

University of Notre Dame

Founded in 1842, the University of Notre Dame is a highly regarded, independent, national, Catholic university in Indiana, approximately 90 miles east of Chicago. With a population of 11,479 students and more than 1,500 faculty members, the University of Notre Dame covers an area of 1,250 acres containing two lakes and 137 buildings.

Notre Dame is well known for the quality of its environment and the beauty of its campus. The Basilica of the Sacred Heart, the 14-story Hesburgh Library, and the school's newly renovated 125-year-old Main Building with its famed Golden Dome are among the most widely known university landmarks in the world.



"Our partnership with NextG Networks provides Notre Dame students, faculty, staff, visitors and sports fans with superior wireless voice and data service from participating operators. NextG's cutting-edge system enables Notre Dame to ensure campus-wide wireless coverage and capacity without the need for land-line phones, traditional cell towers, or major construction by using state-of-the-art technology that blends discretely into the Notre Dame campus."

Dewitt Latimer

Deputy CIO, Chief Technology Officer, Assistant Vice President and Assistant Provost
Notre Dame University

Facts

- Campus features 137 buildings on 1,250 acres
- Protected historical buildings throughout campus
- 11,479 students
- Landline service in residence halls will be discontinued
- Need for wireless coverage and capacity enhancements in specific areas
- Campus aesthetic concerns prohibit traditional cell sites

Challenges

Notre Dame's challenge was to provide extensive wireless coverage and capacity so everyone could access wireless voice and data services anywhere on campus. Notre Dame set out to find a method in which to support multiple wireless operators and their network needs, while meeting the needs of its constituents, whose desire to protect the campus's architecture and landscape opposed improving coverage by adding traditional cell towers.

Notre Dame had decided to remove fixed-line service from its residence halls due to the lack of use. This strategic decision was designed to allow the campus to significantly reduce telecom operating costs. More than 90 percent of the students, faculty, and staff used wireless phones and other devices. However, specific areas of campus, including some of the residence halls, receive poor or no wireless coverage.

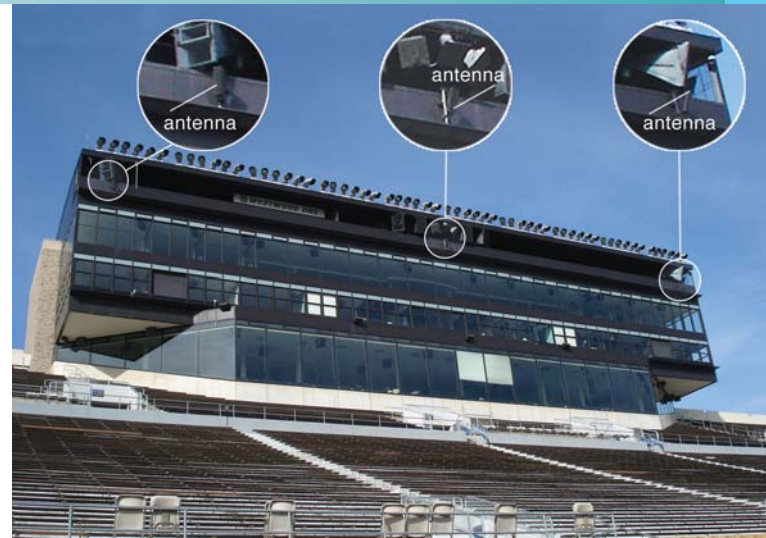
- Poor wireless coverage and capacity in key areas of campus
- Landline service in residence halls to be discontinued
- Preserve and protect the beauty of the buildings and environment
- Heavy student and faculty dependence on wireless phones and devices
- Required reliable in-building coverage throughout campus

University of Notre Dame

NextG Solution

NextG's scalable architecture uses a cost-effective RF-over-fiber technology to transport voice and data for wireless operators. NextG's DAS systems-- which are used across the United States to improve coverage, capacity and performance--support multiple operators meeting the wireless service needs of Notre Dame. Partnering with NextG also offers the university a single point-of-contact for interfacing with wireless operators. NextG works with wireless service providers to expand their coverage, capacity and performance in specified campus areas without using

Network antennas deployed at Notre Dame stadium.



traditional towers or obtrusive rooftop sites. Because the DAS system uses strategically placed, small antennas on approved buildings and lampposts, the low-power DAS sites are virtually unnoticeable.

The NextG solution enables the University of Notre Dame to meet its goals for a discrete, cost-effective, multi-operator network that supplies campus-wide coverage with ample capacity.

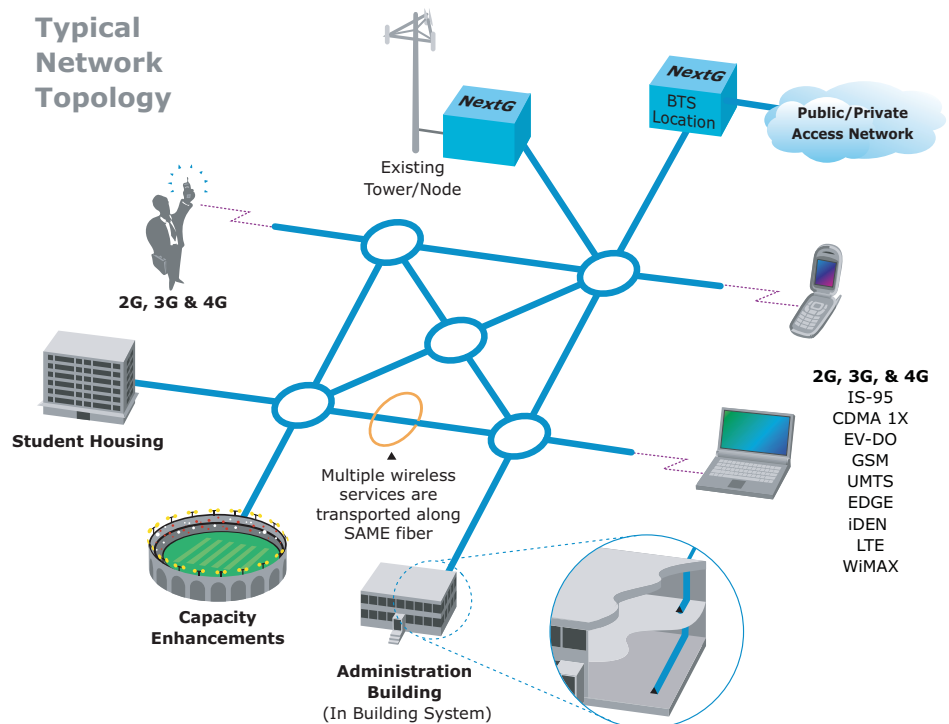
Benefits

- Greater RF planning and capacity allocation can support concentrated, simultaneous users throughout the campus
- Small, low power equipment allows for quick approvals
- Strategic placement and stealthing of antennas on buildings and lamp posts make them virtually unnoticeable
- A quick and efficient implementation schedule
- Multi-operator network design based on operator and campus needs
- One point of contact for campus to manage multiple operators
- An outdoor network with sufficient campus-wide in-building coverage
- Sports complex coverage for events

Specifications

Population Covered	13,000
Number of Nodes	Over 20
Frequencies Supported	850MHz and 1900 MHz
Protocols Supported	GPRS, EDGE, GSM, UMTS, CDMA, 1xRTT, EV-DO

Typical Network Topology



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