

## Is it worth it to duplicate with USB 3.0 target drives?

Firms that duplicate USB drives (with products like Virtual Console's 21 (FCD-USB-21) 42 (FCD-USB-42) and 60 (FCD-USB-60) port USB Flash Drive Duplicators) have likely been asking themselves this question for a while: is it worth it to use USB 3.0 target drives?

In theory, it ought to be a “no brainer.” USB 2.0 has a max theoretical transfer rate of 60 MB/s, compared to 3.0's 625 MB/s. Faster is always better, right? Especially when we consider that the effective throughput for a USB 2.0 flash drive maxes out at +/- 35 MB/s.

As it turns out, two key facts might convince you that arguments against moving to USB 3.0 target drives outweigh the arguments for moving to USB 3.0.

Now, if you are a person who believes you ought to be running the latest version of everything all the time, the arguments against the practicality of duplicating to USB 3.0 target drives might not matter. Everyone else might want to read on.

### **Fact #1: Your end user's OS probably doesn't support USB 3.0 anyway**

Despite the fact that the USB 3.0 spec is more than five years old, it is far from universally adopted. Statistics firm Netmarketshare estimates that even at the end of 2013 Windows XP, Vista, and 7 have slightly more than 80% market share. None of these operating systems shipped with USB 3.0 support.

Now it is true that Microsoft has stated its intent to discontinue support for Windows XP on April 8, 2014, and XP still has a 30% share of the OS market, so clearly a fairly big change is on the horizon. But it's not a certainty that commercial users will go any farther than Windows 7, which still doesn't support USB 3.0 out of the box. Especially for organizations somewhat leery of change, Windows 7 will likely present the latest “least bad” update, with more familiarity and an easier transition than Windows 8.

So if your end user tends to be a Linux user (the Linux kernel has supported USB 3.0 since version 2.6.31 was released in September of 2009), or the sort of leading edge Windows or Mac OS X user that has the know-how and desire to update both hardware and drivers ... moving to 3.0 might still be worth it.

But also consider this:

### **Fact #2: Theoretical transfer capability is not actual read/write speed**

What are you guaranteed to receive when you purchase a USB 3.0 drive? A blue connector. And that's about it (USB 3.0 connectors are distinguished from earlier specs by their blue color).

The reality is that the components behind the connector are just as important (if not more important) to the drive's performance as the connector itself.

Some fairly expensive cards do post impressive results when benchmarked on high-end hardware, with write speeds above 200 MB/s. For most USB duplicators, using these cards is

not likely to be cost effective.

In testing from December 2013, three out of four mid-priced, name-brand, off-the-shelf USB 3.0 drives simply didn't deliver write speeds that justify a USB 3.0 connector.

The tests compared time to read and write a 2.4GB file on a Philips 8GB, a disk2go 8GB, a Verbatim 16GB a SanDisk Extreme 16GB. The tests were run on two separate machines that each featured both a USB 2.0 and 3.0 port.

Here are the results:

Machine 1	Trial 1	Trial 2
Philips	3.57	3.62
disk2go	8.33	8.50
Verbatim	11.87	11.70
SanDisk	53.43	55.85

Machine 2		
Philips	3.43	3.48
disk2go	6.86	6.64
Verbatim	11.22	10.46
SanDisk	55.85	55.85

numbers reflect MB/s  
write speeds

That's right: three out of four of these USB 3.0 drives didn't write any faster than 1/3 the practical transfer limit of USB 2.0.

What about bulk quantities of inexpensive cards? A quick review of the specs of any number of bulk-quantity 3.0 drives advertised on a major Chinese sourcing site show both read and write speeds well below the practical limits of 2.0 technology.

### **Still want to move to 3.0?**

So here it is: if you are willing to pay for a 3.0 connector AND the drive components that deliver USB 3.0-worthy read/write speeds AND your end users can make full use of the technology, then go for it.

Otherwise, you might be best served by duplicating at USB 2.0.