to effectively isolate and monitor guest traffic while maintaining the integrity of our corporate and clinical applications.”

Marvin Reece
Manager of Network & Telecom Services, Health First

wireless environment, and provide 100% coverage in all our facilities,” he explained. Also, “there are many applications evolving that are perfect for wireless.”

The Bluesocket Solution

Health First’s technology team started evaluating wireless systems last year, even bringing in one or two to test its in-house test environment. One of these was a BlueSecure 5000 Controller, which was recommended by Prosys Information Systems, a local systems integrator that specializes in medical IT solutions.

“We wanted to make sure the solution addressed all of Health First’s concerns,” relates Armando Arguin, Prosys’ Network and Enterprise Systems Management Engineer. “One of these was DHCP support across the client using the existing Cisco implementation, which we worked with Bluesocket to address.”

Health First now has two BlueSecure 5000 Controllers installed at its HWRC Business Center, one providing primary wireless service and the other serving as a fail-over and support system. The Controllers currently manage more than 400 Cisco access points located in each of the three hospitals, and provides a wireless link for applications ranging from patient and clinical documentation to bedside data collection and monitoring. The BlueSecure Controller is also being used to channel voice communications between more than 450 Vocera Communications voice over IP (VoIP) wireless ‘badges’.

In designing the wireless network, the hospital’s telecommunication staff had very specific goals in mind: They wanted to have a system that was easy to use and could provide reliable coverage to the doctor and nursing staffs; they wanted a system that was secure

and could be scaled to meet the unique privacy challenges of healthcare organizations; and they wanted a network that could effectively manage and balance different types of users and authentication levels.

“Since our core medical staff relies on wireless we had to make sure that guests weren’t able to use up all the bandwidth on the network”, explains network administrator Kevin Johnson. “We looked at a few other devices, but always came back to Bluesocket because it could monitor some of the services we wanted in our wireless network from a role-playing and bandwidth management configuration, as well as send out different logins.”

Network manager Reece agrees, saying “we needed to ensure that network bandwidth would remain available for critical traffic and that the proper security was in place. The BlueSecure Controllers give us a way to effectively isolate and monitor guest traffic while maintaining the integrity of our corporate and clinical applications.”

Security was also a major concern, as with most hospital facilities, Health First must comply with strict HIPAA² regulations and privacy rules. So, the network staff worked with Bluesocket to make some changes in its Layer 2 and Layer 3 security configurations. Basically, this involved implementing a port over a router network, says Jeff Faile, a Health First network engineer.

All of this technology is invisible to users, of course, which is just the way the tech team at Health First likes it. “We are constantly looking for innovative ways to improve the patient care experience and patient safety issues that are associated with healthcare on a daily basis,” says network manager Reece.

¹ *Hospitals & Health Networks Most Wired Magazine* annual list of the 100 most wired hospitals and health systems, published in July 2005 by the American Hospital Association and cited in *US News & World Report* (www.hhnmostwired.com).

² The Health Insurance Portability and Accountability Act of 1996 (HIPAA)

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Or call:

United States

+1.866.633.3358 (toll free)
+1.781.328.0888 (Massachusetts)

Europe

+44 (0)870 8508736 (UK)
+33 (0)1 49 19 49 00 (France)
+49 (0) 9943 902842 (Germany)

Asia/Australia

+64 9 489.9000 (Australia/New Zealand)

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