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Darnell Group

NEWS

380Vdc Data Center Power Standard Approved During DC Building Power Japan

Tokyo Japan, December 9, 2009 – Darnell’s just-concluded, first-annual DC Building Power Japan conference included numerous important “firsts” including: The first comprehensive review of dc power architectures from homes to data centers to micro-grids. The first joint meeting of the EPRI DC Power Partners and the Japan DC-Power Industrial Partners. The approval of a provisional standard for 380Vdc data center powering. And the first public tours of high-voltage dc-powered data centers. NTT Facilities was the Marquee Sponsor hosting this international event. The conference was started with welcome talks from Jeff Shepard, President of Darnell Group, Tom Aldridge, Director of Intel Energy Laboratories and Heiichi Hirose, Senior Research Engineer with NTT Facilities.

"Japan is one of the countries leading the development of dc power technologies for buildings. This event attracted over 120 delegates from around the Pacific Rim including China, Taiwan, Korea, New Zealand, Singapore, and the U.S. in addition to Japan," stated Jeff Shepard, President of Darnell Group. "The use of dc distribution can complement other trends in building power including the growth of 'green' energy sources, use of wireless building automation systems, demand side management, the implementation of high-efficiency lighting, and more," Shepard concluded.

Among the key presentations was a joint-paper on "Specifications for the 400Vdc Power Supplies and Facility Equipment" by Keiichi Hirose, Sr. Research Engineer with NTT Facilities, and Dennis Symanski, Sr. Project Manager with the Electric Power Research Institute. They reviewed the development status of 400Vdc power supply specifications for data center applications. At the end of the event, during the joint meeting of the EPRI DC Power Partners and the Japan DC Power Industrial Partners, a provisional standard for 380Vdc data center powering was approved. That proposed standard was patterned after a parallel development effort taking place at the European Telecommunications Standards Institute (ETSI) and is expected to be in harmony with any standard developed by ETSI.

Hiroaki Koshin, Group Manager for New Product Technologies Development with Panasonic Electric Works Corp presented a review of "AC DC Hybrid Wiring Systems for Residential Installations." Panasonic is taking a leading position in the development of new residential power architectures to enable the efficient integration of solar cells, storage batteries, electric vehicles and other advanced devices while also reducing green-house gas emissions. Looking at larger-scale micro-grid installations, Tsai-Fu Wu, Vice President with the National Chung Cheng University presented his group’s experience with "Hybrid AC and DC Power Distribution Systems." Alternative solutions for 400Vdc connectors were presented by Takashi Yuba, Manager with the Research and Development Department with Fujitsu Components, and Brian Davies, Director of Engineering with Anderson Power Products. Until now, the lack of connectors with international safety approvals was a major factor limiting the adoption of high-voltage dc power distribution. Now, there are multiple options.

The second day of the conference started with Professor Takashi Tomita with the University of Tokyo reviewing "The Movement of International Standardization of Low-Voltage Direct Current Distribution." According to Professor Tomita, the dissemination of renewable energy, such as photovoltaics and associated energy storage systems, together with the appearance of the plug-hybrid vehicle will accelerate the development and adoption of low-voltage dc power distribution in residences and other buildings. During the final session, Alex McEachern, President of Power Standards Lab, presented "Power Quality Measurements on 400-Vdc power Systems." Mr. McEachern reviewed power quality issues on 400Vdc systems and included a graphical presentation of power disturbances on operating 400-Vdc data center power systems.

DC Building Power Japan was jointly-organized by Darnell Group and Global Information, Inc. It is a sister-event with Darnell's Green Building Power Forum (GBPF). The Second-Annual GBPF will be hosted January 25-27, 2010, in Anaheim, California, USA. Darnell Group is the leading source for worldwide strategic information covering the full spectrum of power electronics, energy storage and generation. The company specializes in the economic/business analysis of emerging power markets and technologies. The DCBPJ '09 web site is at: <http://DCBuildingPowerJapan.darnell.com>

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