



Intermec

Greenside Scoring 12:11 ok

Hole 12 Group 9

Smith	
Jones	-2
Wilkerson	E
	+1

Standard Match?

Yes No

Press Enter when Done

Pocket PC

ESC

1 Call 2 Add 3 Exp

4 Sub 5 Del 6 Inv

7 Mult 8 Div 9 Neg

0 1000

Action



# Wireless makes the cut

By John Burnell

(Intermec 710's mistake-free performance is par for the course)

**T**he U.S. Open is golf played at its highest level, considered by many to be the most difficult tournament to win. The British Open is renowned for its rugged courses and difficult playing conditions. Winning either tournament requires sustained excellence and a mistake-free performance under relentless pressure. Tournament organizers hold their partners and vendors to the same standards of excellence and performance as the golfers who vie for the tournament title. It only makes sense, then, to rely on Intermec and its partners to track players' scores from start to finish.

Tournament staff at this year's U.S. Open, held at the Bethpage, NY State Park Black course, and the British Open in July at Muirfield in Scotland, used Intermec 710 wireless handheld

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computers and MobileLAN™ 2101 dual radio access points to power a set of sophisticated scorekeeping and event management applications developed by Unisys. Each shot



taken during the tournaments was recorded first on the 710s, which updated the leader board, press center, television networks, Web sites and other outlets within seconds via the wireless network and the Unisys scoring management system.

“With 100 million golf fans looking over your shoulder, you have to be sure everything works smoothly,” said David J. Fox, director of global sports marketing at

Unisys. “That’s why we have to be very comfortable and confident in our partners. It was therefore natural for us to select the 710.”

Fox’s estimate of interested onlookers is no exaggeration. Tournament players, press and fans around the world all rely on Unisys’ Golf Scoring and Information System. The application demands that information be completely

conducted the site survey before designing and installing the wireless network at the U.S. Open. “There’s no time for mistakes.”

Tournament volunteers were issued 710 computers and assigned to follow specific players as they played their rounds. More than 50 officials used the computers and simultaneously accessed the wireless network during play. The 710’s Pocket PC operating system made it easy to integrate data with Windows®-based, host-level applications developed by Unisys. As scores were recorded, they were instantly transmitted over the 802.11b (Wi-Fi) wireless data network to the central scoring database, which verified the score for accuracy. Once verified, the database securely updated leaderboards on the course and in the press center. The data also was used to track player locations on the course, update the gallery on approaching players, analyze the pace of play, compute hole difficulty ratings and scoring averages, and handle other applications.

Intermec made its British Open debut this year after more than 10 years of successful performance with Unisys in events organized by the United States Golf Association

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accurate and available in real time—hallmarks of Intermec systems. At the U.S. and British Opens, the 710 handheld computers were used to create the accurate, first-level foundation upon which all scoring, result reporting and statistical systems were built.

“This is prime time. We’re on TV, and millions of people are watching our work,” said Intermec’s Michael Leone, who

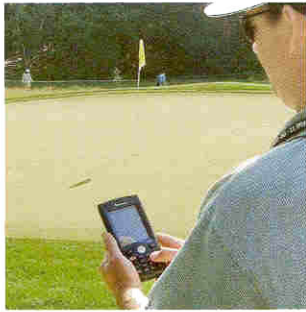
(USGA). The USGA’s and Unisys’ data collection and networking performance requirements are well within the capabilities of the lightweight, rugged 710, which features the latest industry-standard technologies, including the Pocket PC operating system and 802.11b wireless networking. However, the U.S. Open provided other application challenges. Unlike most wireless data collection environments,



## Communications Comeback

System reliability became even more critical when weather conditions at the British Open turned ugly—some of the worst ever experienced during that tournament—and a passerby inadvertently shut down one of the main generators.

Two-thirds of all power to the course went down, handicapping most course activities for 30 to 40 minutes. Intermec's MobileLAN™ wireless system, however, continued to communicate with the entire course, sending text messages over the wireless network until connections could be restored. All golf scores were continually entered without problem during the power shutdown.



the U.S. Open does not have a permanent home. The network had to be constructed, tested and interfaced with host systems trucked in for the event, all over a few days with minimal disruption to the course and its operations.

"We have been very, very happy with the relationship we've had with Intermec over the years," said Fox. "We enjoy a fantastic level of support from Intermec. When we do an event, they come right in and become part of the team."

Although the Bethpage Black course provided the longest U.S. Open in history at 6,565 m (7,180 yards), and Tiger Woods called it the toughest course he ever played,

Now that the U.S. and British Opens are over, the champions go on to fortune and fame. (Or not: who won the 2001 U.S. Open? See answer below.) The Intermec-Unisys team goes on to the next event, tearing down the information systems and loading them for another fast setup. The 710s and wireless access points are also being used at multiple USGA events this year in the United States, Asia and Australia.

Intermec's computers and network infrastructure provide the needed flexibility to stay on tour. "I wanted one device that we could potentially pack up and use wherever we go," Fox said. "We can use the 710, with its 802.11b Wi-Fi-standard radio, all around the world."

When Tiger Woods won this year's U.S. Open and Ernie Els won the British Open, it marked yet another year when the previous champions did not repeat. A quick review of recent past U.S. and British Open winners shows that it's

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the Intermec wireless network easily provided coverage from the first tee to the 18th green and all points in between. Key were the 2101 access points. In this instance, both radios in the 2101 ran 802.11b-standard networks. Where Ethernet drops were available from the telecommunications infrastructure created to support television and other media, one of the 2101 radios linked to the wired network and the other served as a wireless access point. Where Ethernet drops were not available, Leone used both access points as antennas to maximize course coverage. Despite the length of the course and multiple hops between access points, scorers still enjoyed sub-second response time.

"I was excited to do this tournament, but I was nervous," said Leone, who has prepared numerous courses for the wireless scoring system. "When you get a team of people together and you bounce ideas off each other, man, you can do anything!"

hard for champions to stay on top. The same isn't true for the event's technology partners. Unisys and the USGA have been using Intermec products at the U.S. Open and other events for more than 10 years. State-of-the-art technology and an unwavering commitment to service keep Intermec in the field year after year.

Answer: Retief Goosen was the 2001 U.S. Open champion. ■

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