HP Labs in brief 2006

HP Laboratories is an advanced research lab charged with inventing for HP's future. It contributes to HP's overall strategy advances the company's current technologies, seeks out new opportunities for growth and conducts fundamental scientific research in areas of interest to HP.

Overview

HP Labs integrates technology vision and strategic thinking to build programs and capabilities that create future customer value.

Lead by Richard H. (Dick) Lampman, senior vice president of research for HP, HP Labs operates around the globe, with research labs in Palo Alto, CA; Bristol, UK; Haifa, Israel; Bangalore, India; and Tokyo, Japan. Additionally, research teams operate in Princeton, NJ; Barcelona, Spain; San Juan, Puerto Rico; and Beijing, China.

Vision

We believe the world of technology is undergoing three major shifts: All processes and content will be transformed from physical and static to digital, mobile, dynamic and virtual; the demand for simplicity, manageability and adaptability will change how customers work and organize, buy and use technology; and we believe in a horizontal, heterogeneous, networked world where standards are about connection and common language. Given these shifts, we envision our research extending the reach of individuals, groups and enterprises by creating a world where there is an intimate, seamless relationship between people and information technology.

Research focus areas

HP Labs' research supports five key strategies:

— Re-Inventing the Economics of IT - Provide technology that will allow customers to improve cost-effectiveness and business value of their IT investments with research in dynamic provisioning, automatic control, utility and global-scale computing, Grid, Linux and business process management to create an adaptive enterprise.

— Printing and Imaging Growth – Deliver improvements and cost reduction in digital press hardware, solutions architecture to generate customized documents, software components automating custom content creation, technology to simplify and improve video/image capture, storage and management based on open, cross-industry standards.

— Industry Solutions - Develop industry-specific solutions that strengthen HP's ability to offer greater value in the telecommunications, manufacturing, financial services, and rich media businesses.

— Technologies for Service Delivery - Provide technology that will increase the value and cost-effectiveness of HP's service delivery.

— Disruptive and Emerging Technologies - Pursue technologies in areas of interest to HP, where breakthroughs push the boundaries of science including emerging market initiatives, molecular- scale devices and new display technologies.

Research partnerships
HP Labs' primary partners are the HP business divisions that take the innovations and commercialize them for business and consumer customers. Researchers also work directly with strategic customers to drive research and help shape industry advances.

HP Labs' public-sector and academic partners include:

— CERN, Europe's premier particle physics lab

— CITRIS, the Center for Information Technology Research in the Interest of Society

— Gelato, the global research community for Linux on the Itanium platform

— PlanetLab Consortium, an open platform for planetary-scale services, and governments around the world.

Technology contributions
Since its inception in 1966, HP Labs has fueled HP's growth through technological inventions and innovations in printing, computing and communications. Early contributions range from the pocket scientific calculator to light-emitting diodes, moving paper plotter and thermal inkjet printing to PA RISC technology and single-pass color scanning.

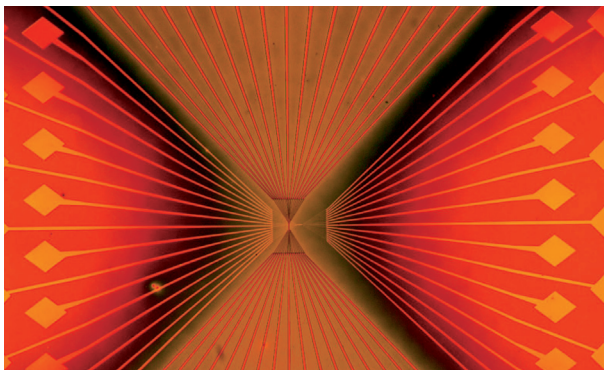
More recent innovations run the gamut from utility computing technologies to nanotechnology. Recent infrastructure and management innovations include 64-bit architecture, the open source SmartFrog language for utility computing (released into Open Source), automated storage management, smart data centers, smart power and smart architecture, secure Linux and utility computing services like the Utility Rendering Service for digital animation.

Security innovations include Virus Throttle (shipped with all HP ProCurve blade servers) and Active Counter Measures, which scan an enterprise's network for vulnerabilities and protect networks from malicious attacks; Trust modeling, a simplified but critical overview of complex company systems; privacy management technologies that enable automatic compliance with privacy legislation, and Polaris, which brings security to the XP desktop.

Rich media innovations include the Digital Media Platform for the entertainment industry, photographic-quality printing, film-quality digital cameras, commercial printing, and streaming media innovations like our Open Stream architecture that help customers capture, manage, distribute and enjoy content on multiple devices, from a single source.

Other innovations include such diverse avenues of research as the Mobile Bristol project focused on location-based pervasive services and user trials.

And in the world of future science, HP Labs researchers developed the world's first prototype molecular cross-bar latch. This science of nanotechnology could lead to an entirely new method for fabricating computer chips in the future. In fact, in a recent survey, HP's patent portfolio for micro- and nanoelectronics has been named the strongest in the world.



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