Preliminary investigation for the evaluation of the system for automatic recognition of legally privileged conversations in the advocacy

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The advisory board for this preliminary investigation consisted of: prof. dr. ir. P.F.A. (Piet) Van Mieghem (Delft University of Technology; chairman), mr. E.C. (Corine) van Ginkel (WODC), mr. G.K. (Ard) Schoep (Leiden University) en drs. J.W. (Jos) van Wetten (Ministry of Security & Justice).

Management summary

Background & definition

Dialogic has conducted a *preliminary investigation* to evaluate the automatic number recognition system as well as existing agreements between the Advocacy, the Prosecution and the Police. The aim of the system is to prevent confidential communication between a wiretapped client and their lawyer (e.g. telephone calls, text messages and faxes) being overheard by the Police and the Prosecution. Within this system, such conversations are automatically recognized and filtered by the system, rendering them unavailable to the Police. The investigation was commissioned by the WODC (the Dutch abbreviation for *Wetenschappelijk Onderzoek- en Documentatiecentrum*, in English: Research and Documentation Centre) of the Ministry of Security and Justice, at the request of the Directorate Legal System (Dutch: *Directie Rechtsbestel*) of the same Ministry.

The following figure shows the position of automatic number recognition in the entire system of applying the legal privilege. Automatic number recognition includes the technical filter *and* the agreements between the Dutch Bar Association (NOvA), the Dutch National Police Force (KLPD) and its National Interception Unit (ULI), the Prosecution, and the Ministry of Security and Justice (recorded in a covenant and in a regulation). Thus the system does *not* include the confidential conversations with other confidants such as doctors and the clergy.
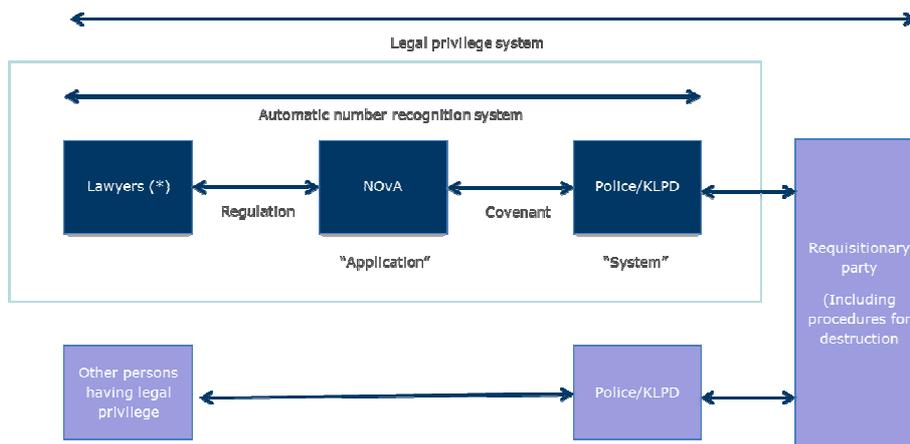
(*) Lawyers - Includes persons having obtained a certain legal professional privilege

The covenant states that the system of automatic number recognition (the grey box in the figure above) is to be evaluated and the results offered to the Lower House of the Dutch Parliament. From now on, 'the system' refers to the technical filter to block confidential communication as implemented by the Police/KLPD. While determining a design for the evaluation, the WODC concluded there was uncertainty regarding both the availability and the usability of necessary data. It also appeared to be preferable to have the consent and cooperation of all parties in the covenant regarding the design. Therefore, the WODC decided to conduct a preliminary study, in order to ensure the starting point for the main study (the evaluation) was based on a final plan for which the consent of all involved parties had been obtained.

Key points & research approach

In this preliminary study, we addressed the following questions:

1. What data are available on automatic number recognition, and how can this data be used for the main study?

2. In which main study design are all involved parties willing to cooperate and/or provide data?

3. What mutual agreements have the (covenant) parties made regarding the execution of automatic number recognition?

4. What are the implications of events that occurred during the implementation of the filter?

5. Has the preliminary study provided any reasons to adapt the main study, for example the research questions?

Our approach consisted of four elements:

1. Desk research to assess the available relevant data and literature. The following (types of) documents were considered: The Covenant Number Recognition, the Regulation on Number Recognition, descriptions of the system, Parliament letters, previous studies, scientific publications, et cetera.

2. Interviews with the parties involved (Public Prosecution, Police/KLPD, NOvA, lawyers, experts). These interviews not only provided information, but were also used to determine the involved parties' views on the main study and how they could contribute.

3. A consensus meeting (in the final phase of the study) with representatives of the covenant parties (Public Prosecution, Police/KLPD, NOvA) to present and discuss the final design for the main study.

4. This report, combining the outcomes of the steps described above.

Retrospective: initial experience

In this study we examined people's initial experiences with automatic number recognition. Interviewees who feel the glass is half empty, underline this by highlighting (technical) bottlenecks that hamper the effective operation of automatic number recognition. These include:

1. Issues concerning the use of security certificates impede the secure supply of confidential numbers by confidants (Diginotar, end of 2011).
2. A large amount of confidential numbers supplied by the NOvA (4,000) has erroneously not been added to the filter (start of 2012).
3. The real-time tapping of confidential conversations appeared not to be immediately blocked by the system (summer of 2012).

Furthermore, a difference in interpretation occurs regarding the *moment when* a tape has to be destroyed after recognition. In practice, confidential conversations are being recorded, but are immediately made inaccessible. The destruction takes place right after the conversation (by means of overwriting). The term 'blocking' in the covenant is indeed meant as 'do not record', but has been implemented in the system as 'prevent the perusal of the confidential conversation with a lawyer'.

Those interviewees who feel that the glass is half full, point to the fact that all covenant parties feel ownership towards the problem and that they – despite the noted bottlenecks – are collaborating to successfully implement the entire privilege system. People also mentioned that they are seeing the system gradually improve, which has led to more successful filtering of confidential conversations with lawyers.

Involved parties would like the main study to elaborate on:

1. The technical operation and the effectiveness of the system of automatic number recognition, thereby ensuring no overlap with earlier audits;

2. The mutual trust of covenant parties, also in the system's operation and in fulfilling agreements;

3. The extent to which the automatic number recognition system actually detects and destroys the privileged conversations;

4. The coverage ratio and up-to-dateness of the registered and delivered confidential numbers supplied by the Advocacy;

5. The gains in efficiency achieved by the system, for example a lower administrative burden for wiretapping employees;

6. The costs and benefits of the entire privilege system, e.g. at law firm level;

7. Whether the entire system and technical procedures are future-proof (for example in light of new technological developments), as well as the covenant agreements and regulation.

Looking forward: The main study's content and design

The WODC would like the main study to focus on the following key questions:

1. What can be said about the operation of this system of filtering privileged numbers?

2. Do parties fulfil the agreements as stipulated in the Number Recognition Covenant?

3. To what extent is the Number Recognition Regulation being complied with and enforced?

4. Are law firms familiar with the conditions for an effective operation of the number recognition system? What measures have law firms taken, bearing in mind these conditions?

If we compare the questions above with the additional topics mentioned by the persons involved in the preliminary study, there appears to be consensus on the points of interest. The methods that can be applied in the main study include desk research, in-depth interviews, (web)panels, an analysis of audit data and logs, as well as workshops. Initially, the WODC had intended to use random samples of confidential conversations that were erroneously not filtered, in order to determine why the filtering had not taken place. This is difficult to carry out in practice. The declaration of confidentially between the KLPD and the supplier of the automatic number recognition system restricts the possibility for the Police to share data with researchers. According to the advocacy, a confidential conversation that is part of the legal privilege – even though it is not recorded or overheard – can never be discussed in for example an interview, because there is a risk of referring, intentionally or unintentionally, to the content of the conversation.

The preliminary study should also clarify the usability of audits and logs in the main study. This appeared to be impossible for two reasons. Firstly, the KLPD maintains (strict) screening procedures for researchers before they are allowed access to data. Secondly, the KLPD is bound to the earlier mentioned declaration of confidentiality with the supplier of the automatic number recognition system. Thus the availability and access to these data are once more a point of interest for the main study.

To gain insight in the effectiveness of the entire system of automatic number recognition, and the reasons why the effectiveness is probably not optimal, we proposed a framework for the main study, based on Type-1 and Type-2 errors (analogous to a frequently occurring type of assessment of problems in science). The table below illustrates this framework. In this context, the Type-1 errors (also: 'False Positives') relate to the occasions which a conversation is selected for filtering when that should not have happened. Type-2 errors (also: 'False Negatives') refer to the occasions when a conversation has not been selected for filtering even though it should have been.

	Confidential conversation	No confidential conversation
Filtered	Correct	Type 2-error
Not filtered	Type 1-error	Correct

The framework allows us to systematically identify the elements that influence the effectiveness of the system. Subsequently, we can consider which elements are found to be significant (for example, some are the result of design choices or compromises, whereas others are due to a technical defect) and determine to what extent the error is measurable or observable.

Main considerations for the evaluation

In order to carry out – as agreed with the Dutch Parliament – the evaluation of the automatic number recognition system – the following considerations play a role:

1. Need for the main study: small or great?
   Stakeholders do not feel evaluating the effectiveness of the system makes sense until all the preconditions for a fully operating system have been met. The most important precondition (the completeness of the list of privileged numbers supplied by NOvA) cannot be met earlier than October 2013.

2. Timing of the main study: early or late?
   Practically speaking, the main study could start directly after the preliminary study has been completed. A disadvantage of carrying out the evaluation right away, is that existing viewpoints and bottlenecks – widely acknowledged by the parties involved – are confirmed, thus providing few new insights.

3. Focus of the main study: organization, technique, or both?
   Stakeholders are of the opinion that the evaluation should focus on the organization, examining whether the technical aspects have been constructed as agreed. These have already been scrutinized in multiple audits, and the evaluation should not repeat this process. In our opinion, this is only possible if the content of the audits is made known *and* can be used in the evaluation.

4. Participants in the main study: strategic and operational?
   The set-up and research questions in the preliminary study were more narrow than the planned main study. One consequence is that mainly covenant parties at a strategic level took part in this preliminary study. The main study could have a wider scope. In our view, involving operational level staff is essential in order to gain proper insight in the operation and effectiveness of automatic number recognition.

Taking the above considerations into account, the stakeholders have arranged that the moment when the main study can start, will depend on the results of the KPLD's initial effectiveness measurement. If it appears that the percentage of erroneously non-filtered conversations is significantly lower than the target of 95 per cent, this will be a reason to immediately instigate an evaluation (around January 1, 2014). Otherwise, arrangements for the start of the evaluation (later than January 1, 2014) will be adjusted in the covenant.