

USB pioneer relies on Ellisys USB analyzers to fix design problems nobody else can solve

Client

John Hyde

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Challenge

Hyde needs to solve tough design challenges or software bugs to help his clients get more reliable USB products to market faster.

Solution

He uses two Ellisys USB Tracker 110s and an Ellisys USB Explorer 200 Pro to analyze USB bus traffic, and pinpoint design flaws in prototypes.

Benefits

Much faster results troubleshooting design problems. Quick results—in as little as 30 minutes—on problems that otherwise hold up manufacturers for weeks.

Quote

"If there's a problem, you don't ever want to be doubting your instrument. I trust the Ellisys tools, that's a good way to say it."

John Hyde

Few people in the world know as much about USB as John Hyde.

As a 25-year veteran with Intel, he was one of the people behind the initial push to create the USB standard. He was there when Intel and Microsoft first started to create the specification in the early 1990s. Then he wrote the first standard textbook on the topic, **USB Design By Example**. And today he works as an engineering consultant for companies like Logitech, HP, Cypress Semiconductor, and Tektronix, helping them to perfect their designs and get USB products to market faster.

After all, consumers want USB devices they can simply plug in and use. But for developers to achieve that much simplicity, they must perfect and hide many complex internal operations.

To meet that challenge, they need powerful tools for their everyday work. To help with his projects, Hyde relies on three USB protocol analyzers from Ellisys: two USB Tracker 110s and an USB Explorer 200 Professional Edition.

"They save me so much time, I love them," he says. For example, finding errors in USB descriptors takes less than a minute with an Ellisys analyzer. "I believe that using an analyzer is fundamental to developing a USB system. If you can't see what's on the bus, you're flying blind."



See what's on the bus the way you like

"What I like most about the Ellisys analyzers is that they actually decode all the USB class protocols for you. When you're trying to debug a client's application, you typically don't want to wade through the voluminous low-level USB packet transfers. You're looking for protocol violations. And the Ellisys software even tells you where the errors are," says Hyde.

"The Explorer 200 not only displays raw bytes of class-specific transactions, it also decodes them completely. It clearly shows, for example, Test and Measurement commands and their responses, which parameters were read from a flash drive, or what the zoom value was set to on a digital camera. This is invaluable information—but it's not present in any competitive products."



Ellisys is a leading supplier of cutting-edge USB, Wireless USB and Ultrawideband Protocol Analyzers. The company's products help hardware, software and test engineers save development effort, improve quality, and accelerate time to market. Ellisys protocol analyzers range from simple and cost-effective tools to high-end fully-featured equipment.



Engineering consultant and author John Hyde is a world expert in USB, who relies on two USB Tracker 110s and a USB Explorer 200 from Ellisys.

"I've talked to other experts who don't use a USB analyzer, and I can't believe they ever get any work done."

Fix design problems nobody else can solve

Armed with his trusty USB analyzers, Hyde likes to tackle problems that no one else can solve.

"I can't tell you specifically the projects I'm doing, because they haven't been announced yet, but it's an impressive display of products," he says. "I like going to places like Fry's Electronics [a retail chain in the U.S. that sells all the latest computer peripherals] and looking at all the products I've helped get to market."

Not impressed with high prices

Hyde is unimpressed by vendors that charge up to \$25,000 for essentially the same performance Ellisys delivers for one-tenth the price.

"Would you even consider buying two pieces of development equipment that cost you \$25,000 each? No, you wouldn't. That's another huge attraction of the Ellisys units. They're inexpensive, so I don't have a problem having three of them," he says. "I am very impressed at the functionality for the price."

Everyone who sees one, wants one

Hyde normally works from his office in Portland, but he sometimes goes on the road to visit clients who have secret prototypes under development. That's when his Ellisys units really wow people.

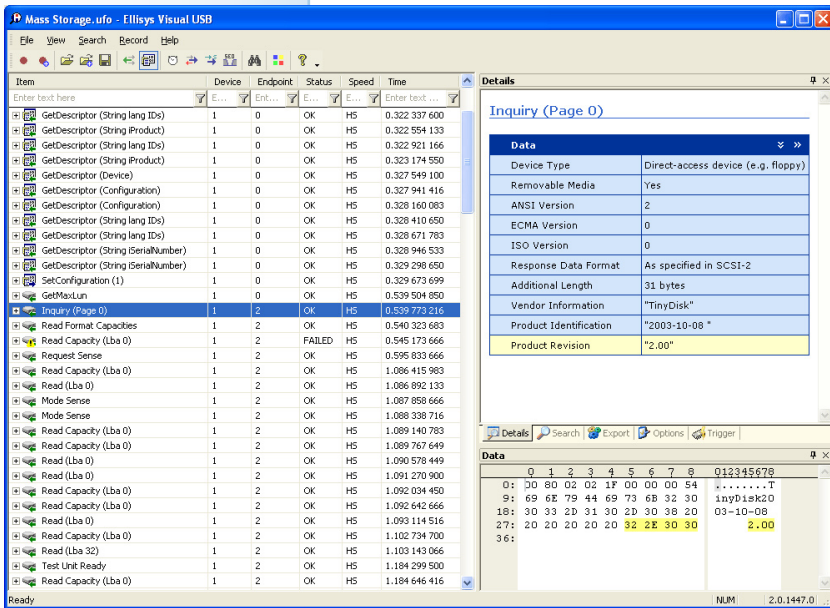
"In one briefcase, I can fit my laptop, software, and two Ellisys analyzers. And sometimes when I go to a customer, they've got this hellish problem they've been working on for weeks, and I say, 'OK let's have a quick look at this' and bang, it's done in 30 minutes," he chuckles.

"For someone who hasn't seen one of Ellisys analyzers, their jaw basically drops and they say, 'It'll do that?'" It saves you so much time that all the clients I go to see end up with at least one Ellisys box of their own. Once they see how productive it is, they go out and buy one," says Hyde.

All in all, what would he say about the Ellisys USB analyzers he works with?

"In any engineering domain, it's important to have reliable test tools, and that's exactly what they are: rock-solid, reliable test tools," says Hyde.

"If there's a problem, you don't ever want to be doubting your instrument. I trust the tools, that's a good way to say it." ➡



The USB Explorer 200 decodes every packet on the USB wire, and displays the results in a flexible and easy-to-read interface.

Hyde can help manufacturers at any stage of their USB product development, from before they draw up the first circuit to just before they apply for USB compliance testing. Once any project reaches a physical prototype, he counts on using his Ellisys USB analyzers.

"A lot of what I do is embedded design, adding USB to something that's not a PC," he explains. "For an embedded host application that also implements a USB device, you typically need at least two USB analyzers: you need to look at data coming in through the front, and you need to look at data coming out the back."



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