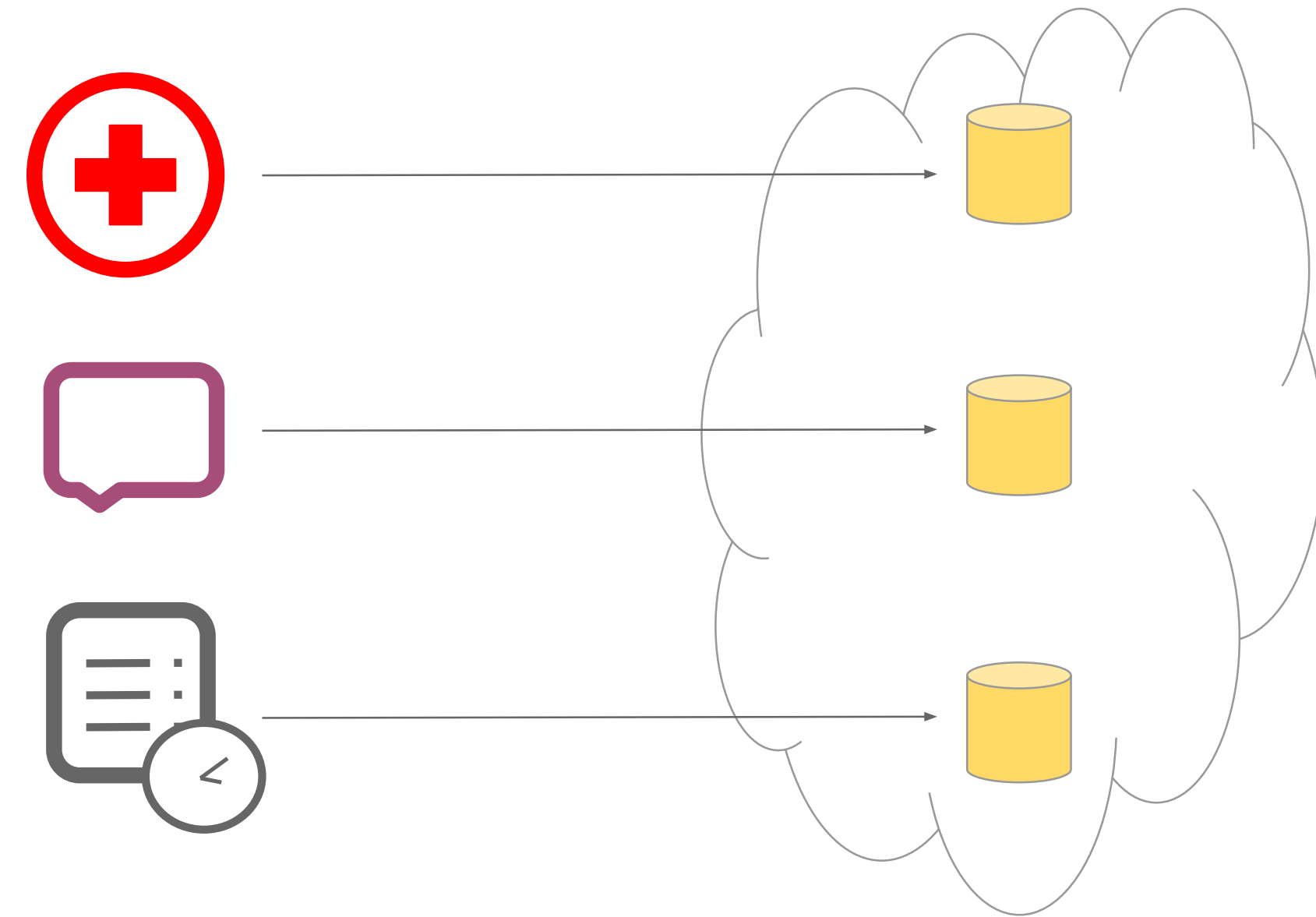


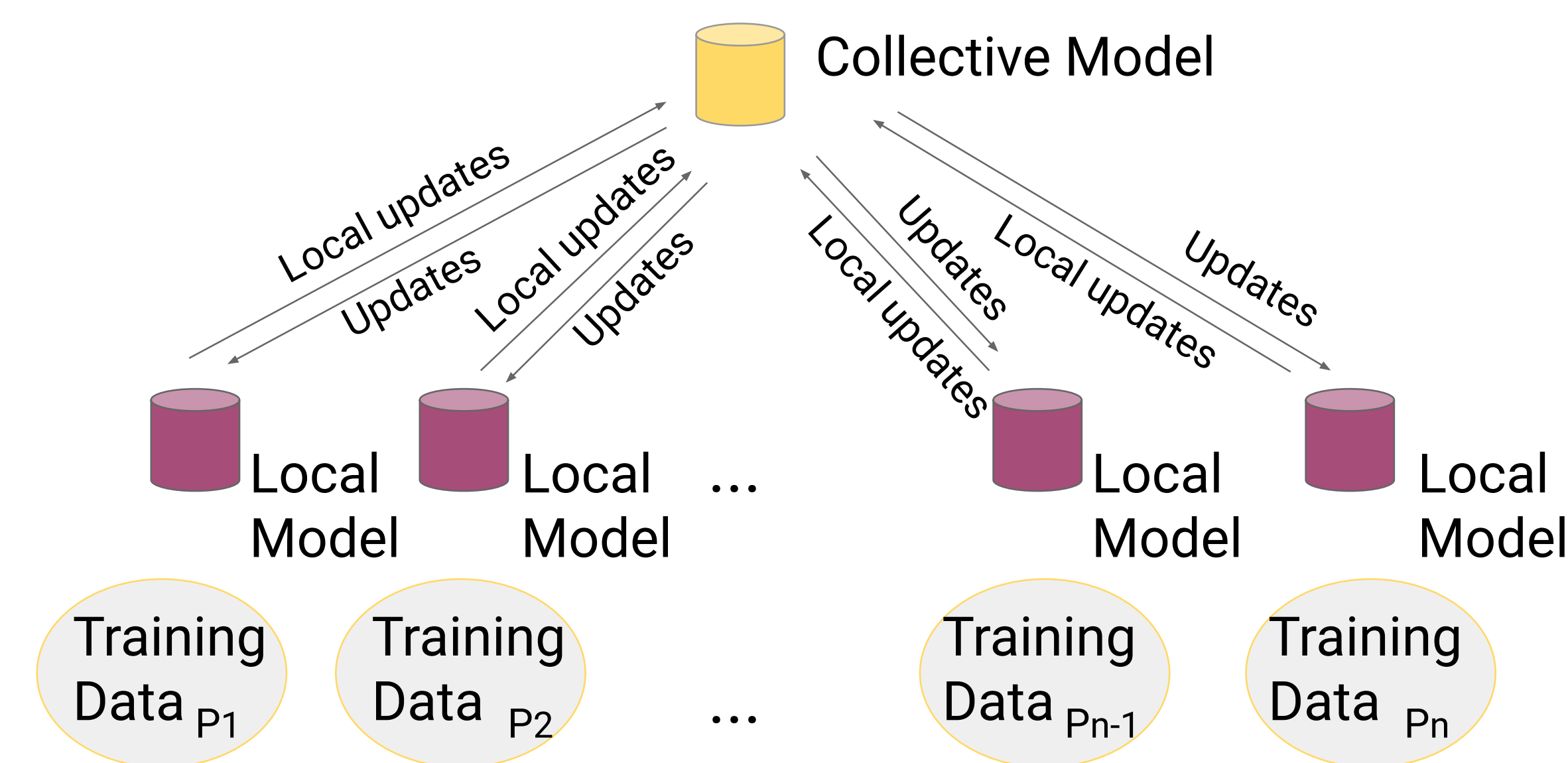
Private and Secure Collaborative Machine Learning

Bailey Kacsmar, Florian Kerschbaum

Machine Learning as a Service



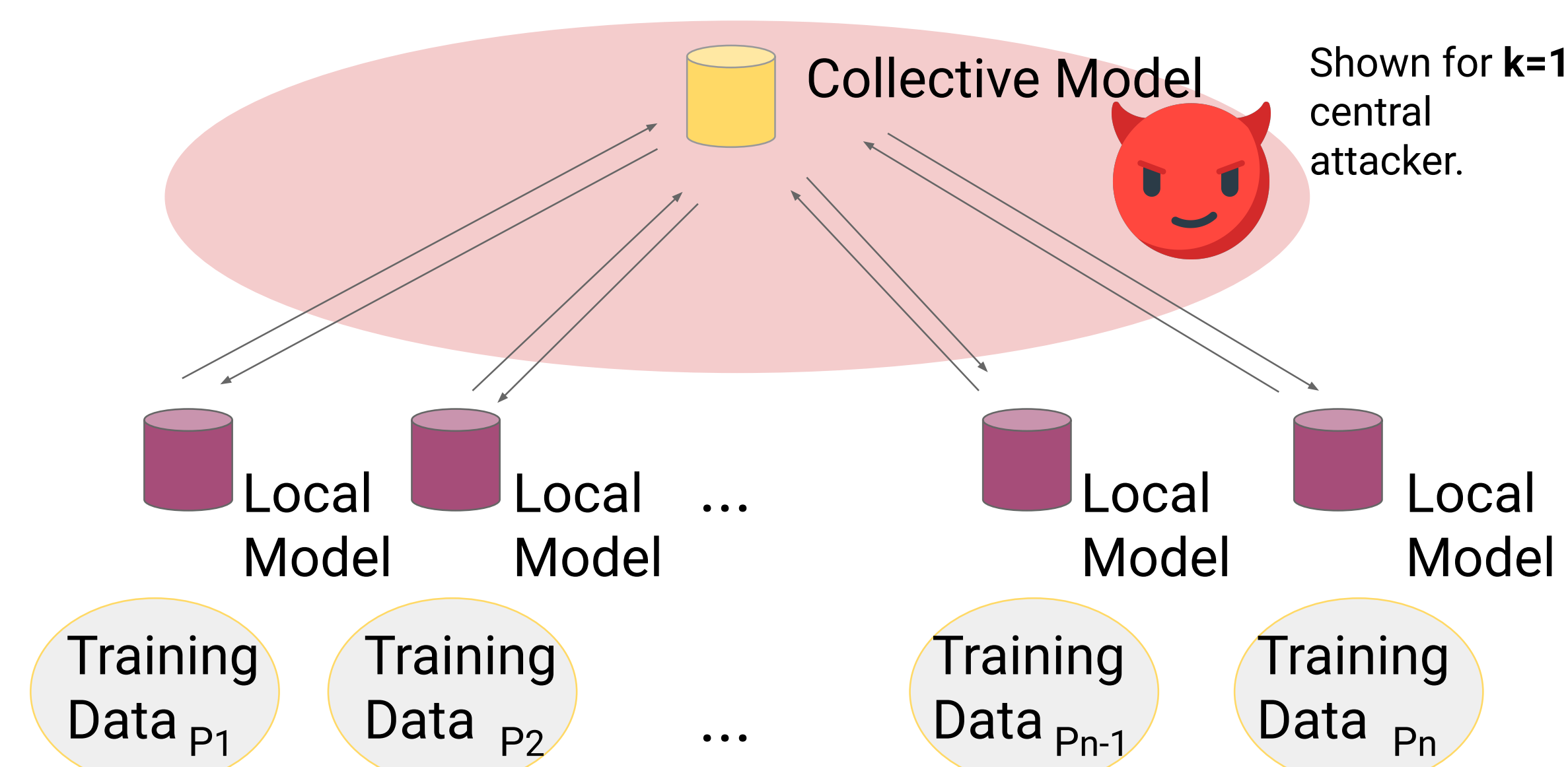
Collaborative Training



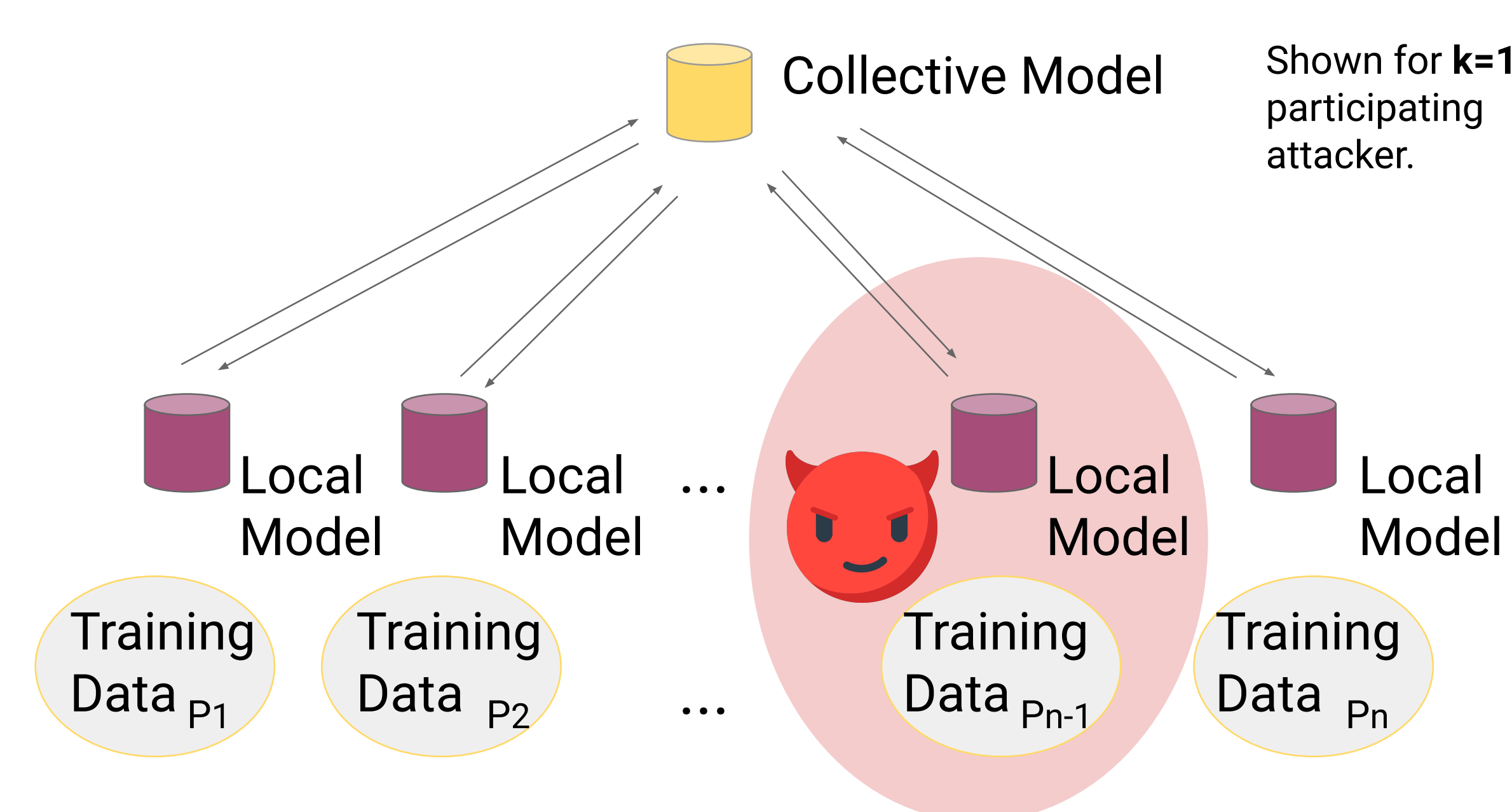
Privacy and Security

Goal: Adversaries possessing the collective model *and* who may have participated in training that model should be unable to learn any *additional* information about the training data used.

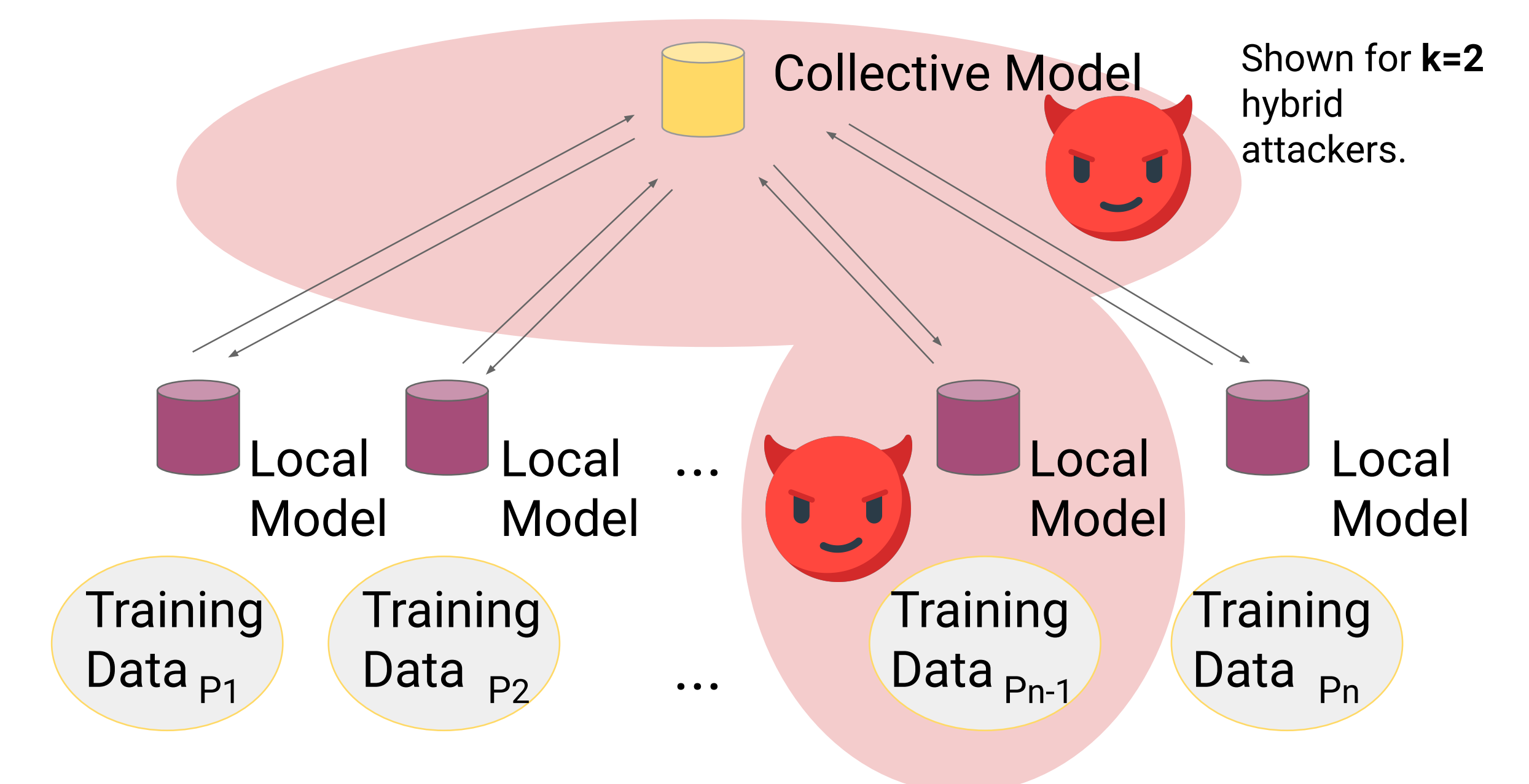
Coalition Type I



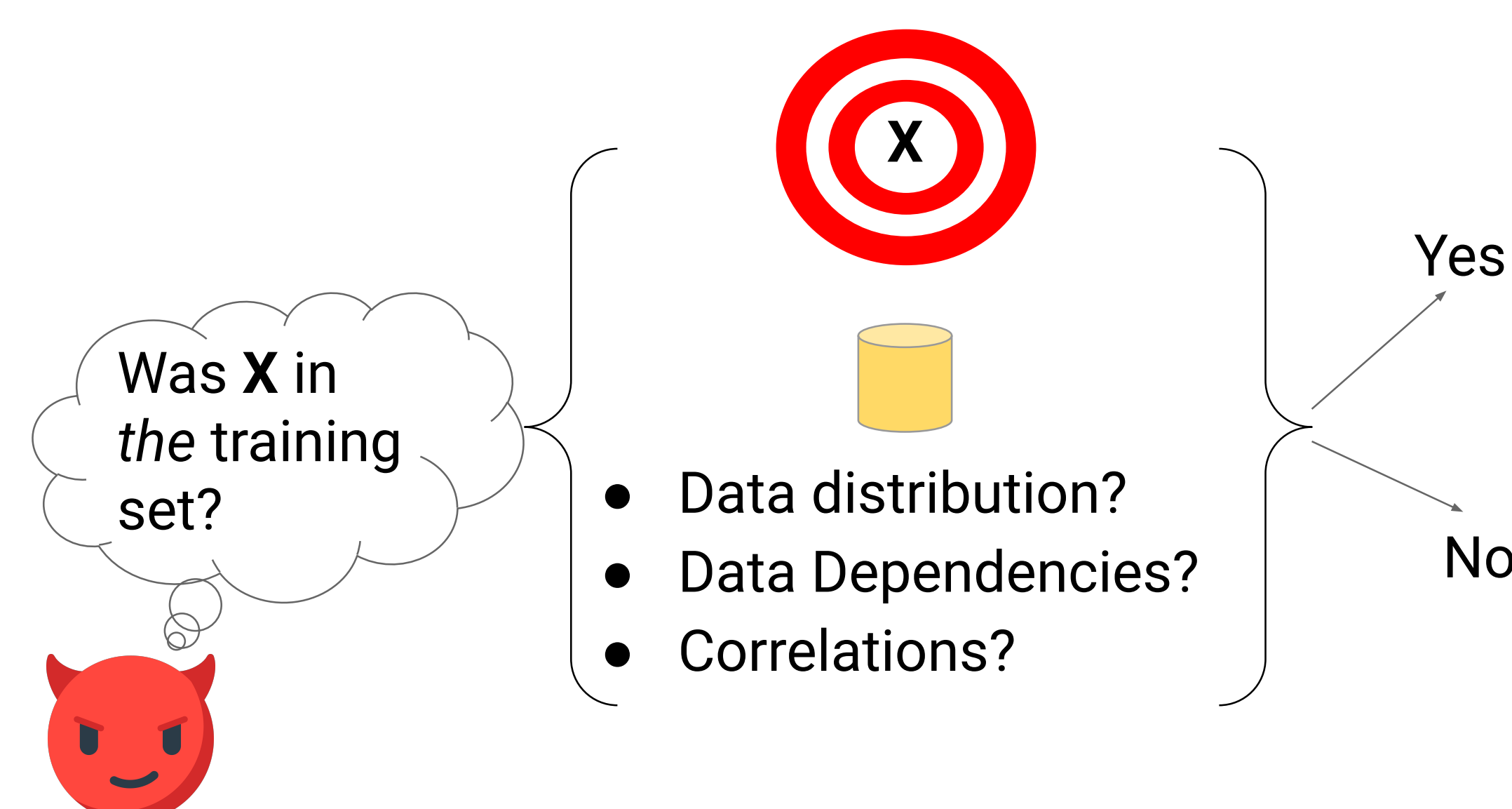
Coalition Type II



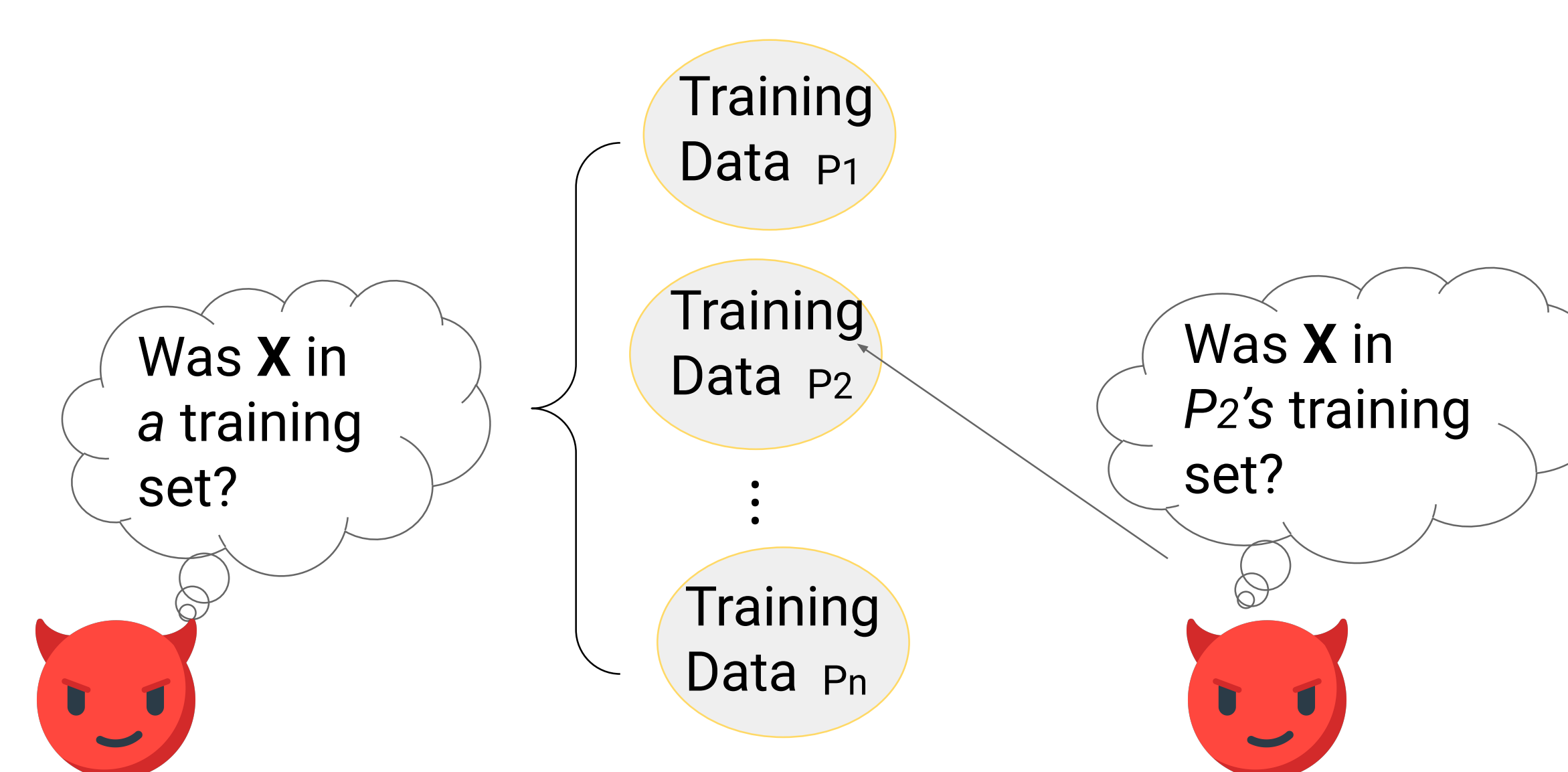
Coalition Type III



Membership Inference Attack



Membership Inference Type I & II



References

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3. R. Shokri and V. Shmatikov. "Privacy-Preserving Deep Learning." In Proceedings of the 22nd ACM SIGSAC CCS. ACM, 2015.