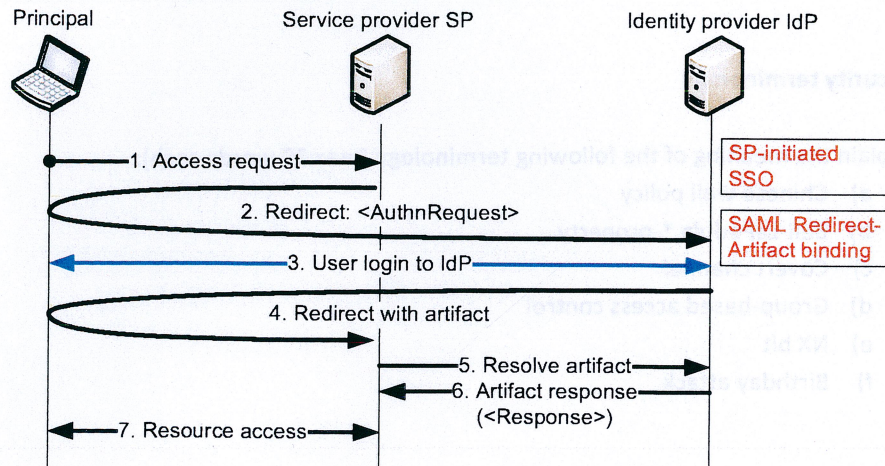## 4. Identity management

The picture below illustrates SAML authentication for web-browser-based SSO (for example, Shibboleth). The Response in message 6 is signed by the IdP. Moreover, SSL is typically used to protect all the connections.

How and why is the security of the protocol affected if SSL is not used between

    a. the client and the SP
    b. the client and the IdP
    c. the SP and the IdP

5. Payment systems

The EMV payment specification defines three different levels of security: static data authentication (SDA), dynamic data authentication (DDA), and combined DDA and application cryptogram (CDA). *Compare the three levels.* SDA is no longer accepted in Finland. Why could this be?

6. Threat analysis

Thousands of *digital advertising screens* are being deployed in public spaces such as roadsides, streets, shopping centers and public transportation. These screens are typically inexpensive Linux computers that display web pages from their memory. The data is updated remotely by the advertising agency over a wireless Internet connection. *What security threats are there against such systems?* Remember to also consider the potential attackers and their motivations.