

Application Note:

**PIKA Connect for Skype (PCS)
for Asterisk
v1.0**

Application Note: PIKA Connect for Skype for Asterisk

Introduction

This application note describes the system requirements, architecture, basic system configuration and limitations of the PIKA Connect for Skype (PCS) for Asterisk product. Many powerful new applications are made possible by PIKA's integration of Skype and Asterisk and several of these new applications are examined in detail.

Application Description

In short, PIKA Connect for Skype (PCS) for Asterisk solution provides Skype trunking capabilities to an Asterisk PBX. In other words, PCS for Asterisk allows Skype calling capabilities to (and from) an Asterisk PBX.

PIKA Connect for Skype (PCS) for Asterisk makes possible many powerful new applications including:

- Skype calling capability to Asterisk PBXs (e.g. for call centers and other organizations with help desks)
- "Find Me-Follow Me" capability for employees working remotely with Skype
- Adding Skype-capability to a Legacy PBX
- Allowing organizations to add a "Skype Me" button to their website to make it easy for Skype users to contact their help desk directly
- Unified Messaging – add Skype voicemail to main voicemail center
- Home users to add Skype to Asterisk for voicemail

This application note will study several of the above examples in detail (see Example Applications).

System Requirements

Two PCs are required. One PC must be running Linux and Asterisk 1.2.x and the other PC must be running Windows XP with Skype 2.5 or higher installed.

Linux Server

- Linux operating system Fedora Core 4 (2.6.17-1.2142 kernel)
- GCC compiler collection
- MonteCarlo AllOnHost 2.1.1 (Asterisk Edition) or greater (2.6 kernels only)
- Asterisk 1.2.x
- PIKA Asterisk Channel Driver

Note: If installing Fedora Core 4, run the command "yum update" in order to get the latest updates.

Windows Client

- Windows XP w/Service pack 2 (32-bit version).
- PIKA Connect for Skype (PCS) Windows Client Installation package
- Before running PIKA Connect for Skype, Skype must be installed on the Windows machine. The minimum version required for the Skype client is 2.5

System Architecture and Basic Operation

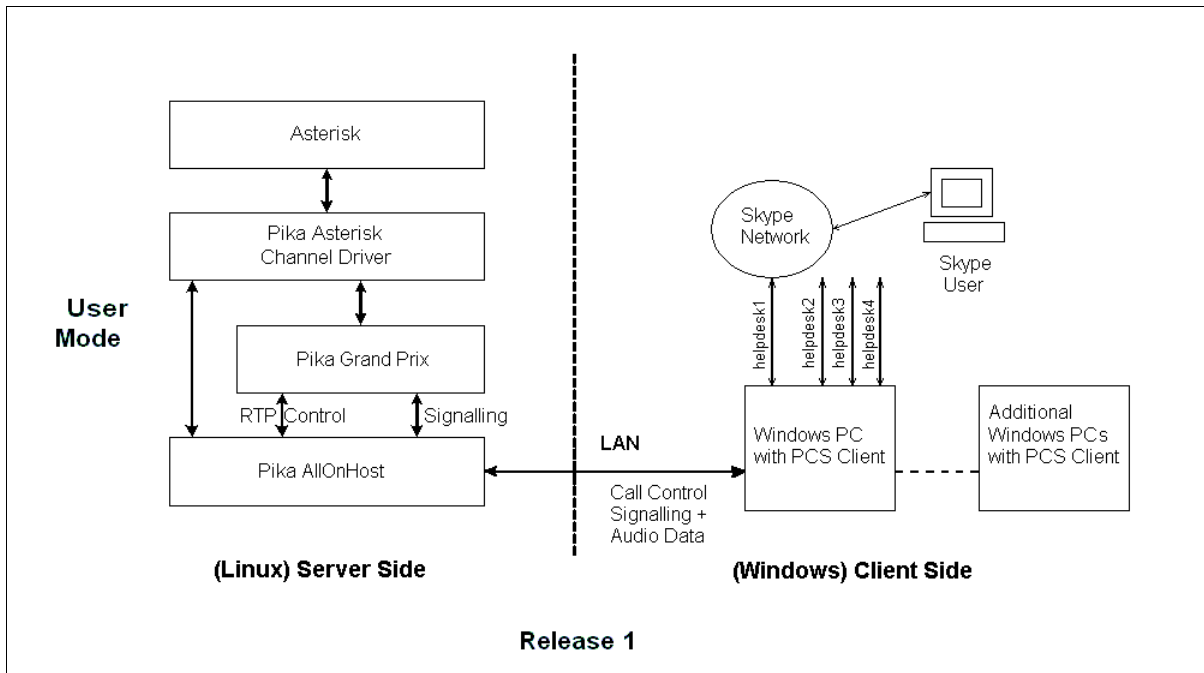


Figure 1 - Architecture

Figure 1 describes the basic system architecture and operation of the PCS for Asterisk solution. Once the system in Figure 1 has been installed and configured, any Skype user can make a call to (for example) Skype user ID “helpdesk1” and the PCS Windows Client will detect the incoming call. Notification of an incoming call is presented to Asterisk which then decides what to do with the call (answer it, ignore it, route it, etc.) Call control signalling and audio data are sent over LAN between the PCS Windows Client and the Asterisk server. Using the Asterisk dial plans, the Skype calling party can either be routed to the Asterisk Auto Attendant IVR or to a predetermined person or hunt group.

Limitations

It is recommended that two PCs described above be on the same LAN as the protocol used to transfer call control signalling and audio data between them is not NAT-friendly. Of course, Skype clients calling in to this system can be located anywhere in the world.

Note also that a single Windows PC with the PCS Windows Client installed on it can have a maximum of 4 Skype clients running at a time (e.g. helpdesk1, helpdesk2, helpdesk3, helpdesk4). This restriction is due to limitations of the media layer in Windows. However, additional Skype clients can be distributed across additional Windows PCs to achieve high density systems. See Figure 1.

Example Applications

Many powerful new applications are made possible by PIKA Connect for Skype (PCS) for Asterisk. Several of these new applications are examined in detail below.

Enabling Skype Calling on an Asterisk PBX

Figure 1 above describes a basic PCS for Asterisk solution. Consider an organization that has a sophisticated call center system that its customers can call for support. When customers call, they reach an IVR with auto attendant and hear self help menus like “Dial 1 to reach Technical Support...Dial 2 to reach Billing...or Dial 0 to reach an operator.” If the user dials 0, they are put into a queue and hear a message that says “Your call will be connected to the next available agent”. Assume also that this organization’s customers are located far away so they prefer to call using Skype because it’s an affordable way for them to reach the helpdesk. PCS for Asterisk allows Skype users to access this company’s helpdesk and vice versa.

“Find Me-Follow Me” for Skype users

Consider an organization whose salespeople are often working remotely with their laptops at customer sites, in airport lounges or in their hotel rooms. Skype is their preferred communication tool when out of the office. When they are not in the office, they would like all calls to their in-house extension sent to their Skype account running on their laptop. PCS for Asterisk makes this solution possible.

Skype-Enabling a Legacy PBX

Similar to the first example, we can also quickly and easily Skype-enable a Legacy PBX using PCS for Asterisk by connecting PRI / Analog lines from the Legacy PBX to Asterisk. See Figure 2.

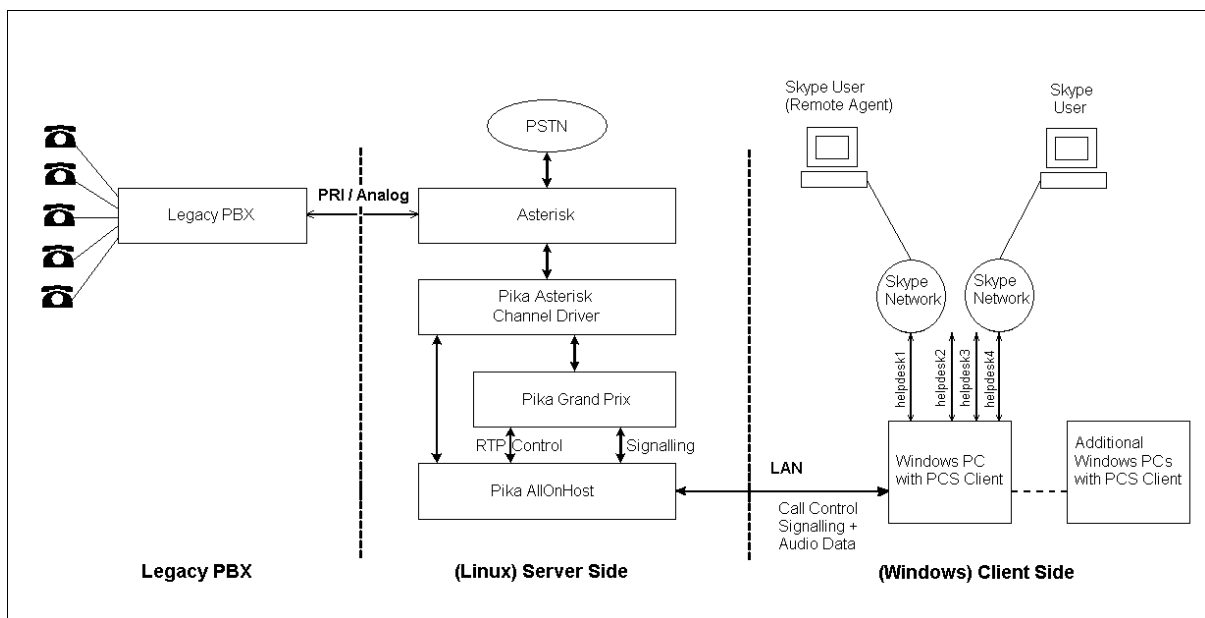


Figure 2 – Skype- Enabling a legacy PBX

Connecting Skype callers to a remote Asterisk PBX via IAX

Figure 3 describes a system where the PCS for Asterisk system could be connected to another remote Asterisk PBX via IAX (Inter Asterisk eXchange protocol). This would allow incoming Skype calls to be routed to either local call center agents or to remote call center agents. Calls could also be re-routed to other remote agents on the Skype network.

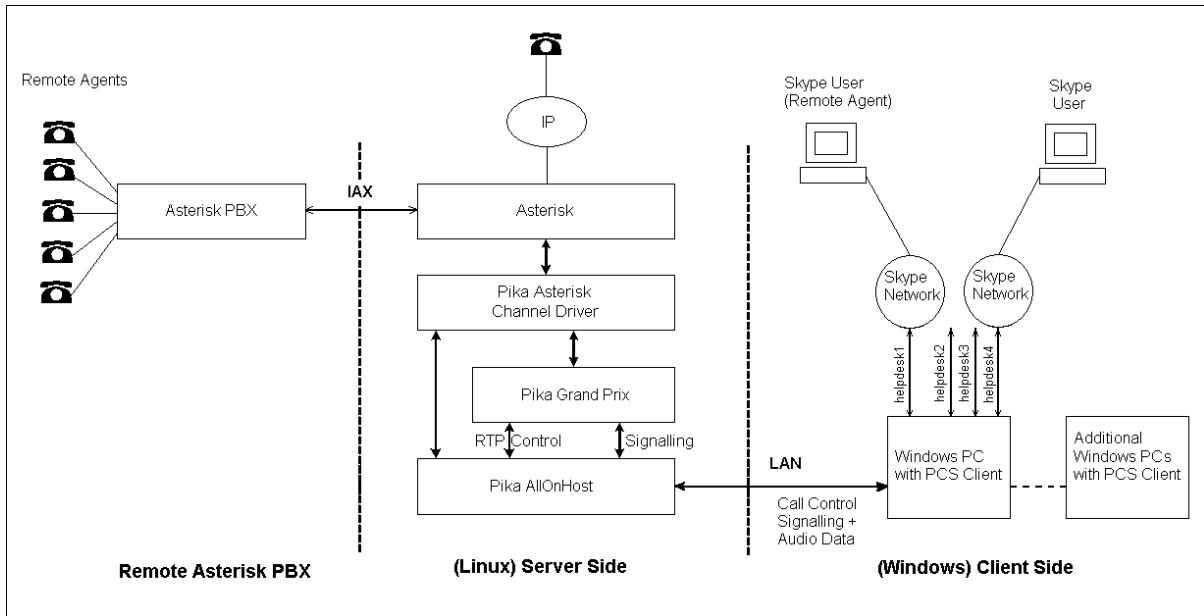


Figure 3 - Connecting Skype callers to a remote Asterisk PBX via IAX

Software Installation

See the PIKA Connect for Skype (PCS) "Getting Started Guide" for full installation details.