

# Guidelines on Digital Forensic Procedures for OLAF Staff

15 February 2016

## **Introduction**

The OLAF Guidelines on Digital Forensic Procedures are internal rules which are to be followed by OLAF staff with respect to the identification, acquisition, imaging, collection, analysis and preservation of digital evidence. The aim of these Guidelines is to establish rules for conducting digital forensic operations in a manner that ensures the integrity and the chain of evidence to be admissible in administrative, disciplinary and judicial procedures. They are designed to implement Article 4(2) of Regulation (EC) 883/2013 and Article 7(1) of Regulation (EC) 2185/96.

The purpose of a digital forensic operation is to secure potential digital evidence by creating forensic image(s) of digital media relevant for an OLAF investigation. As digital forensic operations often involve the collection of large amounts of data, including personal data, they may be privacy invasive. These Guidelines are therefore also designed to help ensure compliance with data protection provisions in the context of digital forensic operations. They complement the Instructions to Staff on Data Protection (ISDP).

These guidelines take internationally approved standards and good practices into account, such as the ISO Standard 27037 on "Guidelines for identification, collection, acquisition and preservation of digital evidence", adopted in October 2012, and the "Good practice guide for digital evidence" published by the UK Association of Chief Police Officers (APCO) in March 2012.

## **Article 1. Definitions**

The terms defined in this section are used throughout the remainder of this document.

- 1.1 EU staff: Any official or servant of the EU institution, body, office or agency (IBOA) concerned.
- 1.2 Digital forensics: The application of digital investigation and analysis techniques to perform a structured examination of a digital storage medium, while maintaining a documented chain of evidence, for the purpose of gathering information admissible in evidence in a court of law or in a disciplinary procedure.
- 1.3 Chain of evidence: Refers to a detailed documentation of the status of potential digital evidence at every point of time from the moment of collection, acquisition or seizure of the evidence to the moment the evidence is presented in court.
- 1.4 Digital Evidence Specialist (DES): OLAF staff with specialised technical expertise to perform digital forensic operations and to prepare related reports.
- 1.5 Digital forensic operation: A technological inspection, acquisition, and examination of digital media and/or their contents, carried out by DES's using forensic equipment and software tools. The objective is to locate,

identify, collect and/or acquire and preserve data which may be relevant to an investigation, and may be used as evidence in administrative, disciplinary and judicial procedures.

- 1.6 Preview: A first inspection of a digital medium using an appropriate forensic tool in order to establish whether it may contain data potentially relevant to the investigation.
- 1.7 Digital forensic collection: The process of gathering the physical devices that contain potential digital evidence.
- 1.8 Digital forensic acquisition: The acquisition of any data (including deleted data) stored on a digital medium through a forensic imaging process.
- 1.9 Digital forensic image: The forensic (bitwise) copy of original data contained on a digital storage medium, acquired during a digital forensic operation and stored in binary format with a unique hash value.
- 1.10 Hash value: A digital fingerprint of the data which helps to verify the integrity of a copy. It is a fixed length computational result generated from a string of data (e.g. files, directories, an entire hard disk) using a specific mathematical algorithm that creates a unique value.
- 1.11 Digital forensic evidence file: A complete set of electronic data created by the DES during the digital forensic operation. This includes all digital forensic images and collected data linked to a specific CMS case file.
- 1.12 Digital forensic work file: A copy of the digital forensic image(s) and data collected on which all searches and analyses are done in the OLAF forensic laboratory. This includes files created by the forensic software used, such as log files, index files, recovered files, expanded compound files (e.g. archive files, pst files, database files), files exported from forensic images, bookmarks, handover of digital media notes, and reports.
- 1.13 Security copy: A copy of the digital forensic evidence and work files for the purpose of having a backup copy in case of loss, destruction or a compromised original digital forensic image during the transport back to OLAF.
- 1.14 In-house backup copy: A copy of the digital forensic evidence and work files stored on tape in the OLAF Forensic Archives, which is made by the DES upon return to the office.
- 1.15 Off-site backup copy: A copy of the digital forensic evidence and work files stored on tape outside the OLAF premises, which is made by the DES upon return to the office.
- 1.16 Digital medium/device: A medium/device containing digital data (e.g. a file server, a computer hard disk, a CD/DVD, a USB memory stick, a smartphone, a SIM card, flash memory cards, etc.).
- 1.17 OLAF forensic leaflet: The leaflet explaining the principles of OLAF's digital forensic procedures.

- 1.18 Cloud service provider: A service provider that offers storage and/or software services via the Internet.
- 1.19 Internet service provider: An organization that provides services for accessing, using, or participating in the Internet.
- 1.20 Traffic data: Any data processed for the purpose of conveyance of communication on an electronic communications network or for the billing thereof.
- 1.21 Operational analysis: The collection and evaluation of information, including personal data, the use of specific analytical tools and techniques to establish links between pieces of information, such as persons, economic operators, transactions, and the formulation of observations and hypotheses in support of investigations. Operational analysis reports may be used in judicial proceedings and, following proper anonymisation and possible aggregation, contribute to anti-fraud policy activities.

## **Article 2. OLAF's Forensics Laboratory**

- 2.1 The OLAF forensic laboratory is composed of physically isolated and protected offices within OLAF where forensic services are provided. They include the forensic server rooms, where the digital forensic evidence and work files are stored, and the consultation area for the investigators and operational analysts.
- 2.2 The file server and the forensic workstations are on a dedicated forensic network, with no Internet connection and totally separated from the Commission network.
- 2.3 Access to this laboratory is restricted to system administrators and operational staff that have a need to know via electronic access control and logged by badge readers. Entrance to the laboratory is monitored by a video surveillance system.
- 2.4 All data transfers from the forensic laboratory to an investigator or an operational analyst must be recorded in the CMS Intelligence Request Module in order to protect the chain of evidence.

## **Article 3. Preparation of a digital forensic operation**

- 3.1 When planning a Digital Forensic Operation the investigator assisted by the DES should go through the "Checklist for the Preparation of a Digital Forensic Operation" and provide the information requested as completely as possible.
- 3.2 The investigator assisted by the DES, shall complete the work form "Request for Authorisation to carry out a Digital Forensic Operation", which should provide, if known in advance, the names and/or functions of persons and/or the names of economic operators holding digital media which shall be subject to the digital forensic operation.

- 3.3 The "Request for Authorisation to carry out a Digital Forensic Operation" shall be presented to the Investigation Selection & Review Unit together with a draft of the "Authority to carry out a Digital Forensic Operation". This latter document should specify that the digital forensic operation may be extended to further digital devices found at the premises which may contain data held by the institution. Where appropriate, it should also specify that data of potential relevance for the investigation may be requested from a Cloud Service Provider and/or Internet Service Provider.
- 3.4 The Head of the Investigation Unit and the Head of the Operational Analysis and Digital Forensics Unit shall ensure that the DES(s) and/or the operational analyst(s) have access to the relevant case file in the Case Management System.

#### **Article 4. Conducting a digital forensic operation – general procedure**

- 4.1 Digital forensic operations may only be conducted by OLAF DES(s) to ensure admissibility of the evidence obtained in subsequent legal proceedings. The digital forensic operation shall be conducted under the coordination of an OLAF investigator, who should normally be present at the start of the operation, but does not need to remain present throughout. If possible, the DES should remain present for the duration of the digital forensic operation.
- 4.2 At the start of the digital forensic operation, the investigator shall hand the person or the economic operator holding media which are subject to the digital forensic operation a copy of the "OLAF Digital Forensic Operations Information Leaflet". The DES shall assist the investigator in answering any questions related to the digital forensic operation.
- 4.3 At the start of the digital forensic operation, the DES shall: (1) document and take photographs of all digital media which shall be subject to the forensic operation, as well as the physical surroundings and layout; (2) make an inventory of the digital media. The inventory should be included in the "Digital Forensic Operation Report", and the photographs attached to it.
- 4.4 In general the DES should conduct a full digital forensic acquisition of the devices referred to in 4.3. If feasible, the DES and the investigator should together preview those devices to determine whether they may contain data potentially relevant for the investigation and whether a partial forensic acquisition would be appropriate. If so, the DES may instead conduct a partial forensic acquisition of the data. A short description of the contents and the case reference number added by the DES shall be recorded during the acquisition of the digital forensic image.
- 4.5 The DES shall create a security copy of the acquired data on site, if possible and if time permits, store it on a separate digital medium, and verify that it functions properly.
- 4.6 In order to protect the chain of evidence, the investigator shall not accept digital devices from any person at any time during the digital forensic

operation. Only the DES shall accept such digital devices where appropriate and conduct a digital forensic acquisition of the device obtained.

- 4.7 At the premises, the DES shall draw up a "Digital Forensic Operation Report" recording all activities relating to the access, acquisition, collection and storage of the data. All digital forensic copies created and their respective hash values shall be listed. Any error, damage or other incident and any remedial steps taken shall be specified and documented. If the digital medium was not acquired forensically, this shall be recorded. Any objections made during the digital forensic operation shall be recorded in the report. The Investigation Unit will forward any recorded objection which relates to personal data or procedural guarantees to the Legal Advice Unit.
- 4.8 All persons actively involved in the digital forensic operation, including officials of national authorities shall be listed. The report shall be signed by the DES who carried out the Digital Forensic Operation and if applicable by the on-site technical staff who assisted OLAF in the execution of their duties. The DES shall give a copy of the report to the investigator, and shall register the original immediately upon return to the office.
- 4.9 All devices containing information gathered during digital forensic operations shall be transported in a secure manner (e.g. on hard-ware encrypted hard disks, in anti-static plastic bags sealed with security seals, in protective carrying bags to avoid damaging the device(s)), which remain under the physical control of OLAF staff (e.g. on the body or in hand luggage during air travel) at all times during the transport, in order to guarantee the integrity of the chain of evidence. If a digital forensic image and a security copy have been made, they should be carried by different members of staff, if possible.

## **Article 5. Conducting a digital forensic operation – internal investigations**

- 5.1 The investigator shall explain that the EU staff or member is under a duty to cooperate with OLAF in accordance with Article 4(7) of Regulation (EC) 883/2013 and the decision adopted by the institution concerned.
- 5.2 The DES shall take copies of any document held by the institution or acquire the contents of any data medium held by the institutions potentially relevant for the investigation.
- 5.3 Before conducting a Digital Forensic Operation, the investigator may contact the institution concerned to determine whether a personal device of the person(s) subject to the Digital Forensic Operation has been enrolled in an Institution's BYOD programme. If so, the personal device should be treated as one held by the institution.
- 5.4 If it is claimed that the device found at the premises is exclusively personal, the DES should ask for permission to preview the personal device in order to check whether it contains data held by the institution.
- 5.5 Where it is not possible to establish whether the device found at the premises is held by the institution or contains data held by the institution,

the DES should acquire the data and place the forensic image in a sealed envelope. OLAF will invite the person whose data was forensically acquired for a meeting to conduct a preview of the device in his/her presence.

- 5.6 OLAF shall also follow the procedure in Article 5.5 in situations where the digital forensic operation is conducted while the EU staff or the member is absent.
- 5.7 The fact that certain e-mails, folders, drives or other data are marked as private does not prevent the DES from conducting a digital forensic acquisition.
- 5.8 The DES shall provide a copy of the "Digital Forensic Operation Report" to the person whose digital media have been acquired, unless the person has not been informed about the investigation in accordance with Article 9(3) of Regulation (EC) 883/2013. If more than one person's digital media have been acquired, each person will only get a copy of the part of the "Digital Forensic Operation Report" that relates to his/her digital media.

#### **Article 6. Conducting a digital forensic operation – external investigations**

- 6.1 In the framework of on-the-spot checks, OLAF shall prepare and if possible conduct such digital forensic operations in close cooperation with the competent authorities of the Member State concerned or, as the case may be, in third countries and on the premises of international organisations in accordance with the cooperation and mutual assistance agreements and any other legal instrument in force.
- 6.2 Subject to the European Union law applicable, OLAF shall comply with the legal provisions of the Member State or third country concerned.
- 6.3 If during an "On-the-spot check" of an economic operator, its representative claims that the device subject to the digital forensic operation contains data of a legally privileged nature, the data shall be acquired and placed in a sealed envelope. The representative of the economic operator shall be told that he/she will be invited for a meeting to resolve the issue before OLAF opens the sealed envelope, where he/she may be assisted by a person of their choice. The DES shall seal the envelope with a unique reference number and assume custody of it until such a meeting occurs. This must be reported in the "Digital Forensic Operation Report". Should the economic operator raise objections to this procedure, OLAF should consider requesting the competent national authorities of the Member State or third country to take the appropriate precautionary measures under national law in order to safeguard evidence as authorised under Article 7(2) of Regulation (EC) 2185/96.
- 6.4 The DES shall provide a copy of the "Digital Forensic Operation Report" to the representative of the economic operator whose digital media have been acquired.

## **Article 7. Collection of data stored on a remote digital device**

- 7.1 The DES may find that data of potential relevance for the investigation are stored remotely.
- If potentially relevant data are stored remotely in the data centre of an IBOA, OLAF will request that the IBOA provides access to the data pursuant to Article 4(2) of Regulation (EC) 883/2013.
  - If potentially relevant data are held by an economic operator on a wide area network, the investigator shall ask the person or the economic operator concerned to download the data using his/her/its credentials under Article 5 of Regulation (EC) 2185/96.
  - If potentially relevant data are held by a Cloud Service Provider (e.g. Hotmail, Gmail, Yahoo Mail, Dropbox, etc.) or an Internet Service Provider, OLAF may request that these be provided under Article 5 of Regulation (EC) 2185/96.
- 7.2 Where feasible, downloading data stored on a remote site should be done in the presence of the DES to guarantee that the complete set of data is provided and that it has not been filtered or altered.

## **Article 8. Examination of data gathered during a digital forensic operation**

- 8.1 Immediately after the return from the digital forensic operation, the DES shall create two back-up copies of the digital forensic image on tape, and place them in sealed envelopes with unique identification numbers. One of these is the in-house backup copy, which shall be stored in the OLAF Forensic Archives. The other is the off-site backup copy, which shall be stored in a protected area outside the OLAF premises. Both premises are protected by access control and CCTV cameras.
- 8.2 The DES shall transfer the digital forensic image to the forensic file server in the forensic laboratory. The file thus transferred becomes the forensic work file. The DES should inform the investigator as soon as the forensic work file is ready.
- 8.3 Following the creation of the forensic work file and the two back-up files, the original digital forensic image and security copy are wiped from the devices on which those copies were made (e.g. laptops, portable hard disks).
- 8.4 When the forensic work file is available, the investigator shall launch written requests through the CMS Intelligence Request Module to index the forensic work file and as appropriate obtain the assistance of the DES or operational analyst to identify data relevant for the investigation. The latter request should describe the aim of the search and what type of evidence and/or proof the investigator is searching for. In response to the investigator's written request and in conjunction with the investigator the DES shall extract data matching the search criteria from the digital forensic work file for read-only access by the investigator.



- 8.5 Searching for potential evidence is a dynamic process, and may involve several successive iterations. The search process could include looking for traces of deleted data in unallocated space, specifying keywords to be searched, or making more complex searches such as special expression or timeline searches.
- 8.6 The investigator shall identify, under the guidance of the DES, potentially relevant information using the facilities of the forensic laboratory. The investigator may also request the DES to print or make an electronic copy of relevant files, which should be attached to the relevant CMS case file. Any such transfer of data from the forensics laboratory to the investigator must be recorded in the CMS Intelligence Request Module in order to protect the chain of evidence.
- 8.7 Upon completion of the examination of the digital forensic work file in relation to the Intelligence Request launched by the investigator, the DES shall prepare a "Digital Forensic Examination Report" summarising the results of the forensic actions undertaken, and listing the information provided to the investigator. This report must be attached to the relevant CMS case file.
- 8.8 Upon completion of the analysis, the operational analyst shall prepare an "Operational Analysis Report" of the data originating from the digital forensic work file and the results obtained. This report must be attached to the relevant CMS case file.

## **Article 9. Data requiring particular attention**

- 9.1 Any special categories of personal data, as defined in Article 10(1) of Regulation (EC) 45/2001, gathered during a digital forensic operation may only be further processed following a specific assessment of the applicability of one of the exceptions listed in Article 10(2) of Regulation 45/2001. Furthermore, Article 4.5 of the ISDP states that "marital status" and "children" categories of data can only be included in case files if relevant to the matter under investigation. Article 4.3 of the ISDP provides that "the investigation unit shall record the processing of any such data in the OLAF Data Protection Module. If any such data have been exported to the CMS case file but is later deemed not relevant, the investigator shall remove such data from the CMS case file. However, the data will remain on the digital forensic image and cannot be physically erased.
- 9.2 Particular care is required if traffic data files have been acquired or collected. The investigator shall not request the DES to print or make an electronic copy of such files nor include them in the relevant CMS case file if such data exceeds the following time limits at the moment of the forensic acquisition:
- 6 months after the date of collection by the IBOA – if files include traffic data processed on a device held by an IBOA, in accordance with Article 37(2) of Regulation (EC) 45/2001;
  - The time limit for such data set by national law transposing Directive 95/46/EC, whenever files include traffic data relating to an economic

operator's internal network (including WAN, LAN, etc.) in a Member State;

- The period where the bill may be lawfully challenged under national law in the concerned Member State, whenever files include traffic data relating to a provider of publicly available electronic communications services in public communications networks in the EU, in accordance with Directive 2002/58, EC.

This does not apply to names of the sender and receiver, date and time of the transmission, etc. contained in other types of files (e.g. in e-mails, text messages, etc.). These are rather considered content data and are therefore not concerned by Directive 95/46/EC.

- 9.3 Digital media containing backup files (e.g. backup tapes) may be acquired forensically with the restriction that if traffic data files older than the time limits specified in Article 9.2 are contained in a backup device, OLAF cannot further process them.

#### **Article 10. Re-acquisition of a digital forensic image acquired in the context of different investigation**

- 10.1 Under the same criteria as for authorising a digital forensic operation within inspections of premises or on-the-spot checks, the investigation unit may submit a request for the Director General's authorisation to carry out a re-acquisition and examination of a forensic image taken in the context of a different investigation. Before requesting re-acquisition, the investigator must assess on a case-by-case basis the potential relevance of such data taking into consideration the time that has elapsed since the initial acquisition, as well as common factors such as subject matter, modus operandi, legal and natural persons involved in the investigations.
- 10.2 OLAF shall inform the person or the economic operator from whom the initial forensic image was acquired, of the decision to re-acquire and examine the forensic image for the purpose of a new investigation. The person or the economic operator will be informed of the date and place of the re-acquisition and will be provided with a copy of the "OLAF Digital Forensic Operations Information Leaflet".
- 10.3 OLAF shall inform the person concerned of the new investigation of the decision to re-acquire and examine a forensic image taken in the context of a different investigation. The person concerned will be informed of the date and place of the re-acquisition and will be provided with a copy of the "OLAF Digital Forensic Operations Information Leaflet".
- 10.4 Where this concerns an internal investigation, OLAF will also inform the institution concerned of the decision to re-acquire and examine a forensic image for the purpose of a new investigation.
- 10.5 The provision of this information may be deferred in accordance with Article 9(3) of Regulation 883/2013 or Article 20 of Regulation 45/2001.

- 10.6 The DES shall draw up a "Digital Forensic Operation Report" recording the re-acquisition in accordance with the general procedure foreseen in Article 4 above. Any objections made during the forensic re-acquisition shall be recorded and included in the report.
- 10.7 If OLAF splits or merges several cases, the relevant part(s) of the digital forensic image(s) will be linked to the derivative case(s) as appropriate. The re-acquisition procedure does not apply.

## **Article 11. Final back-up of results**

- 11.1 When no more requests for digital forensic examination or operational analysis are expected or at the latest when the investigation is closed, the DES shall make two backup copies of the digital forensic evidence and work files. They should be placed in sealed envelopes with unique identification numbers, and processed in accordance with Article 8.1.
- 11.2 The DES shall hand over one backup copy to the OLAF Forensic Archives completing the work form "Transfer of digital evidence to the OLAF Forensic Archives / Off-site Storage" where it shall receive a unique electronically registered identification number. The tape(s) shall be listed as annexes to this work form. The second back-up copy shall be transferred to the off-site storage.
- 11.3 All copies shall be removed from the forensic file server.

## **Article 12. Assistance to OLAF's partners**

- 12.1 An EU institution, body, office or agency, a competent Member State or third country judicial or administrative authority, or an international organisation may request the assistance of OLAF to conduct a digital forensic operation. Such assistance may be provided within OLAF's competence and where it is compatible with OLAF's own planning and allocation of resources. It will in principle take place in the framework of an OLAF investigation, active or under monitoring.
- 12.2 After consulting with the Operational Analysis and Digital Forensics Unit, the investigator shall prepare a response to the requesting authority specifying whether OLAF will provide digital forensic assistance for the Director General's signature.
- 12.3 When OLAF agrees to assist the requesting authority with a digital forensic operation or an operational analysis, the DES(s) and/or the operational analysts operate with the express and written authorisation of the relevant authorities and in accordance with the applicable legal framework. Upon completion the DES shall prepare a "Digital Forensic Operation Report" and/or the operational analyst shall prepare an "Operational Analysis Report".
- 12.4 The Investigation Unit shall hand over all digital forensic images and reports prepared by OLAF staff to the national authorities or international organisations. OLAF may keep a copy and make use of the digital forensic

images and/or reports only with the authorisation of the competent national authorities or international organisations to the extent necessary for the conduct of its own investigation. This must be reported in the "Digital Forensic Operation Report" and/or "Operational Analysis Report".

- 12.5 The investigator will take steps to ensure that the national authority or international organisation will authorise OLAF's use of the information gathered in this way within a reasonable time and without prejudice to any ongoing administrative, disciplinary or judicial procedures.

### **Article 13. Use of digital forensic evidence file in court proceedings**

- 13.1 Any request from a national court for the digital forensic evidence file shall be placed in the relevant CMS case file. Upon receipt, the investigator shall request, through the CMS Intelligence Request Module, a copy of the digital forensic evidence file on a data medium (hard disk drive, tape, or other, depending on the volume of data), which shall be sent to the requestor in a secure way.

### **Article 14. Retention period applicable to digital forensic evidence and work files**

- 14.1 At the end of the case file's administrative retention period, the digital forensic evidence file and work files are treated in accordance with the same document management principles as the other parts of the case file.

### **Article 15. Entry into Effect and Publication**

- 15.1 These Guidelines will take effect from 15 February 2016 and replace the "Guidelines on Digital Forensic Procedures for OLAF Staff" from 1 January 2014.
- 15.2 These Guidelines will be published at [http://ec.europa.eu/anti\\_fraud](http://ec.europa.eu/anti_fraud).

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