ENVIROTROL INCORPORATED

# Case Study

*January 2, 2006*

## *NC Governor's Mansion undergoes mechanical renovations to get rid of mold.*

***The Governor's Mansion Raleigh, NC***

**Raleigh, NC.** In August of 2005, North Carolina Governor Mike Easley and his family were forced from the 30,000 square foot, 4 level Governor's Mansion because of mold. This was the second time in four years that the 114-year-old mansion has been invaded by mold. According to Secretary of Administration Gwynn Swinson, the governor and his family needed to move out citing health reasons.

Mold spores can cause allergic reactions, including runny noses, sneezing, red eyes and skin rash. Secretary Swinson ordered the State Construction Office to make emergency repairs, citing "a dangerous and hazardous condition at the governor's mansion".

The State Construction Office hired Stanford White Associates of Raleigh, NC to provide an HVAC solution to eliminate the cause of the mold and install new Heating, Air Conditioning, Ventilation equipment and controls. Stanford White Associates has been the State's go to Engineering firm for mold problems. They recently provided their services at a renovation of North Carolina Central University's Residence Halls 1 & 2 which had mold problems that had to be dealt with.

As part of the renovation project, ***Envirotrol Incorporated*** was selected to provide HVAC controls and Testing and Balancing Services for the project. ***Envirotrol*** provides facility management integration for monitoring and controlling HVAC, Electrical, Process and other building services into a central system, making that information available to authorized users over the World Wide Web. **"Our focus is on system integration"** says Jeff Farlow, President of ***Envirotrol***. **"We integrate the controls that come on the equipment from the manufacturer and bring this information back to an easy to use operator system featuring building graphics, trends, alarming and messaging information."**

***Envirotrol's programming group works on site to set up and test the buildings HVAC systems***

Working along side mechanical contractor Environmental Air Systems, Inc. out of Greensboro, ***Envirotrol***'s technicians began running communication cabling, controllers, servers, temperature and humidity sensors throughout the mansion taking care to preserve the historic features of the residence. One of the advantages of ***"open systems"*** building management is the opportunity to select controllers, and building sensors based on ***'best of breed'*** instead of manufacturer. During the engineering and design phase of the work, ***Envirotrol*** and Stanford White worked with the

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***Envirotrol's HVAC system response for the North Carolina Governor's Mansion included installation of a Tridium Open Systems Building Management System, Mechanical Startup Services and Air and Hydronic Balancing.***

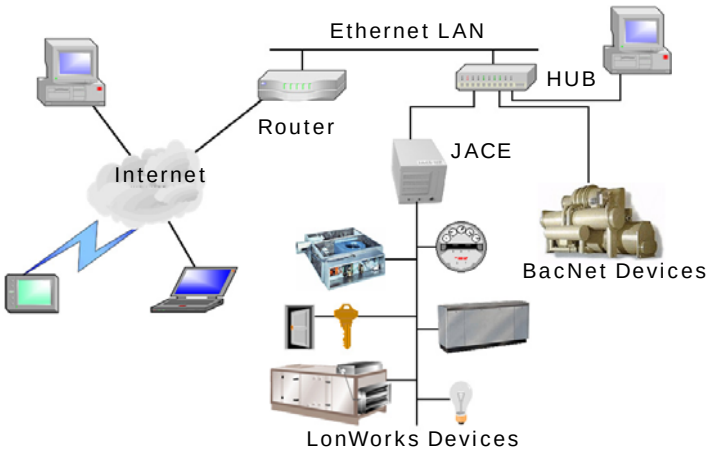
Governor's wife, Mrs. Easley to select room temperature and humidity sensors that would not detract from the interior design.

***Envirotrol*** installed a Tridium HVAC Building Management System into the facility. Tridium Systems provide open system integration regardless of manufacturer or communication protocol into a unified platform that can be easily managed and controlled in real time over the Internet using a standard web browser. "We have integrated directly into the Carrier Chiller which was designed and installed in this facility along with the other controlled mechanical equipment to provide an easy to use, intuitive system to operate and maintain."

In addition to providing Building Management Control services to the Governor's Mansion, ***Envirotrol*** provided **National Environmental Balancing Bureau (NEBB)** certified Air and Water Balancing for the facility's mechanical Systems. NEBB establishes and maintains industry standards, procedures and specification for work in its various disciplines.

**History.** Since 1891, the Executive Mansion has served as the official residence of North Carolina's governors. Today, as when it was constructed, it serves as an architectural anchor of the Blount Street Neighborhood and is designated a Raleigh Historic Landmark.

## Niagara Architecture




### Plug-and-Play, Object-Oriented Architecture

The foundation of **Tridium's** patent-pending **Niagara Framework** technology is its robust, real-time, component object model. Object modeling creates a powerful architecture that alleviates the need for gateways. By converting connected devices (and their data and attributes) into software "objects" for constructing applications, **Niagara** can talk to smart devices using their native protocol and respective networks, regardless of make, model and manufacturer. **Niagara** integrates these devices so you can read real-time data, send commands to the device and utilize common programming tools to reconfigure and reprogram them easily and inexpensively. ***Envirotrol*** is dedicated to providing open systems to its customers.

NEBB Certification No. 3073

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