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THE DEVELOPMENT OF COMPUTER FORENSIC LEGAL SYSTEM IN CHINA

(Briefing Paper/Presentation)

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ABSTRACT

The computer forensic discipline was established around 2000 in China, which was further developed along with Chinese judicial appraisal system in 2005. The new criminal and civil procedure laws of the People's Republic of China was enacted on 1 Jan 2013. The new laws specified electronic data is legal evidence and has great impact on the current practice on handling electronic evidence. This paper introduces the electronic data and electronic evidence examination procedure in mainland China, the general concept of computer forensic legal system, the management of computer judicial experts, the management of computer judicial expertise institutions.

Keywords: China legal system, computer forensic, judicial expert, judicial expertise institution.

1. ELECTRONIC DATA

1.1 Electronic Data

In March 14 2012, the National People's Congress approved the new criminal procedure law for the People's Republic of China Section 48: anything that can be used to prove the truth of an event is an evidence, which includes documents, witness statements, victims statements, suspect or defendant's statement, forensics report; inquest, investigation report, identification, inspection experiment reports, audio visual materials, and electronic evidence. According to Section 52 of the same law, the administrative organ can collect evidence, documents, audio visual materials, etc. during the administrative law enforcement and criminal investigation. All these materials can be used as evidence in a criminal prosecution. On 31 August 2012, the 11th National People's Congress Standing

Committee 28th meeting about “Amendment of Civil Procedure Law of the People’s Republic of China” confirmed that digital evidence is considered as evidence in any legal proceeding.

The new criminal and civil procedure laws of the People’s Republic of China was enacted on 1 Jan 2013. The new laws specified electronic data is legal evidence and has great impact on the current practice on handling electronic evidence.

In real application, digital evidence is usually presented through judicial appraisal. Traditional judicial appraisal includes forensic pathology, identification of criminalistics and audio visual information appraisal, which does not include electronic evidence forensics analysis. According to the Section 2 Paragraph 4 of the “Standing Committee of the National People's Congress on the forensic management issues” in People’s Republic of China, it states “according to the needs to be determined by the judicial administrative department of the State Council, together with the Supreme People's Court and Supreme People's Procuratorate, judicial experts and forensic institutions should register their corresponding practicing areas with proper authority”. Therefore, Judicial Administrative Department has established procedure to support registration of judicial experts and forensic institutions in the area “electronic evidence”.

Before the enacting of the new criminal and civil procedure laws on 1 Jan 2013, electronic data was not considered as legal evidence. On the other hand, judicial appraisal forensic reports are considered as legal evidence, which has been used to transform electronic data into legal evidence. The new criminal and civil procedure law will have great impact on legal cases that involving electronic data, both in theory and practice. We therefore believe research needs to be done on legal cases that involving electronic data when taking the new criminal and civil procedure laws in consideration.

1.2 Electronic Evidence Examination

On 1 July 2010, the implementation of “The provisions on reviewing issues of handling of evidence by the Supreme People's Court, Supreme People's Procuratorate, Ministry of Public Security, the Ministry of National Security, the Ministry of Justice on handling death penalty cases” recommended proper procedure when handling the following types of electronic evidence: electronic mails, electronic data interchange, Internet chat records, Internet blogs, mobile phone SMS, digital signature, domain names, etc. The procedure should include the following:

- a. Document the storage media of the electronic evidence, such as hard disks, optical disks, and should be submitted together with the printed copy of the electronic evidence;
- b. The information about the collection of electronic evidence, which includes time and place of collection, owner of the electronic evidence, the person that performs the collection and the collection steps, and the equipment used, etc;
- c. Document the process on acquiring, storing, transferring, and presentation of the electronic evidence in a proper and legal way;
- d. Proper signature and/or chop by the corresponding parties, which includes the person that collects the electronic evidence, the owner of the electronic evidence, and corresponding witnesses, etc;
- e. When analyzing the electronic evidence, the judicial expert should confirm the integrity of the electronic evidence, and to ensure the electronic evidence has not been tampered, modified or artificially created;
- f. The relationship of the electronic evidence with the case. When there in doubt on analyzing the electronic evidence, the judicial expert should perform additional integrity checking by considering related evidence of the case.

2. HOW TO BECOME A COMPUTER JUDICIAL EXPERT

In mainland China, qualified judicial experts should get the practicing qualification certificate from the corresponding authority. The practicing certificate is a legal proof that the person can engage in judicial appraisal. Judicial experts should meet the qualification requirements of the practicing certificate.

2.1 Qualification Requirements to Engage in Computer Forensic

Following are basic qualification requirements to practice computer forensic in China:

- a. Has a senior professional technical title relating to computer forensic;
- b. Has professional practicing qualifications relating to computer forensic, or has a university diploma relating to computer or information security or higher education, or has an intermediate title of relevant specialty, and has pertinent working experience of 5 or more years;
- c. Has 10 or more years of working experience relating to computer forensic and has relatively professional technical skills.

Anyone who has a record of criminal offences, has been dismissed from a government position, or is a deregistered judicial expert, shall not engage in judicial appraisal.

2.2 Judicial Expertise Institution

A judicial expert should practice judicial appraisal in a judicial expertise institution. All judicial appraisal requests should be submitted through judicial expertise institutions and then conducted by individual judicial expert. A judicial expert should avoid potential conflict of interests in the following scenarios which may lead to bias opinions:

- a. The judicial expert is the plaintiff/defendant or a close relative of the plaintiff/defendant;
- b. The judicial expert or his/her close relative has an interest in the case;
- c. The judicial expert has been served as a witness, advocate or defender in the case;
- d. The judicial expert has an interest with the plaintiff/defendant in the case.

2.3 Judicial Expert's Responsibility

A judicial expert's responsibility system should be adopted for judicial appraisal. Judicial expert is a neutral third party to provide independent and unbiased opinions. When conducting computer forensic examination, there should be two or more qualified judicial experts. One judicial expert will conduct forensic analysis and be liable for the expert opinion in the report. He/she will affix his/her name or seal on the expert report. The other qualified judicial experts are responsible to validate the examination process and check the report.

Expert report contains expert opinions and/or facts. The court usually relies on the expert report when a verdict is made when the report covers specialized knowledge in a particular subject beyond that of the average person. On the other hand, the judicial appraisal will be affected by many factors. The accuracy of expert opinion will be more or less affected. For example, judicial experts will design and carry out different tests in each case which depends on their own background and experience. Therefore, it is possible that different judicial experts may draw different conclusions. If a judicial appraisal is jointly conducted by two or more judicial experts and different forensic conclusions were drawn, they should be noted in the expert report. Once an expert is identified to be the judicial expert of a case under legal procedures, he should perform the forensic analysis by himself, and make a

signature on the expert report. The expert may require to appear at the court as expert witness when he/she receives a court order or the prosecutor/defender request.

2.4 Rights of Judicial Experts

As a participant of legal proceedings, a judicial expert may enjoy the following rights:

- a. Access the information and materials relating to the judicial appraisal, and interview the plaintiffs, defendants or witnesses relating to the judicial appraisal;
- b. Require the instructing party of the judicial appraisal to freely provide materials and samples as required by the judicial appraisal;
- c. Carry out the relevant inspections, examinations and simulated experiments as required by the judicial appraisal;
- d. Refuse to accept any request of judicial appraisal that is illegal, fails to meet the requirements of judicial appraisal or is beyond the practice scope as registered;
- e. Refuse to answer any question irrelevant to the judicial appraisal;
- f. Preserve different views in the case of any inconsistency of expert opinions about the findings;
- g. Receive continue professional development as required by the profession;
- h. Obtain remunerations;
- i. Enjoy any other right as prescribed by law and regulations.

2.5 Duties of Judicial Expert

A judicial expert possesses the following obligations:

- a. Designated by his/her judicial expertise institution to conduct forensic examination according to the relevant provisions in a timely and independent manner and to produce expert reports;
- b. Responsible for the expert opinions as produced;
- c. Avoid cases that may have conflict of interests;
- d. Preserve the materials, samples and other relevant information of the judicial appraisal in a proper manner;
- e. Observe confidentiality when handling information and materials of cases, which includes state secrets, commercial secrets as well as individual privacy;
- f. Appear in a court as expert witness and answering any query relating to the judicial appraisal;
- g. Subject to audit and inspect by authority of justice;
- h. Attend proper training and continue professional development of judicial appraisal;
- i. Perform any other obligation as prescribed by law or regulation.

3. HOW TO BUILD A JUDICIAL EXPERTISE INSTITUTION

Judicial expertise institution is an institution where a legal person or any other organization can apply for practicing in judicial appraisal. It must satisfy the following conditions with respect to the current law in China:

- a. Have its own name and premises;
- b. Have a capital of at least 0.2 million RMB and up to 1 million RMB;

- c. Have clear defined practicing scope;
- d. Have instruments and equipment that can meet the needs of judicial appraisal within its practicing scope;
- e. Have a testing lab which has passed measurement certification or laboratory accreditation and can meet the needs of judicial appraisal within its practicing scope;
- f. Have 3 or more judicial experts for each judicial appraisal practicing scope.

Where a legal person or any other organization applies for practicing in judicial appraisal, the administrative authority of justice shall not accept it and shall produce a Decision on Rejection under the following circumstances:

- a. Where the legal person representative or the person in charge of judicial expertise institution has been subject to criminal liabilities or has been dismissed from a public body or government department;
- b. Under any other circumstance as prescribed by law or regulation.

The administrative authority of justice that has decided to accept an application shall produce a Decision on Acceptance and shall conclude the relevant examination according to the statutory time limit as well as statutory procedures. The administrative authority of justice shall organize experts to carry out an examination on the equipment and the testing laboratory as required for the applicant to engage in the designated judicial appraisal practicing scope. The time for the examination shall not be calculated into the time limit of the examination.

As to any institution that meets the relevant requirements upon examination, the administrative authority of justice at the provincial level shall make a decision on approving the registration and issuing a Judicial Appraisal License. For any institution that fails to meet the relevant requirements upon examination, the administrative authority of justice at the provincial level shall make a decision on disapproving the registration and inform the relevant applicant in written form with explanation.

The Judicial Appraisal License is the practice certificate of a judicial expertise institution. The judicial expertise institution shall carry out its activities of judicial appraisal according to law upon the strength of the Decision on Approving the Registration as issued by the administrative authority of justice at the provincial level as well as the Judicial Appraisal License. The valid term of the Judicial Appraisal License is 5 years.

The administrative authority of justice shall offer guidance on procedures, which includes administration and examination procedures, for judicial expertise institutions as well as their activities of judicial appraisal. The professional body of judicial appraisal shall establish professional practice of judicial appraisal according to law.

Judicial expertise institution established by an investigating authority for the purpose of investigation should not accept judicial appraisal request from the general public. Moreover, the people's court or the administrative authority of justice cannot have its own judicial expertise institution. There is no hierarchical relationship among the judicial expertise institutions. A judicial expertise institution is not subject to any geographical restriction when accepting judicial appraisal requests.

4. CONCLUSION

With the development of judicial appraisal system in China, the development of computer forensic is improved significantly, which includes standardization and legalization. Computer forensic teams and institutions have achieved remarkable success in the past few years. Also, the credibility and functionality of judicial appraisal has become more and more important. Meanwhile, some

requirements about judicial appraisal system in mainland China were published by the Ministry of Justice, as well as the National People's Congress and Chinese People's Political Consultative Conference. Therefore, in order to move forward and catch up with the rest of the world, more efforts should be put into the computer forensic area in mainland China, which include research, development and professional practice.

REFERENCES

- [1] Jin-de ZHANG. The Reform of Forensic Appraisal in China [J]. *Chinese Journal of Forensic Sciences*, 2011(2), 7.
- [2] Yong-hao MAI, Guo-zi SUN, Rong-sheng XU, Shi-jian DAI. *Computer forensics*[M]. Tsinghua University Press. 2009 (3): 1.
- [3] Xian-dan HUO, Hua GUO. Rethought on Building the Forensic Appraisal System with Chinese Characteristics[J]. *Chinese Journal of Forensic Sciences*, 2011(1), 3.
- [4] Yu-juan YANG. To See Forensic Reform From Forensic Evidence Attributes [J]. *Chinese Journal of Forensic Sciences*, 2009(6), 64.
- [5] 42 of the Criminal Procedure Law P. R. C[Z].*The National People's Congress*, 1996-3-17.
- [6] The Provisions of the Supreme People's Court, Supreme People's Procuratorate, Ministry of Public Security, Ministry of National Security, Ministry of Justice on a Number of Issues to Handle Death Penalty Cases Review to Determine Evidence, 2010-7-1.
- [7] Xian-dan HUO, Hua GUO. Rethought on Building the Forensic Appraisal System with Chinese Characteristics[J]. *Chinese Journal of Forensic Sciences*, 2011(1), 4.
- [8] Jian-lin BIAN, Zhi-yuan GUO. Standardize Forensic Procedures Legislation is Imperative[J]. *Chinese Journal of Forensic Sciences*, 2005(4), 7.
- [9] Yu LI. The 2008 Annual National Forensics, Criminalistics, Audio-visual Materials, Class Statistical Analysis of Forensic[J]. *Chinese Journal of Forensic Sciences*, 2009(4), 77-78.
- [10] Yu LI, Yi-sen WANG. The 2009 Annual National Forensics, Criminalistics, Audio-visual Materials, Class Statistical Analysis of Forensic[J]. *Chinese Journal of Forensic Sciences*, 2010(4), 9-10.
- [11] Yu LI, Lu CHEN. The 2010 Annual National Forensics, Criminalistics, Audio-visual Materials, Class Statistical Analysis of Forensic[J]. *Chinese Journal of Forensic Sciences*, 2011(4), 92-93.
- [12] Ministry of Justice. Administrative Measures on Registration of Forensic Expertizers[Z]. Ministry of Justice P.R.C. Order (No. 96), 2005-9-30.
- [13] Ministry of Justice. Administrative Measures on Registration of Forensic Science Institutions[Z]. Ministry of Justice P.R.C. Order (No. 95), 2005-9-30.