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Electronic Courts And The Challenges In Managing Evidence: A View From Inside The International Criminal Court

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Abstract:

Many courts face challenges dealing with large volumes of electronic evidence. Innovative solutions are in place, but challenges remain for those who manage our courts. Some of the international tribunals have embraced new technologies. High staff turnover leads to a knowledge drain and mobile devices which generate a significant amount of meta-data are issues that need to be addressed.

Keywords: eCourt; Challanges, Big Data, Meta-data, Evidence, Electronic evidence, Managers, Courts, Administrators

1. Introduction

This paper introduces the reader to the systems of electronic evidence management, within the International Criminal Court (ICC), based in The Hague. It also highlights some of the technical challenges experienced by court administrators at the ICC during its first eleven years.

Courts do, and should, reflect what is happening in society. Up until quite recently, only large-scale litigation would entail the introduction of vast quantities of documentation as evidence. Although this produced a particular set of challenges, the courts were able to respond by up-scaling existing processes and applying technological solutions. Often, particularly in common law adversarial systems where parties engage in complex and protracted civil litigation, counsel for the parties often agree to jointly fund leasing of an electronic evidence-presentation infrastructure configured in the courtroom for the duration of the trial. Such solutions must include training the judge and key court staff in the operation of the system hardware and software.

Among the diverse global family of courts, the ICC's procedural framework is unique and its governing legislation, including the Rome Statute and the Rules of Evidence and Procedure, incorporate elements of both the civil law and common law traditions.[2]

Of course, the ICC is not the world's first "international" court. At the conclusion of the Second World War, when the Allied powers came together in Nuremberg to prosecute the Nazi leaders most responsible for horrendous crimes[3] of the Third Reich, the court managers had to organise a huge volume of documentary evidence. It often required translation

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The views and opinions expressed in this publication are those of the authors alone and should not be construed as the views of the International Criminal Court.

[2] For more details on how the ICC works see the following link. http://www.icc-cpi.int/en_menus/icc/about%20the%20court/icc%20at%20a%20glance/Pages/how%20the%20court%20works.aspx There are also a number of detailed books available on the Court, including Archibald International Criminal Courts – Practice, Procedure & Evidence, Khan, K.A.A., Dixon, R., Fulford, A (Sir) (QC), Sweet & Maxwell, 2005

[3] The International Military Tribunal was opened on November 20, 1945, in the Palace of Justice in Nuremberg

and conversion from manuscript to typescript. Without the benefit of technology, the Nuremberg officials managed to organize and present the evidence and to complete the trials within one year[4].

As evidence managers, looking back today, theirs was an impressive undertaking. However, the challenges facing courts and court staff in the future are equally staggering. The existence of *big data*[5], including the contents of mobile devices like smartphones and tablet computers, together with social media applications, present court managers with a whole new dimension of effective control and processing challenges complicated by vast increases in quantity in protracted civil and criminal litigation.

It is predicted that courts will struggle to effectively manage and present this type of evidence in the next decade. New procedures will need to be developed by national courts; in common law [6]jurisdictions, where judges tend to be older, court staff will need to find innovative solutions to keep the processes running smoothly.

However, there are many encouraging examples of courts moving ahead and embracing technology to enhance their work practices.[7] By sharing some of the experiences at the ICC with other court administrators, the authors hope to engage readers in a conversation about how best to overcome some of the pitfalls surrounding the management of electronic evidence.

2. Historical Overview

In the 1990s, considerable anticipation surfaced about how courts would modernise and take advantage of modern technological tools. The concept of electronic courts, or e-courts, emerged in discussions among innovative court administrators, lawyers and even some judges who could foresee the impact of technology on procedural aspects of the litigation process.

Some large-scale civil litigation, where high volumes of documents were *discovered,*[8] forced the parties on practical and financial grounds to consider how to electronically manage their evidence. Although e-courts were first created on an *ad hoc* basis, some countries such as Singapore, soon installed litigation-management and support technology in their courtrooms with considerable success. In most existing court systems, however, the costs of investing in such systems are prohibitive for modest budgets, and they have not been able to embrace e-court technologies; their case and court information processing systems remain based on paper records. Most are not in a position to fund the costs of the digital equipment and technical expertise required to support it, although the costs continue to diminish with time.

In keeping with the international court theme of this paper, the International Criminal Tribunal for the former Yugoslavia (ICTY) established in 1993, decided to implement an e-court environment to manage the large quantity of original evidentiary documents submitted by the parties and relating to the various conflicts generated as a consequence of the dissolution of the former Yugoslav federation. Technical staff in the Tribunal, now in its 21st year, successfully managed to design and implement its electronic document management system for its vast archive of evidentiary material, and credit must be given to them who passed on their knowledge to the ICC, established a decade after the ICTY and also based in The Hague.

By 1997, it was estimated that there were as few as 50 high-technology courtrooms in the world.[9]

In the early years of the ICC, the majority of its documentary evidence was collected in hard copy, just as in the ICTY. To prepare such evidence for use in an e-Court, it had to be scanned or otherwise digitized. A system was created in both tribunals to organise the evidence by applying a Bates stamp[10] numbering system, then scanning the hardcopy to create a digital or 'softcopy', which was then *disclosed* to the defence in an electronic format and duly presented in court electronically on monitors on the desks of the parties, Registry staff, and all judges.

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[4]Held between 20 November 1945 and 1 October 1946

[5]Defined for the purposes of this article as data-sets which are so large that they are difficult to process using traditional data-processing tools.

[6] Both authors are from countries which use the common law tradition; Ireland and England

[7] For example, in the U.S., all federal and some state courts accept filings electronically. http://www.uscourts.gov/FederalCourts/CMECF/Courts.aspx

[8]Also known in some jurisdictions as *disclosure*

[9] Damian Schofield and Stephen Mason, Using Graphical Technology to Present Evidence, from Electronic Evidence, Steven Mason (editor) 3rd Edition, LexisNexis 2012

[10]Called after the inventor, Edwin G. Bates. This is a process to place identifying numbers and/or date/time-marks on images and documents as they are scanned.

The ICC developed its system by applying the basic principles used to implement the ICTY's system. However, the ICTY has now implemented its completion strategy in anticipation of completing its work. The ICC, by contrast, is a permanent tribunal and must introduce innovations to meet the challenge of collecting evidence in a variety of electronic formats generated by computers, smartphones, servers, internet protocols, and telephone records. This brave new world comprises unknown territory for the ICC, and innovative solutions to adequately manage and secure these types of evidence are expensive.

In the UK, the Bloody Sunday Inquiry, in which oral hearings commenced in 2000, was hailed as the future of courts, but the court had very little capacity to deal with electronic evidence, beyond presenting scanned images. The future as anticipated early in that decade is now very different.

One of the serious challenges for today's court gurus that differ from a generation ago is the speed of change. It is now very difficult to anticipate needs and respond to them in five-year increments. Eight years ago, for example, no one could have predicted the impact Twitter would have on the electronic world. It did not even exist!

In 1993 in the United States, an innovative project was set up at the William and Mary Law School in Virginia, called the Courtroom 21 Project – later changed to the Center for Legal and Court Technology –with the goal "to improve the world's legal systems through the appropriate use of technology."[11] Initiatives such as this began to appear elsewhere in the world, often a joint collaboration between theoretically oriented academics and practically oriented court system officials.

3. Electronic Courtroom – e-Court

The term e-court is already a part of the litigation lexicon. However, not all courts require a full suite of technology-equipped courtrooms in order to function. For example, courts with moderately sized caseloads of relatively simple civil and criminal cases do not require sophisticated electronic evidence presentation technology in order to survive. Indeed, some courts become too enamoured of new technology and end up acquiring systems that are unnecessary to accomplishing their mission. Any electronic technology deployed in the courtroom should respond to specific documented needs.

Although at times defined as a virtual web-based courthouse, the most generic e-court reference is to a courtroom with technology that accommodates trial and other proceedings without the introduction of paper records, whether filings, issuing of judgments, electronic disclosure or the presentation of evidence.

For many, an e-court can mean simply the use of videoconferencing. However, while an e-court might be so equipped, such technology is insufficient of itself to transform a courtroom into an e-court.[12]

An e-court should be all of the above, a virtual web-based courthouse that provides 24/7 remote online access to court services, relevant records and information such as court calendars to all parties; it should include a modern courtroom that offers audio and videoconferencing capabilities, electronic disclosure, and digital presentation features, together with support for the automated electronic processing of high-volume cases.

Many courts now facilitate electronic filings, and back office staff in the vast majority of courts use modern technological solutions to ease their work-load. In New York there is a unified state court system[13] which has a function specifically dedicated to e-courts. Although this refers less to the physical environment and more to the administrative back office processes, it allows parties to file certain documents electronically, receive electronic notifications of deadlines and access to on-going case dockets, filed cases and decisions. The new Supreme Court of England and Wales also has procedures in place for the electronic submission of court filings.[14]

An obvious component in an e-court is the electronic presentation of evidence (see the screens behind the bench and the computer monitor in Picture 1 below). Often, the witness will be able to annotate a piece of electronic evidence, which can be saved by a technician and form part of a party's evidence.

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[11] See: http://law.wm.edu/academics/intellectuallife/researchcenters/clct/

[12] Many countries are actively looking at the benefits of technology for the courts, including, for example, India. See: http://ecourts.gov.in/

[13] The State Unified Courts System: for more information, https://iapps.courts.state.ny.us/webcivil/etrackLogin last accessed on 16th February 2014. https://iapps.courts.state.ny.us/webcivil/etrackLogin

[14] http://supremecourt.uk/procedures/practice-direction-14.html

Another common feature is the ability of judges and lawyers to plug-in the stenographer's feed and receive near real-time transcripts.

In determining whether to invest in e-court technology, the authors submit that there are three key factors to consider:

First, the use of technological support tools in courts must be procedurally compliant. At the ICC, presenting evidence in an electronic form is encouraged: "…in proceedings before the Court, evidence ... shall be presented in electronic form wherever possible,"[15] but such presentation is conditional and the "original form of such evidence shall be authoritative"[16] In other words, if a dispute arises over the authenticity of an electronic document, the presiding judge may order the court clerk to retrieve the original and bring it into the courtroom.

Second, the technology should be "fit for purpose." During the Bloody Sunday Inquiry in Northern Ireland, an expensive replica of the city of Derry was created using virtual reality modelling[17], allowing users to view the city as it was thirty years previous. Using a touch-screen monitor, a witness could trace his/her movements, which then could be saved. However, many elderly witnesses were confused by the complexity of the simulation, and in the end the court reverted back to relying on hard-copy maps of the city. The virtual reality model was rarely used for the remainder of the proceedings. An e-court system must be shown to provide significantly more value than the perceived difficulty of its use.

The final significant factor is the cost. Once prohibitively expensive for most courts, technology costs are coming down. However, the global economic downturn of the past six years has left budgets decimated, severely limiting courts' financial capacity to invest in capital infrastructure projects. Going forward, court administrators should always ensure careful cost-benefit analyses that the benefits outweigh the costs.

Picture 1: An example of the e-Court constructed for the hearings of public inquiry into the activities of Harold Shipman, a doctor in England, who is alleged to have murdered as many as two hundred of his patients[18].

Any e-court system must function 100% of the time when it is required. To ensure that it does, technicians will ensure that e-court systems include successive levels of redundancy. There is a temptation to have a dual system in place; hard copy and electronic. However, this just adds to the cost. Where a courthouse requires e-court capacity for occasional

[15]Regulation 26 (4)
[16]*Ibid*
[17] See: http://news.bbc.co.uk/2/hi/science/nature/1791596.stm
[18]Photograph: Copyright © 2004 Mark P Dillon. Used with permission.

cases, it would be technological overkill to fully equip every courtroom in the courthouse with the e-court technology. Alternatively, simply outfitting one of the courtrooms may well suffice to meet the occasional large and complex case. Alternatively, in a major metropolitan area where complex and protracted cases are routine, so equipping all or most of the existing courtrooms may make the best sense to facilitate effective processing of the court's caseload.

4. Electronic Evidence

Electronic evidence can take a number of forms. It could be, for example, a letter, written in manuscript which is scanned as a .tiff or .pdf image; or it could be a document that was *born digital*, printed and then scanned. This type of record, which contains the same content, has completely different meta-data properties.[19] Other records never exist in hard copy, for example, e-mail.

Within the ICC, all evidence is submitted for safekeeping to the custody of the Registrar, each with a Pre-Registration Form (PRF) completed by the collecting investigator. The information inserted on the form is transferred onto the record in the investigation database as are other classification data about the document, for example, its title and date.
Another type of evidence is data generated by computers. When using the Internet, computers generate data hidden from most users, but such data can be critical for the electronic identification of evidence. What is significant about this type of evidence is that it is both potentially voluminous and difficult to extract.

Electronic documents are also different from conventional documents in that they can be altered and copied more easily. Sometimes it can prove difficult to identify the author of such material.

The Council of Europe (CoE) has published a guide to electronic evidence for police officers, prosecutors and judges. Its most recent revision is May 2013, and we recommend it as essential reading for those interested in understanding this complex subject. Non-CoE court officials, police, and judges should also find it useful. Unfortunately, access to the document is restricted and while the link can be shared, access must be sought from the document creators themselves[20]. Forensic recovery of data from computers is currently being embraced by the ICC, although to date very little such evidence has been used in our trial hearings. This will certainly change in the future, and the Court will look to the experience of others who are utilizing such techniques to extract evidence.

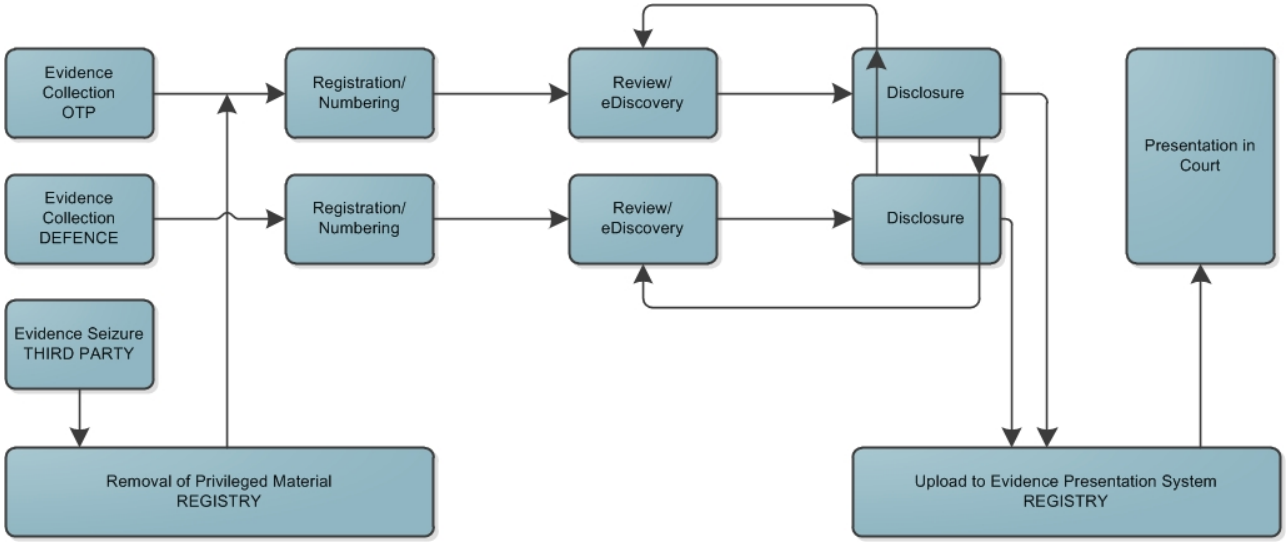

Figure 1: The evidence management work-flow at the International Criminal Court

[19] Stephen Mason defines electronic evidence as data (comprising the output of analogue devices or data in digital format) that is created, manipulated, stored or communicated by any device, computer or computer system or transmitted over a communication system that is relevant to the process of adjudication.

[20] http://www.coe.int/t/dghl/cooperation/economiccrime/cybercrime/Documents/Electronic%20Evidence%20Guide/2467_EEG_v18protected.pdf

5. The International Criminal Court

At the ICC, most evidence is collected and secured by the Office of the Prosecutor (OTP). As the Court has been in operation for over ten years, systems and workflows are in place for the collection, registration and disclosure of evidence in electronic format.

Disclosures between parties are managed by the parties directly; however, evidence to be presented in judicial proceedings must first be submitted to the Registry through an organisational section known as the Court Management Section (CMS).

5.1. E-Court

Two of the three ICC courtrooms are fully configured e-courts. With broadcast quality technology in place, hearings can be broadcast globally via the Internet; we have a thirty-minute delay built into the system as a safeguard.

All documentary evidence is presented as electronic images, and parties have access to all evidence collected for their case using the Ringtail e-Court system. Additionally, parties have e-mail access allowing them to communicate discretely with their opposing party and with relevant support staff. With a large volume of evidence being submitted and transferred by multiple parties, it is important that secure systems are in place to manage the evidence. One such tool is an e-court protocol determined by the assigned Chamber early in proceedings.

Picture 2: A rendition of the ICC's new e-Court.[21]

5.2. e-Court Protocol and e-Court User Group

The ICC utilizes an electronic system to support day-to-day judicial proceedings pursuant to the Regulations of the Court[22]. The ICC Registry is responsible, taking into account the requirements of the judicial activity, for ensuring the authenticity, accuracy, and confidentiality of the evidence presented and for preserving the verbatim record of all proceedings through the integrated technology in the e-courtroom.[23]

[21] Used with permission, provided by Schmidt Hammer Lassen architects,
[22] Regulation 26 deals with Electronic Management,
http://www.icc-cpi.int/NR/rdonlyres/B920AD62-DF49-4010-8907-E0D8CC61EBA4/277527/Regulations_of_the_Court_170604EN.pdf
[23] *Ibid*, Reg 26(2)

A technical protocol was created to guide the parties on how to manage their evidence administratively to ensure the seamless and unbroken court proceedings. This protocol is introduced into each case when the judges make a formal decision to include it. In the past, it differed from trial to trial, but we now plan to create and implement a single generic e-court protocol for all future cases.[24]

Although the majority of the evidence used in trial hearings is collected and secured by the OTP, it is important to ensure both a smooth running of the trial phase, and that the accused has full access to the evidence cache. Additionally, as the victims also have the right to be involved in the case as special parties. To coordinate use of the system by all categories of parties, we created an E-court User Group; managed by the Registry, group meetings enable all users to come together to discuss practical issues. The Group's scope of activities can be outlined as follows:

1. Propose and decide on technical improvements/enhancements to the systems comprising the Court's e-court (currently Ringtail and iTranscend);
2. Propose and decide on changes of the data structure of the systems;
3. Propose changes to the e-Court protocol(s) to the relevant Chamber(s) where required; and
4. Follow up on the implementation of the above proposed changes when required.

The User Group has become an important mechanism for sharing views and proposing change. It exists outside of the legal forum and deals directly with specific technical problems in a practical way.

As an example of the current topics being discussed is providing an extra identifying number, in-house it is referred to as an 'EVD number'[25], to an article of evidence. This EVD number has been utilised in the past to indicate a certain status of the evidence. However, in some cases the attribution of an EVD number has been ordered on all disclosed items, creating a heavy workload. Current proposals being considered are to cease EVD numbering in favour of a metadata field that would indicate the required status of the evidence.

5.3. Challenges Going Forward for the ICC

The authors recognise that it is not possible to determine e-court standards and protocols that simultaneously apply to all types of courts. However, there are some generic challenges that court administrators should include in their e-court-related planning.

As mentioned above, the existence of Big Data[26] and ESI[27] is forcing some courts to develop infrastructures capable of managing large volumes of evidence. New procedures will need to be drafted and tested. Furthermore, because '*cloud storage*' now means case data can be stored anywhere in the world, access to material may present procedural challenges.

The presence of ESI is not merely an issue for international courts: many white-collar trials produce large volumes of electronic documents and files. These can present challenges for law enforcement officials who conduct investigations and prepare evidence for trial, and it may lead to delays in scheduling trials.

A second challenge is the high cost of sophisticated and advanced technology. Although the increasing use of wireless technology has diminished the complexity and expense of wiring courtrooms, such networks have to be highly secure. Moreover, courtrooms still need high-level specifications, and the rate of absolution is also very high.

Although media hype trumpets that the cost of storage is constantly diminishing, the falling costs are often off-set by increasing volume of storage required. The costs of commercial data storage can sometimes be hidden and easily overlooked.

Third, strategic development is also going to be difficult. An e-court typically is not a single solution; rather it requires that a number of disparate individual components be carefully integrated to create a seamless operating environment. As the individual components become obsolete and need to be replaced, the cohesion of the individual parts may not fit easily in future versions.

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[24] http://www.icc-cpi.int/iccdocs/doc/doc957490.pdf

[25] EVD number is merely a document ID, much like a Bates number. However, it has been applied inconsistently and always in addition to the Evidence Registration Number (ERN)

[26] According to IBM, Big Data is being generated by everything around us at all times. Every digital process and social media exchange produces it. Systems, sensors and mobile devices transmit it. Big data is arriving from multiple sources at an alarming velocity, volume and variety. See: http://www.ibm.com/big-data/us/en/

[27] ESI is short for Electronically Stored Information; it is data that is created and stored in digital form. It is a term often used in connection with litigation and eDiscovery. It is specifically mentioned in Rule 34 of the Federal Rules of Civil procedure (US).

Fourth, although many universities now offer courses covering law and computers and although there is a growing industry of technologists providing litigation support to the legal profession, scepticism persists in the minds of senior judges and administrators about the viable use of technology in courts. Along with the introduction of any new solution must come the training of both the users and the decision makers.

A final challenge is the institutional knowledge drain that exists in an institution like the ICC. The majority of staff members are internationally recruited, and we experience high turnover in human resources. Many of the staff who first configured the e-courtrooms have moved on, and while there are undoubtedly upsides to having new staff with new ideas and carefully detailed system documentation, much of the institutional memory departs with the people who leave.

6. Conclusion

Access to justice can be achieved by making access to the courts more affordable. The more automated the process, often the cheaper it becomes. However, the recent economic crisis has meant that many governments are still cutting back on capital projects, and courts are likely to continue to feel squeezed.

Enthusiasts can be easily carried away by the idea that all courts would benefit from an upgrade to an e-court; to a certain extent, technology will creep into most courtrooms. However, there is no *panacea,* and one size does not fit all. In many cases, careful analysis will show that the benefits simply do not justify the cost.

The ICC is in the fortunate position of being at the beginning of the construction of its permanent premises, and therefore will be able to take advantage of new technologies being embedded within the physical infrastructure from day one. In the past ten years there has been an evolution in electronic evidence technology with a dramatic shift away from paper records in favour of digital. The main issue now is to scale the solutions to cope with the increasing volume.

For court administrators generally, our challenge is to support the administration of justice and provide greater access to justice. It is submitted that technology has a large role to play in both ideals.

Going forward, new technologies in the business world will further complicate the task of extracting a multitude of types of electronic data for evidentiary use, presenting challenges for those who manage our courts. It will require new skill-sets, and for many will create new opportunities. As ever, the necessity for strategic planning is critical.