

... connecting your business

LANCOM Software Version 6.00

January 2006

© 2006, LANCOM Systems GmbH

www.lancom.de

LCOS 6.00
[LANCOM OPERATING SYSTEM]

LANCOM
Systems

LCOS 6.0 – Enabling new possibilities with VoIP

LCOS 6.0 features the two new software options that provide almost the entire LANCOM router portfolio with upgrade options for extensive VoIP functions:

- ▶ LANCOM VoIP Basic Option
- ▶ LANCOM VoIP Advanced Option



What do the new VoIP options deliver to the „VoIP ready“ labeled devices?

- ▶ **Extensive QoS functions**
 - ▶ Already part of LCOS

- ▶ **New: Call routing functions**
 - ▶ Internal calls
 - ▶ Selection of the connection to be used for a call
 - ▶ „SIP Proxy“ and „VoIP Call Router“

- ▶ **New: Gateway: SIP => ISDN and ISDN => SIP**
 - ▶ Switching of local VoIP calls into the public switched telephony network via ISDN
 - ▶ Connection of ISDN devices to the VoIP world
 - ▶ „SIP Gateway“

VoIP
ready

LANCOM VoIP Basic Option for...



DSL/I-10+



1611+

VoIP
ready



821+



1511



1521

LCOS 6.00
[LANCOM OPERATING SYSTEM]

VoIP Basic Option

- ▶ For 2 SIP and 2 ISDN devices
- ▶ SIP Proxy
- ▶ SIP ↔ ISDN Gateway
- ▶ VoIP Call Manager (VCM)
- ▶ G.711 and G.726 codecs
- ▶ G.168 echo cancellation

LANCOM VoIP Basic or Advanced Option for...



1711



1721



1811



1821

VoIP Advanced Option

- Same as Basic Option, plus
- ▶ Up to 16 SIP and 16 ISDN devices

LANCOM VoIP Basic or Advanced Option for...



LANCOM 7111 VPN



LANCOM 8011 VPN

VoIP
ready

Advanced Option

- ▶ For 16 SIP and 16 ISDN devices
- ▶ SIP Proxy
- ▶ SIP ↔ ISDN Gateway
- ▶ VoIP Call Manager (VCM)
- ▶ G.711 and G.726 codecs
- ▶ G.168 echo cancellation

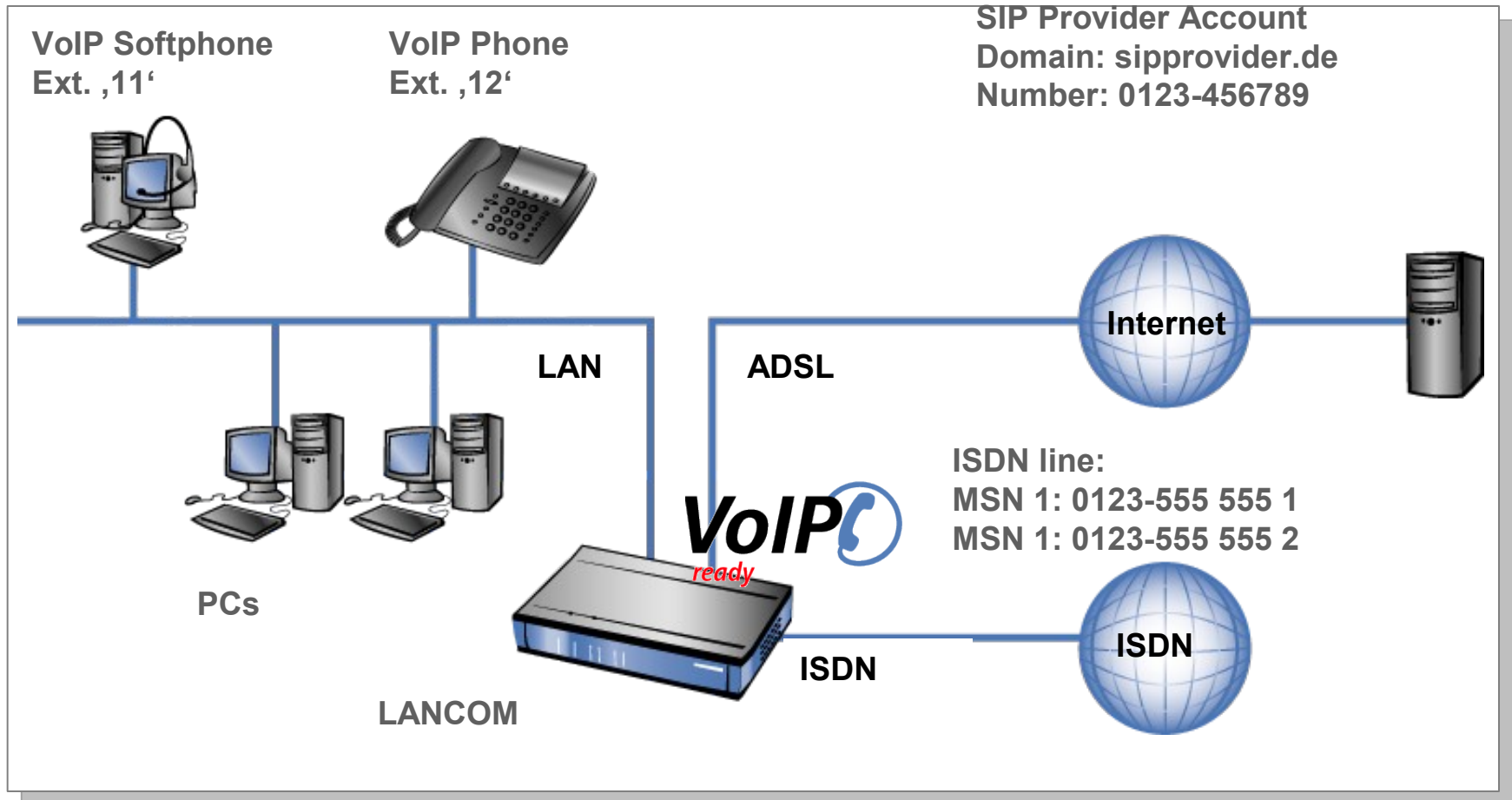
LANCOM Advanced Option pre-activated in...



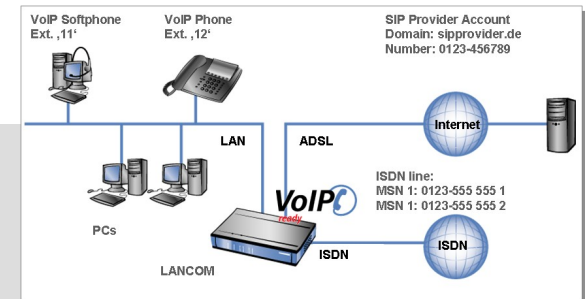
New: LANCOM 1722 VoIP

VoIP
integrated

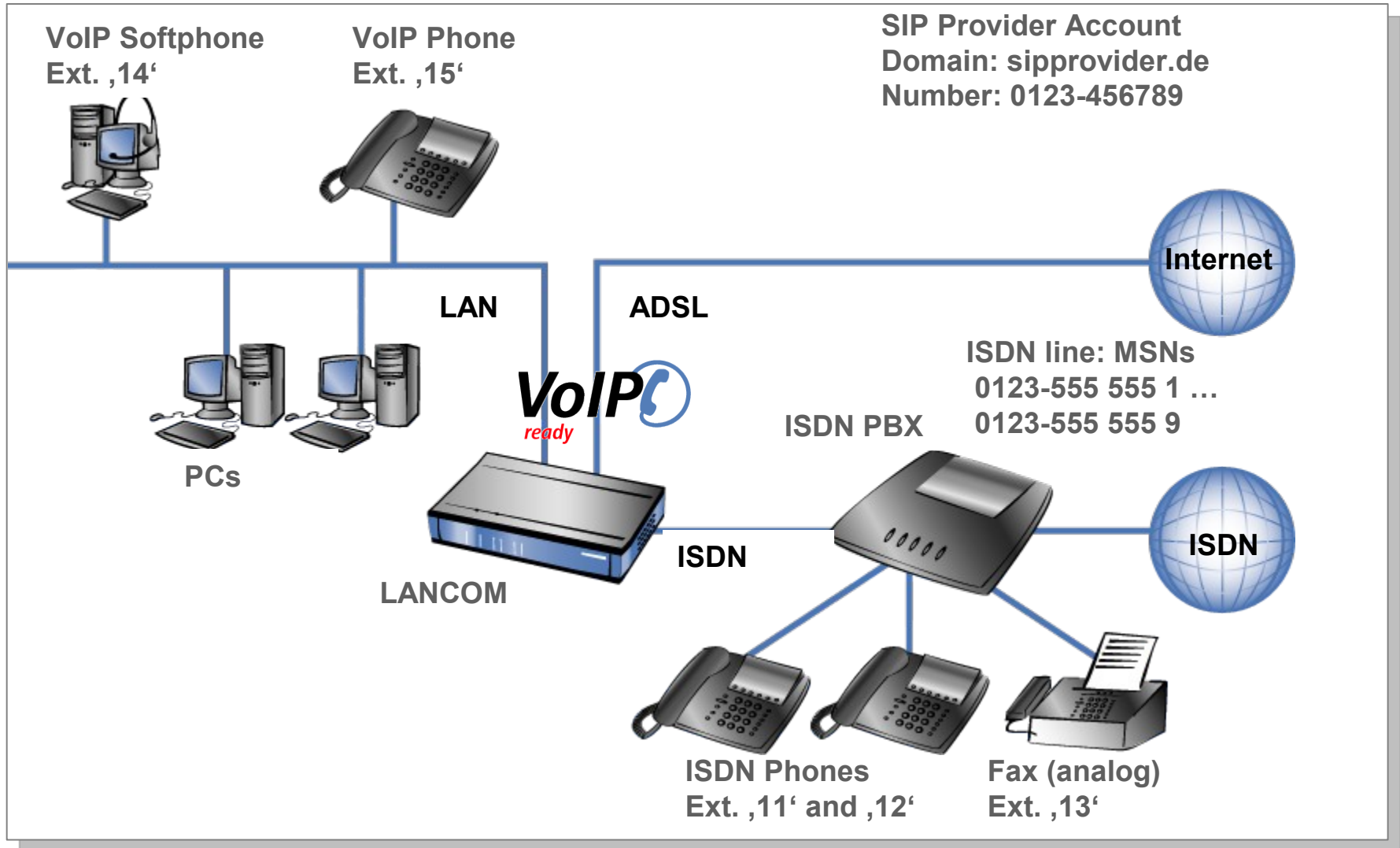
Example 1: VoIP „Stand Alone“ Application



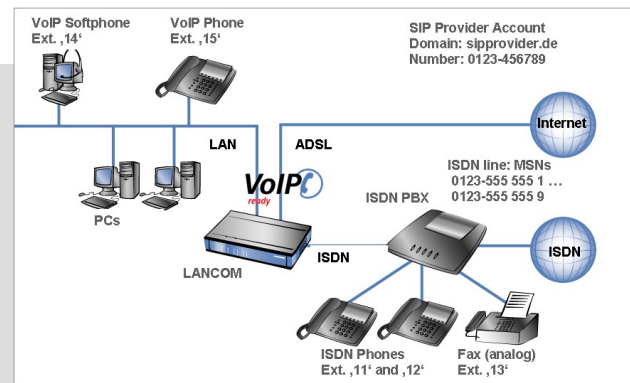
- ▶ Freely definable call routing...
 - ▶ Local area calls via ISDN
 - ▶ National and international calls via SIP provider
 - ▶ Emergency calls and special numbers via ISDN
- ▶ Internal SIP phone calls
- ▶ Availability of SIP devices ...
 - ▶ via SIP provider (typ. free of charge)
 - ▶ via existing ISDN number



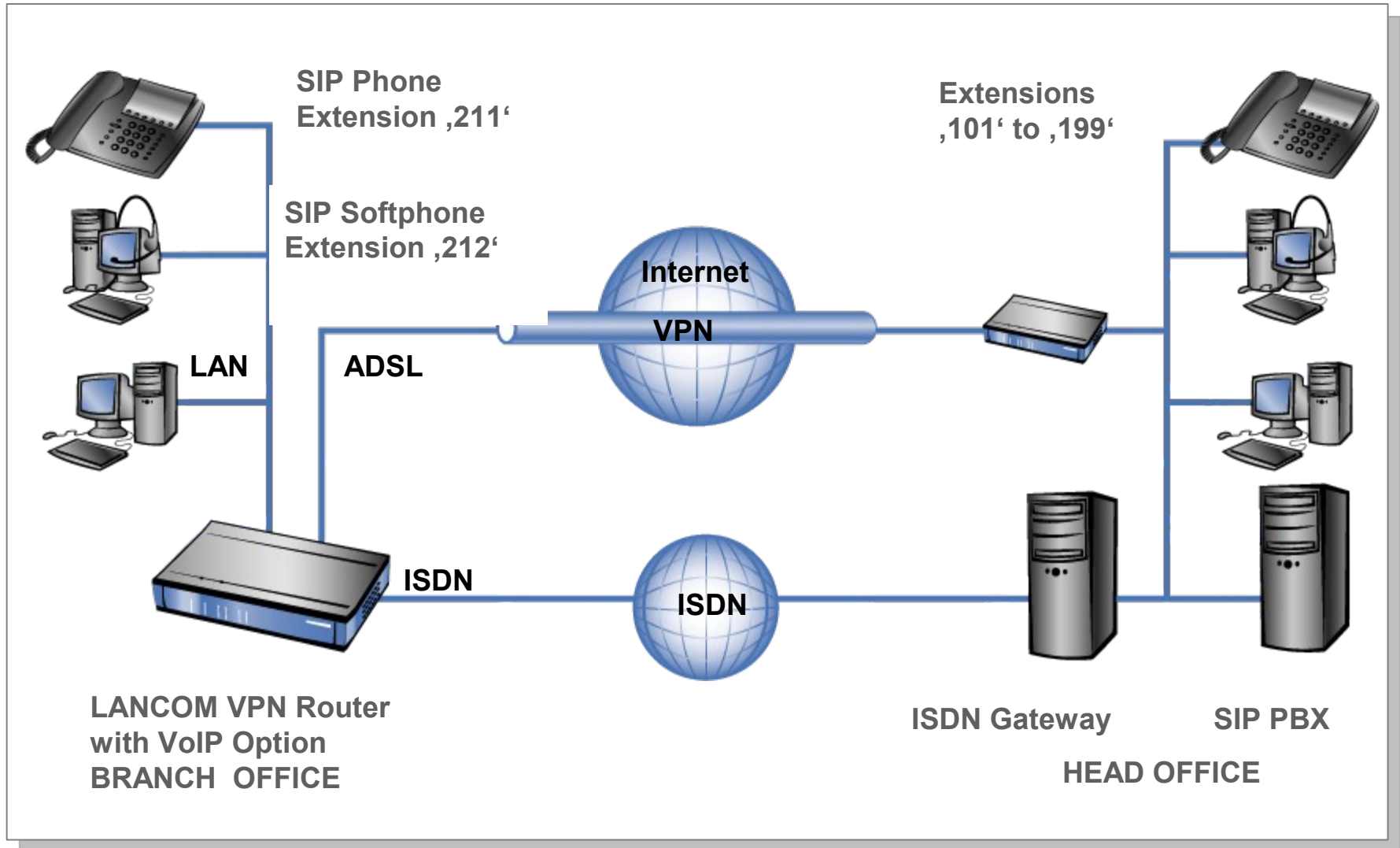
Example 2: VoIP supplement for ISDN PBX



- ▶ Internal calls for all phones
 - ▶ Automatic SIP ↔ ISDN conversion
 - ▶ Ideally suited for „Peer to Peer“ VoIP VPNs
- ▶ External calls with VoIP phones via
 - ▶ SIP provider
 - ▶ ISDN
- ▶ External calls with ISDN phones via ISDN
 - ▶ External calls with ISDN phones via SIP requires the new LANCOM 1722 VoIP with 2 ISDN NT/TE ports
- ▶ Accessibility of all devices (ISDN and SIP) through the MSNs
- ▶ Emergency calls and special service numbers via ISDN

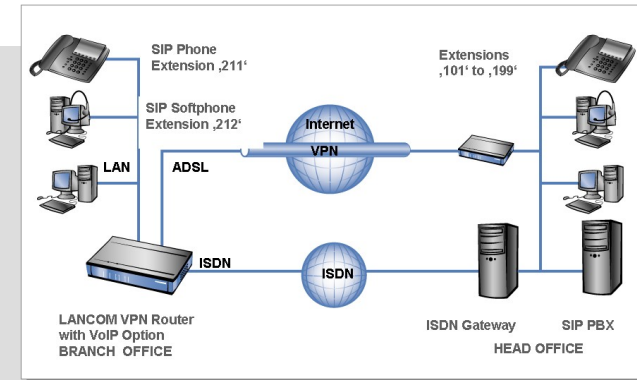


Example 3: VoIP to connect branches via VPN



Example 3: VoIP to connect branches via VPN

- ▶ Internal calls – free of charge
 - ▶ Between all locations (VPN)
 - ▶ LANCOM router with integrated IPSec
- ▶ External calls from branch offices
 - ▶ ... through the central SIP PBX, with
 - ▶ Backup via ISDN (local break-out)
 - ▶ Local area calls out of the branch office via ISDN
 - ▶ Emergency calls and service numbers via ISDN



New functions

- With activated VoIP Options only!

- ▶ VoIP Setup Assistant
- ▶ Extensive VoIP configuration settings

Call routing

Usage	Prio	Cld. ID	Comment	Dest. ID	Dest. line	Src. line	...
On	0	00049#	Remove own country prefix	00#	RESTART		
On	0	000800#	International free service call	00800#	ISDN		
On	0	000#	International call	00#	SIPPROVIDER		
On	0	0010#	Modem call to Internet Provider	010#	ISDN		
On	0	001810#	National free service call	0180#	ISDN		
On	0	00241#	Remove own local area prefix	0#	RESTART		
On	0	00800#	National free service call	0800#	ISDN		
On	0	00#	National call	0#	SIPPROVIDER		
On	0	0110	Emergency Call	110	ISDN		
On	0	0#	Local area call	0241#	ISDN		
On	0	112	Emergency Call	112	ISDN		
On	0	2#	Branch office 2 (VoIP)	2#	SIP-PBX(VPN)		
On	0	97#	Enforce SIP line	#	SIPPROVIDER		
On	0	98#	Enforce ISDN line	#	ISDN		
On	0	99#	Enforce SIP-PBX (VPN)	#	SIP-PBX(VPN)		
Default	0	#	Default line	#	SIPPROVIDER		

Add ...

Edit ...

Copy ...

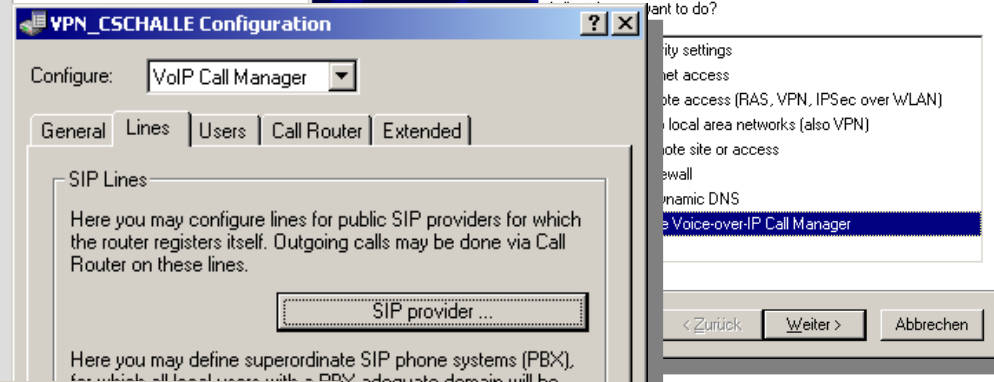
Remove

OK

Cancel

OK

Abbrechen



New functions

- With activated VoIP Options only!

- ▶ VoIP Call Manager status display
- ▶ Lines / Accounts
- ▶ Connected devices
- ▶ Call data

The screenshot displays the LANmonitor application window. The interface includes a menu bar (File, Device, View, Tools, Help) and a toolbar with various icons. The main content area shows a tree view of the system configuration:

- VPN_NHAMEL
 - WAN connections: 1
 - VoIP Call Manager
 - Users: 3
 - ISDN user: 10 (Registered local)
 - Type: ISDN user
 - Number/Name: 10
 - Domain: None
 - Interface: ISDN-1
 - Local registration: Registered
 - Remote registration: Registration pending
 - SIP user: 12@isdn (Norbert Hamel (ISDN) (Registered local)
 - SIP user: 12@bridgecom.intern (Norbert Hamel) (Registered local)
 - Lines: 3
 - SIP provider: SIPGATE (Registered)
 - Type: SIP provider
 - Registration: Registered
 - Line: Ready
 - Domain: sipgate.de
 - SIP provider: FWD2 (Registered)
 - ISDN: ISDN
 - Calls: 1
 - 12@bridgecom.intern (Norbert Hamel) -> SIPGATE: 0240549936311@sipgate.de
 - Source line: USER.SIP
 - Source display name: Norbert Hamel
 - Source number/name: 12
 - Source domain: bridgecom.intern
 - Dialed number/name: 0240549936311
 - Dialed domain: bridgecom.intern
 - Destination line: SIPGATE
 - Destination number/name: 0240549936311
 - Destination domain: sipgate.de
 - Codec (source->destination): PCMA/8000 (G.711a-law)
 - Codec (destination->source): PCMA/8000 (G.711a-law)
 - Call time: 26.01.2006 14:47:15
 - Connect time: 26.01.2006 14:47:19
 - End time:
 - Status: Connected
 - Local domain: bridgecom.intern
 - Firewall: 1/26/2006 13:08:36 DENY_ALL - Packet rejected
 - System information



Updated LANCOM LCOS Reference Manual

- ▶ Over 600 pages of background information, practical tips and detailed descriptions of all new functions
 - ▶ As PDF in the [download](#) area and on the [LANCOM CD](#)

Soon available as a book upon order!

- ▶ Clear presentation in 2-color print
- ▶ Instant access to all themes thanks to index markers

We wish you every success with your new LANCOM product!

We look forward to your **praise and criticism, suggestions or questions** to info@lancom.de.

The latest information about Service and Support can be found on our Support flyer, our Internet site or from our **Knowledge Base** under www.lancom.de/support.

If the manual and our current support themes in the Internet are of no help to you, then our **Support Hotline** is available to you from within Germany, Monday – Friday, from 9:00 – 17:00h under 0900-1-LANCOM (= 0900-1-526266) (1.24 € / Min.).

Your LANCOM Systems Team

LANCOM

Systems