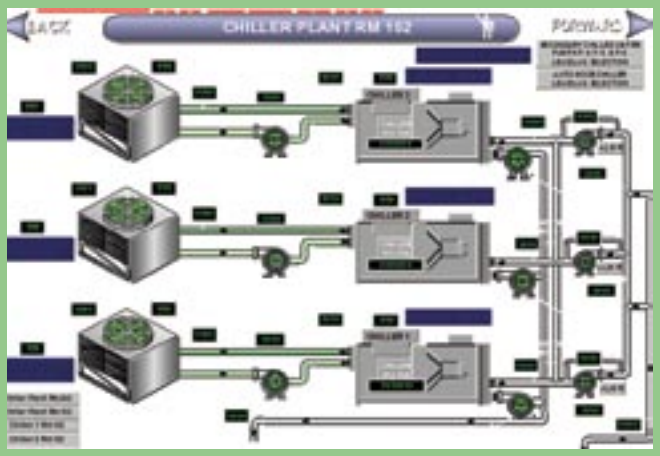
*Defense Enterprise Computing Centers Require Extensive, Reliable Cooling*

Customer Success Story

# Systems Performance Engineering
## Mystic, CT




*Chiller Monitoring Screen*

> *"The interoperability of GENESIS32 allows us to bring many dissimilar pieces of equipment, communicating with different protocols, into one cohesive system that can be monitored and controlled from a central location, remote locations, or on the Web."*
>
> **Bill Jennings**, Project Engineer
> SPEC

## About Systems Performance Engineering

Systems Performance Engineering Corporation (SPEC) is an 8(a) Certified Women-Owned, Small Disadvantaged Business located in Mystic, CT. SPEC has been providing advanced technology building automation systems to the Department of Defense throughout the past ten years. SPEC recently completed Computer Monitoring and Control Systems at two of the three state-of-the-art computing centers worldwide within the Defense Information Systems Agency (DISA) and the Department of Defense. DISA is a combat support agency responsible for planning, engineering, acquiring, fielding, and supporting global solutions to support the Department of Defense under all conditions of peace and war. DISA's Defense Enterprise Computing Centers (DECC) demand reliable cooling year-round and detailed building management.

## ICONICS Software Deployed

Systems Performance Engineering Corporation selected ICONICS' GENESIS32™ Web-enabled, OPC-integrated HMI/SCADA suite for this application.

## Key Features

SPEC deployed three OPC servers to establish specific communication interfaces – OPC Modbus, OPC for KMC-Controls, and OPC for PDI, Inc. These OPC servers allowed data read / write privileges between GENESIS32 and a variety of HVAC and power equipment, including:

- Three centrifugal chillers by Trane
- Five air handlers
- Fifty Liebert, DataAir, and Compu-aire Computer Room Air Conditioning Units
- Four boilers
- Forty power distribution monitors by PDI, Inc.
- Emergency generators
- UPS units

## Project Summary

One of the DISA DECCs dedicates more than 38,000 square feet to computing and 107,200 square feet to administration. This facility does not allow any "downtime" for its building HVAC system because it houses numerous computers that require an environment having uniform, cool temperatures. While maintaining continuous cooling operations, SPEC installed, started up, and tested the new Computer Monitoring and Control System on three Operator Interface Stations (OIS) with GENESIS32, AlarmWorX™32 Multimedia, and DataWorX™32. SPEC implemented the optional product, AlarmWorX32 Multimedia, which provides the capability of paging out with alarms to building personnel.

The customer is particularly pleased with this feature. DataWorX32, another optional product, was also implemented to facilitate data access and data aggregation when data are being exchanged between multiple OPC servers. This approach significantly improved the data-retrieval times, thereby reducing the wait time for the operator who is looking at the various displays.

## Benefits of the System

Since GENESIS32 software seamlessly communicates with mechanical equipment and provides building management data, building operations and often energy savings can be optimized. For example, an interesting feature that SPEC implemented in the Chiller Plant System is a "Free Cooling" cycle, which runs when the outdoor temperature permits and greatly reduces the energy consumption by the chillers.


*A Liebert CRAC Unit Monitoring/Control Display*


*Chiller Overview Screen*

## Conclusion

SPEC is pleased to report that deploying state-of-the-art GENESIS32 Software made this project "a natural" to be selected as a 2002 Federal Energy Saver Showcase Award Winner by the U.S. Department of Energy. The success of this project is shared with over 800 non-federal visitors each year, and has forged the way for similar installations at other DISA centers throughout the country. In this application, GENESIS32 truly demonstrates interoperability, dependability ("No Downtime Allowed!"), and optimization.