September 29, 2019

TWAIN Direct Specs Now Available to Public

For the past couple years, the **TWAIN Working Group** (TWG) has used the HSA Capture Conference to promote its TWAIN Direct Standard. TWAIN Direct is a modernized method for connecting scanners to software applications, designed to enable direct network connections without the use of drivers. At this year's Capture, TWG announced the public release of its TWAIN Direct specifications. The specs had previously only been available to TWG members.

The general release should help spur development of hardware devices and software applications that support the new standard. At the event, **Panasonic** previewed the first document scanner with TWAIN Direct code built into its firmware. Also, ISV **P3iD** showcased its DoxaScan Composer capture software, which has the ability to connect to hardware running the TWAIN Direct code.

The TWAIN Direct code for ISVs is available in two flavors, a local (LAN) and a cloud version. "The cloud version enables authentication and encryption that you don't need with the LAN version," explained Joseph Odore, the Marketing Chair for TWG, and a product manager for

Panasonic. "So, for example, if you have 20 devices that are available through a network to a TWAIN Direct Cloud application, but only 17 of them are online at a given moment, the TWAIN Direct Cloud can communicate that back to the user."

The TWAIN Direct Cloud runs separately from the cloud capture application connecting to it. "At first we thought hardware vendors might want to host TWAIN Direct Cloud instances that their devices could communicate with, and which, would in turn communicate with ISVs' cloud capture instances," said Odore. "It now seems like ISVs might want to host these TWAIN Direct Cloud instances themselves, so they have more control over the communication protocols with their applications. We'll have to see which way the market goes."

There are a couple ways for hardware vendors to connect to TWAIN Direct software applications. One is to embed TWAIN Direct code in their firmware, like Panasonic has done. The other is to leverage the TWAIN Bridge, which enables TWAIN Direct applications to connect to scanners with traditional TWAIN (Classic) drivers. The TWAIN Bridge can be run in

conjunction with a TWAIN Classic driver either on a PC or on a sidecar—a small, inexpensive piece of hardware (think Raspberry Pi) that can connect to a scanner through a USB port and then a user's network through an Ethernet port or wi-fi. "The TWAIN Bridge will enable ISVs to take advantage of benefits of TWAIN Direct without having to worry about customers having scanners designed with the protocol embedded. Say, for instance, the customer just bought a fleet of scanners with TWAIN Classic drivers and isn't ready to upgrade to a newer model yet, then the TWAIN Bridge would be ideal," said Odore.

One advantage of TWAIN Direct over TWAIN Classic is its "universal user interface." "With TWAIN Classic, whether you are using a PC-based capture application or a browser running a utility to connect to the driver, it's always going to surface the native UI of the driver," said Odore. "Because different scanner vendors develop different driver interfaces, this can affect the way a capture application behaves. And if the application happens to ask for a feature, let's say 'dynamic thresholding,' that a particular driver does not support, it will return an error message.

"With TWAIN Direct, there is a standard UI and the ISV controls what features are made available from the scanner. If the scanner does not support a feature the capture application asks for, it will still return an image—it just might not be in color or optimized through dynamic thresholding."

This means that capture ISVs supporting TWAIN Direct will not have to certify different scanner models separately. "Once a hardware device passes TWAIN Direct certification, it should work with any TWAIN Direct software application," said Odore. "With TWAIN Classic, in addition to having to certify every different scanner they work with, ISVs spend a lot of time on regression testing and support issues."

Another advantage of TWAIN Direct is its PDF Raster output. PDF Raster is a document image-specific format that was developed by TWG with the help of the **PDF Association**.

"TWAIN Classic drivers provide scanned image data and the capture application has to translate that into a page—which could be a TIFF, PDF, or JPEG," said Odore. "With TWAIN Direct, the scanner creates fully formed PDF Raster images. These images can contain meta data like when an image was created and on which device. Passwords can also be embedded in PDF Raster files, which can then only be opened by a capture application that knows the password. The meta data capabilities of PDF Raster are flexible and offer an opportunity for hardware vendors to differentiate their products." Odore noted that TWAIN Direct will only create single-page image files and that it is still up to the capture software to assemble them into multi-page documents.

The bottom line is that TWAIN Direct represents a modern paradigm for accessing scanners in a network- and cloud-connected world. There is sample code available for creating applications that can run in multiple desktop and mobile operating systems, as well as browsers. All commands are sent from these applications to the scanner in JSON, so TWAIN Direct is designed to be flexible and easy to develop and deploy. This fits nicely with what we are seeing in regards to capture's expanding footprint, which includes availability of several new sets of cloud-based tools.

TWAIN Direct certainly has a long way to go before it reaches mainstream adoption, but now that the code has been released to the public, and developers have access to it, we are looking forward to seeing where it can take the scanning and capture industry.

For more information:
https://www.documentimagingreport.com/?p=6446

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