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# NOTEBOOKS RULE

**NOTEBOOK PC CONVENIENCE AND PRODUCTIVITY ARE KEY DRIVERS TO EXPANDING USE.**

Thanks to desktop-class power, faster wireless communication options, and widening varieties of sizes and configurations, today's notebook computers are improving employee productivity and contributing to company revenue.

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It's no surprise that more and more companies are turning to notebook PCs. They're using them to replace paper processes, handheld mobile devices, older less-capable notebooks and even desktop computers.

"Notebooks are getting thinner and lighter, the battery charge is lasting longer, the screens are better and wireless connectivity keeps improving," states Howard Locker, director of new technology at Lenovo.

"For mainstream users, today's new notebooks are as good as desktop computers, in terms of power and storage," Locker says. "They let employees work any time and any place. This added productivity makes notebooks worthwhile — especially since the cost gap between a desktop and a notebook is much smaller than it was three-to-five years ago."

What's more, notebook shipments have been an increasingly large part of the total client (desktop and notebook computers) product shipment mix for the past several years.

They're hitting the tipping point over the 50 percent mark, according to Richard Shim, research manager, Personal Computing at the research firm IDC. "We expect notebooks will outship desktops in 2008 in the United States and worldwide in 2009," Shim says.

## » VARIETY AND FEATURES

Today's notebooks range from one, two and three-pound "Ultra-Mobile PCs" (UMPC) and ultralight machines with displays ranging from 5-to-11 inches, to "desktop-replacement" systems with 17-inch, 19-inch and even 20-inch displays.

The growing coverage and higher speeds of mobile broadband (wide-area wireless high-speed Internet access) is also fueling adoption of today's notebooks. This includes access with Third Generation (3G) and Fourth Generation (4G) services and WiMAX from carriers like AT&T and Sprint.

"Mobile broadband lets anyone who is out of the office a lot be connected and productive," states JP Donahue, mobility applications consultant, AT&T Mobility. "This includes highly mobile executives, field sales and support."

New smaller-form-factor, broadband-enabled portable PCs, like sub-notebooks and UMPCs, also account for the growing use of notebooks, Donahue says. "The smaller size and lower weight makes these devices more useful for field transportation and logistics."

## » PRUDENTIAL FOX & ROACH

At this mortgage, financial services and insurance agency serving the Pa., N.J. and Del. areas, mortgage, insurance and real estate agents are moving work along faster, thanks to Lenovo ThinkPad T61 and T61p notebooks with embedded mobile broadband, according to William Friemann, vice president of operations, security and compliance at the company.

"Many of our sales associates spend most of their time away from the office," Friemann says. "They are meeting with clients, visiting property sites and working from their cars, coffee shops and other places."

«« Many companies are making notebooks, rather than desktops, the standard issue wherever possible — even for employees who work mostly from a desk in the office.

The notebook computers are improving staff productivity. This is due to reducing the turnaround time for tasks like relaying contracts and other paperwork to the office, and entering and updating listings and other transactions.

The Lenovo ThinkPad's Roll Cage metal frame protects the notebook body by adding rigidity and reducing stress points. In addition, the unit's Top Cover Roll Cage provides extra protection to the display. And the Active Protection System, for the hard drive, automatically locks the drive to protect it from shocks and crashes.

Security and reliability requirements also played a large role in the company's selection of the Lenovo T-Series notebooks.

"It is essential that our machines can't be compromised, and that we are compliant with federal and state privacy and anti-breach laws," Friemann says. "We're using full-disk encryption, and features of Lenovo's Client Security Solution including fingerprint readers and encryption keys."

Prudential Fox & Roach associates also make extensive use of the Lenovo ThinkPad's embedded mobile broadband capabilities.

"Our previous notebooks had Wi-Fi, but no broadband," Friemann adds. "Mobile broadband lets our associates be online and connected to the company network wherever they are. They don't need to be at one of our offices or somewhere that has Wi-Fi."

Thanks to the mobile broadband connections, the firm's agents can relay paperwork to the office, quickly and easily from the field. And if they have a digital camera, they can take and send pictures, allowing photos of properties to be up within hours on the Multiple Listing Service (MLS).

## » CUBIST PHARMACEUTICALS

Many companies are making notebooks, rather than desktops, the standard issue wherever possible — even for employees who work mostly from a desk in the office.

"We're an all-notebook company," states Kate Sohl, senior manager, training and communications for the Information & Business Solutions (IBS) department at Cubist Pharmaceuticals, a 500-person company focused on the research, development and commercialization of pharmaceutical products, headquartered in Lexington, Mass.

"Many of our employees have always had notebooks," she says. "And we changed to an all-notebook policy about two years ago."

Every computer-using employee at Cubist has a notebook that they can take out of the office, including home overnight, says Sohl. And some employees have more than one notebook.

## NOTEBOOK INTEGRATION PATH

What today's notebooks all have in common, versus handhelds, Portable Digital Assistants (PDAs), smartphones and other mobile devices, is that they're running a standard desktop operating system. This makes them easier to incorporate and integrate into a company's IT infrastructure of applications and security.

"An associate's notebook connects to our infrastructure almost as soon as it boots up and authenticates to Active Directory using either a built-in or smart-card fingerprint reader," says William Friemann, vice president of operations, security and compliance at Prudential Fox & Roach mortgage, financial services and insurance agency.

"The user is connected just like being on a wired network. We load the same software on the notebooks that we put on our desktops."

For added security when connecting via 802.11 Wi-Fi wireless, Friemann notes, "We use Juniper Networks' Secure Sockets Layer Virtual Private Network (SSL VPN)."

Accessories further improve the productivity that the Lenovo notebooks offer, Friemann reports. "We use the extended-life battery, which runs the Lenovo ThinkPad T61p for about nine hours," he says. "And we buy the desktop port replicator and a desktop monitor, to make it easy for our employees to use the machine on their desktop."

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"Our research scientists use Electronic Lab Notebook software in the lab," Sohl adds. "We don't like to take these notebooks outside of the lab, to minimize possible environmental contamination. So we also give our researchers machines for use outside the labs."

Initial driving factors in going "all-notebook" included increasing productivity. The firm wanted to offer employees flexibility in where and when they worked.

What tipped the scales, Sohl says, was the desire to be prepared for disaster recovery. "The reports on the Hurricane Katrina aftermath provided a wake-up call," says Sohl.

Cubist uses notebooks from Toshiba. "We have deployed Toshiba Tecras and Toshiba Portégés," reports Sohl. "We currently deploy the Toshiba Tecra M9, which has a 14.1-inch screen, as our standard machine."

"Our sales force, and a lot of our executives and other highly mobile employees, get the Toshiba Portégé R500. It has a 12.1-inch screen and weighs just over two pounds."

"The Portégé is much more portable than the Tecra, and extremely lightweight," says Sohl. "The new Portégé R500 has an onboard optical drive, so there's no need to juggle an

external drive. And the screen has gotten bigger, the battery life longer."

A significant number of the firm's employees take their machines home overnight, where they can focus and plow through denser work. "Between Memorial Day and Labor Day, we give employees freedom to 'shake up' their hours, and people take great advantage of it," Sohl notes.

To improve office productivity, Cubist offers employees a 17-inch LCD flat-panel display with docking station, mouse and keyboard. To make it easier to take and use the notebooks out of the office, the company offers employees a carrying case with an extra power supply and mouse.

### » ECLIPSE AVIATION CORPORATION

The Eclipse 500, from Eclipse Aviation Corporation, is one of the industry's first Very Light Jet (VLJ) single-pilot aircraft. The Eclipse 500's lower price, and the lower cost of ownership, lets business travelers fly between cities more quickly and affordably.

Fujitsu's ultra-light convertible tablet PCs are helping Eclipse 500 pilots save both time and weight. This is translating into reduced costs and increased productivity and flexibility for pilots and their business passengers.

"Flying a plane involves as much work on the ground as in the air," says Matt Brown, director of product marketing at Eclipse Aviation Corporation and a licensed pilot.

"For example, the pilot needs to determine how much fuel a flight will require, and whether a small airport will not only let the plane land but also have the fuel, runway and weather to let it safely leave," he says.

Traditionally, pilots have needed several hours to prepare for a flight. In addition, they have had to carry on a chart bag of maps and other reference material often weighing 40-to-60 pounds. "Eliminating this would be a big difference in a smaller plane," Brown says.

To save pilots and passengers who buy or rent an Eclipse 500 both time and money, by reducing carry-on weight and preparation time, Eclipse created its Avio Flight Bag. The Avio Flight Bag, or AFB, is a suite of software applications designed to extend Eclipse's Avio Total Aircraft Integration System beyond the aircraft to facilitate preflight planning and provide a path to a paperless cockpit.

For hardware, Eclipse selected the Fujitsu LifeBook P1600 Series, a convertible tablet PC with an 8.9-inch WXGA resolution, touchscreen display.

Eclipse began using the LifeBook P1610, and will be upgrading to the LifeBook P1620 later in 2008. "The LifeBook weighs just over two pounds, but can hold over 15,000 digital documents," says Brown.

"We have a specially designed 'kneeboard' that pilots can strap to their leg, so the system is secure and usable," Brown adds. "And we include an optical drive for our software

updates. Now a pilot can be ready to fly in as little as 20 minutes.”

Adding to the systems’ flexibility and value, “Pilots can also use their Avio Flight Bag as a regular notebook,” Brown points out. “Many of our customers are also using it as their personal notebook.”

Although the Avio Flight Bag is an option, over half of all Eclipse 500 aircraft sold currently include one. It offers time, weight and space savings, Brown reports.

## » SUNPOWER CORPORATION

While mobile users need notebooks that can survive the bumps, thumps, jolts, drops and spills of out-of-office travel and use, they’re usually working from indoor, office-like environments. But some notebook users have to work in more challenging conditions.

Headquartered in San Jose, Calif., Sunpower Corporation designs, manufactures and delivers high-efficiency photovoltaic solar cells, panels and systems that generate up to 50 percent more power than conventional solar technologies.

Sunpower’s products are used in residential, commercial and government applications world-wide. The solar collectors and related equipment are installed at locations ranging from residential roofs, to the middle of the desert.

Sunpower’s field-service staff uses computers for tasks like patching into inverter boxes, getting Global Positioning System (GPS) data and programming the Sunpower GPT-20 collectors, according to Greene Lumpkin, desktop services manager at Sunpower

The firm’s staff works in conditions that can be far from indoor or office-like. “The challenge is the weather — rain, sleet, snow — along with dust and dirt, heat and cold,” Lumpkin says. “So we had to find portable computers that would allow our staff to get work done in harsh conditions.”

To ensure its field service can get the job done, SunPower uses Toughbooks from Panasonic’s “Fully-Rugged” line, which include a sealed all-weather design. The units are MIL-STD-810F-tested, capable of enduring 3-foot drops, withstanding violent shocks and vibrations and operating at temperatures over 140 degrees and below minus 20 Fahrenheit.

“We began buying CF-17 Toughbooks back in 2003, and are now using the Toughbook CF-30,” Lumpkin adds. “Worldwide, we probably have 75 to 100 systems.

“We installed mobile broadband cards so the computers can connect to our company computers,” he says. “There’s no Wi-Fi access points in most of the locations our techs go to. We use a Cisco VPN — we install the client program on each notebook, so staff can connect securely to retrieve and save data.” ♦

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## NOTEBOOK INTEGRATION PATH

For security with its Toshiba notebooks, Cubist Pharmaceuticals discourages employees from keeping any data on their machines. The firm provides remote access through Cisco Virtual Private Network (VPN) connections using two-level authentication, based on RSA SecurID tokens, according to Kate Sohl, senior manager, training and communications for the Information & Business Solutions (IBS) department.

“We use shared drives, which IT manages and handles backups for,” she says. “We tell users, ‘Don’t keep anything on your machine that you aren’t prepared to lose forever.’ One person had a machine go overboard from a boat once, and all we had to do was hand them a fresh notebook, no data was lost.”

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NOTEBOOK COMPUTERS TO  
YOUR EXACT SPECIFICATIONS  
PRIOR TO DELIVERY.