Omaha's Henry Doorly Zoo is a world-class facility in every sense of the word attracting more than one million visitors each year. A multiple exhibit campus, the zoo covers 130 wooded acres, includes 15 major animal habitats and is home to 24,330 specimens representing 972 species. Constructed for year round operation, the zoo hosts the world's largest indoor swamp and indoor desert, along with the world’s second largest indoor tropical rain forest.

The Omaha Henry Doorly Zoo turns to Control Services, Inc. to ensure very unique environmental habitats are maintained in each major exhibit. Every indoor environment is drastically different from the other and much different than the normal conditions found in the central United States.

Inside the Lied Jungle Building, zoo visitors can experience the sights, sounds and smells of tropical rain forest as they walk along the ground level path or take a suspended walkway at treetop level for a bird’s eye view of the tropical foliage, misty waterfalls and jungle inhabitants. The control system designed and furnished by Control Services, Inc. provides all temperature and humidity control in the jungle, including operation of a misting-fogging system in order to simulate rain forest conditions.

One of the world’s largest aquariums, visitors walk through a glass tunnel in a 900,000 gallon coral reef tank to view marine life, including sharks swimming around them. Along with controlling the building’s heating, ventilating and air conditioning (HVAC) systems, the control system is responsible for the life support system for 15 freshwater and saltwater exhibits, totaling more than 1 million gallons of water, and a refrigerated penguin habitat. The system not only monitors and controls the tank water temperature throughout the aquarium, but also controls an elaborate 80-pump automatic backwash filtering system and a state-of-the-art ozone generation system which disinfects the water. The penguin habitat resembles a scene straight out of Antarctica complete with snow, ice and saltwater. The control system controls the daily production of 14 tons of snow and ice and maintains the exhibit’s air and water temperature in the 25-45º F range necessary for penguin reproduction.

Opened in 2002, the world’s largest indoor desert, located under the world’s largest glazed geodesic dome has become a landmark of Omaha. The Desert Dome features plant and animal life from three deserts of the world; the Namib Desert of southern Africa, the Red Center of Australia, and the Sonoran Desert of the southwest United States. The control system is designed to simulate the daytime heating and nighttime cooling similar to actual desert conditions while compensating for the enormous solar load and all the while, keeping a comfortable environment for visitors.

The Eugene T. Mahoney Kingdoms of the Night is the world’s largest nocturnal swamp exhibit. There are 75 animal species in Kingdoms of the Night including eight species of bats. Housed below the Desert Dome facility, systems are controlled to reverse day/night cycles, allowing visitors to view nocturnal creatures in their natural habitats.
Hubbard Gorilla Valley
Gorillas roam freely in this three acre exhibit between indoor and outdoor exhibits. Along with maintaining an environment suitable for the gorillas, the control system is responsible for ensuring adequate ventilation within the enclosed spaces for visitors.

Hubbard Orangutan Forest
The indoor/outdoor orangutan habitat features two 65-foot tall, solid concrete Banyan trees, each weighing 222,750 pounds with over 15 branches each and entangled with thousands of feet of man-made vine, to create a one-of-a-kind habitat designed especially for these intelligent animals.

Butterfly and Insect Pavilion
The Butterfly and Insect Pavilion is a total immersion exhibit allowing visitors to enter a world with free flying butterflies. Viewed from above, the facility resembles a winged insect. The control system maintains an environment suitable for hatching butterflies and moths which are brought in from all over the world in their cocoon stage. In addition, suitable environmental conditions are maintained for an amphibian breeding and rearing facility which is home for some of the world’s most threatened species.

Madagascar Exhibit
The Madagascar facility features lemurs, fossa and rare orchids. The control system designed and furnished by Control Services, Inc. is responsible for maintaining the environment in this facility housing some of the most unique animal and plant species in the world.

IMAX 3D Theater
Our control system is not strictly designed to keep only the animals comfortable, but visitors alike. Especially, in the Zoo’s 350-seat IMAX 3D theater, the control system is responsible to keep the space comfortable despite largely fluctuating amounts of occupants. In addition, the control system actually controls the temperature of the projector through an automatic water cooling systems.

Control System ties it all together
While each major exhibit is a stand-alone facility the entire campus control system is networked together allowing the zoo’s operational staff to monitor and control any portion of the campus from any location. Operating on the zoo’s enterprise network, multiple color graphic workstations allow entry into the system and ensure that critical environmental conditions are met.