Something significant happen at Adobe Systems’ headquarters in San Jose during the week of May 6-9, 2003. Graphic arts systems vendors from around the world got together in an extraordinarily open and cooperative meeting in which they plugged-in and began the process of testing interoperability of JDF systems.

Much has been said about JDF, and there are now several JDF products on the market and user implementations underway, but those that have expressed skepticism that any true plug-and-play integration between products of different vendors will become the standard within our industry. And this is why the May “interoperability” meeting was so significant.

The 160+ members of CIP4 Organization, the association responsible for the Job Definition Format (JDF) specification, have scheduled a series of interoperability events leading up to a scheduled public interoperability demonstration at DRUPA 2004. JDF covers a wide variety of products, including:

- Prepress output management systems;
- Production planning and control systems;
- Print and prepress management information systems;
- Prepress JDF consuming devices such as trapping software, color management systems, RIPs, and so on;
- Press JDF consuming devices such as digital presses, press control systems, and so forth;
- Postpress JDF Consuming device such as cutters, Binding equipment, Folders, and so on; and
- Other graphic arts systems such as prefighting software and internet storefront systems.

At its core, JDF provides an XML schema, or “key” for defining and validating the structure and integrity of data exchanged between graphic arts systems. The full specification covers almost all possible print media workflow functions, as well as the input and output parameters and materials requirements of those functions or “processes.” The full specification, as you would imagine is immense. Which raises practical questions, such as “should a digital printing device be required to handle case binding information is it does not support case binding?” Probably not.

XML schema can be used by specialized software call validators, that check the conformance of XML data to the rules established in a schema. In practice, users will most likely want to use a subset of the full XML schema that is a little more specific to their operations and print processes. The advantage or a smaller schema is faster throughput and more responsive systems.

This is the reason why the participants in JDF development have agreed to a three-tiered conformance hierarchy. Whereas the basic specification establishes the concepts of JDF-enable workflows and provides a cookbook of the various process and input and output parameters and materials of each process, CIP4 is introducing specifications that may build upon the JDF specification by adding further limitations to the specification, (that would result in smaller schema for particular applications), and conformance requirements for JDF-enabled products.
that go beyond what may be established in an XML schema. The further requirements may include instructions for how systems respond to messaging, how user comments embedded in a JDF file should be handled, and so on.

These further limitations are called Interoperability Conformance Specifications (ICS). A Base ICS is being developed that contains information on how all products that consume or produce JDF should function in order to be considered “conforming” JDF products. Subordinate to the Base ICS will be several Application ICS documents that specify how to use JDF for desktop digital printing devices, enterprise digital printing devices, commercial digital printing, prepress systems, and so on. Eventually there may be a dozen or more Application ICS documents.

These ICS documents are significant because they will provide buyers with details on how the JDF-enabled products that they purchase will use JDF and integrate into their production environments. But then the first challenge is to come to agreement on how various JDF systems will integrate with each other and how they will network with each other and communicate … hence, the need for these interoperability events schedule by the CIP4 Organization.

The room was crowded with participants from Adobe, Agfa, Dalim, Creo, Heidelberg, MAN Roland, Printcafe, Xerox, and others. Networking cables crisscrossed the room and after a short discussion regarding some minor issues, they were off …

"There both trying to listen on the same port … we’ll send you signals back, if we can get past the errors in the sockets … is your software a JDF consumer or JDF sender? … you know, were running this remotely and running in through the firewall back at the office … we’ll we’re messaging, I don’t see an error so let’s see what we’ve got … I’ve download quite a set of messages now … I just needed to reset http …”

The first half-hour or so suddenly became an exercise, not in JDF exchange, but real-time networking! Once the connections were made, the focus of the conversations changed … “Your system needs to know if the PDF will support auto-rotate … You can access the RIP again … I can use JDF submit or creator …” The conversations moved from networking to print production and although there is work to do to perfect the concept of interoperability conformance specifications, in the end 15 products were tested and 18 pairings were identified for interoperability testing. The good news was that 17 JDF consuming devices of the 18 pairs succeeded in consuming the JDF producer's JDF job ticket data. JDF does work and in short
order in the most demanding inter-product environment you could imagine! Five of the consuming JDF devices reported no problems, whereas 13 JDF consuming devices reported 18 problems that needed fixes in the draft ICS documents, the JDF specification itself, or the code of one or the other’s software.