

COMPONENTS DESCRIPTION OF THE KODAK PRINERGY WORKFLOW MODULAR AUTOMATION SYSTEM FOR END-TO-END PRINT ORDER PROCESSING

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Abstract. Investigated Prinergy Workflow modular system, which enables commercial printing enterprises to implement end-to-end production workflows. System can be adapted to various production scales.

Comprehensive automation of technological processes in digital printing production involves the use of integrated solutions that cover all key stages, from prepress preparation of the order to postpress processing. Among industrial platforms of this class, the modular PRINERGY WORKFLOW system enables commercial printing enterprises to implement end-to-end production workflows with a high level of adaptability and integration [1]. The industrial PRINERGY lineup ensures full compliance with international JDF, JMF, and PDF/X standards, enabling automated interaction between software and hardware components of printing infrastructure [2].

The architecture of the PRINERGY platform is based on a set of interconnected software components, each responsible for a specific stage of preparation or processing of a print order. Depending on its functional purpose, each component has an internal modular structure that reflects the specifics of the corresponding production process (fig. 1).

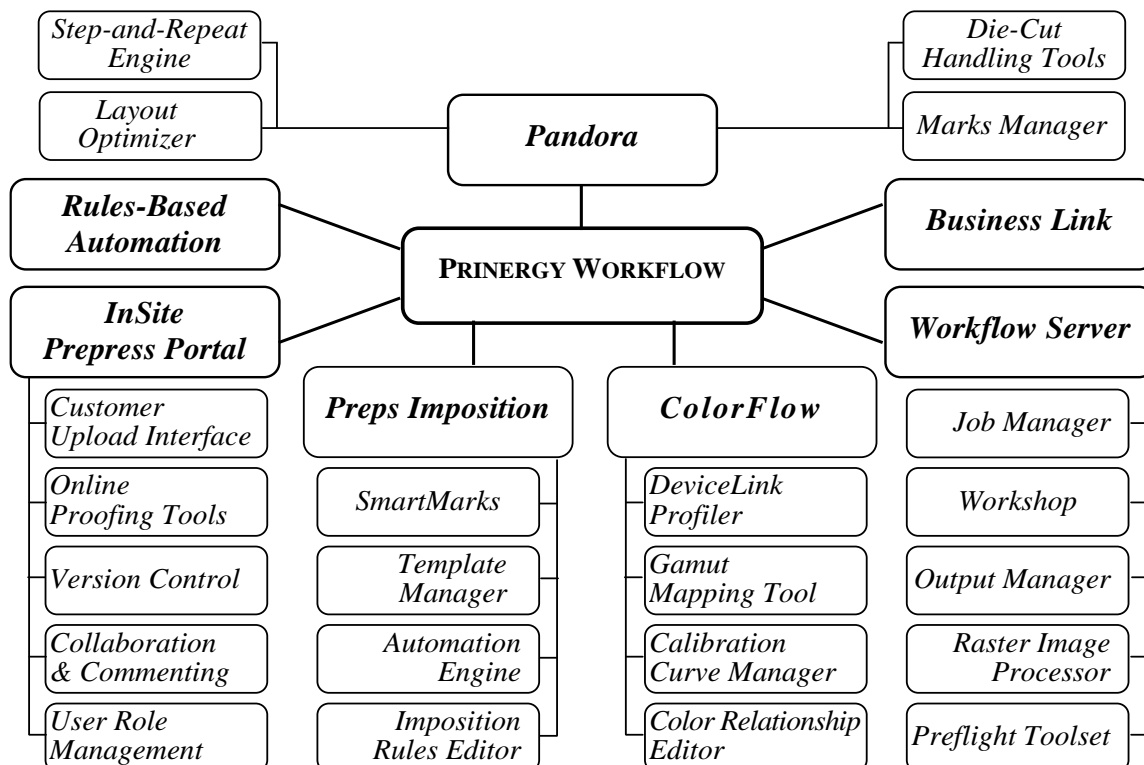


Figure 1 – Software modules decomposition of the PRINERGY prepress workflow system



The *InSite Prepress Portal* component functions as an interactive environment for client communication and remote approval of print orders and is implemented as a set of individual modules. Its *Customer Upload Interface* module is responsible for receiving digital layouts from the client, with file type verification and timestamp registration capabilities. Other module *Online Proofing Tools* enables layout previewing in a web browser without the need for local software installation. *Version Control* allows automated tracking of changes, while *Collaboration & Commenting* supports coordinated interaction among multiple participants in the approval process. Access control, user role management, and approval initiation permissions are handled through the *User Role Management* module. This component is integrated with the core *Workflow Server* environment via internal network interfaces or a secure internet connection, depending on the selected deployment architecture.

Workflow Server functions as the core of the PRINERGY digital platform, responsible for centralized management of job flows, file processing, page rendering, and coordination of all other system components. *Job Manager* module handles the creation, storage, structuring, and monitoring of print jobs. User interaction interface is implemented in *Workshop*. Job output to printing devices is managed by *Output Manager*. Generation of print-ready images is carried out by *Raster Image Processor* module, while *Preflight Toolset* performs automated PDF compliance checks.

Preps Imposition is designed to automate the generation of imposition schemes for press sheets, ensuring accurate and efficient layout planning across a wide range of print job types. *ColorFlow* serves as a specialized tool for centralized color management, enabling precise control over color consistency throughout the entire production workflow [3]. *Pandora* provides a dedicated environment for automated creation of step-and-repeat layouts, specifically tailored for the production of labels, packaging, and other types of high-volume printed products. *Rules-Based Automation* implements the concept of adaptive workflow automation, allowing users to define custom rules and conditional triggers that dynamically respond to production events. Finally, *Business Link* functions as gateway between the print production management environment and the enterprise's external information systems, supporting seamless data exchange and integration with business processes such as order management, accounting, and inventory control.

Therefore, KODAK PRINERGY WORKFLOW is a fully-fledged modular automation platform that encompasses the key stages of print order preparation and execution. The system can be adapted to various production scales – from short-run digital printing to industrial-scale offset volumes – while supporting end-to-end digital logistics and integration with the enterprise's business layer. Its structure, comprising interconnected components, ensures flexibility, scalability, and high-quality task execution in the context of modern print production.

References

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