

PROTECTING PRIVACY AGAINST LOCATION-BASED PERSONAL IDENTIFICATION

C. Bettini, X.S. Wang, S. Jajodia, "Protecting privacy against location-based personal identification", in *Secure Data Management (SDM 2005)*, pp. 185-199, 2005. DOI: [10.1007/11552338_13](https://doi.org/10.1007/11552338_13)

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SUMMARY

Personalized location-based services can identify a user through their sequential unique sensitive data, activities history and location pattern, where a Spatio-Temporal generalization algorithm is applied to mix potential k sender's data and prevent users from being identified.

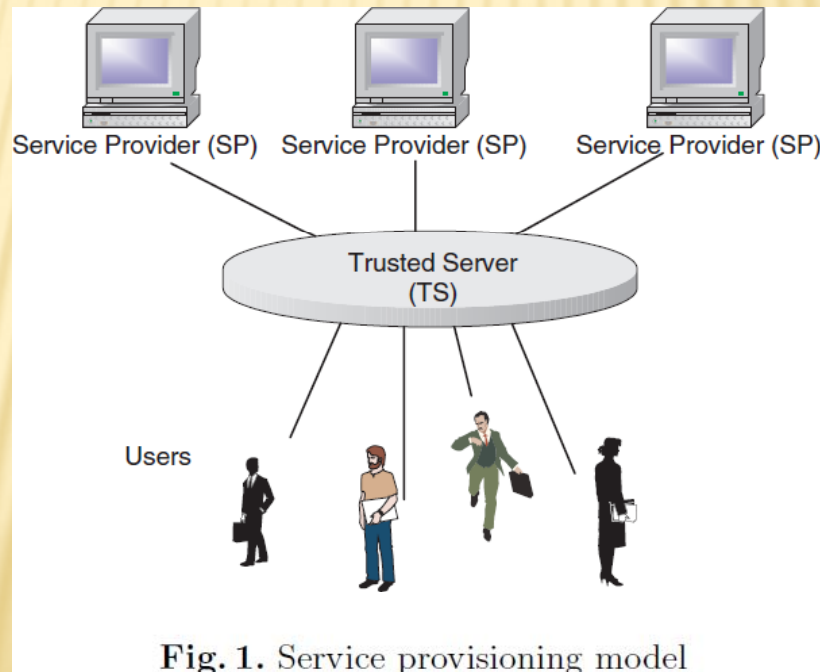


Fig. 1. Service provisioning model

From "Protecting Privacy Against Location-Based Personal Identification" by Claudio Bettini, X.Sean Wang, and Sushil Jajodia

APPRECIATIVE

- ✘ The article makes a very good assumption that Trusting Server can handle service request linkability
 - Information linkability is an important privacy concern to address. Data linkability can be a research topic too.
 - Avoid unnecessary discussion in unlinking technique because this article is mainly focusing on location pattern.

CRITICS

- ✘ Trusting server in the service provision model is poorly defined.
 - Trusting server is a phantom
 - Quality of service vs. k-Anonymity vs. Unlinking is not well explained

EXPLANATION (CONTINUED)

✘ The Phantom of Trusted Server (TS)

- Service providers would likely offer more privacy promises on paper to user rather than become compatible with different TS standard

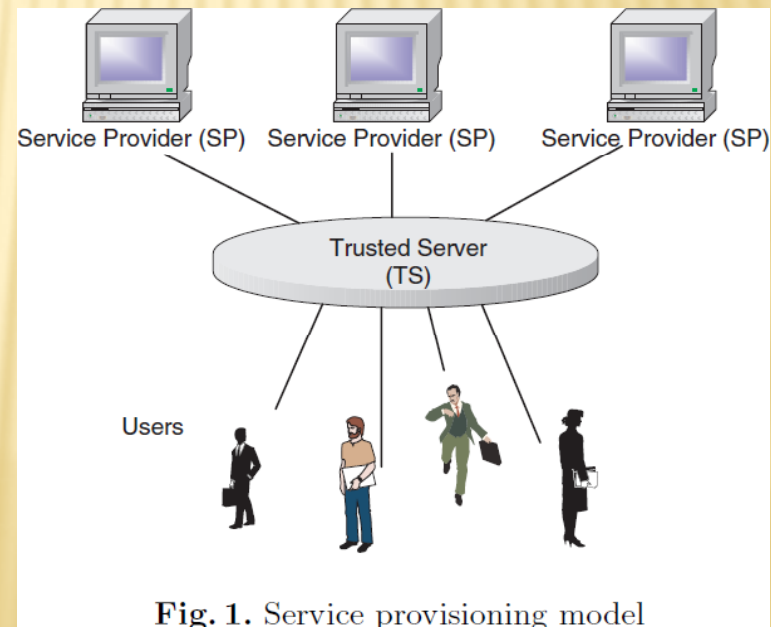


Fig. 1. Service provisioning model

EXPLANATION (CONTINUED)

- ✘ Trade-off between Quality of Service, k-Anonymity and Unlinking is not well explained
 - This article mentions this trade-off is possibly based on the user policies but it does not describe what the possible user policies are and how it reflect the degree of trade-off.
 - Users also need to know how to manage the level of the risk against the quality of services they need

QUESTION?

- ✘ How much personal detail are you willing to share with your service provider?