

The Mechanical Engineering Department cordially invites you to our:

DEPARTMENT SEMINAR

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| Topic: | An Energy & Sustainability Framework for Smart Buildings A Holistic Approach |
| Speaker: | Dr Sekhar N. Kondepudi |
| Date: | Thursday, 24 November 2011 |
| Time: | 2:30 pm – 3:30 pm |
| Venue: | EA-06-04 (map of NUS can be found at http://www.nus.edu.sg/campusmap/) |

Abstract

Buildings today have fairly complex ecosystems ranging from traditional, physical building systems such as HVAC, Lighting, Power, Elevators, AV equipment to high tech IT infrastructure and networking technologies such as Enterprise Software, IP networking, Voice over IP (VoIP), Mobility, Wireless and Collaboration tools (voice mail, e-mail, scheduling). These ecosystems are on ever-accelerating path of convergence resulting in "Smart Buildings". Adding to this is the concept of sustainability and the greening of the world – Carbon accounting and associated governmental regulations.

Building Occupants / Owners / Operators / End-users all view the building from different "lenses" based on their specific need / role. End-use applications are what these stakeholders judge their experience by. Such applications are fairly broad ranging from building energy management, safety and security, digital signage, carbon reporting, collaboration, video, voice, e-mail to name just a few.

This underscores the need for a holistic energy and sustainability framework for buildings to address these multi-faceted applications. The underpinnings of such a framework are a "Middleware Platform" which not only provides the "glue" to connect all the different end-use applications with a seamless fabric yet provides critical common functionality to all the applications.

This seminar will

- (1) Present current trends and industry movement towards Convergence in the Buildings space.
- (2) Develop the case for an integrated approach for smart buildings via the establishment of a framework.
- (3) Describe the elements of a Middleware Platform which is the foundation of the above framework along with some specific illustrative examples.
- (4) Provide some examples and results where such an approach has been applied to integrate common ICT functions with traditional building management systems for conference rooms.
- (5) Discuss some action plans / next steps in this exciting space not only for buildings but also scaling this concept to an urban infrastructure.

About the Speaker

Dr. Sekhar N. Kondepudi has a PhD. in Mechanical Engineering (focus on HVAC, Buildings & Energy) with 20+ years of global and broad-based experience including academia, applied research and strategic planning, business development & strategic sales in cross-discipline industry verticals including Energy, Buildings, Utilities, Networking, etc.

Currently Dr Kondepudi leads Global Product Management and Business Development for Cisco Systems Smart+ Connected Communities (S+CC) Platform & Solutions. He heads up a team chartered to develop (Conceptualizing to Delivery and Launch) and market a Foundational Platform and a Suite of "Transformational Real Estate & Community Centric Smart Solutions & Services" with a focus on energy and sustainability.

In the past he has been General Manager of Mobile Devices for Wind River Systems, Director of Business Development at Freescale (Motorola) Semiconductor. Early in his career, Sekhar was a professor at Drexel University in Philadelphia, Pennsylvania teaching Energy, HVAC and Building Systems to Engineers and Architects. He has received a fellowship from ASHRAE (American Society of Heating, Refrigeration and Air-Conditioning Engineers) as well a Young Investigator award from the US EPA (Environmental Protection Agency).

****Admission is Free. All are welcome to attend.****