

# SIPTAPI

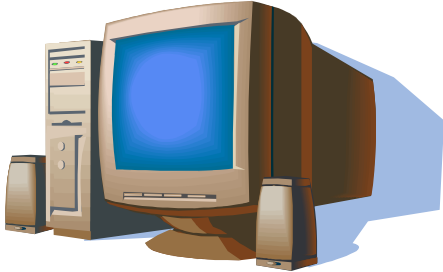
**A TAPI service provider for SIP**  
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# Introduction

- SIPTAPI is a SIP based call-control client which can be used to initiate phone calls.
- SIPTAPI is not a full SIP client, thus a dedicated SIP client – a SIP softphone or hardphone – is needed
- SIPTAPI will instruct the SIP client to call a certain number

# Usage

1.



→ dial callee's number in a TAPI application (e.g. Outlook, Phoner, dialer.exe)

2.



→ caller's phone rings, pick up!

3.

→ SIPTAPI tells the caller's phone to dial the callee's number (SIP REFER request)

4.

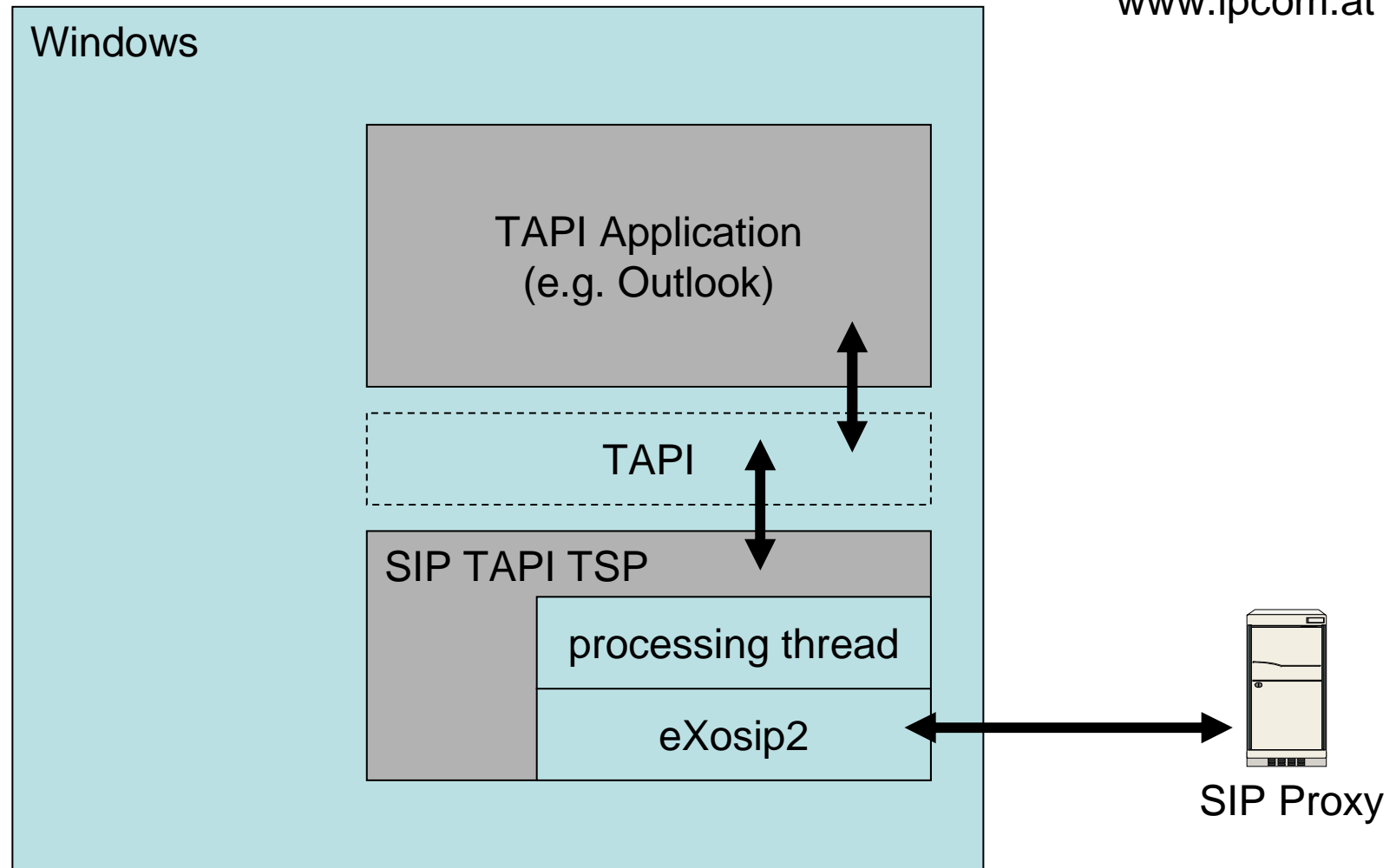
→ callee's phone rings



# Call Flow

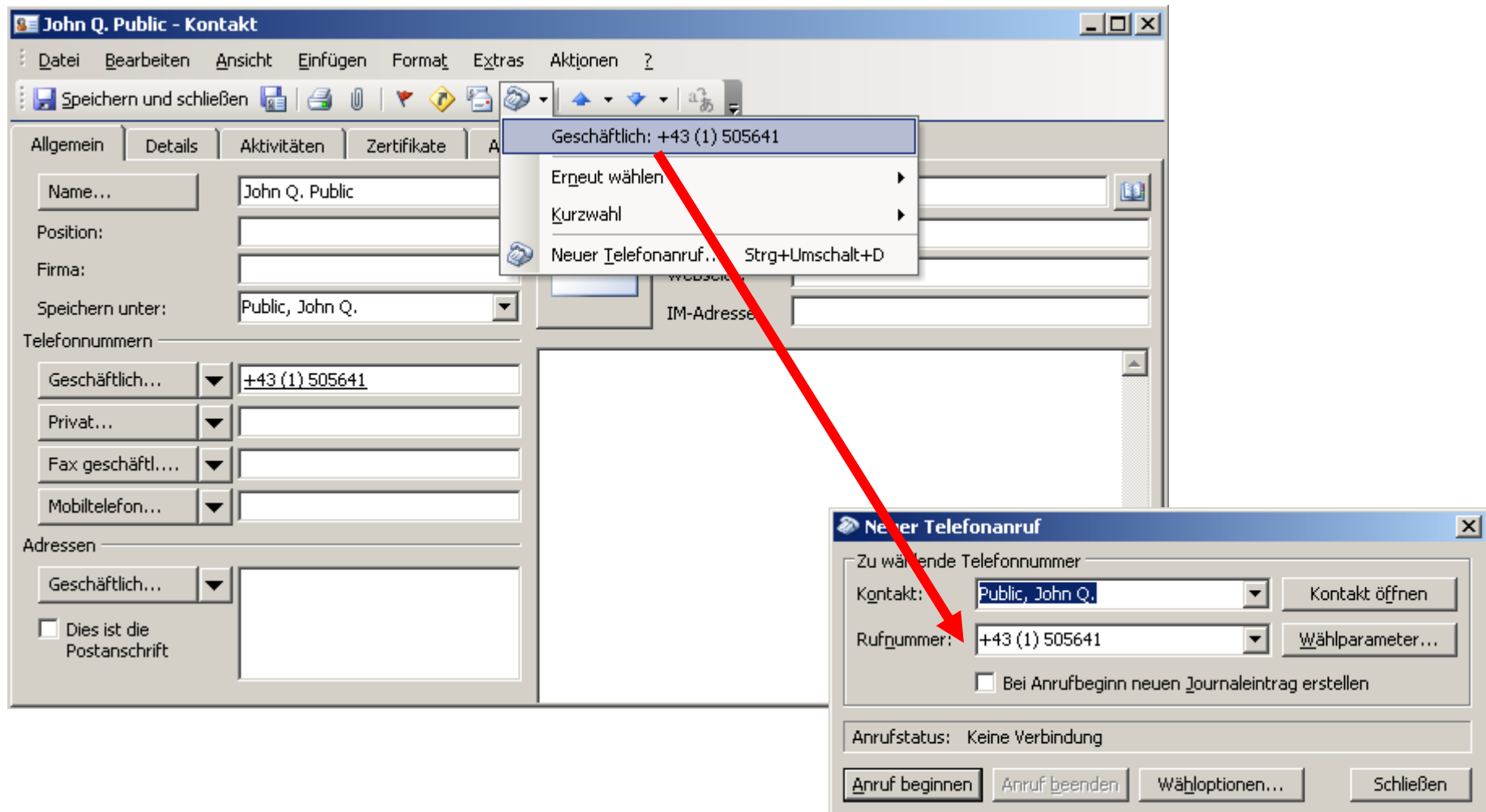


# TAPI structure



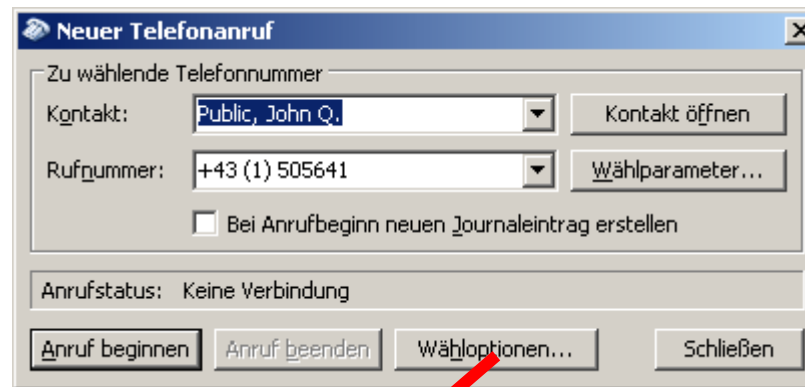
# TAPI dialing

- e.g. Outlook

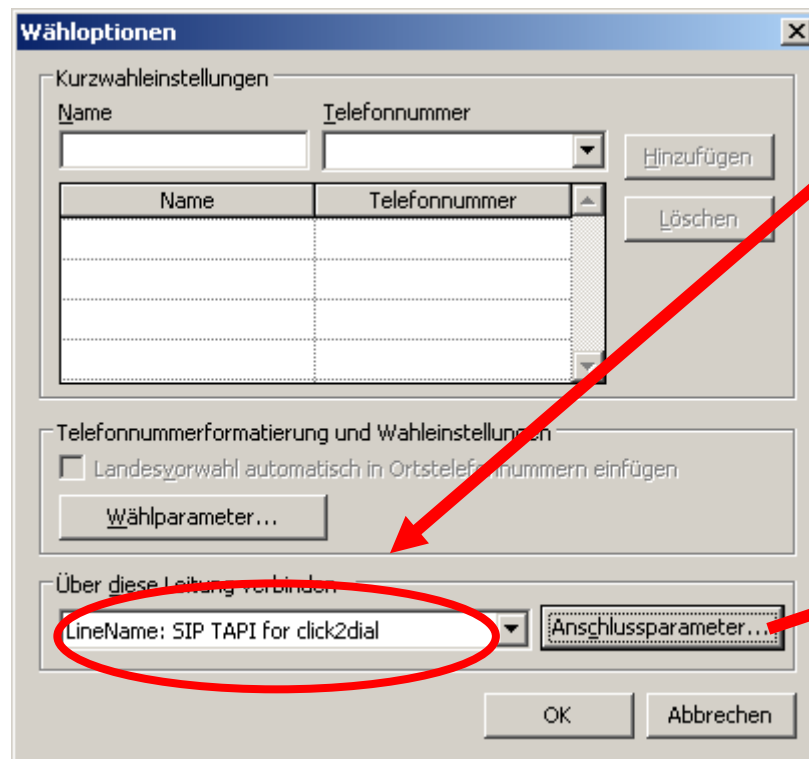


# TAPI dialing

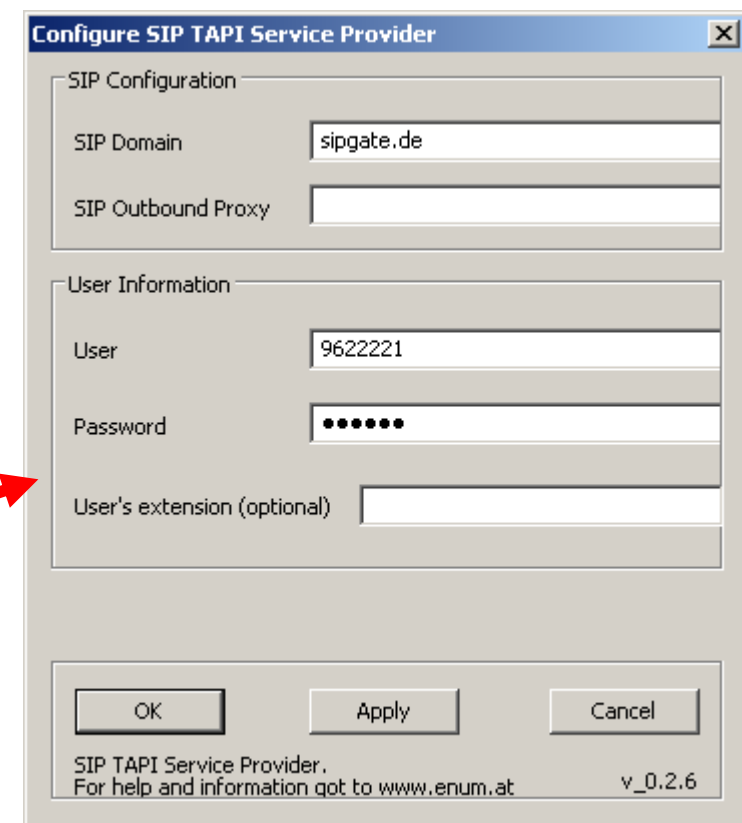
- e.g. Outlook



The 'Neuer Telefonanruf' (New Phone Call) dialog box is shown. It contains fields for 'Zu wählende Telefonnummer' (Number to dial), 'Kontakt' (Contact), and 'Rufnummer' (Caller ID). The 'Kontakt' dropdown is set to 'Public, John Q.'. The 'Rufnummer' dropdown is set to '+43 (1) 505641'. There is a checkbox for 'Bei Anrufbeginn neuen Journaleintrag erstellen' (Create new journal entry at start of call). The 'Anrufstatus' (Call status) is 'Keine Verbindung' (No connection). At the bottom are buttons for 'Anruf beginnen' (Start call), 'Anruf beenden' (End call), 'Wähloptionen...' (Call options...), and 'Schließen' (Close).



The 'Wähloptionen' (Call Options) dialog box is shown. It has a section for 'Kurzwahleinstellungen' (Short call settings) with a table for 'Name' and 'Telefonnummer'. Below this is a section for 'Telefonnummerformatierung und Wahleinstellungen' (Phone number formatting and call settings) with a checkbox for 'Landesvorwahl automatisch in Ortstelefonnummern einfügen' (Automatically insert country code in local phone numbers) and a 'Wählparameter...' button. At the bottom, under 'Über diese Leitung verbinden' (Connect via this line), the 'LineName: SIP TAPI for click2dial' is selected and circled in red. A red arrow points from this selection to the 'Configure SIP TAPI Service Provider' dialog box. Other buttons include 'Hinzufügen' (Add), 'Löschen' (Delete), 'Anschlussparameter...' (Connection parameters...), 'OK', and 'Abbrechen' (Cancel).



The 'Configure SIP TAPI Service Provider' dialog box is shown. It has two main sections: 'SIP Configuration' and 'User Information'. In 'SIP Configuration', 'SIP Domain' is 'sipgate.de' and 'SIP Outbound Proxy' is empty. In 'User Information', 'User' is '9622221', 'Password' is masked with dots, and 'User's extension (optional)' is empty. At the bottom are buttons for 'OK', 'Apply', and 'Cancel'. A red arrow points from the 'Anschlussparameter...' button in the 'Wähloptionen' dialog box to this dialog. The footer text reads: 'SIP TAPI Service Provider. For help and information go to www.enum.at v\_0.2.6'.

# Configuration

**Configure SIP TAPI Service Provider**

SIP Configuration

SIP Domain: sipgate.de

SIP Outbound Proxy:

User Information

User: 9622221

Password: .....

User's extension (optional):

OK Apply Cancel

SIP TAPI Service Provider.  
For help and information got to [www.enum.at](http://www.enum.at) v\_0.2.6

**Telefon- und Modemoptionen**

Wählregeln Modems Erweitert

Folgende Telefonieanbieter sind auf diesem Computer installiert:

Anbieter:

- Dienstanbieter für Universalmodem 5
- Microsoft H.323-Telefoniedienstanbieter
- Microsoft HID-Telefon-TSP
- Microsoft Multicastkonferenz-TAPI-Dienstanbieter
- NDIS-Proxy-TAPI-Dienstanbieter
- SIP TAPI Service Provider**
- TAPI-Kernelmodus-Dienstanbieter

Hinzufügen... Entfernen Konfigurieren...

Schließen Abbrechen Übernehmen



# Configuration

- SIP Domain
  - This is the SIP domain, either a fully qualified domain name or the IP address of the SIP server. Examples:
    - sipgate.de
    - 1.2.3.4
- SIP Outbound Proxy
  - This field is optional and usually not needed. It should only be used if your SIP provider requires you to use an outbound proxy. In doubt leave this field empty. Examples:
    - 1.1.1.1
    - 2.2.2.2:6060
- User
  - The SIP username (SIP-ID) assigned to you by your SIP provider. This is just the userpart without the domain. Examples:
    - klaus.darilion
    - 00431234567
- Password
  - The SIP password
- User's extension
  - This field is optional and usually not needed. If a user's extension is specified, the SIPTAPI will call this extension instead of its own extension. This is sometimes needed with Asterisk installations where you have a dedicated SIP account for the SIPTAPI and a dedicated SIP account for the SIP phone, or if the SIP username can not be used for dialing and an extension must be used.

# Alternative Usage

- Sometimes the SIP provider/PBX does not apply correct routing to REFER requests
- If the following items are fulfilled, the alternative approach can be used
  - the SIP phone has a static IP address and uses a static port
  - there is direct IP connectivity between the SIPTAPI PC and the SIP phone

# Alternative Call Flow



# Alternative Configuration

- Example
  - SIPTAPI is on PC with IP address 192.168.1.2
  - SIP phone uses static IP address 192.168.1.3
  - SIP phone uses static SIP port 8879
- SIP Domain
  - the SIP domain specified by your service provider
- SIP Outbound Proxy
  - 192.168.1.3:8879
- User
  - the SIP user name specified by your service provider
- Password
  - the SIP password specified by your service provider
- User's extension
  - leave this field empty

# Technology

- Microsoft TAPI  
<http://msdn.microsoft.com/library/default.asp?url=/library/en-us/dnanchor/html/tapitspimspi.asp>
- asttapi – TAPI provider for asterisk  
<http://sourceforge.net/projects/asttapi/>  
© Nick Knight
- eXosip2/osip – SIP stack + high level API  
<http://www.gnu.org/software/osip/osip.html>  
<http://savannah.nongnu.org/projects/exosip/>  
© Aymeric Moizard

# Limitations

- no STUN support → NAT traversal requires SIP proxy with NAT traversal or outboundproxy (rport supported)
- no SRV support, resolves only A records (no problem if the outboundproxy performs SRV)
- some TAPI applications require strange phone number formats, e.g. Outlook: +43 (1) 505641  
→ *+country code (local area code) number*

# how to get it

- <https://sourceforge.net/projects/siptapi/>
- Website: <http://www.ipcom.at/index.php?id=561>
- License: GPL
- Installation:
  - copy siptapi.tsp into the windows\system32 directory
  - ControlPanel → PhoneAndModemOptions → Advanced → Add → SIP TAPI Service Provider
  - SIP TAPI Service Provider → Configure...
  - configure your username, password, SIP domain and outboundproxy
- debugging
  - use Sysinternals DebugView to capture log messages:  
<http://www.sysinternals.com/ntw2k/freeware/debugview.shtml>
  - use Wireshark to capture the SIP packets