

TIUPAM: A Framework for Trustworthiness-centric Information Sharing

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Joint work with

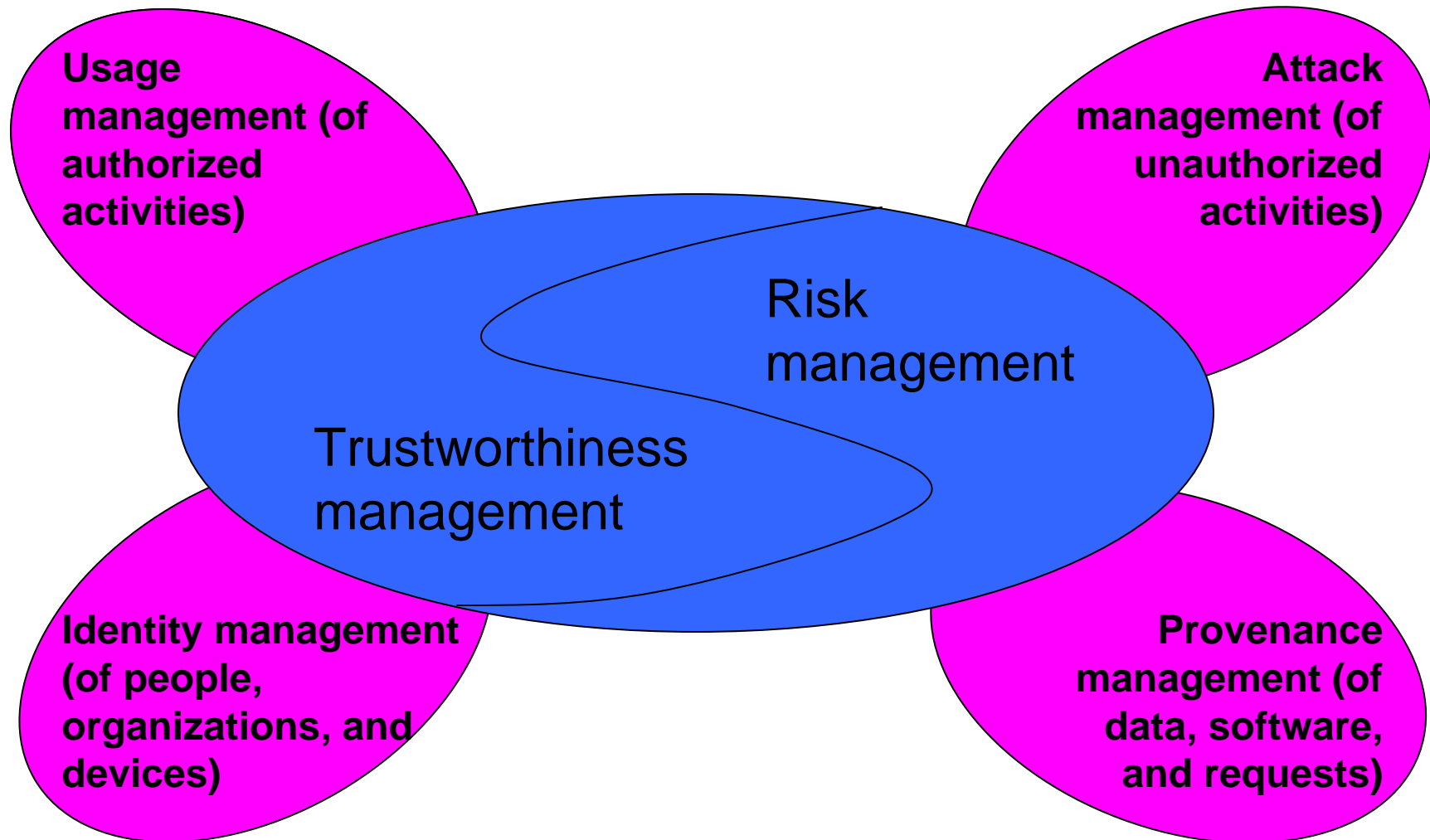
Qun Ni and Elisa Bertino (Purdue Univ.)

Ravi Sandhu (Univ. Texas at San Antonio)

Goal

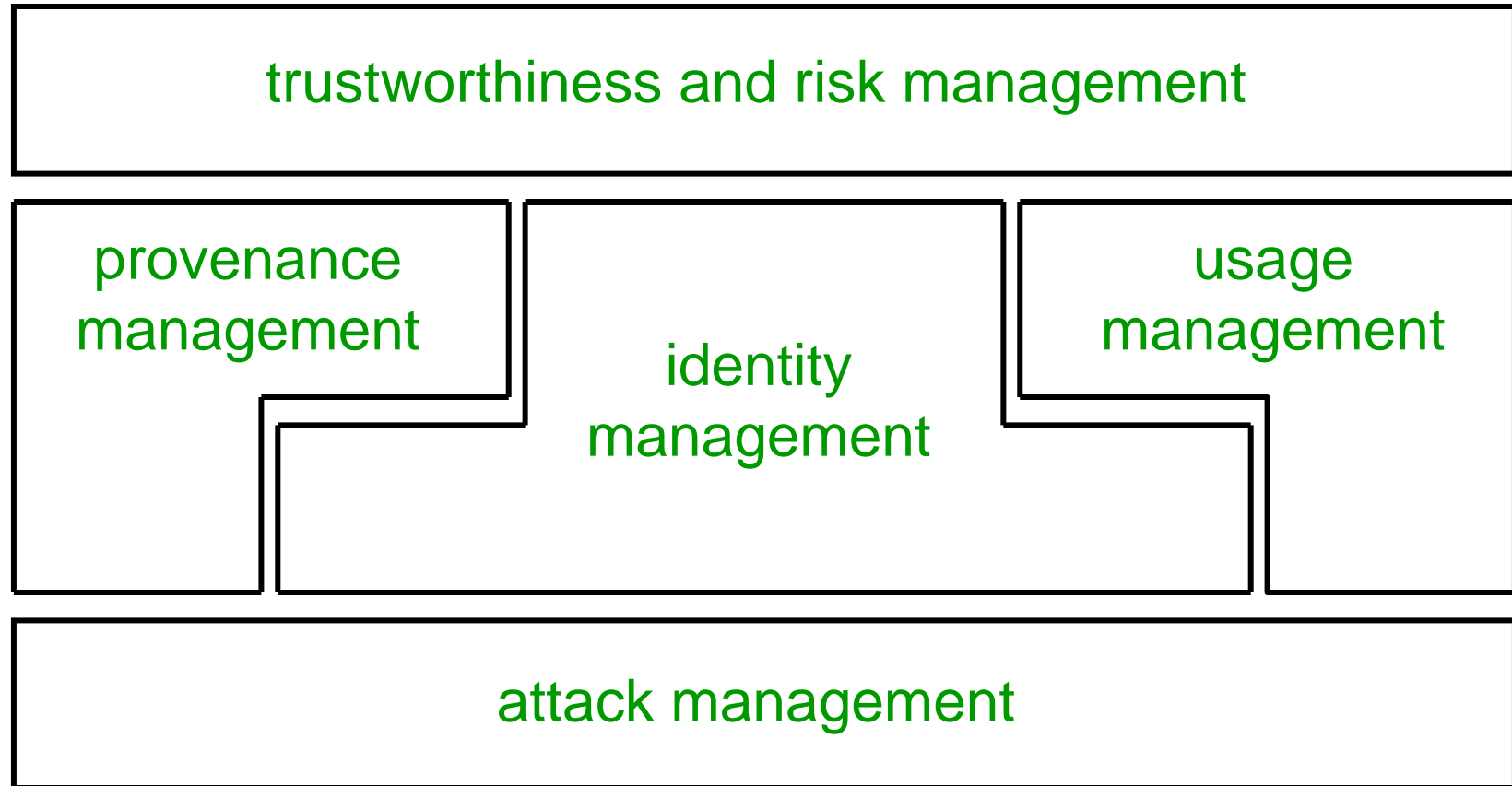
- A systematic framework for information sharing
 - ❖ Trustworthiness-centric Identity, Usage, Provenance, and Attack Management (TIUPAM)
 - ❖ Four supporting components:
 - Identity management
 - Usage management
 - Provenance management
 - Attack management
 - ❖ The framework is centered at the need of trustworthiness and risk management for decision makers

Bird's Eye View of TIUPAM

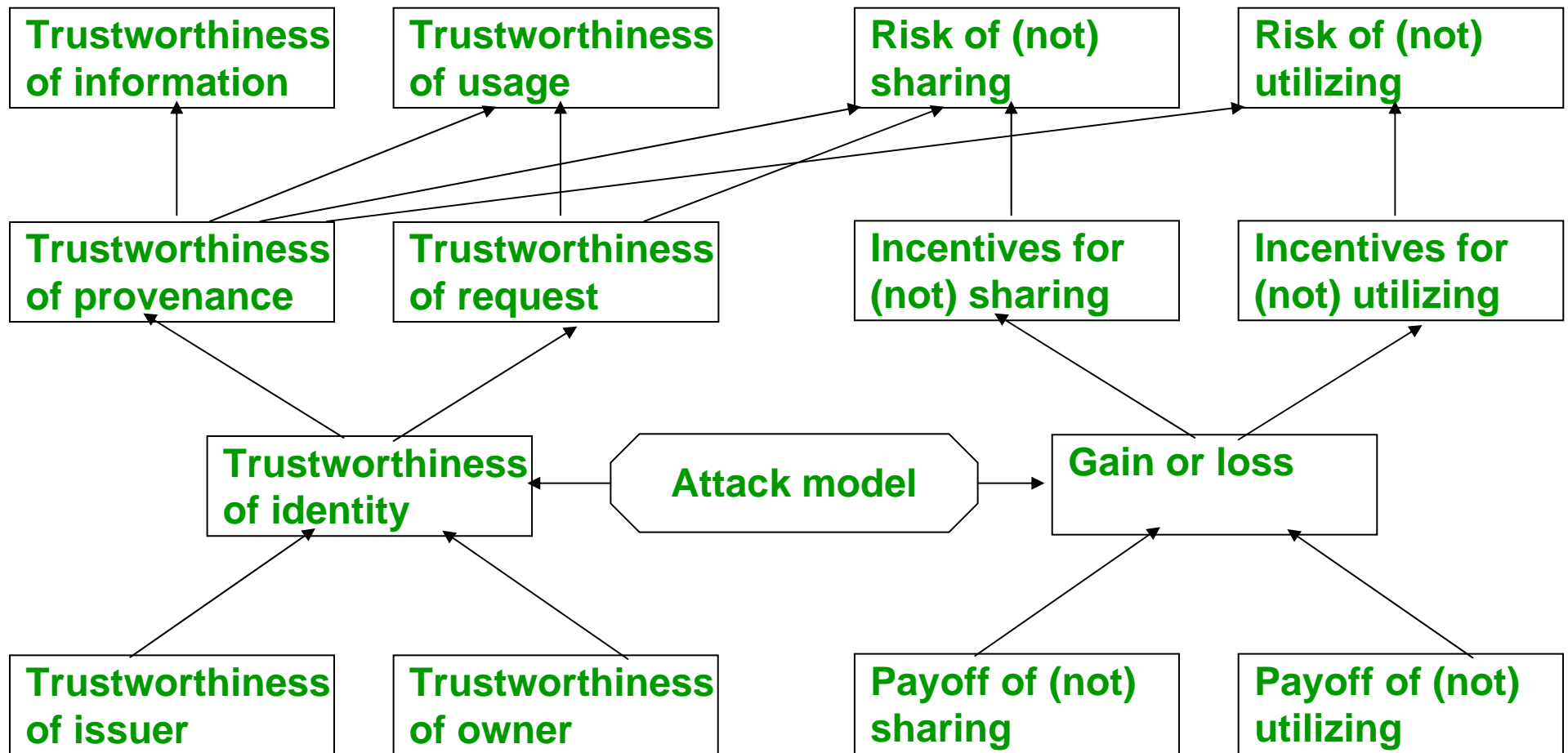


Note: “1 – trustworthiness \neq risk” in general

Architecture of TIUPAM



Functions as the Glue



Q: How should we construct/approximate these functions?

Publications

- ❑ Shouhuai Xu, Ravi Sandhu, and Elisa Bertino, TIUPAM: A Framework for Trustworthiness-Centric Information Sharing. *Proc. 3rd IFIP WG 11.11 International Conference on Trust Management, Purdue University, West Lafayette, June 15-19, 2009.*
- ❑ Qun Ni, Shouhuai Xu, Elisa Bertino, Ravi Sandhu and Weilei Han, An Access Control Language for a General Provenance Model. *Proc. 6th VLDB Workshop on Secure Data Management (SDM09), Lyon, France, August 28, 2009.*