Kodak Smart Review System

White Paper

Graphic Communications Group

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This document describes the **Kodak** Smart Review System. The purpose of this product is to integrate image-streaming capability from Kodak into an OEM Web application.

The **Kodak** Smart Review System overview

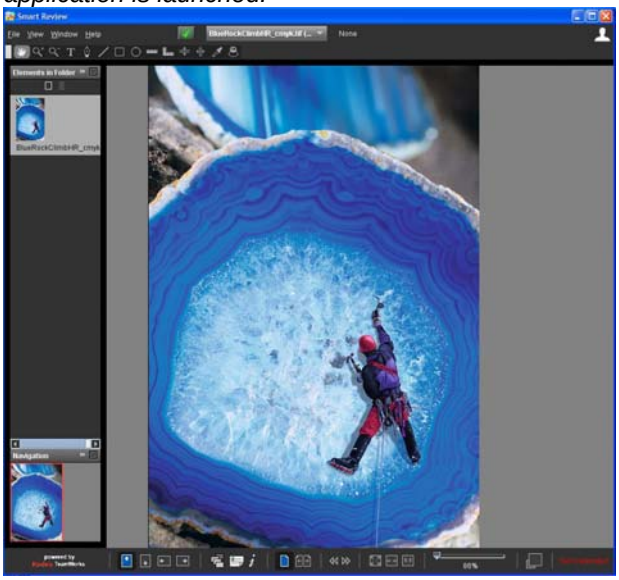
Kodak integrates its patented imaging and color technology into a server-based proofing engine, enabling high-resolution, on-screen proofing. **Kodak** Technology enables the server to "stream" just the information that a customer needs to view. It enables the customer to view high-resolution images over any Internet connection within seconds.

The technology works in the following manner: The Smart Review client application, running on the user's computer, sends a request to view an image from the Smart Review server. The Smart Review server then returns an extremely accurate preview of the image that "fits" itself to the size of the window in the Smart Review client application. The user can request to see additional detail by "zooming in" on the image—the **Kodak** Technology knows how to deliver just the requested information at exactly the resolution that the customer is asking for. There's no need to prepare or compress the image ahead of time.

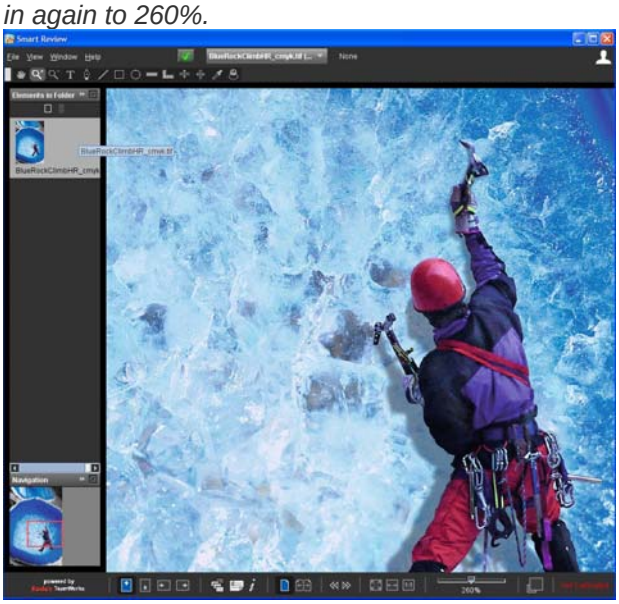
The client can "zoom" in to view important information such as trapping. Due to the fact that the Smart Review server streams data intelligently as well as being able to produce highly accurate previews, the amount of information transferred is small enough for the slowest Internet connections to handle.

Here is an example of how Smart Review technology works.

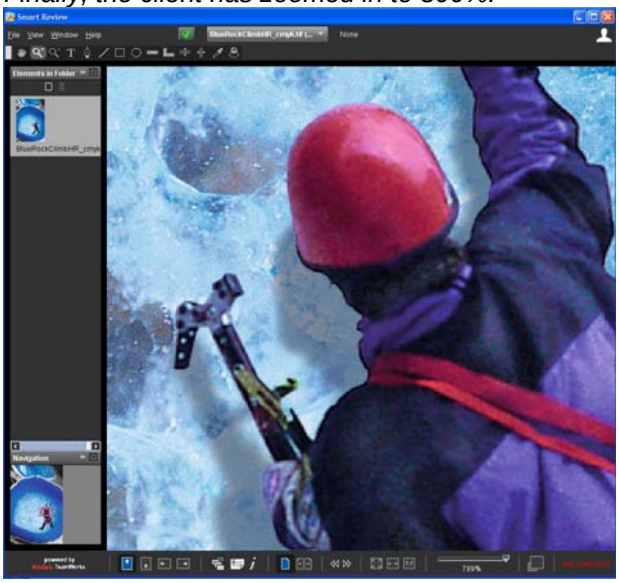
This is the opening view once a user selects an image from the host front end and the Smart Review client application is launched.



To get more resolution, the client has now zoomed in again to 260%.



Finally, the client has zoomed in to 800%.



The Smart Review technology enables the user to open and view files quickly and easily. The Smart Review server reads and streams the popular production file formats used in the graphic arts market, among them: PDF, DCS-1 and 2, EPS, JPEG, TIFF, and **PostScript** Files.

Proofing and collaboration tools

On top of its imaging technology, Kodak developed a set of professional image inspection and collaboration tools including: navigation window; coordinate measurement; on-the-fly panning and zooming; image rotate and mirror; file statistics; interactive densitometer that reads color values from the original file; low and high-resolution color printing; approval; and several types of annotation tools.

The **Kodak** Smart Review System

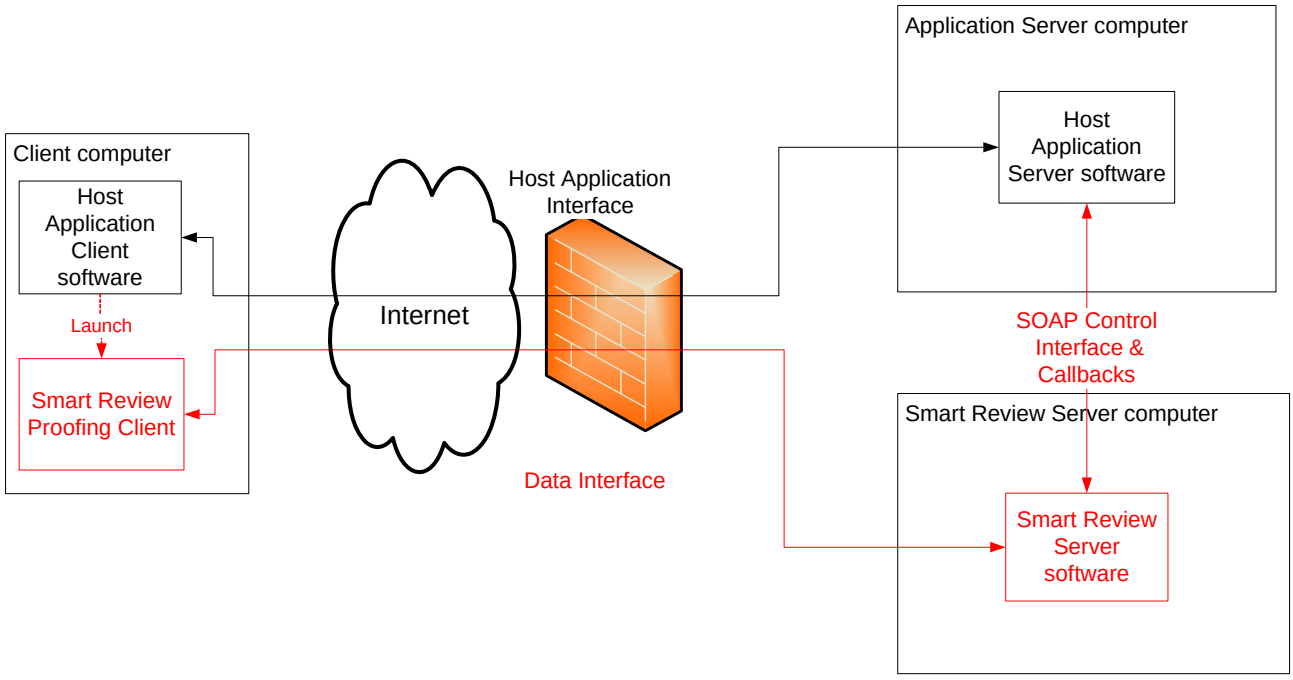
Based on its industry-leading remote proofing solutions, Kodak designed a way to integrate into OEM products with its core technology.

Benefits of using **Kodak** Smart Review System include:

- Ease of Integration using industry-standard programming and interface methods, including XML, Java, Perl, HTTP, and .NET
- Robust and flexible API with over 35 function calls
- Various security schemes for secure communications and user authentication
- Core technology shared with other **Kodak** Products helps ensure reliability
- Support for color-accurate **Kodak Matchprint** Virtual Technology soft proofing

Smart Review System service architecture

The diagram below illustrates the process flow of the interaction between the host front end and the Smart Review server.



The integration API

The following interfaces are exposed to the OEM application:

- Control Interface – used for session control. The Control Interface is based on HTTP and XML to facilitate easy programming and seamless integration into the OEM's security setup.
- Data Interface – used to perform imaging/annotation requests. This is a HTTP-based protocol directly corresponding to the requests sent by the Smart Review client application.

Each interface works at a separate TCP/IP port.

API capabilities

The Smart Review API contains over 35 function calls and has the following capabilities:

- Session control – open and control imaging sessions
- Callbacks – the service is able to notify host's system(s) about various events that have happened in the system

- Annotations – the annotations created by the clients can be transferred to the OEM's database
- Approval – Smart Review adds the ability to follow a file through the various steps of the approval cycle.

Security

Multiple measures are taken to help ensure maximum security:

- A session token is used to uniquely identify the connecting client.
- The session automatically expires after a certain (configurable) period of inactivity.
- The session can be also protected by an IP address specified during the session creation time. Only that address is allowed to access the session resources.
- IP check at the interface level: both Control and Data Interfaces can be specified a set of IP addresses that are allowed to contact these interfaces. Other addresses will get their connection refused.

Annotations

The ability to annotate images is one of the features of the Smart Review system. The requests that handle annotations are being sent to the imaging server the same way as the imaging requests. Via a callback feature, annotations and approval data can be sent back to the host front end for further processing.

Matchprint Virtual Technology

Smart Review provides the option to deliver accurate on-screen color using **Matchprint** Virtual Technology. This allows users to view accurate color on qualified monitors seconds after loading to the system, thereby shortening the color approval cycle. Industry-standard ICC profiles can be specified on a per-image basis via API function calls.

A spot color database allows special colors to be defined based on L*a*b values; **Pantone** System values are loaded by default. Spot colors are preserved through the proofing process and can be displayed accurately within the monitor color gamut.

Images in RGB color space are fully supported, respecting any embedded source profiles.

N-color profiles can also be applied for proofing of files using extended gamut or alternate colorants.

Compatibility

The **Kodak** Smart Review server runs on a user-supplied **Windows** 2000 Server*. The Smart Review client application is available for both **Macintosh** OS X (including **Intel** Processor-based **Mac** Computers) and **Windows** 2000/2003/XP OS. **Matchprint** Virtual Technology for Smart Review is available as an option.

* **Windows** 2003 OS support available in Fall 2007

In summary

The Smart Review system provides flexible interfaces for advanced imaging and collaborative tools to be embedded within OEM Web-based applications, with the ability to deliver color-accurate **SWOP**-certified proofs using **Matchprint** Virtual Technology. The exceptional soft and hard proofing tools provided by Kodak can be integrated with minimal effort.



For more information on **Kodak** Unified Workflow Solutions or the **Kodak** Smart Review System, contact your local sales representative or visit our Web site at:

graphics.kodak.com/go/unifiedworkflow

or

graphics.kodak.com/smartreview

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