Defining Communication Across Printing and Finishing Processes

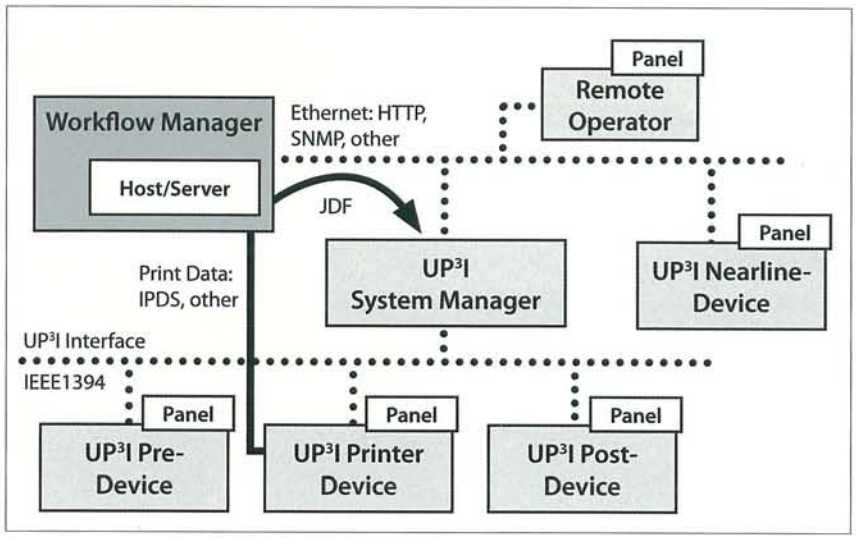
A new standard is emerging which defines communication between printing and finishing processes in a print production environment.

The Universal Printer, Pre- and Postprocessing Interface, or UP^{3}I, is a standard established by a leading group of industry vendors including Duplo, Hunkeler, IBM, Océ, Stralfors and Xerox. The standard defines how production printers (both cut-sheet and continuous feed) with in-line paper, pre- and post processing devices, workflow manager systems, and remote operating stations should interchange data.

This standard is significant step forward for streamlining print production environments, as today an operator has to enter job set-up information manually on individual equipment, and such equipment often has different user interfaces. UP^{3}I provides a standard user interface for all equipment and a central point of control for the complete workflow process. This enables unified control facilities for entering job set-up information, and enabling remote control of every component in the printing process chain. The unified look and feel and the intuitive handling of all equipment minimises the cost of training operators and reduced makeready time.

In addition, UP^{3}I makes it possible to communicate with all the components in the system; the printer, folding devices, collating devices, and more. In a typical UP^{3}I workflow, each separate component will be aware of every job in production, for example, for an A5 leaflet which requires trimming and a single fold, the cutting and folding equipment will automatically adjust to the required size and dimensions for the job. Sheets are tracked through the production workflow using a printed mark on the edge of a page, the mark can either be printed on the sheet, or on a surplus cover sheet. This printed mark is then recognised and decoded by each UP^{3}I device. The optical recognition may be done manually (by an operator) or with an integrated optical reader on the device. Once a printed mark is scanned, the sheet information is synchronised to the control station. The UP^{3}I working group note that it is technically possible for legacy equipment targeted by UP^{3}I can have upgrades or interface converters to allow some UP^{3}I function capability.

Many print jobs demand high-level security and process control (for example cheque book printing). UP^{3}I supports integration into process control systems.



this illustrates a typical UP^{3}I workflow

This integration enables spoilage information for a particular sheet to be tracked through the workflow, so spoiled sheets or sets can be identified and automatically reprinted.

It is important to note that UP^{3}I focuses on controlling print and finishing processes — it does not provide job ticket information or job related parameters; such information is provided by the Job Definition format (JDF), developed by the CIP4 organisation. However, both UP^{3}I and JDF are complimentary to each other in a production workflow, and a common workgroup has been established to harmonize these two initiatives.

The potential impact of UP^{3}I in a mailing environment is significant, as it addresses many production issues that are present in these environments today. The ability to centrally control a print job and remotely configure job set-up information at each step of the production process reduces set-up time and increases efficiency, and the unified user interface across all devices minimises the cost and time of training operators.

However, UP^{3}I is still an emerging standard, and cannot be totally integrated into mailing environments at this time. The key reason is that UP^{3}I does not yet provide support for offline devices (for example, envelope insertion equipment). Mailing equipment vendors such as Duplo and Hunkeler are responsible for defining the UP^{3}I standard, and we can expect compatibility for offline equipment in the future.

When building and upgrading existing mailing equipment or software, it is important to plan for the future. UP^{3}I may not be ready for mailing environments yet, but it will in time. When investing in new equipment or software, you should investigate how scalable the product is; whether it is a vendor-specific proprietary solution, or whether it provides an open interface which may provide support for UP^{3}I and integration with other equipment in the future.

For more information on UP^{3}I, visit www.up3i.org.

Eliot Harper

Eliot Harper is the Production Software Solutions Manager at Fuji Xerox Australia. He can be contacted on 02 9856 5000, or by e-mail at eliot.harper@aus.xerox.com