White Paper:

Capability Ordering

The TWAIN Working Group September 1, 2009



TWAIN Capability Ordering

The purpose of this document is to point out connections between certain capabilities. The way one capability can affect another is not always obvious and failure to recognize this interdependence is often the reason for unexpected TWAIN Scanning results. Using this as a guideline, an Application Developers can code capability negotiation with confidence, and Data Source developers can refer back to this document to make sure they have not introduced an unusual dependency.

One other note about interpreting this document, the entire list of capabilities is in the context of the Current File System Device was changed using the DAT_FILESYSTEM triplets, the context of these capabilities is expected to change and re-negotiation must occur. It is much easier to deal with if the File System operations are completed first and Capability negotiation on a large scale is left until just before scanning from a particular device.

Independent Capabilities

These capabilities are considered independent because they do not affect other capabilities and they are not affected by changes in other capabilities.

CAP_CUSTOMDSDATA
CAP_INDICATORS
CAP_UICONTROLLABLE
CAP_SERIALNUMBER
ICAP_LAMPSTATE
CAP_BATTERYMINUTES
CAP_BATTERYPERCENTAGE
CAP_POWERSUPPLY
ICAP_BITORDER
CAP_DEVICETIMEDATE
CAP_DEVICEEVENT

CAP_CAMERAPREVIEWUI

CAP ENABLEDSUIONLY

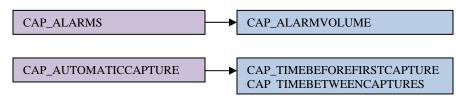
CAP_POWERSAVETIME

ICAP_AUTODISCARDBLANKPAGES

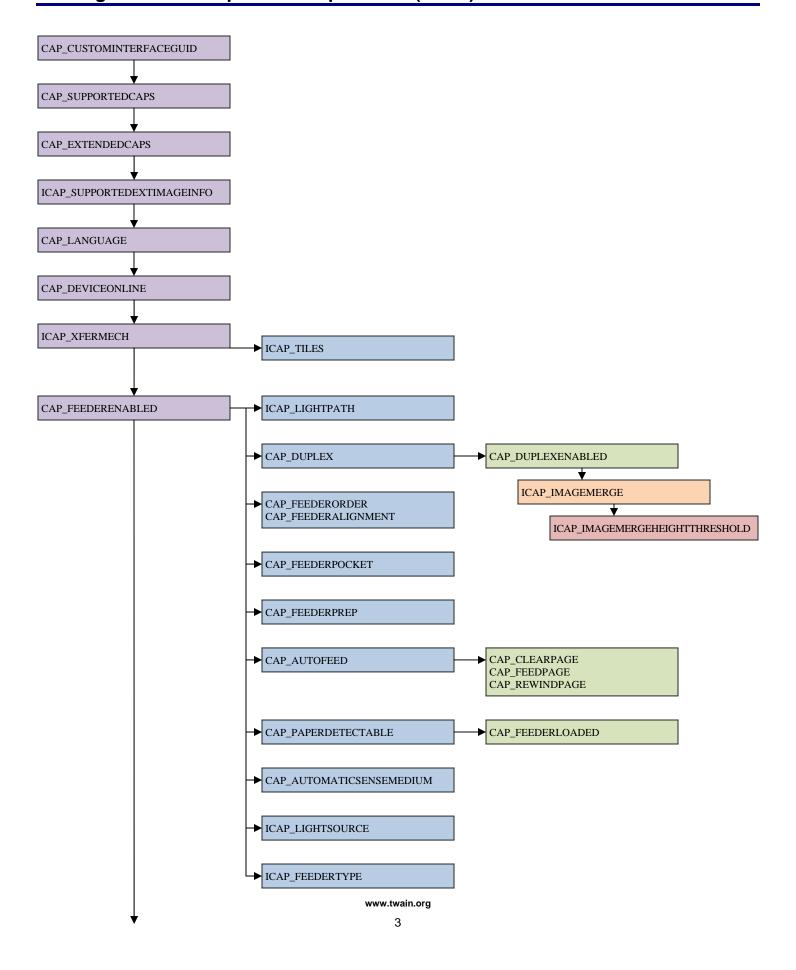
ACAP XFERMECH

Semi-Independent Capabilities

Semi Independent Capabilities are small groups that have little effect on the big picture do have their own pockets of dependencies.

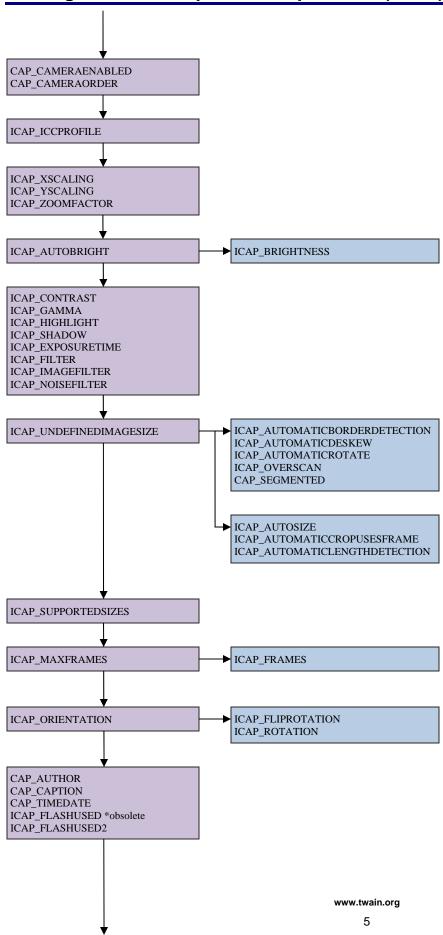


The Big Picture of Dependant Capabilities (1 of 4)



The Big Picture of Dependant Capabilities (2 of 4) CAP_MICRENABLED CAP PRINTERMODE CAP_PRINTER CAP_PRINTERENABLED CAP PRINTERSTRING ICAP_UNITS CAP_PRINTERINDEX CAP_PRINTERSUFFIX ICAP_IMAGEDATASET * Note: if CAP_THUMNAILSENABLED is enabled, do not negotiate any further capabilities related to CAP_THUMBNAILSENABLED dimensions of the output image. This capability over-rides all in order to have the Source deliver reasonable ICAP_XNATIVERESOLUTION ICAP_YNATIVERESOLUTION ICAP_PHYSICALWIDTH ICAP_PHYSICALHEIGHT ICAP_MINIMUMHEIGHT ICAP_MINIMUMWIDTH ICAP_COLORMANAGEMENTENABLED CAP_CAMERASIDE ICAP_AUTOMATICCOLORENABLED ICAP_AUTOMATICCOLORNONCOLORPIXELTYPE ICAP_PIXELTYPE ICAP_BITDEPTH ► ICAP_XRESOLUTION ICAP_YRESOLUTION ► ICAP_PIXELFLAVOR ICAP_PLANARCHUNKY ICAP_BITDEPTHREDUCTION ICAP_CUSTHALFTONE ICAP_HALFTONES ICAP_THRESHOLD ICAP_IMAGEFILEFORMAT ICAP_XFERMECH * ICAP_COMPRESSION *Note: Available Compressions are also directly dependent upon the current setting of ICAP XFERMECH. ICAP_BITORDERCODES ICAP_CCITTKFACTOR ICAP_PIXELFLAVORCODES ICAP_TIMEFILL ICAP_JPEGPIXELTYPE www.twain.org ICAP_JPEGQUALITY 4

The Big Picture of Dependant Capabilities (3 of 4)



The Big Picture of Dependent Capabilities (4 of 4)

