



THE COMPUTERWORLD HONORS PROGRAM

CASE STUDY

LOCATION:
Doha, Qatar

YEAR:
2006

STATUS:
Laureate

CATEGORY:
Business and Related Services

NOMINATING COMPANY:
3Com

ORGANIZATION:

ASPIRE

PROJECT NAME:

Networking a Sports Authority in the Middle East

Summary

ASPIRE, Qatar's academy for Sport Excellence, is a visionary project that aims at transforming athletes into world renowned champions and to create a sports culture in Qatar. To achieve this vision ASPIRE was created as an elite sport academy utilizing the best in every field to produce the best athletes.

As in every business nowadays, technology plays a key role in the success of the business. ASPIRE is not an exception. As a matter of fact, ASPIRE's executive management took a strategic decision to invest in technology to support our mission of sport excellence.

Introductory Overview

ASPIRE is a unique academy worldwide. At ASPIRE, our student athletes are trained by the best to become the best while not compromising their formal education. ASPIRE provides for its student athletes the best Olympic standard elite sport training facilities and personnel, the best academic teachers, and the best accommodation and entertainment activities.

To support ASPIRE's training and educational objectives, an advanced IT and telecom system had to be implemented along with the proper applications to handle all aspects of ASPIRE's day-to-day activities and business needs.

To meet these demands, the IT team decided to focus on key advanced technologies that will address the demand of ASPIRE's staff. Some of these technologies are:

- a. Structured cabling from Systemax to provide the infrastructure for an advanced voice, video and data network.
- b. Highly redundant, highly resilient network from 3Com with gigabit bit to every desktop and Power over Ethernet (PoE).
- c. Wireless LAN from 3Com to cover all indoor and outdoor facilities within ASPIRE
- d. State of the art IP telephony system
- e. Advanced security infrastructure to protect our network. Our security solution has compo-



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nents from industry leaders in security such as TippingPoint Intrusion Prevention System (IPS), Stone gate firewall, and MacAfee antivirus and anti spam solution. Our security infrastructure is designed to protect ASPIRE's network from external as well as internal threats.

These technologies were designed to address the inherited challenges that come with such a unique organization. Some of these challenges are:

a. The ability for our staff to access the information that they need at the time and place where they need it. This requirement meant that our infrastructure had to fully support a mobile environment. Since this is a sport academy after all, we expect from our staff and student athletes to spend much of their time out on the field or in the training facility. However, they still have to access lots of training data that will aid them in their training. So a reliable and fast wireless network had to be installed indoors and outdoors to address this requirement.

b. Not only do they need to have access to data, ASPIRE staff needed to stay in touch with each other within ASPIRE and outside. So our voice infrastructure had to support such mobility. This is why we installed an advanced IP telephony system from Avaya that would allow all of ASPIRE staff to stay in touch with their phone calls and voice mail wherever they are. Our wireless LAN infrastructure coupled with our Wireless LAN IP phones gives all of ASPIRE staff the flexibility to receive and place calls just as if they were sitting at their desks. With soft phones installed on their PCs and mobile devices, ASPIRE staff can also receive their calls from anywhere in the world while they are on training camps. All they need to do is connect their PC or mobile device to the internet through a broadband connection or a hotspot and a VPN connection will be established. Their voice and data communication will be available as if they are in their office. When the phone rings in the office it will ring on their mobile device, and they can place calls using ASPIRE's IP telephony infrastructure.

c. Due to the nature of ASPIRE's sports training, we needed to have a network that would handle the massive amount of traffic being generated by our network users. Our staff must have instant access to massive amounts of multimedia as well as statistical data to perform their jobs. To address this issue, we installed an infrastructure that guarantees one Gigabit to the desktop. This feature enables ASPIRE staff to stream video file and access massive amounts of statistical information from our SAN. With the Power over Ethernet (PoE) feature we also made it possible to expand our IP telephony infrastructure and wireless network with ease and minimal wiring. Just plug the IP phones or the wireless access points in any outlet and you are ready to go. This feature also enhanced our site security CCTV system by allowing us to add any IP camera that supports PoE to any area that needs more security.

d. Another strategic decision we made is to ensure that all systems installed in ASPIRE are IP based or IP enabled as much as the technology allowed us. Therefore, we integrated our access control system, BMS system and security systems into our IP network. Even though these systems are not all IP based, we worked very diligently to integrate them to a high level. Our future plans are to upgrade these systems to become 100% IP based and then monitored and managed centrally from a centralized command and control center.

Benefits

The IT team at ASPIRE has identified four key users the IT systems should support:

a. Management and Staff



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1. Access to IT resources anytime, anywhere
 2. Collaboration tools
 3. Education (e-learning, IT academy, leadership, management, self development, etc.)
 4. Technical support
- b. Athletes
1. Access to IT resources anytime, anywhere
 2. Access to sports data anytime, anywhere
 3. Provide advanced e-learning and virtual classrooms that allow them to keep up with their sports trainings without compromising their academic development
 4. Access to their own records anytime, anywhere
 5. Development of tools to help them enhance their performance
- c. Parents
1. Access to selective athletes' records
 2. Collaboration with the academy's management and staff
- d. Sponsors
1. Access the academy information
 2. Collaboration with the management

We made sure to design every IT system with these users and their needs in mind. The 100% mobility approach that we adopted proved to be crucial to the success of the academy. The work space for employees grew from 9'x9' cubical to include the entire site. There is nothing that any member of the ASPIRE staff and student athletes can do in their offices or classrooms that they can not do anywhere on the campus or in the world for that matter. We took technology to them rather than bringing them to it. This mindset alone has produced great appreciation of our staff and increased their productivity tremendously.

With our 100% mobility approach, coaches can now take their laptops with them to the training fields to capture training data while being able to access historical data from our databases or the internet. They can collaborate and share information in real time within the campus and outside. They can even stay in touch with their voice calls and voice mail via our unified messaging system and soft phones that are running on our IP telephony system. They can even capture exercise data directly from the exercise machines and store them directly in the database which was specifically designed for them. Our teachers can also collaborate with the students outside the classroom equally as effectively as inside the classrooms. The parents of the students can collaborate with the teachers and coaches to make sure their children are progressing well. Our management and sponsors have access to the information they need anytime, anywhere to help them provide the maximum support needed for the academy to success.

With these kinds of flexibility and advantages, ASPIRE's IT team has maximized the value of technology in such a state-of-the-art academy.



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The Importance of Technology

We started building ASPIRE's IT infrastructure with high ambitions. Our forward thinking at times was limited to the technologies available on hand. But the lack of technologies to support our vision did not stop us. So we decided to build the required infrastructure that would position us well when new future technologies would be available. We also promoted and fostered innovations to create new systems by integrating available technologies together to come up with new systems that addressed our needs. Our early adoption of wireless LAN IP phones which was the result of integrating two systems from different vendors is a great example. Both vendors doubted that the system would work, but to the astonishment of everyone, our wireless LAN IP worked so flawlessly that both 3COM and Avaya were impressed with the result.

The IT team at ASPIRE realized the importance of technologies to the success of the academy. That is why every system was designed with the user in mind. With 100% laptop approach, all our employees will be able to perform their duties in their offices as well as on the field, during training camps or in their home if they wish. We realized that limiting employees to their desks to work does not align with our goal of creating a sports culture. Sports is all about motion and mobility, and our IT infrastructure at ASPIRE is well designed to promote this paradigm.

Originality

The IT team at ASPIRE adopted the approach of "ALL IP" systems. We believe that any system that runs on an IP network can be integrated with any other IP system. Based on that approach, we are integrating features such as lighting and environmental controls into our IP phone system. This will allow users to control lighting level and room temperature from their phones. We are also in the process of integrating our access control system which is based on RFID to personalize the workspace of all ASPIRE employees to their needs without any action required by the staff. This includes lighting, environmental controls, accesses to secured areas, and even access to their computer just by being in close proximity of their systems.

Another innovative use of our network which the IT team is currently working on is the integration of sports training and evaluation machines directly into the network. This will allow ASPIRE's student athletes to automatically log the results of their training and testing results into our athletes' database eliminating the need to manually log the results and then enter them into the database later. This integration between the sports equipment and the network gives instant access to all relevant data to the coaches and the students when they need them.

The main originality in our projects lies in the nature of ASPIRE's business and the creativity of our IT team to integrate systems in a way that was never done before. By adopting the approach of "best of breed" technology whenever it make business and financial sense is what gives our IT systems at ASPIRE its uniqueness and originality. Coupled with the in-house, under-development athletes' database, which we believe to be one of its kind in the world, ASPIRE will be able to track the progress of our athletes from the time they join ASPIRE until the end of their life.

Success

Building of ASPIRE's IT infrastructure involved many projects that had to be managed and executed to a very high degree of professionalism and experience. Building a complex network



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with support for voice, video and data in the timeframe required to meet our academy's launch was one of our greatest challenges. However, the experience, professionalism and dedication of the IT team rose to the challenge and were able to deliver a completely working network with IP telephony in a record time. Our original scope is fully operational and today we have over 130 employees, 130 student athletes, and thousands of people who benefit from ASPIRE's infrastructure during the many international games and competitions that are held in the academy almost on a monthly basis. ASPIRE will also be the main venue of the 2006 Asian Olympic Games where seven of the Olympic categories will be held during this international event. Our planning and forward thinking enabled us to build a voice, video and data network that will be able to support a peak of over 10,000 potential users during the games without adding any major investment.

ASPIRE was the first organization in the country to install and use fully functional IP telephony on a large scale. Our success in the academy sparked a wave of innovation in Qatar. Many private and governmental organizations started to demand cutting edge technologies such as IP telephony, Gigabit Ethernet, wireless LAN, just to name a few. Currently we are working with key technology partners to prepare ASPIRE and the entire sport city where ASPIRE is located for a wide deployment of WiMAX. Once the technology is mature and ready for deployment, we will be one of the first, if not the first, in the region to deploy this great technology.

Difficulty

One of the difficulties difficulty presented itself when trying to integrate systems that have never been integrated before. Having decided to "IPized" as many systems as possible ran us into some serious integration challenges. Many of these challenges were resolved and some are still work in progress. But we have no doubt that we will be able to achieve our goals in the end.

The greatest difficulty that we faced was not in the technology itself, rather in training the users and convincing others to use it. Change from the norm is always threatening to any organization. So changing people's way of doing business to using the latest technologies is always hard at the beginning. But once they try it long enough and realize the benefits they then become heavily dependent on it which poses another challenge of making sure that IT systems are available 100% of the time.