

## CIO TODAY



### CIO Issues

## UPS CIO Dave Barnes on Business Driving Technology

By Pam Baker

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**"There are shared concerns among all CIOs, I think," said UPS CIO David Barnes. "But people are the differentiators in the equation. I am blessed with an excellent team, but I stay focused on that team always. It is imperative to keep them motivated and their skills updated."**

▶▶As Senior Vice President and CIO of UPS, Dave Barnes oversees the creation, purchase and deployment of all of the company's technology investments. It is a large undertaking -- requiring some 4,700 technology pros and constant upgrades and improvements -- to run a company that delivers in excess of 14 million packages every day.

UPS delivered 3.6 billion packages and documents in 2004 to over 200 countries and territories. The delivery fleet contains over 88,000 package cars, vans, tractors, motorcycles and the ninth largest airline in the world.

To keep up with it all, the number of technological gadgets and gizmos at Barnes' command is staggering: 14 mainframes with a capacity of 31,671 MIPS (millions of instructions per second); 474 terabytes of storage; 2,009 midrange computers; 125,000 workstations; 6,100 servers; and 90,000 Delivery Information Acquisition Devices (DIADs), the ever-present brown units that UPS drivers carry with them. On its network of Internet sites, the company also handles an average of 145 million daily hits, up to 15 million of which are real-time tracking requests.

But Barnes is positively undaunted by it all. He began with UPS as a part-time package loader in 1977 and moved on to work as a part-time supervisor while he earned a bachelor's degree in business administration at the University of Missouri. From there, he climbed the ladder, one rung at a time, to his current position in 2002.

Along the way, he earned some impressive kudos. Barnes was the business manager on the development of the International Shipments Processing System (ISPS), an award-winning software application developed internally at UPS. He also helped form UPS Airlines in a little over a year; now it ranks as the fastest growing airline in FAA history.

Nonchalant and amicable, Barnes chatted with CIO Today as though he did not have a worry in the world.

**CIO Today: What are your top concerns as CIO?**

**Barnes:** There are shared concerns among all CIOs, I think. But people are the differentiators in the equation. I am blessed with an excellent team, but I stay focused on that team always. It is imperative to keep them motivated and their skills updated.

In building that team culture -- a team process -- the challenge is to instill a process of innovation which is properly balanced against costs and process agility. The team must always be aligned with business strategy.

It's all quite rewarding.


**CIO Today: Has the I.T. environment changed from five years ago?**

**Barnes:** Yes, of course. Over the past five to 10 years, there have been many major macro trends. Among those, the cost of hardware has decreased, and the power of processors has increased enormously. These changes have led to a dramatic increase in complexity. But it also allows us to intro new products that we couldn't have a few years ago.

And, mobility is a huge issue that greatly enhanced our capabilities. All these technological advancements, particularly in mobility, have enabled UPS to treat every customer as though he or she was the only customer. And that's what it all is really about.

**CIO Today: How have new legislative demands affected the I.T. department and the CIO in particular?**

**Barnes:** SOX hasn't been too much of a bother to us. A lot of our peers needed new processes to comply; but here at UPS the controls were already in place; it was more of a verification mode for us. Consequently, while we did incur some costs, they were much less than what our peers had to pay.

As far as information [security](#)  and privacy issues, we work religiously to safeguard both on our own accord.

**CIO Today: Which enterprise component or technology will be growing most in terms of its slice of your company's budget pie in the next 12 months?**

**Barnes:** Business drives technology at UPS, so all our plans center on business initiatives. We will intro new innovative products this year and next. Indeed, there is a large series of rollouts in progress now.

DIAD 4 is rolling out now in the U.S. and in many international locations. The DIAD is a key wireless mobility device that uses GPRS (General Packet Radio Service), CMA (Concert Multithread Architecture), Bluetooth, RFID (Radio Frequency Identification) and other forms of communications. It has a high state of reliability of service to customers and provides timely tracking throughout the supply chain.

We are also currently deploying new package-flow technologies now through 2007 in U.S. operating centers to integrate package movement with business processes.

For example, prerouters load delivery vehicles according to their own or memorized knowledge of the delivery area. Packages are loaded in the vehicle so that the driver doesn't have to look for a specific package, but rather finds the packages in the order of his route stops. We now automate that process so that the prerouter has a loading order list to follow and the driver has a manifest that directs his route and tells him exactly what is in his vehicle and where.

This technology is also environmentally friendly. It cuts route times and therefore CO2 emissions, which is important considering there are 30,000 metric tons of CO2 emissions in the U.S. annually. It's good to do our part.

We are also rolling out a new generation of scanners in the U.S. and parts of Europe now, to be closely followed by Asia later this year and into next.


Among them are the finger scanners that attach to the first two fingers of the driver's hand and scan barcodes, then use Bluetooth to communicate with the computer on the driver's belt and send a wireless broadcast to the ups.com tracking and main systems. We will deploy 40,000 of them worldwide by the beginning of 2007.

Those are just a few of our current projects.

**CIO Today: Can you walk us through the decision-making process of implementing a large-scale business process management initiative?**

**Barnes:** We have several committees. There is the Management Committee which aligns the operation technology portfolio manager with the operations process manager, who then forms a roadmap.

The PPOC (Program & Project Oversight Committee), which has members of the Management Committee, meets monthly so that various teams can make their presentations. The PPOC then works to ensure all approved projects are then properly funded and supported.

And there is the ITG (Information Technology Governance Committee), which focuses on setting standards for architecture, [infrastructure](#)  and applications development. I chair both the PPOC and the ITG.

**CIO Today: What are one or two software or hardware products your company uses that you would describe as "outstanding?"**

**Barnes:** The DIAD 4. It's a custom piece with a lot of proprietary engineering, but we also have partners in that; the primary partner is Symbol.

It is built with survivability [in mind] and uses GPRS, Bluetooth, a modem, infrared, GPS (Global Positioning System), digital-signature capability, laser scanning, and has a battery that lasts the entire work day.

Most people know it as the thing that you sign to get your package.

**CIO Today: Which emerging technology do you see as most important to the enterprise?**

**Barnes:** Many technologies are important to us; two would be GPS and RFID.

**CIO Today: Where do you go to do your research on new technologies?**

**Barnes:** The TDS (Technology Direction Subcommittee), comprised of I.T. technologists and business partners, and the ITSC (Information Technology Steering Committee), which is comprised of more senior business and technology managers representing all key processes and key business lines.

Remember, business drives technology at UPS. So, first we identify the problems or needs, then we hunt or design the solution.



