

# Twinkle

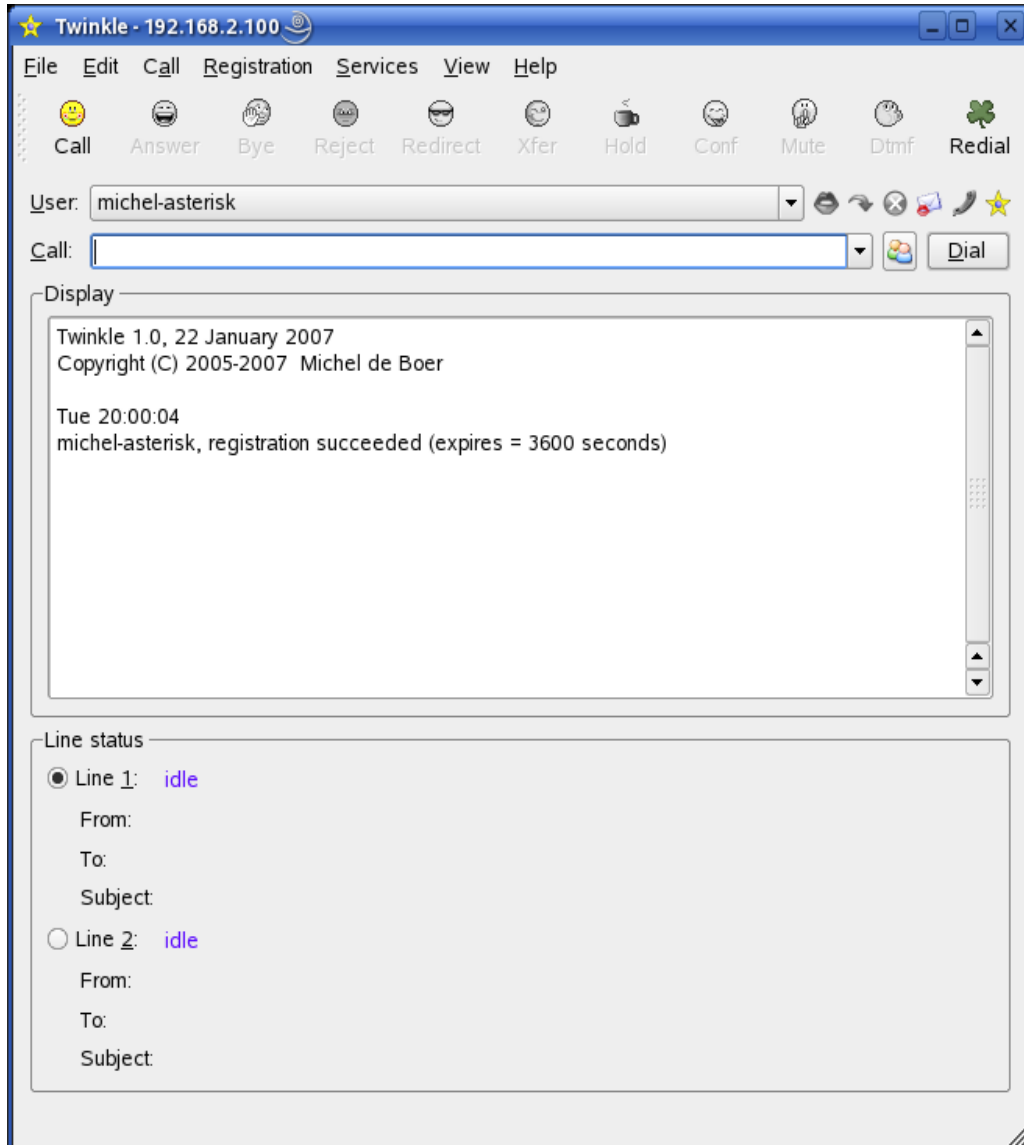
A SIP client based on  
open source and open standards

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[www.twinklephone.com](http://www.twinklephone.com)

# Agenda

- What is Twinkle?
- Services
- Integration with other software
- Security
- Soft phone pros/cons
- Future

# What is Twinkle?



- A soft phone
- Voice focused
- Open standards
  - SIP/SDP/RTP/STUN
  - Speex, G.711, G.726, GSM, iLBC
- Open source
- Runs on Linux

# Runs on Linux

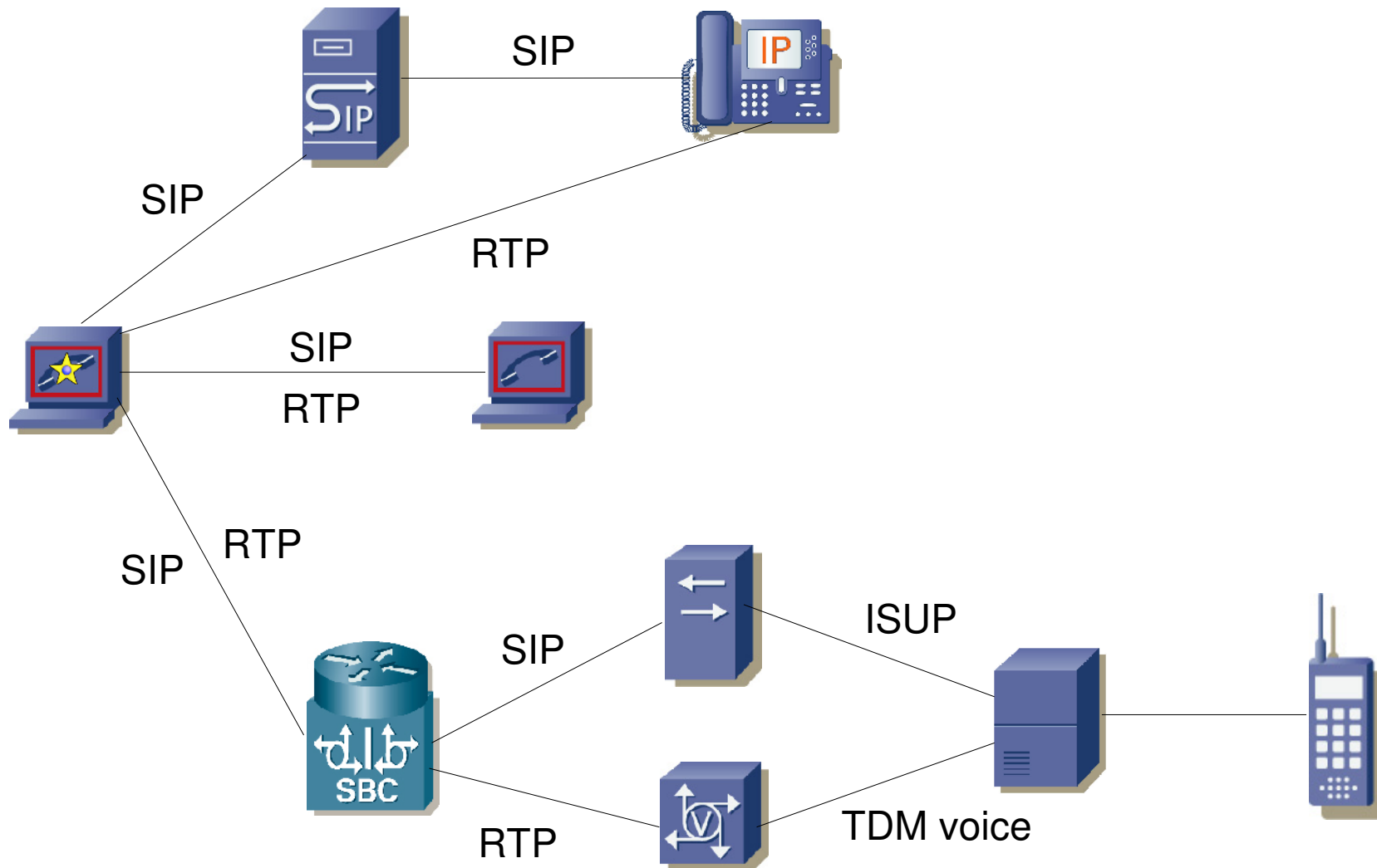


*Twinkle*★

# Connects to many networks



# Network architecture



# Functionality

Kaddressbook integration  
Scripting

Call waiting, Call reject,  
Call redirection, Call transfer,  
Conference call, Auto answer,  
Do not disturb

Call history

Voice calls

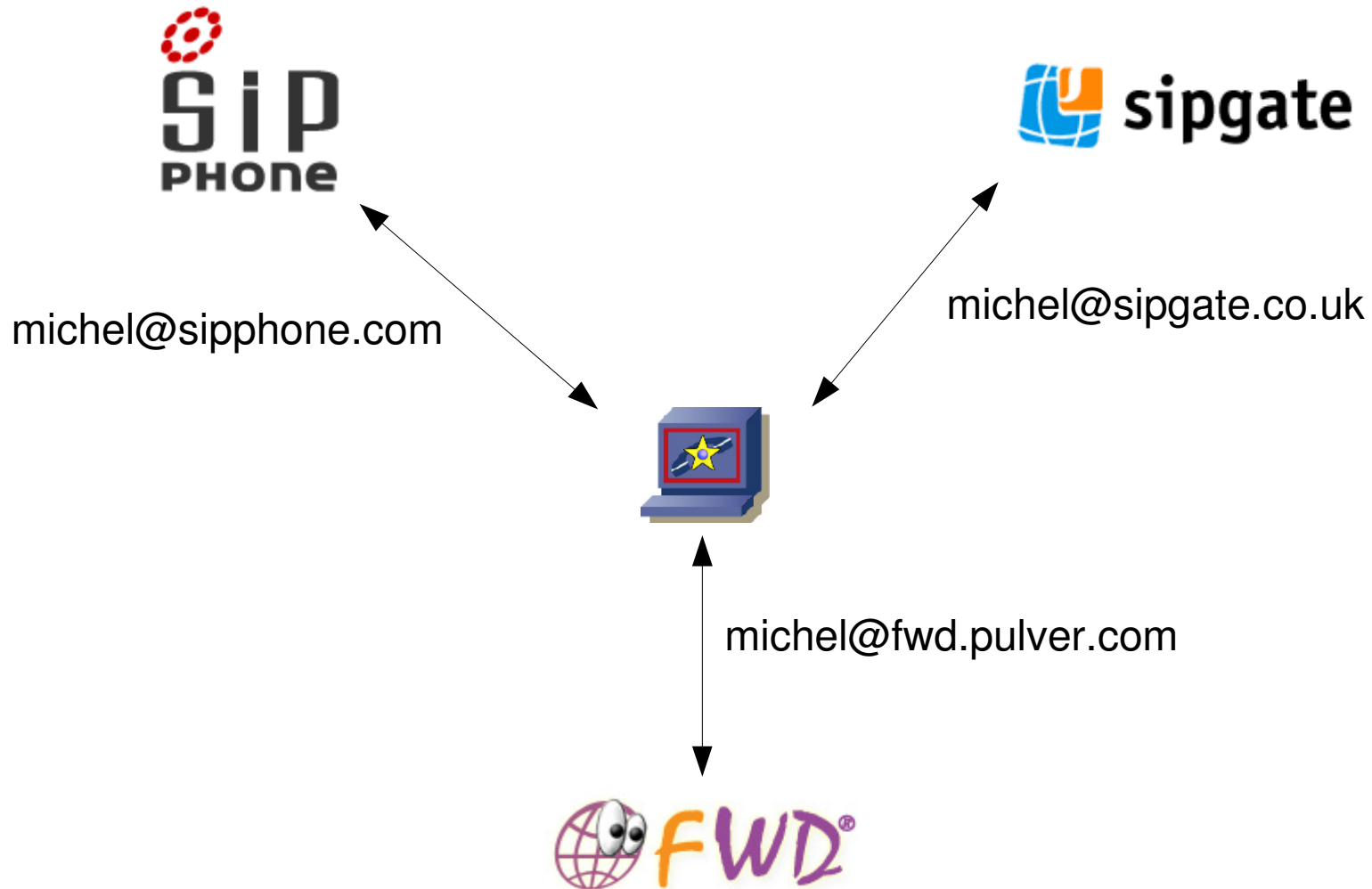
Ring tones

Voice mail access  
MWI

DTMF

Multiple identities

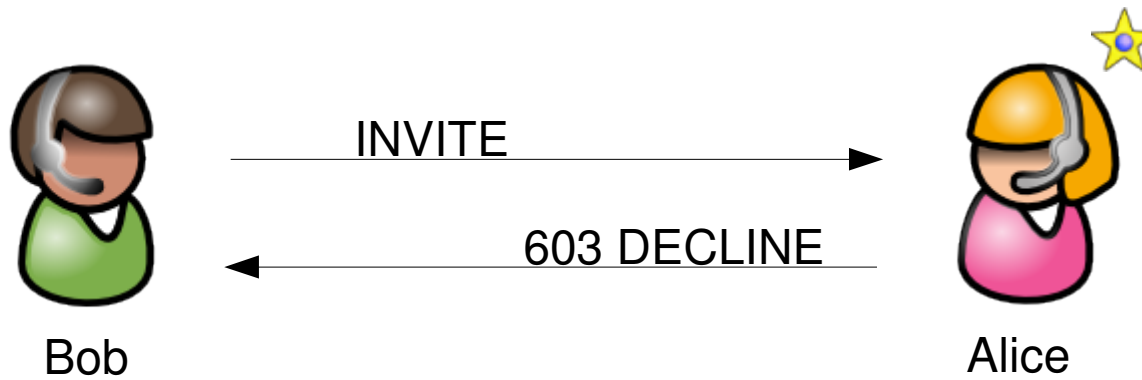
# Multiple identities



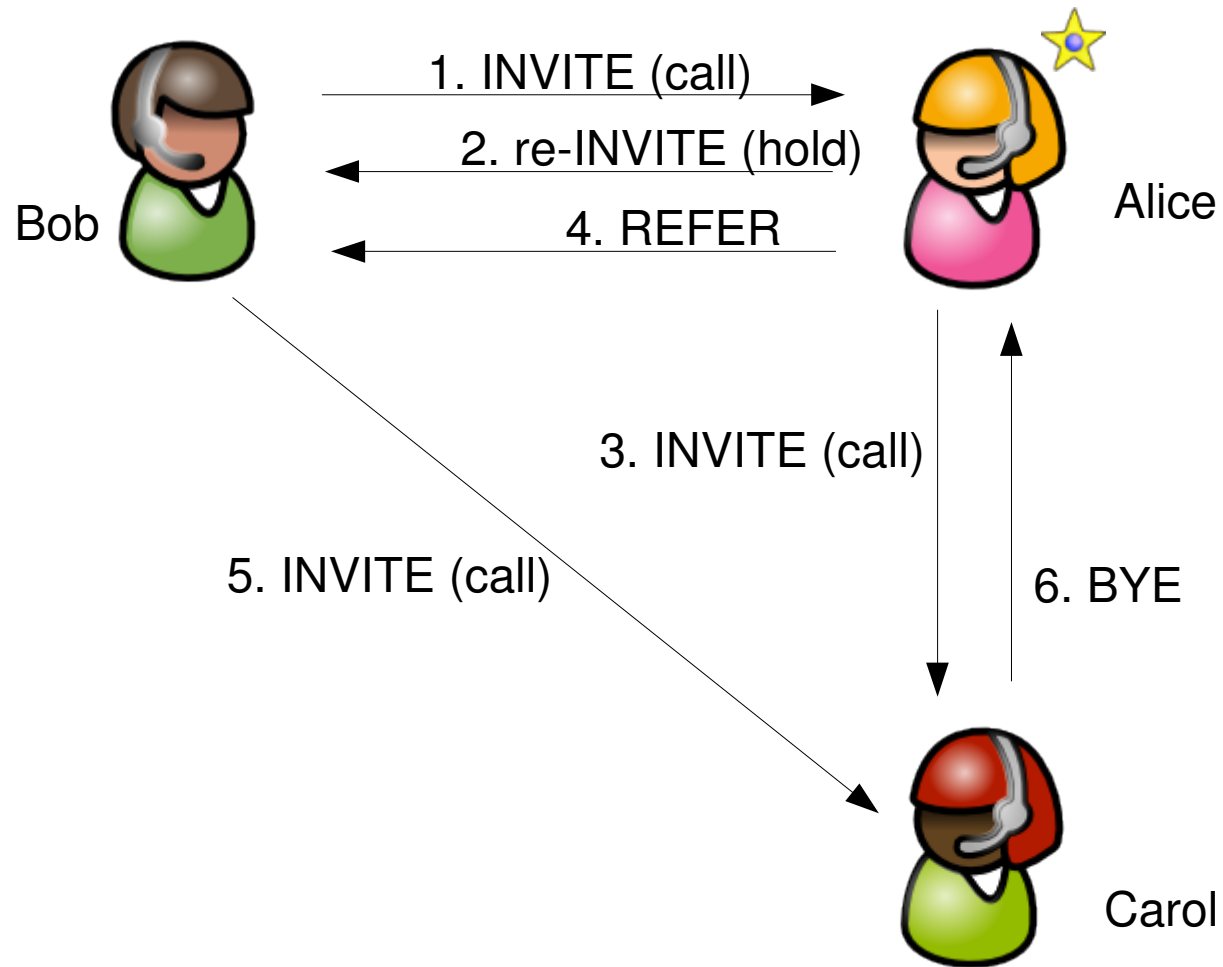
Multiple simultaneous registrations



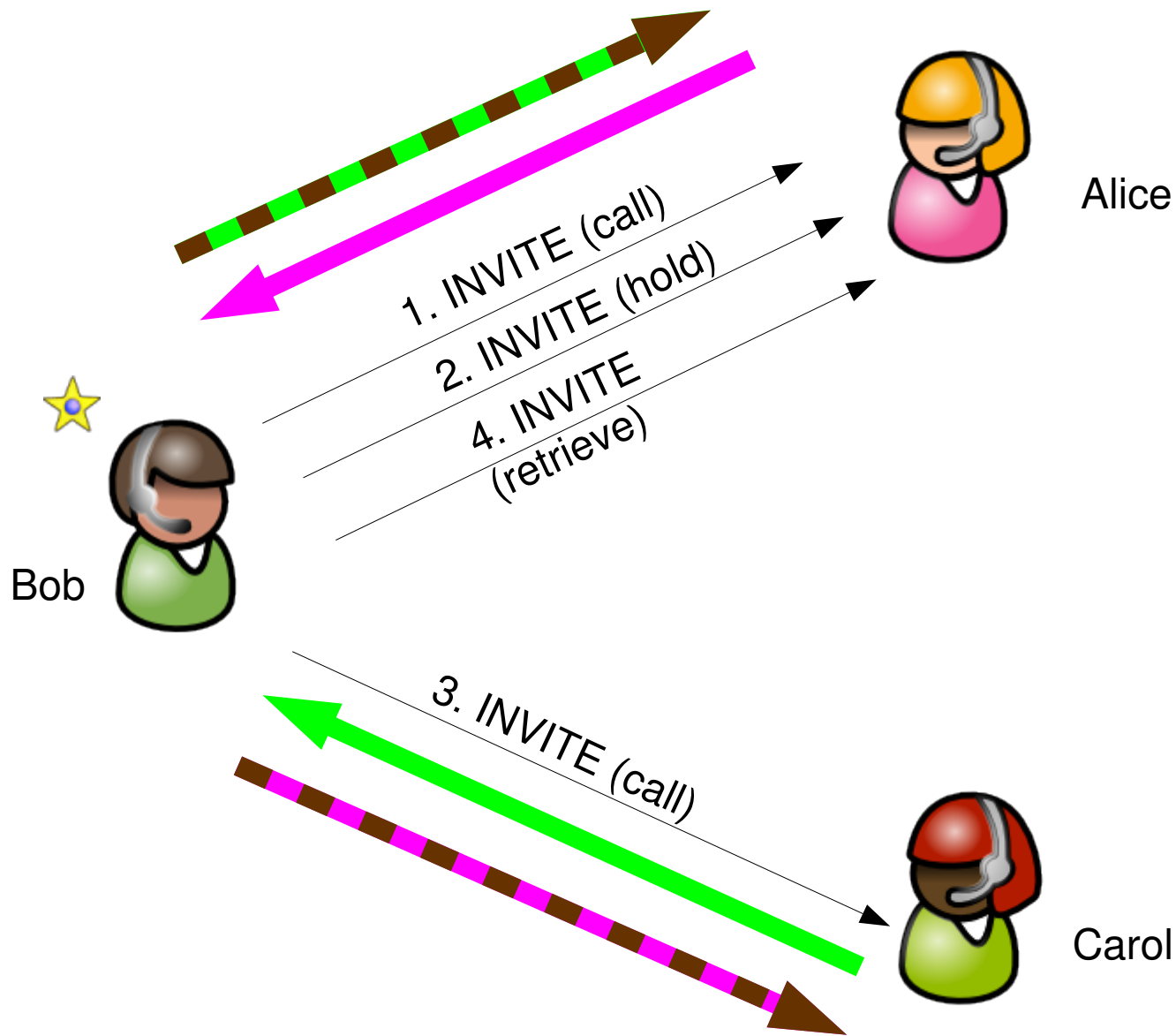
# Call reject



# Call transfer



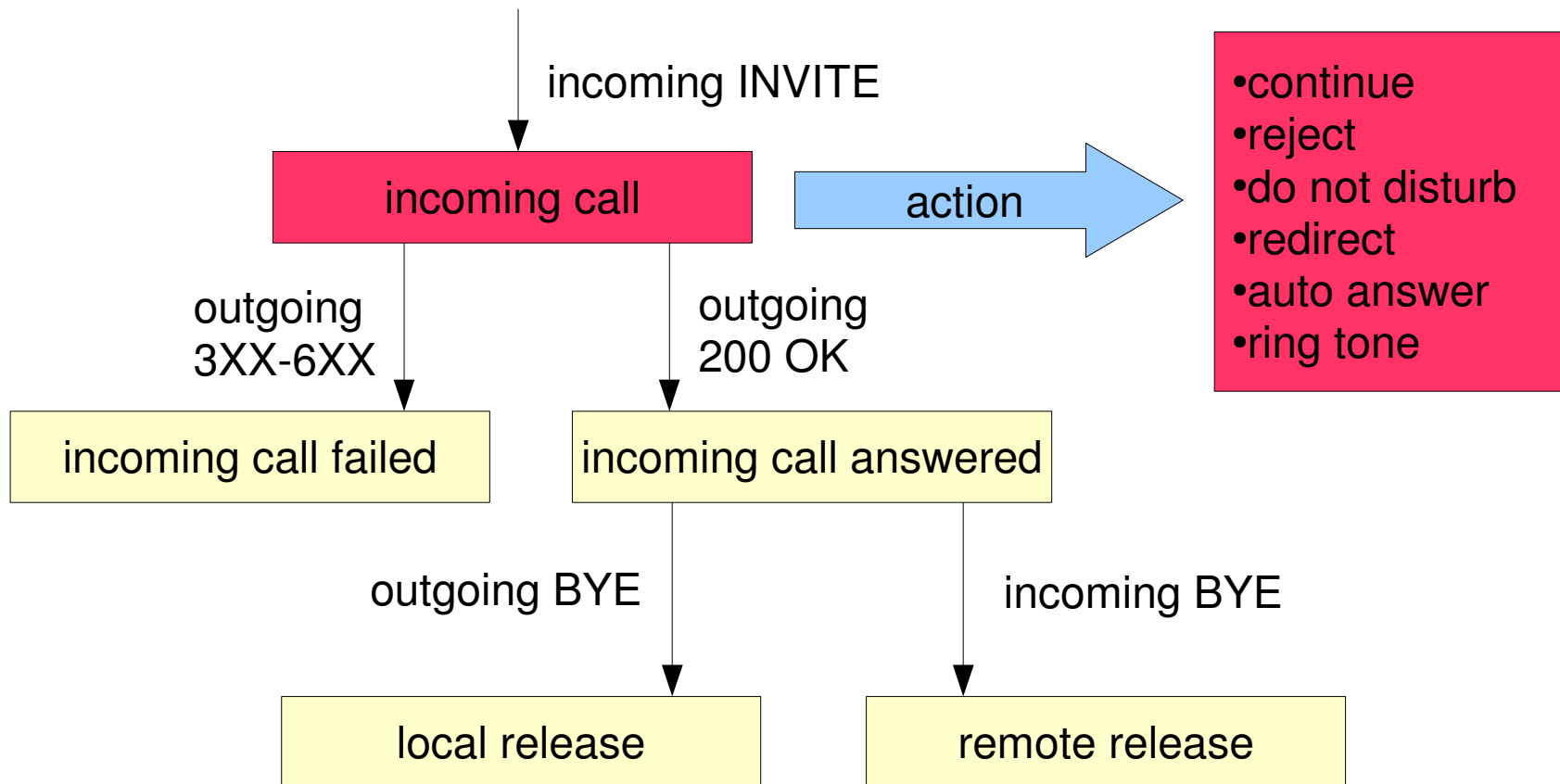
# Conference call



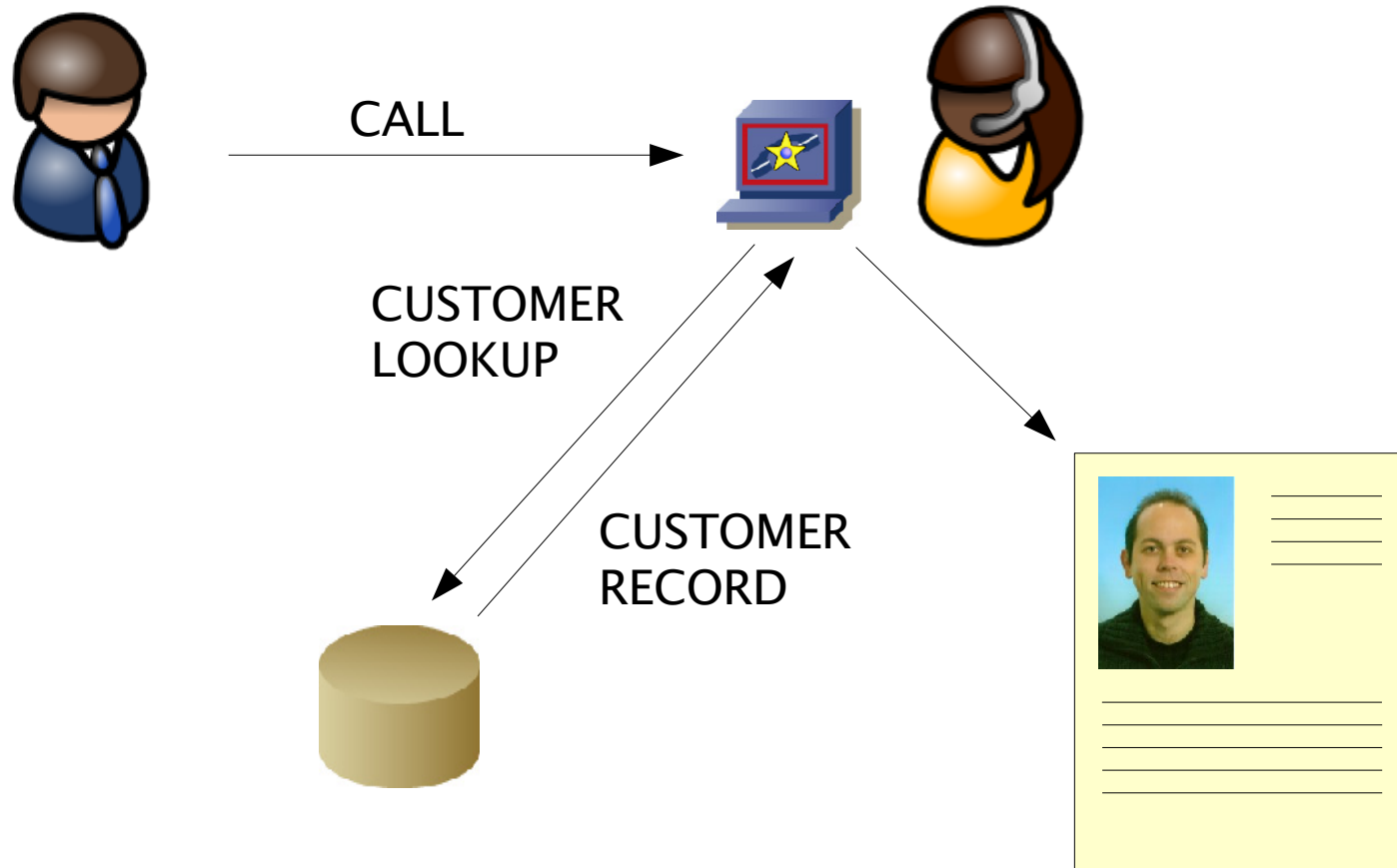
# Integration with other software

- Kaddressbook from KDE
  - Names, numbers, photo's
- Call model based trigger points to invoke scripts
  - Somewhat similar to Intelligent Network
  - e.g. incoming call, call release, call answer
  - Can be used to create complex features:
    - selective call reject
    - distinctive ringing
    - show customer information

# Incoming call script



# Call center example



# Integration (cont'd)

- Command interface
  - Other applications can send commands to twinkle, e.g.
    - Program the button on your USB headset to make it answer a phone call.
    - Clicking a SIP URL in a web browser instructs Twinkle to make a phone call.

# Security

- Authentication
  - For all SIP requests
- ZRTP
  - Secure audio channel
  - Phil Zimmermann
- Privacy
  - Hide identity



# Why a soft phone?

- Travel
- Work from home
  - Use soft phone to register with the company SIP proxy
- Cheap
- Integration with other software
- Research & Testing
- Fun

# Why not a soft phone?

- Need a PC to make a call
- QoS
  - Soft phone competes with other programs for CPU cycles
  - Real time performance of sound card

# Who uses Twinkle?

- Students living abroad
- Small companies
- Call centers
- VoIP engineers for testing
- Researchers

# Tough area's

- Real time constraints
- Sound card control
- Network address translation
- DTMF
- Media negotiation
- Deviations from standards

# Future

- Presence
- Instant messaging
- Video
- IPv6
- ...