

Panel: Power Consumption Target of Network Systems in the 2030's

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After the Kyoto Protocol was adopted in 1997 for the prevention of global warming, establishing an energy-saving society has been widely agreed as the most important task for our century of technologies. The energy consumption of networks is rather small compared to other industries, but is reported to be increasing very fast during the last decade. The speed of increase will be even faster considering the explosion of network devices and the penetration of high speed networks. Although networks will be one of the most important infrastructures of the future society, the overall energy effect by the networks has not been intensively discussed yet. In this panel accompanied by a related workshop, discussions will be made on architecture and technical challenges on reducing the energy consumption by the future networks from academic / industrial / operational points of view.

The panelists will try to answer the following questions:

1. How much energy do the future network services consume in overall in 2030?
2. What should the possible target of energy consumption by networks be in 2030?
3. What will be the important technical challenges for that target?
4. How about the contribution of photonic or other technologies for power reduction?
5. What are energy-saving technologies for information appliances?
6. What kind of power reduction methods will be used for commercial wireless networks?
7. How about the sensor networks and energy controls?
8. To what extent will energy harvesting technologies be successful?