FUJITSU

Sustainability Case Study
Lend Lease – Convesso Concavo Project

Innovative solutions enabling integration of energy management and building automation to deliver cloud based energy management solutions to tenants.

The customer

The customer

Lend Lease has been creating innovative property and infrastructure solutions for more than 50 years and can lay claim to delivering more than 10,000 projects during this period. Headquartered in Sydney, the company has actively advocated environmental and sustainability initiatives since formation in 1958 and was the first Australian property company to be included in the Dow Jones Sustainability Index in 2001 and has also been named by the Australian Ethical Investor Magazine as "Most Sustainable Company of the Decade" in 2010.

Countries: Australia
Industry: Property Developer
Founded: 1958
Employees: 17,000
Website: www.lendlease.com

Lend Lease

The challenge

Lend Lease faces the challenge of delivering Green Star rated buildings within tightly constrained budgets and timeframes. To this end, Fujitsu and Switch Automation collaborated in designing a solution to comply with the energy monitoring aspects of the Green Star rating design criteria. A key project priority was to monitor environmental controls and provide real-time energy usage metrics. Another challenge was to develop a means of utilising single high speed IP fibre cabling network to replace traditional multiple, non-IP copper cabling infrastructures.

The challenge

Lend Lease Apartments is committed to creating landmark homes that have a limited environmental footprint. The luxury Convesso Concavo development had to meet a number of design criteria to achieve a '4 Star Green Star' for Multi-Unit Residential buildings. The assessment criteria included a requirement to monitor energy and water use in real time for over 450 apartments.

The solution

The Switch Automation platform continuously monitors energy and hot and cold water usage and then provides a simple to use In Home Display to provide real-time and historical usage and trend data. This provides residents with greater visibility of energy and resource consumption. Within the building, Video Intercom, security systems and data collection devices also share the same IP network which improves the flexibility and reliability whilst reducing the cost of the initial setup. Because the energy monitoring system uses a cloud-based infrastructure, additional modular functionality can also be added at a later date. This guarantees a system that is ready to meet the needs of evolving technological change. Additionally, Lend Lease is able to track energy and water data use to aid research in how to improve future apartment designs and deliver more efficient performance from buildings.

The solution

Fibre-based IP building network infrastructure integrating multiple services across a unified IP network including access control, video intercom, lighting control, air-conditioning and energy monitoring. All services managed from touch screen interface in each apartment.

The benefits

- Intuitive and easy to understand web interface
- A single touch screen 'In-Home Display' is used to interface Video Intercom, Access Control, Lighting Control, Air-Conditioning and Energy Monitoring
- Real time, historical and trend based energy, hot and cold water data delivered to each resident and the developer
- Services are delivered across an industry standard GPON based IP fibre backbone
- Additional services can be added easily ensuring the system is future proofed and easy to upgrade

Products and services

- Fujitsu GPON Building Automation Services network.
- Fujitsu GPON Telecommunications network.
- Fujitsu Global Enterprise Cloud Backbone
- Microsoft Azure High Availability Cloud Hosting
- Switch Automation Design and Consultation Services
- Switch Automation Building Automation Gateway
- Switch Automation Platform – services for energy management, lighting and power, video intercom, security and access control

The benefit

Lend Lease's decision to build Convesso Concavo's communication and control solution around an industry-standard Internet Protocol (IP) based network has helped to standardise the method and improve the efficiency of interfacing and integrating systems. Combined with using the Fujitsu Cloud as a systems hosting medium has also removed any limitations on the need for localised or time zone restricted access to the system. Extra features and functions can also be added at a later date with minimal effort. For residents of this building, the solution provides a perfectly integrated platform for energy monitoring and apartment controls into one single user interface. This provides an experience for state-of-the-art sustainable luxury living and also helps residents to reduce their own energy consumption costs. Looking forward, as the company continues to learn more about the building's energy utilisation, processes can be improved and energy conservation goals tuned and refined. Ultimately, as Lend Lease collects and analyses this sustainability data, the company can translate this information into improving future designs and creating marketing strategies that will continue to maintain its competitive edge based on the learnings of this project including:

- Reducing consumption of energy and water and supporting green star rating of buildings
- Monitoring environmental conditions
- Utilising cloud-based technology to help improve availability reliability and future upgrades to the system
- Implementing the system with minimal capital outlay and predictable recurrent costs
- Providing a universal browser-based interface that allows access to information irrespective of location

Conclusion

Lend Lease assumed considerable risk in investing in the technologies that combined to support this innovative green star rated building. At project commencement only a handful of organisations in Australia had embarked upon incorporating sustainability, energy management and building automation as part of their development strategy. Lend Lease was different. Whilst Lend Lease's green credentials in commercial office buildings are well established, the Convesso Concavo project provided a challenge for how similar results could also be achieved in large scale residential apartment buildings. Working in partnership, Fujitsu and Switch Automation were able to integrate new networking, automation and monitoring technologies together to enable a solution that residents could easily use to manage and monitor their own energy usage. By adopting a cloud-based energy management solution, the design team at Lend Lease now has the potential to collate this data and make ongoing design refinements to improve their competitive edge. Being a cloud-based solution, the platform can provide a flexible and scalable solution that is easily upgraded as newer technology evolves, rendering the platform "future-proof". Fujitsu and Microsoft's cloud based infrastructure underpins Switch Automations' management platform and provides the highest levels of resilience and availability ensuring optimal performance.

"The time is not far off when companies will have to justify their worth to society with greater emphasis being placed on environmental and social impact than straight economics." Dick Dusseldorp , Founder, Lend Lease, 1973

About Fujitsu

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In collaboration with

Lend Lease

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