



June 2007

Case Study: Rhode Island Judicial

Rhode Island Courts Leapfrog Ahead with High-Speed Network

Fiber-Optics, Upgraded Infrastructure Provide Speed and Reliability, Lay Foundation for Future

“We were stopped at the 2000 level,” recalls Robert T. Baynes, executive director and CIO of the Rhode Island Judicial Technology Center. Within a few months of his arrival in April 2005, Baynes and his staff developed a bold plan to leapfrog Rhode Island’s courts into the 21st century. Today, the key element of that plan—the infrastructure—has been fully implemented. The court system’s information hums along on a fast and resilient Cisco network infrastructure connected by lightning-fast dedicated fiber-optic lines. If the old network was a two-lane road with lots of stoplights, the new one is a fast-flowing eight-lane freeway.

Baynes smiles warmly when he talks about the big achievement: RIJTC has laid down a rock-solid infrastructure that will make future improvements relatively simple to install. His organization serves all the state’s major courts: the Supreme Court, Superior Court, District Court, Family Court, Workers’ Compensation Court and the Traffic Tribunal. Courthouses are in Providence, Warwick, Cranston, Wakefield and Newport.

The integrated judicial system requires an integrated computer system to serve more than 2000 users in the courts and other state agencies, with a \$5 million annual budget. Nearly 600,000 legal cases are in the database. There are two data centers, one in Providence and one at the sparkling new courthouse in Warwick.

Before 2005, there had been significant progress. Some courts had gotten off the old Wang-based case-management system and adopted a new Oracle-based system. But there was one huge roadblock: lack of high-speed connectivity. A T1 network didn’t provide enough bandwidth. Frequent electronic





traffic jams slowed response time and caused chronic email problems. Without a fast network, it wasn't possible to even think about load balancing among the two data centers or disaster recovery.

Leapfrogging with Fiber

Baynes decided a fiber-optic network was the only way to go. "We could have solved our problems without fiber," he says, but instead of taking halfway measures, he decided to "leapfrog the technology in the middle"—the intervening steps most organizations would go through. Fiber-optic would provide the network infrastructure that would last many years.

Two factors clinched the deal. First, two cases attracting a huge amount of public interest—particularly the Station nightclub fire trial—were coming up, and Baynes wanted the ability to provide live feeds from the court to overflow rooms, the media and local law schools. Only fiber-optic could provide the power. Second, during the late 1990s and early 2000s, miles of fiber-optic cable were strung across the Ocean State. But the dot-com boom burst and most of it was unused. OSHEAN Inc., a consortium serving Rhode Island research, educational, and government agencies, bought up the "dark" cable and created an advanced statewide network that takes advantage of Rhode Island's compact dimensions.

Two key vendors besides OSHEAN implemented the network: network giant Cisco Systems and Atrion Networking Corporation, a systems integrator in Warwick. Hewlett-Packard provided new servers, and all four entities have worked closely together. Atrion had worked with the Rhode Island courts for about three years before Baynes took command. He could have hired a new vendor, but he determined RIJTC already had the best partner. Atrion was familiar with the state's courts and their networking needs, so there was no learning curve. Most crucially, Atrion offers 24/7 network management and monitoring.

"Atrion has a network operations center. That is really key," Baynes says. "Certainly, network management is key to delivering service to your end customer, and without a good, solid network operations center, you're just not going to do that. I don't think there's another network operations center in Rhode Island, or even nearby Massachusetts, that could meet our needs."



Progress was rapid once RIJTC's plan was completed in November 2005. The last court on the old case-management system migrated in February 2006 to the new one. The old hardware was given to a local museum, and powerful HP-UX servers were installed. Atrion's engineers connected RIJTC to OSHEAN, supervising the cabling of the "last mile" to the courts, installing switches, firewalls and routers and conducting testing. During 2006 courts across the state were connected to the network, which was completed in April 2007. Atrion also provided network design and implementation for the new state-of-the-art courthouse in Warwick and the new Traffic Tribunal in Cranston.

The old problems are gone. Response time is virtually instant, saving employees a huge amount of time. Email problems disappeared. The network is fast and reliable. Networking the two data centers allowed load balancing for optimum performance. And there's also fault tolerance. If one center should go down, users would be automatically shifted to the other. "There should never be a time when the court is out of business because of the computer system," Baynes says.

Network Performs in the Clutch

In 2006, the Station nightclub trial was held in Superior Court. One hundred people lost their lives and over 200 were injured in the fourth-deadliest nightclub fire ever in the United States. With Atrion's help, the Superior Court was ready. The courthouse was wired so TV cameras could send a live signal that was picked up by Court TV and other channels. The club's owners and the rock band's manager were found guilty of multiple counts of involuntary manslaughter.

But the courthouse couldn't hold all of the relatives and friends of the victims, says Jim Souls, Atrion's key liaison with RIJTC. The challenge was to provide a live feed during sentencing so they could feel part of the process and not lose their right as victims.

"Partnering with OSHEAN, we provided a video and audio feed to adjacent courtrooms for those who could not fit in the actual courtroom," Souls says. This provided the opportunity for many of the victims and their families to attend the sentencing hearing, which otherwise would have been impossible because of the capacity of the actual courtrooms.



Keeping It Going 24/7

Atrion makes sure the system runs 24/7/365. For the courts, their computer system is just as important as utilities like power and water. Under Atrion's Maxtime service, which provides hardware support, the system is always ready to go. Under Atrion's Sentinel service for network management and monitoring, its network engineers keep watch on the court network 24/7/365 and act immediately to avert any developing problems.

"We're a true trusted advisor of the RIJTC," Souls says. "They rely on our technology expertise to help them leverage their infrastructure to meet the needs of the citizens of Rhode Island." Baynes says it makes eminent sense to outsource functions and get the right balance of in-house and outside expertise. "Atrion also provides all the software upgrades, which is a big job. It's not something an organization like ours can undertake without significant cost," he says. "We don't have that kind of money or the number of people that would be required." Baynes says he's a tough boss.

"I found Atrion very easy to work with, very knowledgeable and very flexible. Frankly, I come from a business background, so I'm a little harder to deal with than most state IT directors," laughs Baynes, who'd been a senior executive in charge of financial giant Fidelity Investments' global network. "I can be pretty direct as to what our needs are—and they understand that and work very well with getting what we need, when we need it. And at times when things needed to be expedited, they worked very hard to get it expedited. Jim Souls has been great at delivering things on time."

"From a technical perspective, I have nothing but great things to say. I don't think I've ever found anybody who came in here who didn't know what they're talking about, didn't know how to execute the plan, raise the appropriate level of concern and risk and provided us with suggestions for mitigating those risks. They're very focused on what they're doing and very good at what they're doing. They have smart, experienced people."



More for the Future

Baynes wants to upgrade the Providence data center. It's dated and it's power-hungry. He wants to make it "green." Atrion is working with RIJTC to perform a data center assessment. This will provide a baseline analysis of the courts' current data center architecture and recommendations for design changes and upgrades.

RIJTC recently rolled out a four-year plan to go paperless. Today, though many documents are filed electronically, paper is still the official record. In four years, the plan calls for eliminating paper. With the high-speed network infrastructure and powerful servers already in place, the system stands ready to easily accommodate the increased workload.

Baynes' work is hardly done, but the biggest job, laying down the infrastructure, is complete. With that done, future improvements are almost a matter of "plug and play."