



Dell Latitude D420 Review (pics, specs)

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by David Dobolyi and Andrew Baxter

Dell Latitude D420 Review

The [Dell Latitude D420](#) is a 12.1" ultra-portable notebook designed to succeed both the [Latitude X1](#) and the [Latitude D410](#). In an effort to simplify its ultramobile product line, Dell has merged several traits from each of these two retired models to create the new D420. Specifically, the D420 adopts the X1's wide-aspect screen and ultra-low voltage processor while maintaining the D410's aesthetic appeal and full-sized keyboard. In addition, the D420 continues Dell's trend of not including an internal optical drive, although external options are once again available.



Dell Latitude D420 ([view large image](#))

In practice, the [D420](#) has far more in common with the X1 than its direct predecessor, the D410. For instance, while the D410's starting weight was approximately 3.8 lbs, the 3.0 lbs D420 is positioned more closely to the X1's 2.5 lbs feather-light physique. Moreover, while the D410 offered standard Intel Pentium M processors operating at up to 2.00GHz, the D420 upgrades from the X1's ultra-low voltage Pentium M 1.1 GHz to an ultra-low voltage Core Solo 1.06GHz or Core Duo 1.2GHz CPU. Finally, rather than using a standard 2.5" notebook hard drive like the D410, the D420 uses the same 1.8" drive as the Latitude X1.



[\(view large image\)](#)

Specifications of the D420 as Reviewed

- Processor: Intel Core Solo U1300 ULV (1.06GHz, 533MHz)
- Screen: 12.1" WXGA TFT LCD 1280 x 800 (Matte)
- Graphics: Intel GMA 950 (Integrated, up to 224MB shared)
- Memory: 1.5GB, DDR2-533 SDRAM, (512MB Integrated) 2 DIMMs
- Hard Drive: 60GB 4200RPM 1.8" Hard Drive
- Wireless: Intel PRO/Wireless 3945ABG
- Optical: D-Bay 24X CD-RW/DVD Combo (External)
- Operating System: Microsoft Windows XP Professional
- Input: Full size keyboard with touchpad and pointing stick
- Battery: 6-Cell Primary (with ExpressCharge) and 65W AC Adapter
- 65W AC Adapter: 0.8 lbs
- D-Bay with DVD/CDRW Combo: 1.05 lbs
- D420 Dimensions: 11.63"x8.27"x1.00"

Important Note

In this review the main author is David Dobolyi, [comments by Andrew Baxter who owns the precisely same configured D420 are in blue.](#)

Reasons for Buying

After having carried around an HP DV1000 over the course of a semester at college, I realized that while a 14.1" notebook weighing 5.4 lbs may be described as a thin-and-light, it certainly doesn't feel so light over the course of a long day of classes. While the DV1000 itself was relatively compact and portable, the extra weight from its accompanying AC adapter as well as a messenger bag resulted in a burdensome carry-weight of at least 10 lbs a manageable sum, but nevertheless a tiresome burden at the end of the day.

When given the opportunity for an upgrade, my next purchase was heavily influenced by this oppressive experience with the DV1000. Having been less than satisfied with a thin-and-light, I decided my next notebook would have to be an ultra-portable, preferably weighing no more than 3 lbs. With a budget ceiling of about \$1200, I narrowed my choices down to the following: the Dell Latitude X1 or the Latitude D420. Although IBM, Toshiba, Acer, and several others offered competing ultra-portables, Dell seemed to provide the most competitive pricing (thanks mostly to educational EPP discounts) along with the most comprehensive warranty services, making the ultimate choice of the newer D420 a bit simpler.

Where and How Purchased

This [D420 was purchased online directly from Dell](#) through their EPP program site. Overall the online purchase experience was straightforward and convenient, although making changes to the order after it had already been placed proved futile despite several hours spent consulting with Dell Customer Care over the phone. Nevertheless, Dell eventually took care of all of the issues that cropped with my order, although the experience varied greatly depending on which service representative handled the case. All in all, my experiences with Dell's support ran the gamut from excellent to time-wasting and unhelpful, but since all my problems were resolved in the end I would say I was satisfied overall.

I also purchased the Dell D420 via Dell.com in the exact same configuration as David. My ordering experience was good up until the delivery point. UPS online tracking indicated the D420 was out for delivery on 7/9/2006 and 7 days later it had still not arrived. Dell fulfilled their part of the order, UPS somehow lost or enabled the theft of the D420 after it was placed on the delivery truck. A week later UPS was unhelpful in tracking it, and Dell actually had to issue the declaration it was officially lost and begin the processing of another order. On 7/16/2006 Dell support reissued the order and expedited it so that it arrived to me on 7/26/2006. UPS did not lose it the second time around. Dell was helpful and apologetic in the process of the lost D420, UPS was awful and seemingly didn't care based on people I talked to there.

Design and Build



Latitude D420 lid view ([view large image](#))

Upon first removing the D420 from its packaging, I immediately felt the D420's sturdy build quality. Compared to previous notebooks I have handled including the HP DV1000, the D420 feels far more robust, rigid, and solid. The steel screen hinges provide firm movement, and the magnesium-alloy casing provides resilient protection while avoiding unnecessary creaking. Moreover, the lid seems well reinforced, with pressure on the back of the lid not causing the LCD screen to become distorted on the other side. Finally, Dell's implementation of its StrikeZone technology in the D420 is worth mentioning, since it provides added protection to the hard drive in

case of an accidental drop or fall. The only possible improvement I could suggest for enhancing the D420's build would be to replace the steel lid-latch with the magnetic variety, although this is nitpicky at best.

While the D420's solid build quality may suggest that Dell opted to pursue form over function, the unit's design also manages to simultaneously achieve a striking aesthetic appeal. Similar to the D620 and D820, the D420 employs a dark-charcoal grey color scheme with silver accents and lid. The result is a low-key and industrial look that draws attention without unnecessary glitz or flash. While some may prefer the sleekness of Apple's new MacBook line or that of Sony's various models, Dell has succeeded in creating a design for the D420 that gives it a strong identity of its own.

I agree that build wise the D420 is a real winner. I'm totally impressed by the overall sturdiness of this laptop. The magnesium alloy casing is very rigid and protects the notebook well. Dell has certified this laptop as "Road Ready". Which means it has gone through various testing requirements as set by Dell. Over 300 D420 prototypes were (unfortunately) destroyed during testing to ensure that the end product stood up to thousands of hinge and latch cyclings, button pushes and unintended twists and torques you'll give this machine over its lifetime of use.

The charcoal grey and silver accent look really is great. It's an industrial and muscular design, which works well for a business notebook. Such qualities equate to confidence and will reflect well upon you while landing that important sales deal as you present Powerpoint slides to your prospective clients!

Processor, Performance, and Storage

Performance will likely be the key point of controversy for those considering the purchase of a D420. Admittedly, the ultra-low voltage Intel Core Solo U1300 is clocked considerably slower at 1.06GHz than most modern machines available today, and even models from the past few years. While a Core Duo 1.2GHz option recently became available and is certainly impressive for an ultra-portable, the glaringly low clock speeds are still rather unimpressive.

Nevertheless, for those who value weight and battery life (more on this later) over performance, the compromise may still be acceptable. ULV processors drain less power and produce less heat, simultaneously reducing the need for bulkier cooling solutions and improving both weight and longevity. Furthermore, for general business and home applications, the D420 has more than enough power and even some left to spare. Whether writing documents, composing emails, watching DVDs, or surfing the web while listening to music, the D420 provides a first-rate experience comparable to most other machines on the market.

Still, expectations for functionality beyond these types of applications must be held within reasonable constraints. The integrated Intel GMA950 solution and slower CPU mean that 3D gaming is only a pipe dream. Moreover, the lack of hardware-accelerated H.264 decoding on the GMA950 means that certain HD video files will not play at acceptable framerates.

In terms of memory, the D420 comes standard with an integrated 512MB DDR2-533 DIMM and can be upgraded to 1.5GB via a user-accessible expansion slot. While some may find this maximum capacity restrictive, I have found the 1.5GB in my system to be more than capable of handling even the heaviest application loads.

Moving on to storage, the D420's use of a 1.8" PATA hard drive is actually more likely to be a performance limiting factor than its CPU. While Dell now offers 30GB, 60GB, and 80GB options, the 4200RPM spindle speed results in significantly reduced performance in comparison to 5400RPM and 7200RPM 2.5" notebook drives. Once again, this is a compromise for portability that must be

accepted by those who have an ultra-portable in mind.

Additionally, the D420's lack of an internal optical drive is likely to turn off more than a few potential buyers who cannot live with an external solution. Although it may sound repetitive, the decision to not include a built-in optical drive is an unfortunate but necessary sacrifice for maintaining optimum portability and weight (although it must be noted that some notebook manufacturers have managed to overcome this problem in the past). Still, Dell's inclusion of an SD Card Slot should provide at least some way of making potential users happier about their removable storage options, and with the optional Media Base and various other docking solutions, the lack of an integrated optical drive should be easier to bear.



External D-Bay drive option with the D420 is powered and connected via USB ([view large image](#))

On a final note, Dell must be commended for including a minimal amount of bundled software with the D420. Unlike Dell's Inspirons, the business-focused Latitude line is exempt from the infestation of trialware and junkware that has led to so many needless operating system reinstalls. This has actually been the first time I have not been forced to perform a clean OS reinstall with a new system, and I hope to see this repeated more often.

It is true that the D420 as tested with the Core Solo is no performance stand-out. However, to me this is not the most important aspect of an ultraportable. Build, internet connectivity options, reliability, security all combine to trump performance. As long as the notebook can perform all your required office tasks with ease then it's a passing grade in my book. There are definitely better performing ultraportables out there, if you're purely looking for the fastest ultraportable money can buy, look somewhere else.

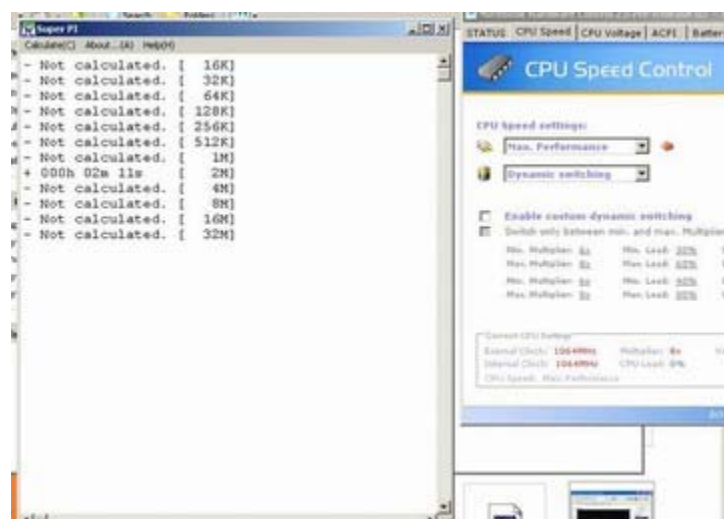
Benchmarks

Rather than doing more talking, I'll let the benchmarks talk for themselves.

SuperPi:

In the below results of Super Pi calculated to 2 million digits of accuracy you can see the D420 performs better than the old Latitude X1, but is not nearly as fast as the old D410. Nor is it as fast processor wise as the Core Duo processor in the ultraportable ThinkPad X60 series laptop that uses a 1.60GHz Core Duo.

Notebook	Time to Calculate Pi to 2 Million Digits
Dell Latitude D420 (Core Solo ULV 1.06GHz)	2m 11s
Dell Latitude X1 (1.1 GHz ULV Pentium M)	2m 40s
Dell Latitude D410 (2.00 GHz Pentium M)	1m 36s
Fujitsu LifeBook P7120 (1.2 GHz ULV Pentium M)	2m 32s
Lenovo ThinkPad X60s (1.66 GHz LV Core Duo)	1m 23s
IBM ThinkPad X41 (1.50 GHz Alviso Pentium M)	2m 02s
Dell Inspiron 600m (1.6 GHz Dothan Pentium M)	2m 10s
Lenovo ThinkPad T60 (2.0GHz Core Duo)	1m 18s



Super Pi screenshot (notice CPU speed was set to the max of 1.06GHz in performing this, under normal use the CPU speed is variable) ([view large image](#))

PCMark05

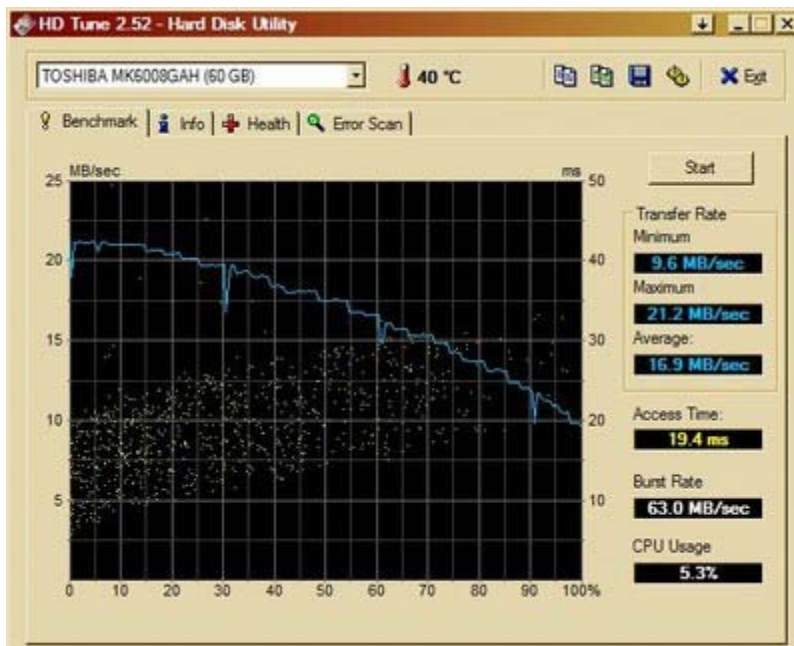
Below are results of the Latitude D420 compared to a Acer TravelMate 2428 laptop that runs on a Pentium M 1.70GHz Banias generation CPU (2 MB of level 2 cache, 400MHz FSB). You can see the D420 performs on the whole slightly worse than this Pentium M processor that was introduced in 2004.

PCMark05	Acer TM 2428 (Pentium M	Dell Latitude D420 (Core Solo
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	735 1.70GHz)	1.06GHz)
HDD -- XP Startup	5.49 MB/s	4.42 MB/s
Physics and 3D	56.21 FPS	39.98 FPS
Transparent Windows	-	137.27 Windows / s
3D -- Pixel Shader	4.6 FPS	8.51 FPS
Web Page Rendering	2.35 Pages/s	1.05 Pages/s
File Decryption	41.44 MB/s	23.08 MB/s
Graphics Memory -- 64 Lines	277.46 FPS	270.88 FPS
HDD -- General Usage	2.59 MB/s	2.66 MB/s
Multithreaded Test 1 / Audio Compression	119.27 KB/s	-
Multithreaded Test 1 / Video Encoding	90.03 KB/s	-
Multithreaded Test 2 / Text Edit	45.07 Pages/s	27.19 Pages/s
Multithreaded Test 2 / Image Decompression	9.67 MPixels/s	5.54 MPixels/s
Multithreaded Test 3 / File Compression	1.93 MB/s	1.12 MB/s
Multithreaded Test 3 / File Encryption	10.32 MB/s	6.09 MB/s
Multithreaded Test 3 / HDD - - Virus Scan	9.01 MB/s	3.98 MB/s
Multithreaded Test 3 / Memory Latency -- Random 16 MB	6.35 MAccesses/s	5.61 MAccesses/s

HDTune:

The results for the hard drive included with the Latitude D420 are less than stunning. It's a 1.8" 4200RPM drive (non-upgradeable to a faster RPM) and the exact same hard drive as that used in the Apple iPod 40GB and 60GB edition. So, the poor results are not surprising.



[\(view large image\)](#)

Compared to the ThinkPad X60s ultraportable that adopted a 2.5" 5400RPM [hard drive](#), you can see the D420 doesn't keep up.

Measurement	Lenovo ThinkPad X60s (2.5" 5400 RPM drive)	Dell Latitude D420 (1.8" 4200RPM drive)
Minimum Transfer Rate	5.7 MB/s	9.6 MB/s
Maximum Transfer Rate	31.8 MB/s	21.2 MB/s
Average Transfer Rate	25.8 MB/s	16.9 MB/s
Access Time	17.6 ms	19.4 ms
Burst Rate	62.6 MB/s	63.0 MB/s
CPU Usage	2.6%	5.3%

Keyboard and Touchpad



Keyboard and touchpad view ([view large image](#))

Despite the fact that the D420 is a 12.1" ultra-portable, Dell has succeeded in squeezing in a full-sized keyboard that is a blessing to use. Showing no signs of flex and providing solid travel with minimal noise, the D420 has proven to have the best keyboard I have ever had the pleasure of using. Also worth mentioning is the fact that the Ctrl key is appropriately placed on the far left with the Fn key to its right, avoiding the relearning required by models that oddly choose to reverse the standard order.



Front view of latch ([view large image](#))

In regards to pointer options, both a wide-aspect touchpad and a pointing stick are included to satisfy everyone's unique preferences. Two sets of mouse buttons are also included for added convenience when using each respective device. The mouse buttons themselves offer firm feedback and emit very little noise with no signs of clickiness. In addition, the pointer stick can be tapped to perform a click for improved productivity, and the touchpad can be set up with both vertical and horizontal scrolling options if so desired.

I like the D420 keyboard, pointing stick and touchpad a lot. There is zero flex to the keyboard and it is indeed very easy to type on. The key press touch is lighter than what I'm used to with using a ThinkPad, and I do prefer a more firm keystroke than the D420 provides, but that's a matter of individual preference. The only thing I might suggest doing to improve keyboard usability is put little nubs or raised bits on the mouse buttons so they're easier to feel out and find.

Ports

The D420 offers a reasonable selection of ports in the limited space available, although more USB ports and perhaps an S-Video and DVI port would have been certainly been nice (although these are available via various expansion and dock options). The bulk of the ports are situated in the rear of the unit, which is convenient when having many devices hooked up when using the system on a desk.



Left side view of ports on the D420: Kensington Lock, Microphone Out, Headphone Out, PCMCIA Slot, SD Card Slot (view large image) ([view large image](#))



Back side view of ports on the D420: Ethernet LAN RJ-45, Modem RJ-11, 2 USB 2.0 Ports, VGA Out, D-Bay USB Port, IEEE1394 Port, Power Port (view large image) ([view large image](#))



Right side view of ports on the D420: Wi-Fi Catcher, Fan Vent (view large image) ([view large image](#))



Underside view of the D420: Expansion Slot, Battery (hard drive accessible underneath), Memory Upgrade Slot (under panel) ([view large image](#))

Personally I found the location of most every port on the back of the D420 slightly annoying. I would have liked to have had at least 1 USB 2.0 port on the side for easy access like the older D410 did. The SD card slot is much appreciated, and no complaints on number of slots, just placement. But with an ultraportable designers have to make compromises on fitting things where they can.

Screen

The D420 comes standard with a 12.1" WXGA wide-aspect display with a resolution of 1280x800. While some may still prefer a standard-aspect display, widescreen offers better multimedia uses as well as reduced physical dimensions. In terms of the screen's resolution, certain individuals (myself included) may find that the on-screen text may be too small at times, but once again this is a necessary tradeoff for

improved portability. My best suggestion is to look at other 12.1" models at a local store to determine if the screen is suitable for your particular needs.



Minimal light leakage found on the D420 AU Optronics screen ([view large image](#))

The particular panel used in this D420 was manufactured by AU Optronics, although Samsung and possibly other manufacturers are also known to provide screens. In terms of viewing angles they are generally reasonable, although vertical angles are noticeably more finicky and sometimes subject to the dreaded color inversion problem. Fortunately, light leakage is minimal, uniformity is generally acceptable, and brightness is more than satisfactory, although brighter screens are certainly available on the market. Interestingly Dell offers a built-in ambient light sensor, although this feature has not proven useful or even accurate in limited testing. Finally, it should be noted that the D420 uses a matte screen instead of the increasingly popular glossy option. Whether this is a positive or negative is up to personal preference, but the screen certainly trades vividness of colors for reduced reflectivity. Just as is the case with glossy screens, using the D420 outside is less than optimal in direct sunlight, but still certainly a possibility, although from my personal experience glossy screens seemed to be easier to read outdoors. Overall, the D420's screen is of reasonable quality, although it is definitely not the highlight of the system.

My D420 came with a Samsung screen and not AU Optronics. There is light leakage at the bottom of the D420 screen, but nothing outrageous. The viewing angles are so so, the horizontal angles being better than vertical. The brightness on the Samsung screen is fantastic though, from reports in the NotebookReview.com forums from someone that has had both a D420 with the Samsung screen and one with the AUO screen, the Samsung seems to be brighter.



Dell Latitude D420 with Samsung screen ([view large image](#))

Wireless Communications

While my D420 is only equipped with the Intel PRO/Wireless 3945ABG card and built-in IrDA, Bluetooth and several EVDO/HSDPA Mobile Broadband solutions are also available. Wi-Fi quality and range have proven to be more than acceptable and a definite improvement over the Intel PRO/Wireless 2200BG in my HP DV1000.

Inconspicuously, Dell includes a special treat for Wi-Fi users with the inclusion of the Wi-Fi Catcher on the unit's right side. Functioning not only as a wireless hardware switch, the Wi-Fi Catcher can also be pushed in another direction to detect Wi-Fi networks in the area using a color-based indicator LED. What makes this solution so interesting is that it can be used even when the notebook is powered off, making searching for networks that much easier when roaming about. While the usefulness of this feature is up for debate, it is certainly a welcome addition.



Wi-Fi Catcher for detecting wi-fi hot spots ([view large image](#))

Speakers and Headphones

As a machine designed for business use, the D420 provides only a single speaker in the upper left corner that provides expectedly underwhelming sound with poor overall clarity. Nevertheless, a headphone jack is provided, and when hooked up to either headphones or speakers, the sound reproduction was better than expected, with little-to-no hissing and rich sound that was far superior to that provided by my DV1000 when playing back music. In terms of volume levels, be warned that the output can be

deafeningly loud on headphones when turned up to 100%, so be careful when hooking up your devices. Finally, I initially encountered an issue with the PC speaker that would result in an irritatingly loud beep being played when first connecting to Wi-Fi networks or receiving emails; this could only be corrected by disabling the hidden Beep device in the System Control Panel for anyone who encounters the same issue.

Security

As would be expected of a business notebook, Dell offers several key security features for those that would need them. Although not included on my model, one such feature that stands out is the optional UPEK finger print reader that can be incorporated between the two lower mouse buttons. Furthermore, an integrated Smart Card reader comes standard with the D420, as does Trusted Platform Module 1.2 compliance. In brief, Dell does not skimp on providing up-to-date security solutions for those users who require them.

Heat and Noise

Despite initial reports of the D420 being fanless like the Latitude X1, the D420 does actually have a fan-based cooling solution. Fortunately, however, the fan is generally whisper quiet and rarely noticeable. In air-conditioned rooms the fan almost never comes on at all unless performing CPU-intensive work over extended periods of time. Even then, the noise generated is generally drowned out by ambient sounds. In hotter environments, I have noticed that the fan come on more frequently, although the noise is still only moderate even when the fan ramps up to higher speeds. The only quibble I have with the cooling solution then is the placement of the vent: since it is located on the unit's right-hand side, hot air is blown directly onto the user's hand when in use, which is obviously not an optimal solution. Once again though, the fact that the fan rarely runs means that this issue is not as problematic as it could be. Finally, the upper right side of the notebook seems to become substantially warmer than the rest of the unit over extended use, although based on my experiences the D420 has still been generally cool enough to be used on my lap.

I found the D420 to run hotter than I would like. As with David, the back right side tended to get much warmer than the rest of the laptop. For me the back right side got hot to the point of being uncomfortable in the lap. The processor temperature seemed to sit between 54C and 60C during normal office task usage which is a bit warm, my ThinkPad T43 14-inch screen laptop with a Pentium M 2.0GHz processor averages between 45 and 50C during normal office task usage.

Battery



The battery on the Dell D420 has a built-in charge indicator ([view large image](#))

The D420 can be equipped with a 4-cell, 6-cell, or 9-cell battery. Unlike most other laptops, the battery is situated at the front of the unit rather than in the rear, so using the 9-cell battery results in what looks like an additional palm rest extending out from the front of the unit. Fortunately, both the 4-cell and 6-

cell batteries sit flush with the unit, so I opted for the 6-cell. As an added bonus, the two smaller batteries allow one to take advantage of Dell's ExpressCharge feature, which allows for fully recharging the battery in a little over an hour's time. Additionally, all three batteries feature a Battery Meter that can display the remaining charge via LED indicators even when the notebook is turned off.



Power adapter for D420

In terms of battery life with the 6-cell, in my limited testing I have averaged a bit over three hours with Wi-Fi on and maximum screen brightness while composing documents, surfing the web, and listening to music. Compared to the DV1000 this is a definite improvement, and with the brightness reduced, very respectable away-from-the-desk usage times are certainly within reason. The 9-cell battery also exists as an option if even longer times are deemed necessary.

I also had the 6-cell battery and when timed I got almost exactly 3-hours of usage when having the screen brightness set to half and wi-fi on. This is definitely an acceptable amount for a battery that is flush with the notebook. I love the fact the battery is a quick recharge type, the battery is back up to over 80% charge from zilch in about 40 minutes!

Conclusion

Having used the [Dell Latitude D420](#) for some time now, my impressions have mostly been overwhelmingly positive. Although certain aspects such as the slow 4200RPM hard drive, lack of internal optical drive, and merely satisfactory screen have proven less-than ideal, these are acceptable sacrifices in the pursuit of the best portability possible. Even despite the cons, there are more than enough pros to tip the scales in the opposite direction: the unit's light weight, excellent build quality and aesthetics, and commendable battery life. Therefore, with the scales tilted heavily in the D420's favor, I can wholeheartedly recommend Dell's Latitude D420 for those searching for a new ultra-portable.

The build quality and sheer usability and form factor of the D420 make it great. The low starting price of \$1,200 puts the icing on the cake with making it easy to recommend.

Pros

- Light-weight design starting at 3.0 lbs and only 3.2 lbs with flush-mounted 6-cell battery
- Uncompromising build quality, magnesium-alloy casing, and pleasing aesthetics
- Wide-aspect screen and compact dimensions
- Respectable battery life with 6-cell ExpressCharge battery and availability of 9-cell battery option
- Quiet operation, limited fan noise, and relatively quiet cooling solution
- Excellent connectivity, with options including Wi-Fi, Bluetooth, IrDA, and mobile broadband via integrated EVDO or HSPDA, as well as included Wi-Fi Catcher feature
- Robust security, including standard Smart Card reader, TPM 1.2 compliance, and optional UPEK finger print reader
- Wealth of optional docking solutions such as the Media Base, D-Port, and D-Dock
- Inclusion of SD Card Slot storage option

Cons

- Limited CPU clock speeds
- Slow 4200RPM hard drive options and only lesser capacities available
- Lack of internal optical drive and reliance on D-Bay
- Average screen quality with restrictive viewing angles
- Placement of fan vent on right-hand side

Some Glamour Shots of the Latitude D420 in Central Park NYC (it's road ready and park ready)



[\(view large image\)](#)



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