

## SAN DEPLOYMENTS

### 2005 COMPUTERWORLD HONORS CASE STUDY

#### BUSINESS & RELATED SERVICES

THE LEADING PROVIDER OF ELECTRONIC DOCUMENT DISCOVERY SOLUTIONS FOR TOP LAW FIRMS, GOVERNMENT ENTITIES AND FORTUNE 250 CORPORATIONS IN THE U.S., EUROPE AND ASIA IS FACILITATING A DRAMATIC TRANSITION FROM PAPER-BASED DISCOVERY AND DOCUMENT REVIEW TO ONLINE ELECTRONIC SOLUTIONS IN THE LEGAL INDUSTRY, PERMITTING CLIENTS TO REVIEW AS MUCH AS 80% OF CRITICAL LITIGATION, MERGER OR ACQUISITION DOCUMENTATION ON LINE. [20055352]



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#### SUMMARY

The legal industry is now making a dramatic transition from paper-based discovery and document review to online electronic solutions after years of lagging in the universal push to replace paper with electronic information. In this rapidly growing market, Kroll Ontrack® has quickly become the leading provider of electronic document discovery solutions for top law firms, government entities and Fortune 250 corporations in the U.S., Europe and Asia. As recently as two years ago, 70 percent of documents used by Kroll Ontrack clients in the course of litigation or mergers and acquisitions (M&A) were reviewed on hard copy. Today, more than 80 percent of those documents are reviewed online. This remarkable shift has improved clients' access to critical information, reduced document review cycles, and compressed M&A schedules from months to weeks – which, in the end, means a cost savings for its clients.

#### APPLICATION

Over the past few years, a fundamental change has taken place in the legal industry's approach to electronic information. In the last year alone, significant progress has been made in the electronic discovery arena, including changes to relevant e-discovery rules, case law and technical considerations. Proposed amendments to the Federal Rules of Civil Procedure, which could take effect as early as December 2006, are defining the validity and usability of electronically stored information. It is clear that electronic documents are becoming more prevalent in litigation and other investigatory matters.

Working in the new legal climate, Kroll Ontrack – the technology services subsidiary of Kroll Inc. – leads the industry's transition from cumbersome paper-based discovery to online discovery and review. Kroll Ontrack's achievements are based on the recent transformation of their legal services IT environment and custom application software into the fastest, most reliable and secure electronic discovery services available.

The central problem Kroll Ontrack faced was how to move terabytes of information – which may include emails, financial data, corporate records, legal briefs, court records, police reports, and other relevant documents – across their systems while maintaining data integrity and keeping failure rates under one-half of a percent. Kroll Ontrack's work for each client begins with extracting and processing information from the mass of document collections the client maintains, information that is often stored in live server environments and on a variety of archive media, in multiple and inconsistent formats and at several different sites. Once the information is located, it must be imported into Kroll Ontrack's homogenous environment, converted when necessary into common formats such as PDF or TIFF, and delivered for online review in a way that meets clients' needs. This includes the ability to mine information quickly and apply the full range of electronic tools to it, including search, categorization, mark-up, annotation, Bates numbering, redaction, etc.

The goal is to allow lawyers to review unprecedented volumes of information at speeds previously impossible – to build or break down a case, piece together communication strings, or quickly demonstrate that fair trade practices are being observed in an M&A, etc. Information must also be stored for easy access over extended periods of time to support lengthy litigation actions or comply with new federal regulations on document archiving.

Kroll Ontrack's solution – implemented over 18 months in 2003 and 2004 – grew from a modest server room with 100 terabytes of storage to a new \$10-million-plus state-of-the-art data center. The new IT center features more than a petabyte of raw storage capacity on an EMC storage area network (SAN), advanced EMC storage management and business continuity software, 100-plus servers, Cisco fiber

channel switching, redundant Internet connections and the latest technologies for power/availability, climate control and security. This enterprise-class environment supports a suite of custom software developed by Kroll Ontrack, including a customer-facing application, ElectronicDataViewer, which is rapidly replacing paper, by making online document discovery and review easier, quicker and more cost-effective than traditional paper-based methods.

Together, the new data center and enhanced application software ensure that attorneys and court officials can obtain discovery information in the fastest, most reliable, and most secure manner possible. Kroll Ontrack's ability to aggregate, import, convert, and deliver terabytes of information virtually overnight, combined with the significant productivity improvements generated by ElectronicDataViewer, are revolutionizing litigation and M&A processes, with an impact that is being felt throughout the legal industry.

## **BENEFITS**

Only two years ago, Kroll Ontrack's legal technologies group spent the majority of work effort on converting electronic files, emails, shared folders and other critical electronic documents and databases into hard copy, which was delivered by the pallet-load to clients' shipping docks. This was standard procedure. Reviewing documents for litigation or M&A had always been done on paper and lawyers stuck to traditional methods. It was time-consuming and costly, and only a small percentage of the information that was created as electronic documents (such as Word docs, spreadsheets or database reports) was actually being reviewed electronically.

But nothing could stop the migration – happening in all industries – to desktop PCs and electronic information processing. Over time, increasing acceptance of electronic information in legal decisions and M&A activities built up new demands in the industry. It was clear that in the future, legal services companies had to develop processes to convert large volumes of electronic information into an easily-reviewable online form. They also had to accelerate the adoption of electronic document review by providing a customer-facing application that would operate as easily as flipping through a stack of paper. Kroll Ontrack's new data center, EMC SAN environment, and improved ElectronicDataViewer application software have met all of these challenges.

Kroll Ontrack's impressive results include an increase in document processing capacity to several million pages per day. This means that client law firms or companies involved in M&A can review larger volumes of information, faster than ever before – often taking only a single day to perform work that previously took a week.

For example, a large M&A will typically require that millions of documents be reviewed over the life of the project. Rooms packed with contract lawyers may consume hundreds of thousands of documents per day. Such a legal staff is expensive to maintain, and a sluggish document flow could compromise the schedule and drive up costs. Kroll Ontrack's ability to produce large volumes of documents, rapidly and consistently, is critical, and has facilitated a fundamental change in the way that the company's client lawyers work compared with two years ago when 70 percent of documents reviewed were on hard copy. Today more than 80 percent of those documents are reviewed online.

It's also important to note that, not only has Kroll Ontrack's electronic document discovery and review solution streamlined litigation and compressed M&A schedules from months down to weeks, it has also provided a cost-effective and quick alternative to content or document management systems, which typically implement in a phased approach, and take many months to move from concept to production functionality. In comparison, Kroll Ontrack can respond to client requests for terabytes of storage capacity in days versus weeks, meaning that often document review on a new project can begin almost overnight.

In addition, Kroll Ontrack's SAN environment has helped dramatically reduced the storage staff's administrative workload. Before the SAN, 80 percent of the staff's time was spent supporting the storage environment. Now it requires less than 10 percent of their time – to manage 17 times as much raw storage capacity. This frees up significant IT staffing resources to focus on other tasks, such as system upgrades, launching new projects, or enhancing the company's custom applications, which have a direct impact on client service and revenues.

## **IMPORTANCE**

State-of-the-art IT is at the heart of Kroll Ontrack's legal technology solution. This story is even more

remarkable when considering where the company's IT group was only 18 months ago. Then, they managed 40 terabytes of server storage capacity in a modest-sized server room. This type of IT infrastructure may be typical for a business the size of Kroll Ontrack, but playing in the legal technology market required the company to develop a larger and far more sophisticated environment. As the IT team began making new investments in server and storage infrastructure, facilities infrastructure and custom software, they experienced a new crisis each day. They began to lose equipment due to heat problems and power issues were causing interruptions that clients couldn't afford.

Kroll Ontrack weathered the crisis by partnering with a number of industry leaders to create a new, centralized, \$10-million-plus state-of-the-art data center at the company's facilities outside of Minneapolis, Minnesota. The data center is an enterprise-class electronic business environment designed for the scalability and maintainability needed to address the exponential growth being demanded in today's legal market. IT highlights include:

- Storage – More than a petabyte (approximately 1000 terabytes) in raw storage capacity provided by EMC Corporation's CLARiiON® and Symmetrix® DMX networked storage systems and leading-edge management software. The systems are configured in a SAN for dynamic storage allocation and are a fundamental reason that Kroll Ontrack can both store and provide quick access to terabytes of information as clients need it. The SAN has more than doubled performance while enhancing reliability and dramatically reducing the storage administrative workload. Before the SAN, 80 percent of the staff's time was spent supporting the storage environment. Now it requires less than 10 percent of their time – to manage 17 times as much raw storage capacity. In this dynamic environment, storage scalability is key, and Kroll Ontrack can add new storage capacity quickly, on very short notice, with the help of Vibrant Technologies, an EMC partner with warehouse facilities near the data center.
- Storage Software – Kroll Ontrack's legal technologies group uses EMC Navisphere® software to manage, monitor and configure the storage capacity, and EMC PowerPath® software with its multiple I/O path capabilities, load balancing and automatic path failover, to ensure high availability and support non-disruptive upgrades. EMC Symmetrix Manager and EMC Performance Manager software are used for end-to-end storage management and performance monitoring, and EMC MirrorView™ software was used to migrate data quickly and accurately to the new data center.
- Switching – Routers and switches from Cisco Systems and Extreme Networks. This is one of the largest Cisco SAN implementations in the market and is a showcase for Cisco's fast fiber channel switching capabilities, which support the quick transfer of terabytes of information across Kroll Ontrack's network.
- Internet Connectivity– Diverse and redundant Internet connections through Sprint, Time Warner and Onvoy, with all data traffic into the site load-balanced among the multiple application and Web servers that support Kroll Ontrack clients.
- Power – The highest levels of availability, through the use of two separate power grids with failover capability. In addition, an Uninterruptible Power Supply (UPS) will automatically support the data center in the event of grid failure. The UPS will provide power until a backup generator comes online, typically in less than two minutes.
- Security – Facility monitoring provided by ADT Security Services for unparalleled data protection and disaster tolerance. Security features include 24-hour egress monitoring, extensive surveillance systems, dual biometric and personnel badge access, and dry fire suppression agents.
- Environment –Stringent climate control, including more than 60 monitoring points inside and outside the data center, continuously gathering environmental information.

The above IT and environmental capabilities support Kroll Ontrack's most significant technology achievement – a suite of custom software applications, featuring ElectronicDataViewer. This is a customer-facing, Web-based application that is revolutionizing the document review process by bridging the divide between the traditional paper discovery process and the emerging e-discovery industry.

ElectronicDataViewer improves the efficiency of the review process and drives down discovery costs by integrating paper and electronic documents in a single database and by facilitating the review of documents either in their native formats or as TIFF images. With this easy-to-use online repository and

review tool users are able to perform document review functions — searching, categorizing, redacting, and annotating — in a secure, online database repository uniquely dedicated to their case.

ElectronicDataViewer combines high performance with a look-and-feel that eases the user's transition from paper document review and accelerates adoption of the online discovery process. It also simplifies data organization and project management.

In addition, the Kroll Ontrack software suite includes a number of internal applications, developed by the company to move terabytes of raw data from heterogeneous client environments into Kroll Ontrack's homogeneous environment, for processing, conversion, display and review.

## **ORIGINALITY**

Kroll Ontrack integrated all of the above hardware, software and support elements to create the first, and many believe the best, electronic legal technology solution in the market – one that provides clients with the most extensive, resilient, controllable, secure, and comprehensive legal services available. With it, Kroll Ontrack clients can capture, scan and process the files, emails, shared folders and other critical paper and electronic documents used for litigation and M&A at a volume and pace unmatched in the industry.

The Kroll Ontrack data center represents substantial hardware processing improvements and increased storage capacity over all previous solutions, ensuring that attorneys and court officials can obtain discovery information in the fastest and most reliable and secure manner possible. By enabling work that may have taken a week in the past to be done in a single day and scaling rapidly to support unexpected demands for more capacity, the data center is driving down discovery costs and is quickly becoming the benchmark against which all legal service providers are judged.

## **SUCCESS**

The clearest sign of Kroll Ontrack's success is the rapid adoption of their legal technologies solution by clients. Two years ago, 70 percent of all documents reviewed by the company's clients were on paper with 30 percent reviewed electronically. Today that ratio has been transformed, with 80 percent of information being reviewed electronically. And, by far the largest shift to online discovery has happened within the last year as the new data center and storage environment became fully operational.

Now, in a typical litigation, Kroll Ontrack is able to aggregate tens of millions of documents and files, gathered from hundreds of sites, and transform them into common formats, stored in a single database, in just days. In a recent M&A, more than 34 million documents were made available to a team of more than 400 lawyers, who completed their review in less than 45 days.

Further striving to maximize these considerable results, Kroll Ontrack maintains a policy of constantly striving to exceed its own goals, and further improve its legal technology capabilities.

## **DIFFICULTY**

All the various difficulties that Kroll Ontrack faced in rolling-out its new data center, storage environment and application software can be summed up in a single word: hypergrowth. In the past 18 months, the company has nearly tripled in size from nearly 400 people to currently more than 1,100 people. This has given rise to serious communication issues and all the challenges involved in indoctrinating and orienting so many new people in so short a time.

The IT group found that, with each phase of their implementation, they developed new technical problems. Before the new data center, they struggled just to keep systems running in their small server room. But, as the new infrastructure was phased in and they invested heavily in high-end network backbone – EMC's disk-based storage systems and fast Cisco fiber channel switches – they found themselves facing major heat and power issues. And still, each new client demanded more storage capacity and quicker movement of more data across the network.

Kroll Ontrack's IT team relied heavily on EMC, Cisco and other vendors' expertise as they went through this unusually rapid expansion, often having to make design decisions without the time to test and prove before deployment. Growth was happening at such a pace that Kroll Ontrack didn't have the luxury of six months to work out the kinks. They often had to come up with a solution in four to six weeks and deploy two weeks after that. With the vendors' help, Kroll Ontrack not only implemented the

new legal technology solution on schedule, they actually managed to stay ahead of client demands. Particularly in the areas of storage capacity and data transfer performance, Kroll Ontrack's motto was, Aim Higher, because they knew, by the time each new enhancement was in place, there was no doubt that clients would already be demanding more.

On the software front, they found as they converted client document collections, that one percent of documents still needed to be processed manually. But, as the document flow grew from tens of thousands to millions of documents, that one percent became an unacceptable burden and they had to improve their internal application software to handle more documents automatically. Eventually, they drove manual processing below one-half of a percent.

In developing the customer-facing ElectronicDataViewer application, they constantly moved to streamline the application and improve performance, while delivering 24x7 access. This was critical in helping clients transition from paper to the online solution. To be a success, ElectronicDataViewer had to enable people to move through electronic documents and data as easily as handling a stack of paper. A page flip couldn't take three seconds – it had to be a fraction of second to replicate the paper experience and accelerate adoption.

Kroll Ontrack's executives supported the IT group's growth with a flexible budget that expanded to meet their needs, often within crushing time frames. But, finding qualified people proved to be one of the biggest problems. The original IT group could manage a basic handful of servers with direct-attached storage easily, but suddenly the same people found themselves managing a SAN and the company had to move quickly to develop or bring in new talent, expertise and leadership. As the size of the organization ballooned, the staff found themselves in different buildings with a crucial need to coordinate. The small IT group evolved into multiple teams, including a Quality Control group, supervisory group, data input groups, data output groups and a variety of other specialized teams.

In an age when most organizations are consolidating IT to cut costs, Kroll Ontrack actually had to break its IT staff into multiple groups to successfully transform their legal technologies business. The legal group was growing at such a rapid pace, it pulled resources away from corporate, so the company created a corporate IT group that works separately from the legal technologies group and sharpened their focus by building specialized skill sets within the groups to meet specific responsibilities. Step by step, Kroll Ontrack expanded the IT organization to meet all of the company's business needs.