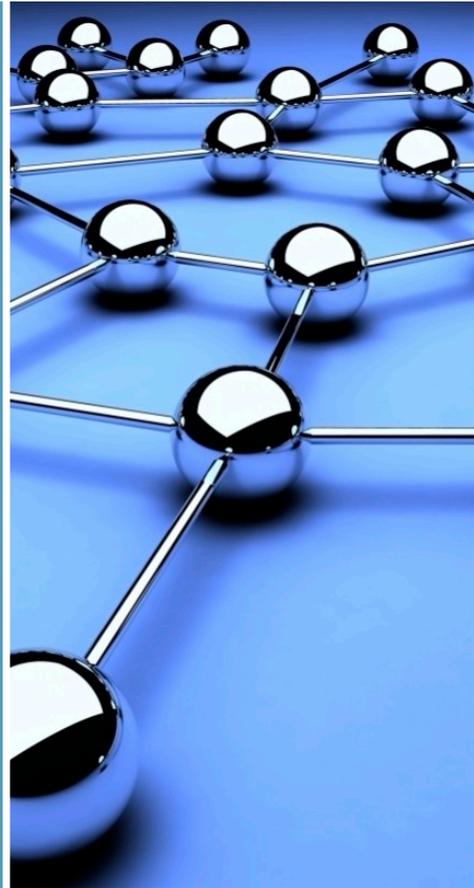


# Kollabria Analysis

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## Web Based Document Capture Solutions

By [Raimund Wasner](#)

As everyone knows, a big shift in computing is underway from traditional computing infrastructure to the web. Increasingly customers are adopting software applications that are based on the ways of the web rather than traditional client server applications. In layman's terms that means software applications are being built to run inside a browser instead of inside an operating system. You may not know it, but many of us are using applications running in the browser every day. Order a book from Amazon, or make an airline reservation on Orbitz, and you're using a browser based application. The advantages of ubiquity (it can be used anywhere you have a browser) coupled with the simplicity of maintaining a web infrastructure provides most companies with a unique set of advantages to have their own internal software applications work in the same way, i.e. through the browser, not through the OS. Please note, our goal here is not to compare web based computing with client server, that train left the station years ago. It's a web world. The objective instead is to take a look at the extent to which this trend is effecting the document capture industry, and the solutions those vendors are bringing to market.

If all documents were electronic, capturing and extracting information from them would be easily done just using a browser. Unfortunately we're not entirely there yet, the world of paper documents is an entrenched reality that is difficult to dispel. That means in order to capture paper documents from a browser based application it has to have the ability to send instructions to the scanning device. The problem is that the world of hardware vendors is hopelessly bound to the

## Key Product Links

(Clickable in PDF)

### **[Quillix - Prevalent Software](#)**

Also marketed as Capsys Capture by IDT Technologies a Chicago based reseller of document management solutions under the sub corporation name of Capsys Technologies.

### **[PSIGEN Fusion](#)**

Capture Anywhere. PSIGEN's web-based document capture product PSI:Fusion provides internet browser queuing and indexing capability from just about any device.

### **[Ephesoft](#)**

100% thin client 3-tier architecture built from the ground up - no need to install software on workstations and supports the 4 major browsers; Internet Explorer, Firefox, Chrome and Safari.

### **[Kodak Solution Profile:](#)**

#### **[Kodak Info Input Solution](#)**

Remote scanning with Info Input is easy to use and lets you deploy distributed document scanning and indexing at remote locations using the Internet.

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operating system, and has been slow to embrace web based conventions. That in turn means that the software which controls the scanning device remains under the control of the operating system as a driver, out of reach of the scanning application running inside the browser. No one has yet quite figured out how to connect the application running in my browser to the scanning device sitting on my desk without using drivers. We have some very specific ideas about how that could be done by putting a web server inside the scanning device, and indeed others are beginning to figure that out as well.

While browsers themselves run under the control of an OS, the application running inside the browser itself is not able to speak directly to any devices under the OS control other than a printer. Web applications can print, because printers are supported by the browser, but they cannot scan because scanners are not supported by browsers.

### Bridging the Gap...

If an application coming from a web server and running inside my browser wants to turn on a scanner, it has to reach outside the browser boundaries and into the OS in order to activate the TWAIN driver that operates the scanner. Since the web application cannot ask the browser to do this (remember printers are supported by browsers, scanners are not) the application running inside the browser has to utilize a browser plug-in in order to execute a scan. Those plug-ins come in four common flavors;

- Windows Active X Controls - the web app asks the browser to find a driver it can use running under the control of the OS and the browser hands that request to the Active X Control which has the ability to perform that task.
- Java Run-Time - the web app makes a Java request to the browser to find a driver it can use running under the control of the OS and the browser hands that request to the Java control (a runtime interpreter) which has the ability to perform that task.
- Silverlight/Quicktime - the web app asks the browser to find a driver it can use running under the control of the OS and the browser hands that request to a multimedia plug-in directly supported by the OS and running for a variety of other purposes (music/video) which also has the ability to perform that task.
- Browser Specific Custom Extension - the web app (written by vendor x) asks a custom browser extension (written by vendor x) and manually installed into the

browser to get the driver it needs. Each version of each browser must have its own extension, and the extension only works with vendor x's web applications ... no others.

That's a lot of work to simply execute a scan, but is necessary today because scanners are not built for the web, they are built for client server OS based applications.

### Web-Based Capture Applications

There is more to a capture application than simply turning on a scanner and ordering it to execute a scan. In the grand scheme of things having a capture solution execute a scan is the equivalent of inflating a tire on an automobile: It is a necessary but trivial function.

Apart from a productivity inspiring user interface, the other 99% of capture application functionality is geared towards allowing users to manipulate the scanned document, set preferences for information extraction, set indexing parameters and finally setting release instructions based on document type, security parameters and hundreds of other functional criteria.

Up until the last ten years, the only way to perform those functions was by installing an individual scanning application on each individual workstation which was also enabled with a scanning device of some sort. The individual desktop-bound application was in turn coupled to a myriad of servers each performing a different set of functions to support and supplement the client side application. All of this operated in a client-server fashion and usually completely bound to the Microsoft stack for all of its functionality.

The benefit of client-server capture is that it all works harmoniously bound to dedicated hardware. The detriment is that supporting and maintaining such an infrastructure is expensive and inflexible.

What web-based applications gain in flexibility, simplicity of maintenance and support, they lose in power and performance. That was far more true 10 years ago than it is today. Amazon.com processes billions of transactions, Salesforce.com manages billions of sales activities for millions of users, all done with web applications. The difference in performance and capability from early 2000 to now comes down to dramatic improvements in web programming tools. Programming web applications is fundamentally different from client server in just about every conceivable way. The programming languages are different, the capabilities of those programming languages are different, the design process and architecture for applications is different, the skills and design considerations are all fundamentally different. What was underpowered in 2000, no longer is because web tools have become as powerful as conventional fat application development tools. That is why

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Amazon can do what it does, and Salesforce can do what it does. The performance gap has narrowed considerably. You can now do with Java and PHP and the other staple tools of the web world what was unimaginable 10 years ago. This has translated to the world of document capture as well.

While client server document capture solutions still maintain a performance edge, that edge has been pushed further and further up the performance scale to the point where the need for it in relation to the need for greater flexibility and simpler infrastructure becomes harder and harder to justify.

Over that period of time a new generation of web based capture solutions (links on page one) has stepped in to do what used to require a Kofax or a Captiva with something much more flexible, less expensive and infinitely simpler to maintain.

## Web-Based Capture Applications and Market Reality

The ability to execute a scan from within a browser still remains a limitation of web based capture solutions. The remaining 99% of functionality however does not. While web based solutions are not on the same performance level as Captiva and Kofax, the need for that performance has been dramatically undermined.

While both Captiva and Kofax have had thin client versions of their client capture solutions, they still tie-in to the same client-server backend as the fat client. In other words they made the client in the client server architecture browser based, but the overall capture solution is still client-server. While Ephesoft, ImageTrust and others are web architecture all the way around, the traditional first movers in capture have remained a largely client server player, with only a nod to the web side. The reason for this is relatively simple: That's where the money is, and that is what the company is built to deliver. With 80% of annual revenues coming from maintenance fees, upgrades and infrastructure support the business model has changed. It's not about finding new clients anymore, it's about maintaining the installed base and selling upgrades. That change in the business model is equally reflected in the channel. Those that remain channel partners share in the same business model. Their business as well has shifted from 80% new to 20% new. Given the price points of the traditional client-server solutions, these same resellers have little flexibility to address new markets, and generate new business growth. Some have simply accepted that reality, others have begun to embrace alternatives.

Naturally this has left the opportunity door open for the newly powerful web-based solutions which are faster to deploy, simpler to configure and far less complicated to maintain. Ephesoft and Psigen in particular have seen significant growth for companies

their size, and herein lies the dilemma: They are too small to really move the needle, and will only grow incrementally. Their ability to scale up is limited by their ability to bootstrap into these markets.

## The Bottom Line

The move to the web is inexorable. Orbitz, Expedia and others have destroyed the mall travel agency business. Amazon has added a dimension to retailing that set the bar for the competition even higher. Salesforce has single handedly transformed the sales automation and customer acquisition process. The common denominator in all of this is the move to the web. Nothing says the same transformation won't be done in document capture. While most of the competitors in the web-based document capture arena are small. The large vendors appear to have little or no desire to transform themselves into that arena when there is still plenty of money to be made clutching their existing customers and selling professional services.

Looking into the future, we believe that over the course of the next 5 years the move to the web will add significant momentum to these small players. Given the absence of a large player to take away share that process will continue as a natural and unabated fashion. Looking from the future into the path of the past given the transformation of information technology in the last 10 years, you can already hear the "I told you so".

## Solution Profile: Kodak Alaris

While most existing capture software vendors have half-heartedly embraced the web, Kodak Alaris is really stepping up to the plate with both feet, offering hardware and software solutions that are expressly built for enabling organizations moving their applications to the web and scan enabling them. Kodak Alaris is going all out with a 1,2,3 combination of hardware and software that is optimized for integrating scanning with web applications. First is a powerful scanner with built in image processing, coupled with a driver toolkit combination for the hardware that comes with a free cloud development toolkit license, and third, a full blown thin client capture solution that can effectively bring scanning to any browser across the enterprise.

## 1. New “Web” Scanner

First, and by no means least, is a new document scanner (Kodak i1180) which comes with built in image processing, and is bundled with EMC's Captiva Cloud Toolkit. The scanner is built to provide roughly the same level of image processing capability as Kodak Alaris' high-end production machines with over 500 built in functions that can automatically turn any page you put into it, into a perfect image. Kind of like “George Eastman Inside”. Versions of this technology are built into the high-end production machines Kodak Alaris sells, and other versions have been installed on various desktops via the Kodak Scanner driver. The i1180 marks the first time this technology has been implemented directly in hardware and on a 40ppm desktop scanner to boot. Coupled with the EMC Captiva Cloud Toolkit, the advantages for a company looking to tie scanning directly to web applications becomes obvious. It's highly unlikely that web developers have much understanding of how scanners work, and even less understanding of how you program a scanner to take a great picture. The built in Perfect Page technology means that the application developer doesn't have to worry about “image quality” one bit. Anything put into this device will magically turn out “perfect”. It is highly unlikely that web application developers also know very much about building a capture software solution (should they wish to do that). For this reason Kodak Alaris has bundled the EMC Captiva Cloud Toolkit with the i1180, providing all who purchase the scanner with a free toolkit license.

## 2. Bundled Cloud Capture Toolkit

Prior to the EMC Captiva Cloud Toolkit, Web developers wishing to integrate scanning functionality into enterprise web-based line of business applications have a sizable hurdle to overcome. First and foremost is dealing with messy plug-ins like Active X controls or other browser specific limitations necessary to allow the web application to address the scanner driver and execute a scan. Second, deal with the lack of support for creating a flexible customized way for ingesting paper documents into the enterprise web application that do not require the user to learn how to scan. So for the web centric organization it's “deal with the plug-ins” or purchase very expensive capture solutions with individual user licenses and put a scanning interface at every scanner enabled desktop. There is nothing in between, until now. If you are creating an application and you want to say scan a form of ID from within that application your choice is a: deal with the driver via a plug-in and suffer with little to no control over the scanner or the image being created, or provide the user with a scanning (capture) software interface that pushes far more features in their face than necessary, and at a greater cost.

The toolkit provides that happy middle ground. It eliminates plug-ins, removes the browser dependence typically required by those plug-ins (i.e., works with all browsers) and gives the web programmer the ability to create a highly customized way to

ingest and process paper documents directly into the application without requiring the user to learn how to work a scanning app, along with learning the primary app. The only way to make that even better for the web centric organization is to make it free. That is precisely what Kodak Alaris has done: Anyone can buy the EMC Captiva Cloud Toolkit and pay a license fee for each scanner/user, or you can buy the i1180 (a superior device to most others) and get the toolkit for free. No license, no additional fees. What more could you want? Make it work on any computing device and not just Windows? Well you can't have everything. Right now, it only works on Windows.

## 3. Completely Web-Based Capture Application

As we have discussed earlier in this article, the web-centric application space is only partially addressed by most leading capture solution vendors. For the most part their technology and the business model is tied to client/server computing and lots and lots of server licenses. While the technology is great, it's great for its time. Originally created for dedicated scanning centers and the users within those centers, the thin-client add ons those vendors supply simply don't lend themselves very well to being distributed worldwide and across the enterprise. It very rapidly becomes an expensive proposition to scan at the source requiring (you guessed it) lots and lots of server licenses. Kodak Info Input Solution changes all that. As step three of a three step strategy to become the most useful document capture solution vendor to the web-centric enterprise, Kodak Alaris also provides a powerful, completely web-server based capture solution. Kodak Info Input runs on an industry standard Apache web server (think 70% of all of the world's websites), and unlike others, is entirely web based. Stand up a Kodak Info Input capture server and you can provide every desktop or laptop browser in your organization with the ability to scan. Best of all you can control and manage all of those scanning environments directly from the Info Input server.

But wait there's more. Like many organizations you may already have made an investment in a centralized scanning facility and have no doubt expanded it to have considerable capability in terms of performance and features. Info Input can leverage that because it can integrate with those capabilities. So rather than push more expensive capture software clients to the document's point of origin, and replicate more capture infrastructure, you can make the whole thing a browser based activity and leverage the existing technology you have in place to perform the advanced functions you already have developed.

The ability to leverage your existing capture system infrastructure is just one of three main capabilities that Info Input provides. Other than cost effectively distributing document capture to browser based PC's in your enterprise, the Info Input server you stood up can also have its capabilities embedded in other enterprise browser based applications you may be running.

Let's say that you have invested in or created your own browser based enterprise application and it is now necessary to bring paper based business documents into that application, you can use Info Input's ability to become an embedded scanning application to bring capture directly into the primary business application you are using. It is beyond the scope of this article to discuss the merits of the SDK approach discussed earlier versus the embedded approach offered by Info Input, suffice it to say, that the latter is quicker. What you sacrifice in specificity of purpose and customized control gained by the SDK may not be necessary for all purposes.

The third primary benefit of Info Input is that it is ideal for new capture environments and organizations that have not made any capture infrastructure commitments and would simply like to bring distributed document capture to a division, department or indeed the entire enterprise. Its ease and speed of implementation, not to mention its top to bottom web architecture makes it the ideal capture citizen for the web centric enterprise, or any organization with limited thirst for implementing resource intensive capture infrastructure.

### Conclusion:

Web-based document capture is the next wave of document management capture software, as the web applications and web style information management makes inexorable inroads into the modern enterprise. Fueled by the success of commercial applications on the public internet, those same methods, capabilities and software architectures are finding their way into the inner workings of some of the largest corporations in the world. In this paper we outlined some of the key players already engaged in making this transition in the ECM document capture sector, and provided a special focus on the efforts by Kodak Alaris, which represent a uniquely comprehensive and aggressive approach to establish a foothold in this emerging arena. No other vendor today can offer such a comprehensive solution for bringing document management to the web. Kodak Alaris' offering includes state of the art scanning hardware coupled with a web software development toolkit and a powerful entirely web based document capture from a single source. When we say entirely web based, we mean that the Info Input solution has no client server infrastructure dependencies, it is plain and simple a web server built for distributed document capture. That is indeed unique.