



# Community Medical Center Improves Wireless Application Security, 63,298 emergency room patients, benefit with Backbone Security's Solution

## EXECUTIVE BRIEF

- **Goal:** For a community hospital to improve the performance of critical wireless applications; align HIPAA security with business and medical goals; measure and report on IT security in a way that customers and medical staff understand; and deliver better patient care through empowering wireless IT.

- **Solution:** Backbone Security's secure wireless architecture design, including our Managed Security Solution, Ribcage®, and a Double-Blind® Proxy Server for Windows.

- **Results:** A projected cumulative five-year net benefit of \$113,547 fueled by increased user confidence due to improved wireless security, availability, more consistent application performance, and an improved ability to deliver new and updated applications to users. An annual ROI of 159%, a payback period of 23 months, and an annual value per patient-day of \$2.17. Improved performance and availability of critical wireless applications, and greater business value delivered through a higher quality of service.

A community medical center located in the United States was the target of war driving cyber thugs. Desiring the best possible healthcare for their community, they immediately started looking to secure their wireless IT services that supported their emergency room patient data collection. They also wanted to improve the performance of critical applications, and set and meet superior HIPAA security goals for those applications. In the long run, they wanted to align their business and medical goals with their IT strategy and infrastructure. So the center turned to Backbone Security for a wireless security solution. As a result, the hospital group has increased the availability and responsiveness of its wireless applications, set and exceeded service level goals, and laid the groundwork for an enterprise-wide strategy that will gain the center a projected \$113,547 over five years

NOTE: This case study was authored by the Backbone Security.Com. Results shown are not a guarantee of equivalent performance

## Benefits

Objective	Benefits Achieved
Improve the security and responsiveness of critical wireless applications	Using Backbone Security's solutions, the hospital's IT group has been able to verify wireless security service availability in real-time, examine past data about availability, and use that information to meet the service level it has guaranteed to users of the applications.
Reduce the risk of service disruptions	Backbone's analyses allow support staff to find and solve problems more quickly and easily, and share and develop knowledge about common problems.
Increase credibility with internal hospital customers	Using Backbone's advice, the IT group created a way to "keep score" of how well it is securing services from the perspective of users, and in doing so, has gained their confidence, resulting in a \$11,202,567 increase in profits over the past five years.
Lay the foundation for an enterprise-wide wireless strategy	Tools and lessons learned for solving the problems with the wireless applications are being applied enterprise wide. Over the next several years, Backbone will be used to secure all IT and back office applications, as well as in clinical environments.

## **The Challenge: Deliver a Higher Level of Security and Lay the Groundwork for a Wireless Strategy**

A local community hospital, with approximately 197 beds and more than two thousand employees, was at a crossroads in 2000. IT had just installed a wireless system to reduce the emergency room time to collect patient data. Specifically, arriving ambulances equipped with compatible systems would transfer critical data to the hospital IT systems automatically as the vehicle was pulling into the ambulance bay.

However, critical wireless applications had availability and performance problems, and staff who relied on the applications were experiencing lost productivity. The problems affected the hospital's revenue because of problems in response time and long wait times in the walk-in portion of the emergency room. Then a group of "war-driving" crackers discovered the wireless and hacked into the healthcare center's main systems.

"We didn't know what we didn't know. We discovered that the security recommendations provided by our OEM equipment vendors and the limited knowledge of our staff were insufficient. After Backbone Security partnered with my staff, directed our redesign and then provided outstanding training to my staff to extend the ROI, we ended up with a superb, long-lasting and secure infrastructure"

The hospital group turned to Backbone Security for a three-stage, enterprise-wide solution, designed to help the IT group resolve the wireless issues, understand its HIPAA cyber security requirements and to better deliver critical IT services to physicians and patients. At the core of this solution was the requirement to measure services in a way that business and medical professionals could understand. Ultimately, it wanted to align the hospital group's business and medical goals with its IT strategy and infrastructure.

The group chose Backbone Security because Backbone Security provides an NSA based methodology (IAM/IEM) when assessing network security and engineering new solutions. Not only does Backbone Security tailor the customer's specific needs to the demands of their business, but it also helps them quickly identify and optimize the processes that offer the greatest business impact. The hospital group also determined that Backbone Security's experience and tools were the strongest among any vendor—and that Backbone Security was committed to continue the development of its products to meet the demands of a dynamic and growing organization.

In the first phase of the project, Backbone Security reengineered the centers wireless system to provide reliable and secure service—service that worked throughout the ER and locked the cyber thugs out. In the next phases, a complete HIPAA based assessment was performed and policy and procedures were written and implemented.

## The Bottom Line for the Medical Center

An analysis of the implementation shows that the medical center will gain a cumulative five-year net benefit of \$113,547, an annual ROI of 159%, and an annual value per patient-day of \$2.17 for the project. The entire project has a payback period of 23 months.

The following chart provides a detailed, five-year analysis.

### BUSINESS ANALYSIS OF THE SOLUTION

#### Project Summary

Annual ROI with Backbone Security Project	159%
Payback Period with Backbone Security (months)	23
Cumulative five year benefit	\$113,547
Cumulative five year net cost of Backbone Security's Component of Project	\$43,900
Patient Days per year	52,444
Annual Value with Backbone Solution / Patient-Day	\$2.17

#### Project Costs

	Startup	Year 1	Year 2	Year 3	Year 4	Year 5
Hardware & Maintenance	\$5,000	\$0	\$1,000	\$1,000	\$1,000	\$1,200
Center wide HIPAA Security Assessment / Reassessment	\$18,000	\$0	\$0	\$0	\$0	\$8,000
Software & Services	\$5,000	\$1,200	\$1,000	\$500	\$500	\$500
Staff Costs for Implementation & Support	\$550	\$150	\$150	\$200	\$128	\$135
<b>TOTAL COST</b>	<b>\$28,550</b>	<b>\$1,350</b>	<b>\$2,150</b>	<b>\$1,700</b>	<b>\$1,628</b>	<b>\$9,835</b>

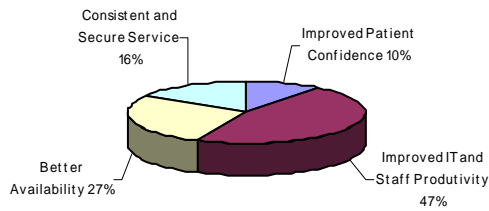
#### Benefits

	Year 1	Year 2	Year 3	Year 4	Year 5
Improved IT security and productivity from improved wireless capability	\$1,200	\$1,350	\$1,500	\$1,650	\$1,800
Improved customer confidence from better availability	\$2,100	\$2,920	\$4,069	\$5,316	\$5,775
Improved staff productivity for more consistent performance	\$1,260	\$1,752	\$2,441	\$3,189	\$3,465
improved productivity for improved ability to deliver wireless	\$3,500	\$4,380	\$6,103	\$7,995	\$9,995
HIPAA violation cost avoidance	\$22,000	\$20,000	\$15,000	\$10,000	\$20,000
<b>TOTAL BENEFITS</b>	<b>\$30,060</b>	<b>\$30,402</b>	<b>\$29,113</b>	<b>\$28,150</b>	<b>\$41,035</b>

#### Financial Analysis

Net Benefit	(\$28,550)	\$28,710	\$28,252	\$27,413	\$26,522	\$31,200
Cumulative Net Benefit	(\$28,550)	\$160	\$28,412	\$55,825	\$82,347	\$113,547
Net Present Value	\$163,455					
Average Annual ROI	159%					
IRR	96%					
Payback Period (months)	23					

**Cumulative 5 Year Net Benefit = \$113,547**



“Backbone Security has repeatedly demonstrated that they’re IT and security leaders; they know how to execute their vision and make it work in the real-world.”

Medical Center’s Chief Executive Officer

The benefits are made up of increased user productivity because applications are more available, more consistent and more secure. Additionally, new and updated applications can be delivered more quickly to users. The IT department also increases its productivity and improves its ability to solve problems.

These benefits are accruing over the five years of the project. But the benefits for those using wireless applications have already been evident. Backbone built monitors to simulate real-life experiences of users of the wireless applications, generated varying workloads, and then monitored how the application ran under those different workloads. That allowed Backbone to tune the applications for better availability and performance. Backbone Security also created alerts that would inform staff about service degradation, allowing the staff to find and fix problems more quickly. The end result: a more highly available, responsive and secure application.

The IT group also put together performance metrics from the user’s perspective, and has guaranteed a high level of service based on those user-facing metrics. That has not only led to a higher quality of service, but also to users having greater confidence in the IT staff.

### **The Hospital Group Looks to the Future**

As the end of the five year endeavor approaches the medical center will use the Backbone Security to reevaluate their HIPAA security throughout all of the center’s holdings. The group expects not only better IT results, but also an improvement in patient care. As the Backbone strategy makes available better medical support applications, the center expects that more high-caliber clinicians will join it, bringing new patients—and new revenue—with them. It also expect specialists who offer high-margin medical services to join as well. Patients will be better served as the bottom line improves. The ultimate goal: Improving patient care through empowering the IT staff