Some observations on privacy and DRMs

The idea that semantic technologies of different kinds can be used to mitigate or handle the challenges facing privacy in modern information networks is intriguing. The analogies with digital rights management seem persuasive, at least on the surface, and there seems to be opportunities to develop new markup languages that can be used to create privacy sensitive systems. Ultimately, the vision of a world where it is possible to "build privacy in" is very enticing.

But there are difficulties. The development of content protection technologies should make privacy researchers pause and take stock, since the lesson from that space is that it is far from obvious how well the different initiatives have developed. From the large scale electronic copyright management systems (ECMSs) to the more nimble DRMs (including technologies that merely express or signal rights, rather than attempt to police use) the field has been riddled with failures.

Amongst those failures, however, we have also seen some successes. These successes are interesting because they illustrate a new way to think about privacy and personal data. But before we can dive deep into that we need to understand the differences between the failures and successes.

What we will argue is that this difference is the difference between flows and stocks, interpreted as classical system-theoretic concepts. Technologies designed to protect stocks and make it hard to turn them into flows have uniformly failed. From the abysmal SDMI to modern DVD-protection such technologies have proved at best to weak protections and at worst to be positive threats to the security and integrity of systems (witness the Sony copyright protection debacle). The technologies focusing on flows, however, have been far more successful. Streaming and subscriptions have both worked very well, with examples such as the Steam-distribution service for games and the subscriptions for services like Spotify.

When approaching privacy, the question the becomes how we can focus on flows rather than stocks. Here privacy legislation presents a fundamental problem. The focus of most privacy legislation in the US and EU is on stocks, on what is referred to as personally identifiable information or personal data, not on the flow of that data. In essence it is the difference between thinking about privacy as a discrete or a continuous concept. Is your privacy the sum of discrete items of personal data, or is it dependent on the flow data about you that determines the level of privacy you can enjoy?

What we need to realize is that not all DRMs are alike. The real issue here

becomes to discern between technologies that aim to protect the stocks or the flows of not privacy, but identity.

The analogy to a successful DRM-solution is not copyright protection technology as much as a service streaming identity or providing a subscription on a particular identity.
In our contribution we would like to explore the notion of technological protection of flows, as opposed to protecting stocks, and we would like to show why traditional stock-focused approaches often fail. Ultimately, we think, this is about the nature of identity and how we construct, co-construct and re-construct identity in communities.