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EXECUTIVE SUMMARY

Subject: Eucaris Resper Evaluation Study Executive Summary
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The EC Directorate-General Energy and Transport (DG TREN), Unit E3 Road Safety, bears responsibility for road safety. The systematic exchange of driver's licence information between Member States would help combating document fraud and the circumvention of national restrictive measures imposed for driving offences and thus improving road safety. Together with experts from driver's license issuing authorities from all Member States, DG TREN has drafted the 'Resper' requirements, to implement a system to exchange driver's licence information between all Member States.

For several years, a number of Member States have exchanged vehicle registration and driver's license information through a system called Eucaris. The 18 Member States using the Eucaris system have requested DG TREN to consider Eucaris to be used as the basis for the implementation of the Resper requirements. Also the Pan-European eGovernment Services Committee (PEGSCO) requested the European Commission to evaluate to what extent the Eucaris infrastructure can be used as a basis for implementing the Resper requirements.

DG TREN has therefore asked Gartner to execute an Evaluation Study

- to analyze the performance of the Eucaris system;
- to identify the effort needed to bring the Eucaris system to a level at which it can adhere to the Resper requirements;
- to compare the architectures of the Eucaris system and the proposed implementation of the Resper requirements and possible other candidate architectures.

General assessment

Gartner concludes that the Eucaris infrastructure is secure and reliable and performs adequately for the current driver’s license (and vehicle registration) transaction demands in the European Union. Gartner assesses the Eucaris architecture as the architecture with the most optimal cost/benefit ratio. The total cost of ownership (TCO) for 5 years with 27 Member States of an Eucaris system that is fully compliant with the Resper requirements amounts to 17.4 million Euro.

Performance Assessment

Gartner analyzed the performance using an analytical model that was verified by executing extensive measurements. Gartner concludes that the Eucaris infrastructure is stable and performs adequately for the current driver’s license (and vehicle registration) transaction demands in the European Union according to the Resper specifications.

Gartner also concludes that Eucaris has ample potential for future enhancements that may be implemented with relative ease and minimal cost and risk.

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Effort

Gartner examined the differences between the current Eucaris system and the Resper requirements. Advanced search facilities such as name truncation rules and name matching in case of misspelling are not implemented in the current Eucaris system. There are two feasible scenarios to implement advanced search in Eucaris:

- Expand the current registry systems in the Member States to implement the 'Phonex' algorithm and adapt Eucaris to query the local 'Phonex' indices (scenario A);
- Extend the Eucaris architecture with a central (scenario B) or local reference index (scenario C) and include more advanced pattern matching and data linking techniques instead of 'Phonex' search.

Besides, Gartner identifies the following assignments to be carried out to bring the Eucaris system to meet the Resper requirements:

- Implement two additional notifications
- Improve the Eucaris documentation

Gartner considers the commitment of Member States to adhere to a minimum set of requirements to keep the Eucaris infrastructure up-and-running another area for improvement. This commitment will determine the value of the entire Eucaris infrastructure. Today Member States that join Eucaris have to sign a Letter of Intent for this commitment. Gartner recommends to expand this Letter of Intent regarding the actuality and quality of data and adherence to security precautions. Gartner also concludes that a bi-yearly certification of connected Member States will improve the condition of trust.

Architecture

Gartner identifies the following discriminating architectural aspects:

- Do the Member States *communicate directly* with each other or is there a *central hub* which guides the communication?
- Does the architecture rely on the existence of *harmonized duplicates* of driver's license data that reside in the Member States?
- Does the architecture use a *central index* of identifying data that refers to Member State registry systems for details?

The assessment shows that an architecture with direct communication and no additional components (i.e. Eucaris) delivers the most benefits, directly followed by an architecture that uses direct communication and local reference indices (i.e. Eucaris extended with local reference indices).

Gartner also examined the total cost of ownership (TCO) of the different scenarios. The TCO covers the development, maintenance and deployment of a scenario for a period of five years with 27 connected Member States. Gartner took the investments already made for Eucaris into account.

A Resper compliant Eucaris architecture has the lowest TCO (scenario A: 17.4 million Euro). The main reason is that the connections to the local registry systems are relatively simple, that there are no local duplicates and central index to be developed.

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Finally Gartner executed a cost/benefit analysis. This reveals that the Eucaris architecture has the most optimal cost/benefit ratio. The Eucaris architecture enhanced with a central (scenario B: TCO 22.5 million Euro) or decentralized index (scenario C: TCO 26.7 million Euro) comes second best.

In order to provide a complete overview of possible scenarios we also mention scenario Z. This is the Eucaris infrastructure as it is implemented today without advanced search, i.e. not fully adhering to the Resper requirements. The TCO of scenario Z amounts to 8.8 million Euro. Gartner recommends the European Commission to consider an initial roll-out of 'vanilla' Eucaris. This would give the Member States and the European Commission a head-start in implementing the third Driving License Directive. A subsequent implementation of scenario A, B or C would leverage the rolled-out ‘vanilla’ Eucaris solution*.

Furthermore, the time and effort involved and the risk incurred of building a new solution compared to a solution that has been successfully operational for more than ten years should also be taken into consideration when making a final decision.

Recommendations

Based on the results of the Evaluation Study and in consideration of the comments provided by the Eucaris Resper Evaluation Study Steering Committee, Gartner advices the European Commission:

- to consider the Eucaris architecture as a safe and reliable foundation for implementing the Resper requirements;
- to execute an additional study to determine which of the Eucaris implementation scenarios (A, B, C or Z) is the most optimal by examining the necessity of advanced search and with which algorithm advanced search should be implemented;

Should the Eucaris architecture indeed be considered as the most suitable basis for the implementation of the Resper system:

- to expand the Eucaris Letter of Intent with requirements on the quality of data and security precautions;
- to implement an official bi-yearly certification of the Eucaris connected Member States;
- to implement the recommended performance improvements.

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* Currently the Eucaris network experiences no problems with multi-country inquiries. In case multi-country inquiries are frequently used, scenario's A, C and Z will lead to more network traffic and subsequent higher loads on the smaller local registry systems than scenario B. The additional study should provide more insight in the multi-country inquiry trend. If the actual load on small local registry systems increases to unacceptable levels, this load is easily reduced by adding a small central reference index for the affected Member States only.