



## CIP4 and JDF FAQ

**Q1:** What is CIP4?

**A1:** CIP4 brings together vendors, consultants and end-users in the print communications, Graphic Arts industry and associated sectors, covering a variety of equipment, software, peripherals, and processes. Members participate in focused working groups to define future versions of JDF, to study user requirements, and to design a JDF SDK.

**Q2:** What is JDF?

**A2:** JDF is an upcoming industry standard designed to simplify information exchange between different applications and systems in and around the Graphic Arts industry. To that end JDF builds on and extends beyond pre-existing partial solutions, such as CIP3's Print Production Format (PPF) and Adobe Systems' Portable Job Ticket Format (PJTF). It also enables the integration of commercial and planning applications into the technical workflow. JDF joins the growing number of standards based on XML, ensuring maximum possible portability between different platforms and ready interaction with Internet-based systems. More information is available at [www.cip4.org](http://www.cip4.org).

JDF is a comprehensive XML-based file format/proposed industry standard for end-to-end job ticket specifications combined with a message description standard and message interchange protocol.

- JDF is designed to streamline information exchange between different applications and systems.
- JDF is intended to enable the entire industry, including media, design, graphic arts, on demand and e-commerce companies to implement and work with individual workflow solutions.
- JDF will allow integration of heterogeneous products from diverse vendors to seamless workflow solutions.

The most prominent features of JDF are:

1. Ability to carry a print job from genesis through completion. This includes a detailed description of the creative, prepress, press, postpress and delivery processes.
2. Ability to bridge the communication gap between production and Management Information Services. This ability enables instantaneous job and device tracking as well as detailed pre- and post calculation of jobs in the graphic arts.
3. Ability to bridge the gap between the customer's view of product and the manufacturing process by defining a process independent product view as well as a process dependent production view of a print job.

4. Ability to define and track any user defined workflow without constraints on the supported workflow models. This includes serial, parallel, overlapping and iterative processing in arbitrary combinations and over distributed locations.
5. Ability to do so (1, 2, 3&4) under nearly any precondition.

**Q3:** What areas of workflow does JDF cover?

**A3:** The long-term aim of CIP4 is to cover the whole life cycle of a print and cross-media job, from concept to delivery. Each individual segment might be covered by JDF, or by ensuring that it can be linked efficiently into pre-existing specifications. The current version of the specification – JDF 1.1 – has a primary focus on the areas ranging from prepress over press to postpress and delivery. The JDF specification includes three major application areas:

1. *Job Ticket* — Information about a printed product that may start with customer intent information and eventually include all process instructions and parameters
2. *Workflow organization* — A building block model used by management, production, and workflow systems to organize jobs and automate job, including an extensive library of processes, parameters, and job metadata
3. *Device control & automation* — A open, XML-based command and control language for all shop floor and studio floor software and systems.

**Q4:** Why did some of the earliest JDF systems appear to be effectively closed systems that just happened to be “buzzword compliant” and use JDF internally?

**A4:** Because vendors have to be sure that their products will work when they ship them. As a new format comes on-stream there are just not enough other products out there that you can guarantee will work with yours. Just as the first fax was useless, it takes two to JDF!

Testing and support is also a smaller load when you’ve got close relationships between the creator and consumer of the JDF. As more and more products become available from more and more vendors that situation will change, and CIP4 is actively assisting that change by promoting interoperability. Printers who establish a JDF and process automation strategy and buying program now will be the first to reap the benefits!

**Q5:** Is there formal JDF compliance process?

**A5:** In JDF 1.2 the concept of Interoperability Conformance Specification of “ICS” documents is introduced. To specify exactly what individual classes of devices need to do with JDF, CIP4 members are developing ICS document that will provide the minimum expectations for individual classes of devices. ICS documents will later be used as the basis for certification testing. CIP4 has signed an agreement with GATF to serve as the first certification testing facility, and others will later be added in Europe and Asia. Once the certification program begins, you will start seeing products that are marked as “JDF Certified” and this will be to a specific ICS document. The ICS documents are all currently in draft form and only in circulation among members of CIP4, but once published, like the standard, they will be freely available to the public and we expect that they will become part of your buying practices.

**Q6:** When will all products be JDF compatible?

**A6:** With JDF 1.2 we're starting the push further upstream with two new processes addressing digital file transfer and preflight. Our goal is to have JDF support for all products involved in the print and cross media publishing workflow. Many JDF-enabled products came to market in 2003 and 2004 will be the biggest year ever for JDF-enabled product introductions. In four or five years you may stop asking "is it JDF-Enabled" — it will become as expected as is CTP and digital file exchange.

**Q7:** Like other standards, the JDF specification allows for private extensions. How will consumers know if the extensions can be understood by another device?

**A7:** JDF does not mean the end of innovation and extensions provide compatibility while allowing the flexibility for individual companies to carry private data within a JDF file when they really need it. Practically every member has taken on board the need for interoperability, so we're certainly on the right path. In addition, JDF provides a technology for devices and applications to publish their JDF capabilities. This technology may be used by applications from different vendors to query their common capabilities and establish handshaking.

Also, you can ask your vendor for documentation on the extensions they use, and remember, one of the values of JDF is the ability to use the XML schema and XML data to test and validate equipment and data flows ... even with extensions.

**Q8:** Is there a "standard" or base level of functionality all products must implement in order to be deemed "JDF compliant"?

**A8:** We are creating a series of compliance levels with the Interoperability Conformance Specifications documents, but implementing the base levels of ICS documents does not confer "JDF Compliance" (See A5 above) nor functionality. What is the "base level" of functionality will depend to some extent on the priorities of your company, your customers, and your regular suppliers.

**Q9:** Are physical interfaces (i.e. 100baseT) for JDF exchange defined by the JDF specification?

**A9:** No, physical media is not part of the JDF specification. Any media that supports open networking standards can be used for JDF communication.

**Q10:** Will PPF (CIP3) continue on as a separate specification?

**A10:** PPF functionality is a subset of the JDF standard. But currently, PPF also exists as a separate standard to support legacy implementations. JDF builds on and extends beyond CIP3's Print Production Format (PPF). In JDF 1.3 we will be integrating PPF support directly into JDF.

**Q11:** Is JDF all talk or is it really happening?

**A11:** There are dozens of printers, publishers and prepress services already implementing JDF. As we advise, many are starting with limited, high-return JDF implementations that they can build from, while others, such as IKEA (See Seybold Report feature article) are already working towards enterprise-wide JDF programs.

**Q12:** How does JDF relate to other standards?

**A12:** We have formal and informal cooperation with many other groups! Together, we are building bridges between islands of automation. Our formal alliances, with whom our standards can work together with, include:

- CGATS SC6 (process control of content files)
- ICC
- Idealliance
- IFRA
- PODi
- PrintTalk
- UP3i.

CIP4's advertising workgroup is working with AdsML, for JDF 1.3. CIP4's digital printing group is working with PODi and CGATS SC6. CIP4's ecommerce group is working with PrintTalk.

With Commerce XML, there are a dozen specifications and no clear winner. They aren't all aimed at the same area, but there are some overlaps. There is the PrintTalk specification, now it is basically JDF inside a cXML wrapper designed for ecommerce transactions with respect to print. So in a sense we have connections to business XML.

Where we know of a specific standard, we sit down with the other group and talk about what information needs to cross the boundary (i.e., with papinet about the color of the paper). We are trying to avoid barriers, rather than building bridges in all areas.

**Q13:** What is the relationship between JDF and what groups or networks such as NGP and Print-City are doing?

**A13:** In short, it's like the difference between the specification for PDF and a user setting up their preferences for distilling files to PDF. Consider what JDF accomplishes:

- It provides a command and control language for devices on the shop floor, known as "JMF" or the Job Messaging Format
- It provides a single, common language for all job information from ordering through production, and even collection of processing data and quality control data; and
- It provides the framework for flexible, yet automated workflow management.

Almost half of the specification is comprised of a catalog of all the various data elements that may be necessary to drive every graphic arts device. For instance, there are six staple folds identified. If a stitcher only supports one or two of those staple folds, then the workflow or MIS system that controls that stitcher in a JDF-enabled environment needs to know that it only has one or two staple fold options that it can use. This is what is called "creating the handshake" between devices.

The goal is to get to "plug-n-play" interoperability, but "plug-n-play" encompasses much more than simply having a standard integration language and data elements. The next version of JDF, JDF 1.2, which is in development now, includes new features that allow devices to auto-

matically explore device capabilities to create the handshake between devices. In the meanwhile, early adopters still need to do some integration to create that handshake. These various groups, or networks, that I mentioned are creating and testing handshakes between devices and doing pre-integration on behalf of the printer in an effort to get to Drupa.

CIP4's plans for testing conformance are considerably broader. The full JDF specification covers all possible variations of workflow and production in our industry, so it cannot be expected for all individual classes of devices to support everything that JDF provides for, and that's where the "Interoperability Conformance Specification" or ICS documents come into play.

ICS documents each cover a class of devices, be it equipment or software, such as "desktop digital printers" vs. "professional integrated digital printing." An ICS establishes the minimum level of JDF compliance for a class of devices. The ICS documents are really a subset of JDF, and are not allowed to expand upon JDF. For instance, a desktop digital printer need not be required to handle data for case binding, since desktop printers are not capable of case binding. ICS documents are being developed for a variety of devices, from digital printers to MIS systems and so on.

Once ICS documents are published, they will then be used by sanctioned testing facilities as the basis for conformance testing and certification; hence, "JDF Certified" products will be certified against the ICS for that class of device. So, postpress devices will be certified on their ability to use JDF to handle process like stitching and bundling and not preflighting of content files.

**Q14:** What is the new MIS Working Group about and isn't it competition to groups or networks such as NGP and PrintCity?

**A14:** The CIP4's MIS Working Group was formed to create ICS documents (see above) for the relationship between MIS and workflow systems that govern and control JDF-enabled environments and the various major functional areas: MIS-to-Prepress, MIS-to-Press, MIS-to-front office, etc. To date, Work Groups such as Prepress or Bindery and Finishing have developed and catalog the data elements that devices and processes in their area require; however, with the need to complete the ICS documents and institute JDF Certification Testing, it is unreasonable to expect MIS and workflow providers (who tend to be small companies) to participate in a half a dozen or so distinctly different groups to develop ICS, which will have considerable overlap in basic areas like JDF node management and messaging.

The MIS Working Group was formed to make this process more cost-efficient for the MIS and workflow vendors ... indeed, to make it possible! As discussed above, there is a difference between establishing and testing a handshake between devices and documenting and certifying JDF conformance. So the MIS Working Group is *not* in competition or conflict with the various networks and groups working on JDF implementations in time for Drupa. In fact, the MIS Working Group is an enabler: just as MIS and workflow companies need to focus resources in their CIP4 activities, if they are working with multiple groups or networks, the MIS working group also provides a forum that will help them along with their other commitments as well.

Find out more at [www.cip4.org](http://www.cip4.org)