



## SCALING UP THE SMART BUILDING APPS PLATFORM

Smart Building Apps has developed a suite of apps that building managers can use to improve their efficiency and communication with tenants and operations staff in apartment, condo, office, and commercial space buildings. In their second CENGN project, Smart Building Apps tested the scalability of their platform in preparation for large-scale deployments.

The team at Smart Building Apps have been working with property owners and managers since 1994, specializing in the safety and security of their buildings as well as parking management, enforcement, ticketing, and towing. With roots in different companies such as Response Group and Visitors Parking, Smart Building Apps has evolved into a feature-rich building management software platform that is turning apartment buildings and condos into well-informed communities.

### COMMUNICATION PROBLEMS BETWEEN BUILDING MANAGERS AND TENANTS

Building managers are busy people, being responsible for managing sometimes hundreds of tenants. Disseminating information and communicating effectively with tenants is a major challenge facing most building managers. This largely stems from managing multiple requests through different communication channels such as in person, email, telephone, and others. The informal process of work requests can lead to more disorganization and several tenant requests/notices slipping through the cracks and being forgotten.

### SMART BUILDING MANAGEMENT

Smart Building Apps offers a suite of apps that building managers can use to improve communication, coordination, and the dissemination of key information that tenants are looking for. The apps serve a variety of purposes from payment portals to amenity bookings and have been customized to meet the needs of building managers, landlords, superintendents, security guards, and parking lot managers.

Smart Building Apps, consists of 22 apps including:

- Visitors parking
- Maintenance requests/work orders
- Payment portal
- Recurring tasks
- Amenity booking
- GPS Employee Action Tracker
- Project Management

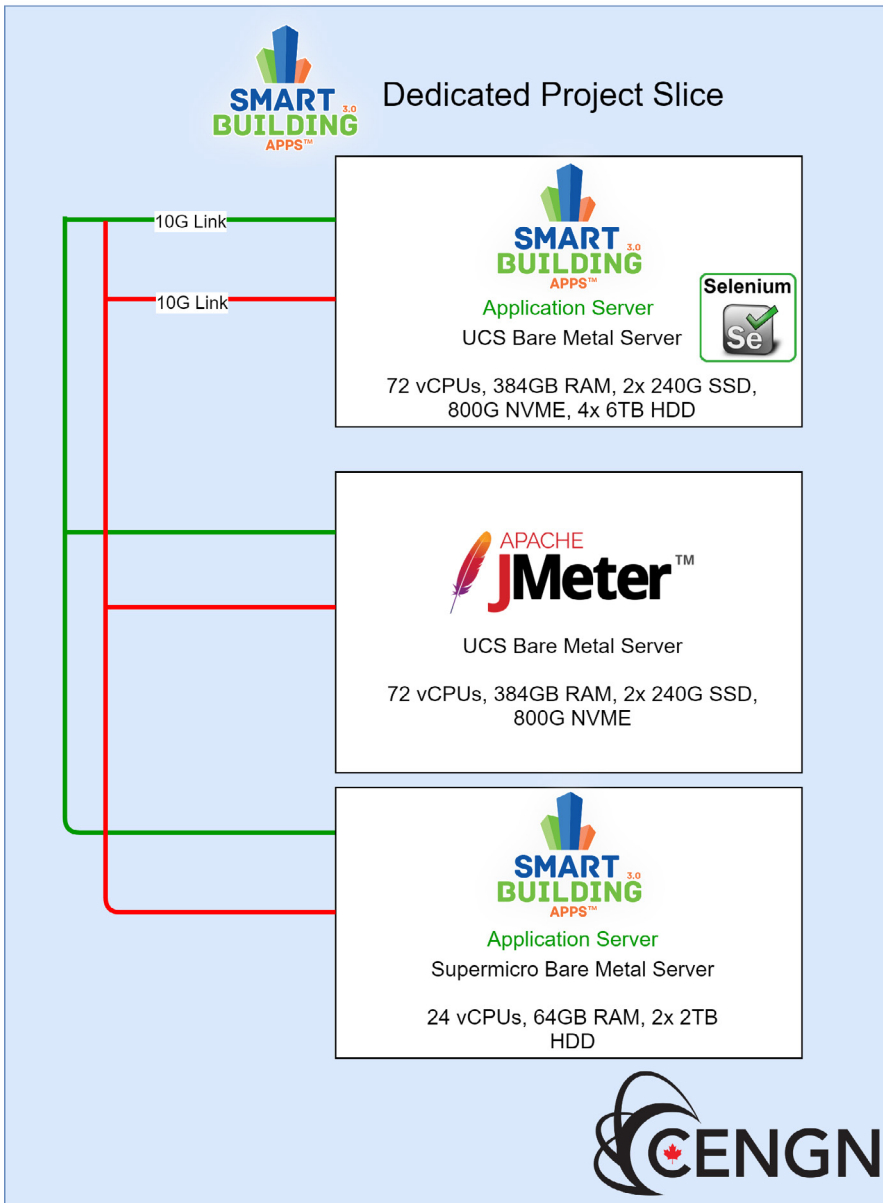


### SCALING UP

The goal of Smart Building Apps's CENGN project was to handle 500,000 HTTPS requests in a 24-hour period with low latency and quick response time. These requests were simulations of typical tasks a building manager would be using on the app ranging from amenity bookings to payment processing and building announcements. This would validate that their technology can scale to meet the needs of large building managers.

#### CENGN MEMBERS





## PROJECT SETUP AND EXECUTION

For the project, CENGN provided three bare metal servers, two UCS bare metal servers, and one supermicro server. All testing was done on the Smart Building Apps application server, with the billing server being deployed to be used in coordination with the application server. Selenium, a framework for testing web applications, was deployed on a bare metal server to ensure the solution was performing properly. An open source traffic generator, JMeter, was deployed on a third bare metal server sending traffic to the Smart Building Apps solution to simulate real requests like sending announcements, amenities creation, and all of the requests a tenant or building manager would be using on the Smart Building Apps solution.

The CENGN project was completed in phases rotating between testing runs and product development runs. This allowed the team to test, figure out how the solution could be improved, make the improvements, and test again. Smart Building Apps was able to successfully achieve the project result they wanted, processing over 500,000 HTTPS requests over a 24-hour period within an acceptable response time for customers. In addition, their team uncovered bottlenecks in various areas in their solution and made the product developments to fix them.

## TESTING FOR REAL WORLD ENVIRONMENTS

This is the second CENGN project that Smart Building Apps has completed. A major advantage for them was the ability to deploy and scale up on two different environment setups on the CENGN infrastructure. In project one, Smart Building Apps used virtual machines and a cloud tenancy. In project two, they deployed on bare metal servers. When deploying with major customers they will see several different infrastructure types. Having experience working with a variety of infrastructure setups is a major advantage CENGN has provided their company. The infrastructure, technical, and exposure services CENGN provided Smart Building Apps has validated the performance of their solution at scale and improved both their technology and company.