

Port of Houston Authority Achieved Seamless Wireless Automation with Unmatched Resiliency



The Port of Houston is a 25-mile-long complex of diversified public and private facilities. The organization is made up of the Port of Houston Authority and the 150-plus private industrial companies along the Houston Ship Channel. About 100 steamship lines offer services linking Houston with 1,053 ports in 203 countries. It is also home to a \$15 billion petrochemical complex, the largest in the nation and second largest worldwide.

To streamline container delivery, inventory, and distribution across terminals, the Port of Houston needed to wirelessly connect LXE's VX-6 computers inside Remote Terminal Gantries and LXE's MX-9 computers inside terminal clerk trunks and container yards as part of the Navis inventory control system. The challenge was finding a partner that could build a wireless architecture powerful enough to cover large areas, supply the necessary bandwidth, and exhibit the resiliency to survive extreme temperatures and weather conditions.

Seamless Wi-Fi Automation with Unmatched Resiliency

Previously the Port of Houston had hotspot coverage using traditional access points accessed by a few select workers. To improve productivity, applications needed to be accessible to all workers over a wireless network that could deliver high performance connectivity, 24/7/365, in some of the most extreme weather conditions in the USA.

The Port of Houston is a 25-mile-long complex of diversified public and private facilities and is ranked first in the United States in foreign waterborne tonnage; first in U.S. imports; second in U.S. export tonnage and second in the U.S. in total tonnage.

Infrastructure Requirements Included:

- Integration with Navis-ready computers, MX-9 handheld and VX-6 with Summit 802.11g radios
- Wireless bridges to connect the Wharf Cranes to the WLAN
- WDS links to connect Arrays to the fiber network
- 24/7/365 operation with hardware and software resiliency
- Ability to function in a harsh environment

The Xirrus solution provided:

- Arrays that integrate 4 to 16 radios, high-grain directional antennas, a multi-gigabit switch, controller, firewall, and threat sensor into a single access device
- 4X the coverage and up to 8X the bandwidth and capacity
- 80% fewer devices than any other solution, requiring 20% of the labor to install over traditional AP's
- Easily mountable high mask pole outdoor enclosures

Benefits:

- Pervasive wireless coverage indoors and outdoors
- Streamlined process of container delivering/processing
- 80% fewer active network components to install and maintain

In evaluating solutions, network engineers from the port looked at the leading wireless network product features and survivability, along with their survey and installation processes.

Ultimately Xirrus wireless Arrays were selected and installed in Xirrus outdoor enclosures mounted to high mast poles. These enclosures protect the Arrays from weather and construction-type environments and supply pervasive wireless coverage indoors and out, ensuring the seamless roaming of handheld devices for ship work and inventory processes. Xirrus' multi-radio architecture, with onboard wireless controller and integrated gigabit switch, effortlessly provided the capacity to achieve mission critical connectivity, and do so with 80% fewer access devices, switch ports, and cable runs.

From site survey to installation, the Xirrus product has surpassed the Port of Houston's expectations, offering support and service unparalleled in the industry. Xirrus continues to support the Port of Houston's efforts to improve their end user experience by providing a sustainable infrastructure for increased growth and bandwidth usage. The Port of Houston has reached an impressive milestone. With a Xirrus wireless deployment it has achieved unmatched resiliency, redundancy, and capacity to expand information systems well into the 21st century. By selecting Xirrus, the Port of Houston was able to achieve a resilient, scalable network, while significantly saving on equipment, cabling, switch port, and labor costs.

The Xirrus Advantage

With the explosion of smartphones and tablets, mobility has become ubiquitous. People expect to connect wirelessly. Organizations depend on high-bandwidth to send and receive voice, video and data, from any device to any one. And no one delivers better than Xirrus. Our array-based solutions are unique. They draw from cellular tower design principles to provide wired-like reliability, increased user density and capacity plus superior security. They perform under the most demanding conditions and have lower infrastructure requirements. When integrated with business and IT objectives, they help you do more than ever before.

At Xirrus, we apply the "best practices" of wired networking to wireless infrastructures by distributing the intelligence to the edge and outfitting the Array with dense multi-state radios in the same manner as a wired switch. That's how Xirrus delivers the best performing, most scalable wireless solutions in the industry. It's a strategic IT infrastructure advantage that fuels organizations. Because Xirrus does wireless networks right.



"We are extremely pleased with all things Xirrus. Xirrus has impressed many of us here at the Port, on many different levels. So many of their employees have gone so far beyond any of our fair and reasonable expectations, that it is almost embarrassing."

BILL BUCKLEY,
network engineer at POHA



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