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Presence@FER: An Ecosystem for Rich Presence

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- ◆ What is presence?
- ◆ Presence Reference Model
- ◆ Motivation and Related Work
- ◆ Presence@FER Architecture
- ◆ Rich Presence Service Design
- ◆ Examples of Rich Presence Applications




What is presence?

- ◆ The willingness and ability of a user to communicate with other users across a set of devices [RFC 2778]
- ◆ The contextualized availability of a person or a resource [Hauswirth et. al]
- ◆ The dial tone of the 21st century [Alcatel White Paper]



Physical presence

- ◆ MeetingRoom C7-17
 Unavailable until 17:00

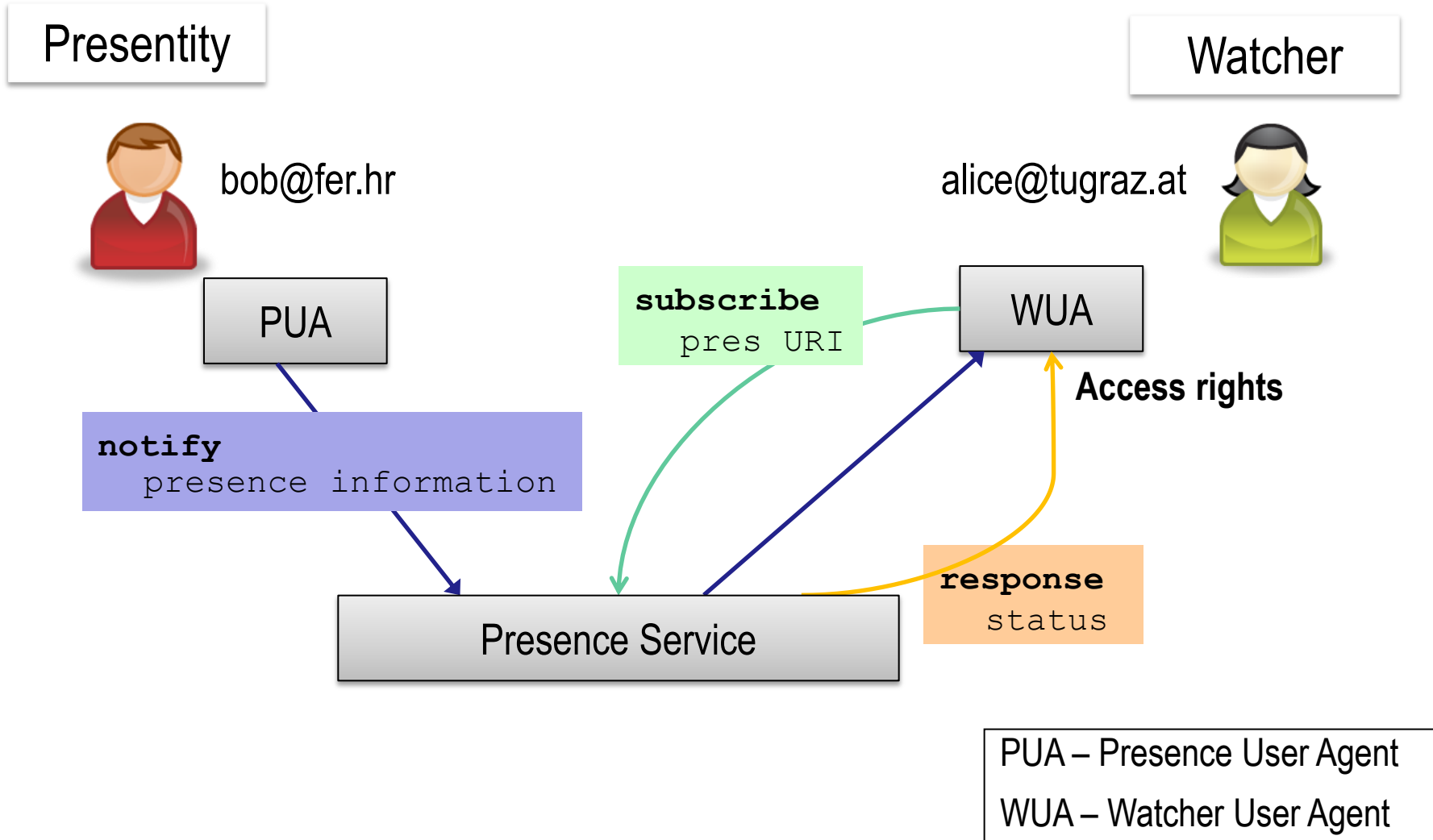
Virtual presence

- ◆ Ivana
 Unavailable (for students)
 In a Meeting (for colleagues)
 Available for urgent calls only (for nanny)

Online presence

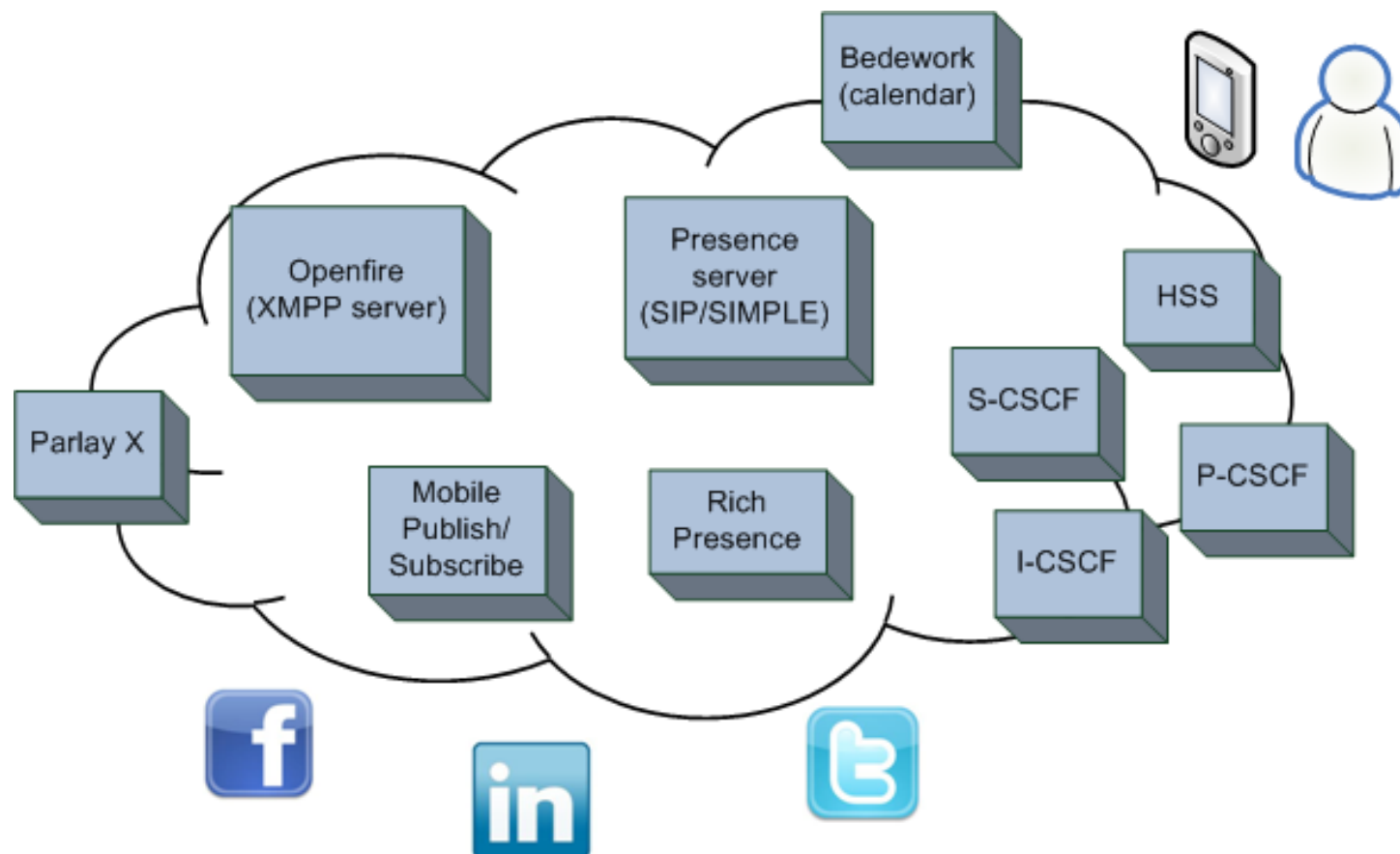
- ◆ Mario
 Available
 Last tweet: Today, 14:33:25

Presence Reference Model [RFC 2778]

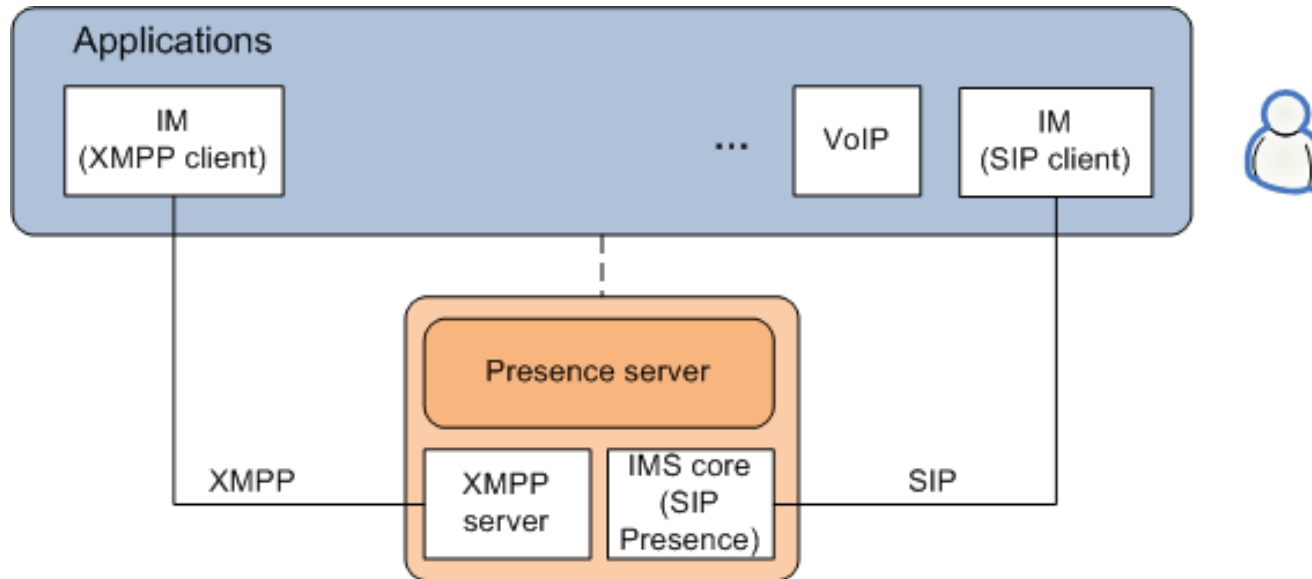


- ◆ Need for context-aware presence solutions
- ◆ Numerous widespread sources of presence information
 - Smart phones, sensors, calendar, Facebook, Twitter, LinkedIn...
- ◆ Presence updates contain sensitive personal information
- ◆ Examples
 - Alice would like to receive a presence notification when her contact Bob is nearby, in a good mood, and available
 - Bob specifies that his current location may only be shown to his boss, wife, and a few colleagues
 - Applications: flexible meeting scheduler, mobile social networks...

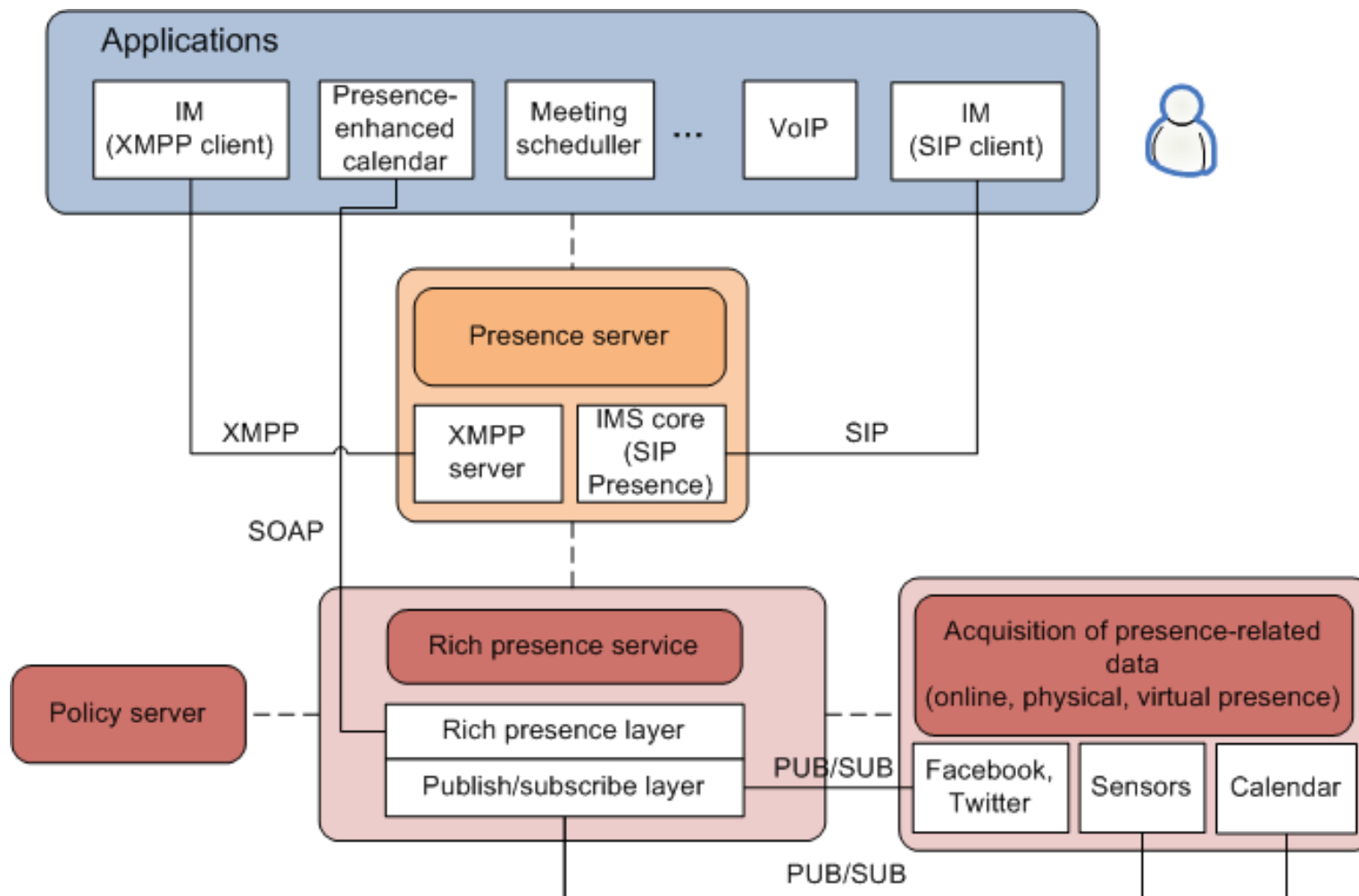
- ◆ Two competing protocol suites, numerous RFCs
 - SIP Presence [RFC 3856]
 - Extensible Messaging and Presence Protocol (XMPP) [RFC 3920 and 3921]
 - Limited or no support for context-aware and fine-grained filtering of presence updates in state-of-the art systems
 - RFC 4660 and 4661: filtering rules associated with presence subscriptions
 - Presence Information Data Format (PIDF) [RFC 3863] and Rich Presence Data Format (RPID) [RFC 4480 and 4481]
- ◆ Recently published research prototypes
 - An integrator for online presence sources [Fu et al.]
 - A social networking site for common activities based on interest and presence [Banerjee et al.]



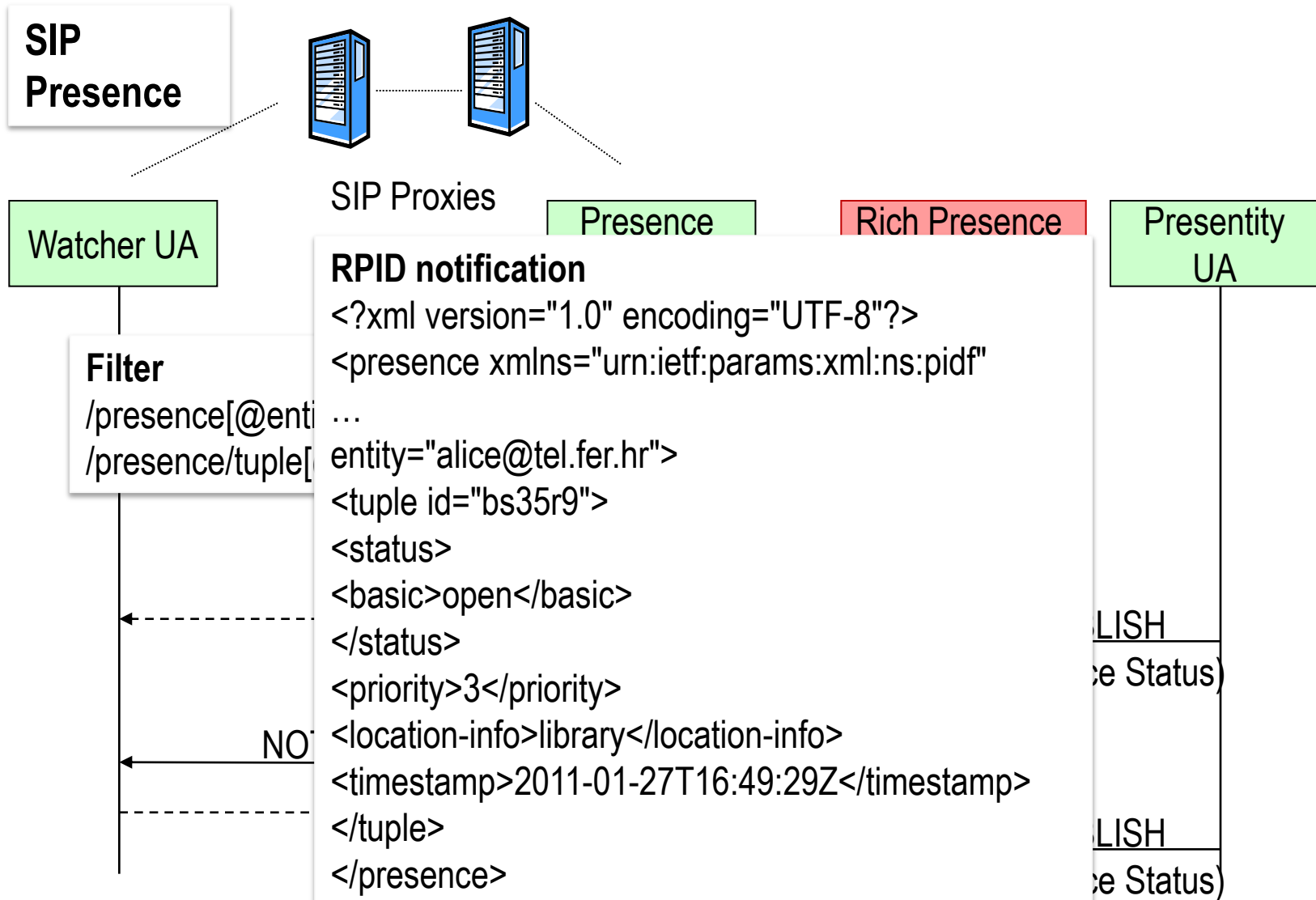
Presence Architecture (State-of-the-art)



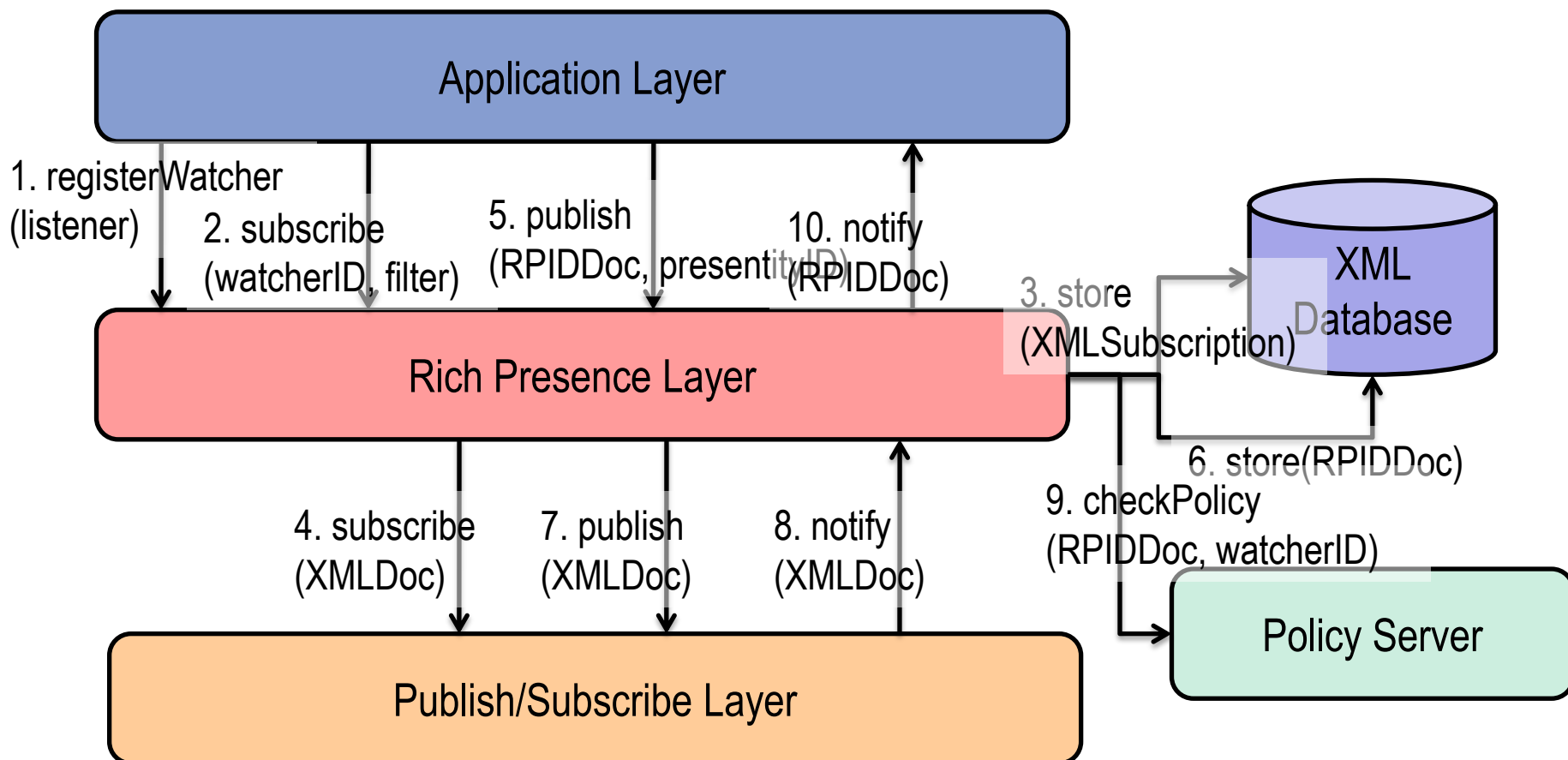
Rich Presence Architecture



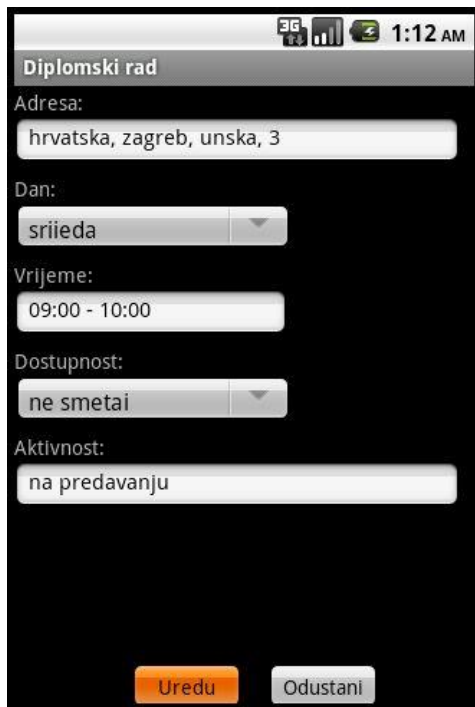
Example Scenario



Rich Presence Service Design



Rich Presence Applications



Diplomski rad

Adresa:
hrvatska, zagreb, unska, 3

Dan:
sriieda

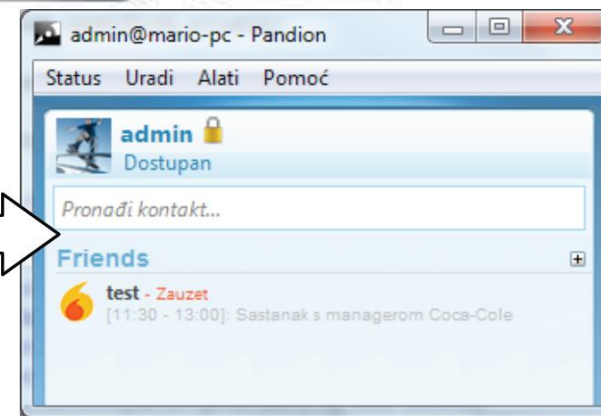
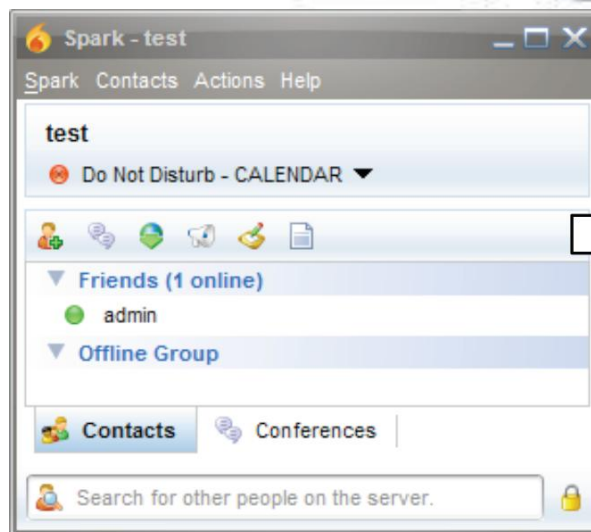
Vrijeme:
09:00 - 10:00

Dostupnost:
ne smetai

Aktivnost:
na predavanju

Uredu Odustani

Policy-enabled presence



Calendar-driven presence

- ◆ Context-awareness for presence applications integrating virtual, physical and online presence
- ◆ Added value for end user
 - Personalized context-aware presence subscriptions (presence filters)
 - Reduced overload with presence updates (saves time and battery)
 - Gives control over the exposure of presence information to others
- ◆ Added value for presence systems
 - Potential solution for scalability issues within the core network
 - An open infrastructure for the development of a new class of rich presence applications

- ◆ We'd like to thank the following students who have contributed to the Presence@FER implementation
- ◆ Ivan Petković, Ivan Pavličić, Vedran Ilić-Dreven, Vedran Željeznak (Rich Presence Service)
- ◆ Tomislav Mudri, Petar Šimić, Mario Žderić, Estera Prendivoj (Rich Presence Applications)