Low Power on Intel® Architecture Research Project

Mission and Objectives

In the consumer and business marketplaces, handheld – or small form factor – devices are proliferating. Smart phones, notebooks, and micro PCs are the leading edge of a wave of new small form factor devices designed for communication and entertainment.

As part of Intel's vision of architecture innovation for convergence, the Intel Systems Technology Labs (STL) are working to accelerate these next-generation technologies and products.

The Low Power on Intel® Architecture (LPIA) project of STL is researching and developing low-power technology building blocks for future Intel® architecture-based platforms. Key learnings from this research will lay the groundwork as Intel® product groups move toward low power on Intel architecture.

Researching and developing low-power technology building blocks, power-management policies, and metrics for future Intel®-based platforms

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LPIA Research Platform/Concept Vehicle

Currently, Intel is integrating building blocks into small form factor concept vehicles to validate ongoing research and help identify new research areas. The research platform is now operational, and is a significant milestone in the development of LPIA technology.

Using the research platform, the LPIA team is conducting research to better understand and address the thermal and physical constraints of small form factors. A critical focus area is extending battery life for handheld devices (the power target for the device is five watts). The platform will be used to further promote features and capabilities and continue to enhance usability of small form factor devices.

Power Management Research

Power management is a central research vector for LPIA. The LPIA team is developing power management polices and metrics for future Intel®-based platforms.

Intel is performing system-level profiling and benchmarking, spanning from the power source to power distribution and on to power consumers. Power-smart platforms will extend battery life and enhance user experiences by applying best-in-class power management technologies.

Focused on system software policy management, the STL LPIA project is:

- Defining architecture "modes" (e.g., Personal Video Player) and power optimizations
- Researching system-level power states and aggressive power management policies
- Developing power metrics to calibrate power management in handheld devices
- Focusing future efforts on close cooperation with OS vendors for implementation

About Intel's Corporate Technology Group (CTG)

Intel employs over 7,000 R&D professionals in over 70 locations worldwide. By collaborating with key industry Fellow Travelers, universities and Intel business units, world-class research in CTG enables Intel to maintain its technology leadership and stay one generation ahead.

About the Systems Technology Labs (STL)

The Systems Technology Labs (STL) are one of four advanced research units in Intel's Corporate Technology Group (CTG). STL partners with Intel's product groups to deliver world-class technology and system architectures for Intel's future silicon products.

For more information please visit: www.intel.com/technology/systems/lpia

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