Building Telephony Systems with OpenSIPS

Second Edition

Build high-speed and highly scalable telephony systems using OpenSIPS

Flavio E. Goncalves
Bogdan-Andrei Iancu

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This Book Install and configure OpenSIPS to authenticate route bill and monitor VoIP calls Gain a competitive edge using the most scalable VoIP technology Discover the latest features of OpenSIPS with practical examples and case studies Who This Book Is For If you want to understand how to build a SIP provider from scratch using OpenSIPS then this book is ideal for you It is beneficial for VoIP providers large enterprises and universities This book will also help readers who were using OpenSER but are now confused with the new OpenSIPS Telephony and Linux experience will be helpful to get the most out of this book but is not essential Prior knowledge of OpenSIPS is not assumed What You Will Learn Learn to prepare and configure a Linux system for OpenSIPS Familiarise yourself with the installation and configuration of OpenSIPS Understand how to set a domain and create users extensions Configure SIP endpoints and make calls between them Make calls to and from the PSTN and create access control lists to authorize calls Install a graphical user interface to simplify the task of provisioning user and system information Implement an effective billing system with OpenSIPS Monitor and troubleshoot OpenSIPS to keep it running smoothly In Detail OpenSIPS is a multifunctional multipurpose signalling SIP server SIP Session Initiation Protocol is nowadays the most important VoIP protocol and OpenSIPS is the open source leader in VoIP platforms based on SIP OpenSIPS is used to set up SIP Proxy servers The purpose of these servers is to receive examine and classify SIP requests The whole telecommunication industry is changing to an IP environment and telephony as we know it today will completely change in less than ten years SIP is the protocol leading this disruptive revolution and it is one of the main protocols on next generation networks While a VoIP provider is not the only kind of SIP infrastructure created using OpenSIPS it is certainly one of the most difficult to implement This book will give you a competitive edge by helping you to create a SIP infrastructure capable of handling tens of thousands of subscribers Starting with an introduction to SIP and OpenSIPS you will begin by installing and configuring OpenSIPS You will be introduced to OpenSIPS Scripting language and OpenSIPS Routing concepts followed by comprehensive coverage of Subscriber Management Next you will learn to install configure and customize the OpenSIPS control panel and explore dialplans and routing You will discover how to manage the dialog module accounting NATTraversal and other new SIP services The final chapters of the book are dedicated to troubleshooting tools SIP security and advanced scenarios including TCP TLS support load balancing asynchronous processing and more A fictional VoIP provider is used to explain OpenSIPS and by the end of the book you will have a simple but complete system to run a VoIP provider Style and approach This book is a step by step guide based on the example of a VoIP provider You will start with OpenSIPS installation and gradually your knowledge depth will increase   Advances in Cyber Security Mohammed Anbar,Nibras Abdullah,Selvakumar Manickam,2021-02-04 This book presents refereed proceedings of the Second International Conference on Advances in Cyber Security ACeS 2020 held in Penang Malaysia in September 2020 Due to the COVID 19 pandemic the conference was held online The 46 full papers and 1 short paper were carefully reviewed and selected from 132 submissions The papers are organized in topical sections on internet of things

industry 4 0 and blockchain and cryptology digital forensics and surveillance botnet and malware and intrusion detection prevention ambient cloud and edge computing wireless and cellular communication governance social media mobile and web data privacy data policy and fake news **Building Telephony Systems With Openser** Flavio E. Goncalves,2008 **Building Telephony Systems with OpenSER** Flavio E. Goncalves,2008-04-25 This book is a well illustrated step by step guide to building a SIP based network using OpenSER This book is for readers who want to understand how to build a SIP provider from scratch using OpenSER Telephony and Linux experience will be helpful but is not essential Readers need not have prior knowledge of OpenSER **Building Telephony Systems With Asterisk** David Gomillion,2005 Asterisk is a powerful and flexible open source framework for building feature rich telephony systems As a Private Branch Exchange PBX which connects one or more telephones and usually connects to one or more telephone lines Asterisk offers very advanced features including station to station calls line trunking call distribution call detail rerecords and call recording **Building Enterprise Ready Telephony Systems with SipXecs 4. 0** Michael W. Picher,2009-07-23 Leveraging open source VOIP for a rock solid communications system **Building Telephony Systems with Asterisk** David Gomillion,Barrie Dempster,2005 This book is aimed at anyone who is interested in building a powerful telephony system using the free and open source application Asterisk without spending many thousands of dollars buying a commercial and often less flexible system This book is suitable for the novice and those new to Asterisk and telephony Telephony or Linux experience will be helpful but not required Introduction to Private Telephone Systems Lawrence Harte,Robert Flood,2005-05 This book provides an introduction to the different types of private telephone systems how they operate and common call processing features they offer Private telephone systems are communication equipment and software that are owned leased or operated by the companies that use these systems Private telephone systems are converting from company unique proprietary circuit switched systems to industry standard packet data voice IP Telephony systems You will learn the basics of IP Telephony voice over Internet protocol VoIP and why it is so important to private telephone systems The fundamental parts of private telephone systems are described including telephone stations local wiring switching systems and numbering plans are described and explained The high growth market for private telephone systems and the key trends are covered providing you with an understanding of which system types are growing the fastest and how some systems are evolving to better compete in the industry Covered are the different types of private telephone systems You will discover how multiline key telephone systems KTS operate and why they are converting from mechanical systems to automated electronic controlled networks You will learn how automatic switching systems are used by private branch exchange PBX systems to provide features and services not offered by public telephone companies Explained are the ways private telephone systems can be operated hosted by other companies Hosted PBX Centrex and how these systems can provide services similar to PBX telephone systems Discover how telephone systems can be combined with company information systems using computer telephony integration

CTI You will learn how IP PBX iPBX systems operate and why IPTX is the fastest growing area in private telephone systems You will learn some of the ways private telephone systems are adding wireless capabilities and industry standard wireless private branch exchange WPBX systems Important call processing features including distinctive ringing call hold call transfer call pickup line hunting and other features are described Advanced private telephone system features are explained including automated attendant systems automatic call distribution ACD Interactive voice response IVR and Voice mail VM A basic introduction to call centers is also included   *Introduction to IP Telephony* Lawrence Harte,2006 This book explains why people and companies are converting some or all of their existing legacy telephone systems from dedicated telephone systems such as proprietary PBX to more standard IP telephony systems These conversions allow for telephone bill cost reduction increased ability to control telephone services and the addition of new telephone information services Through the use of IP telephony service companies can immediately reduce their telecommunication costs 40% to 70% This book provides an overview of the different types of IP Telephony systems including IP PBX IP Centrex and Internet Telephone systems You will learn the key functional parts of voice over IP systems and how voice over Internet protocol VoIP systems work Explained are the processes used to setup and control IP telephony service The common IP Telephony protocols including session initiation protocol SIP Media Gateway Control Protocol MGCP and H 323 are described as well You will learn how to connect telephones through data networks using adapters or by using telephones that plug directly into data networks IP telephones Discover what equipment and service choices you have and how they can affect your costs and service quality Find out how packet losses and packet delays creates distortion and operational challenges and ways to reduce or eliminate these effects Advanced telephone features that are only possible through IP Telephony are described along with how customers can setup and configure their equipment through the use of self provisioning web portals Learn about the different types of services their typical costs and some of the hidden costs of IP Telephony and ways to reduce or avoid them Some of the most important topics featured are The different types of IP Telephony systems Functional parts of VoIP systems The processes used to setup and control IP telephony service How to connect standard telephones through data networks What choices you have and how they can effect your service quality Advanced telephone features that are only possible through IP Telephony The different types of services and their typical costs Some of the hidden costs of IP Telephony   **Asterisk 1.6** Barrie Dempster,David Gomillion,2009-09-21 Build feature rich telephony systems with Asterisk   **FreeSWITCH 1.2** Anthony Minessale,2013-05-24 This book is full of practical code examples aimed at a beginner to ease his or her learning curve This book is written for IT professionals and enthusiasts who are interested in quickly getting a powerful telephony system up and running using the free and open source application FreeSWITCH Telephony experience will be helpful but not required   Computer Telephony Integration William A. Yarberry, Jr.,1999-09-24 In this real world guide for telephony decision makers the author presents practical techniques for selecting implementing and managing voice communications systems

including Voice over IP It enables buyers to focus on telephony systems that fit their organization s needs It provides a wealth of new ideas that will enable them to provide new services existing services at a lower cost and zero downtime service levels It helps them to quickly articulate a telephony strategy that encompasses large and small offices domestic and international locations and a heterogeneous hardware software environment **Internet Communications Using SIP** Henry Sinnreich,Alan B. Johnston,2006-10-16 This book is like a good tour guide It doesn t just describe the major attractions you share in the history spirit language and culture of the place Henning Schulzrinne Professor Columbia University Since its birth in 1996 Session Initiation Protocol SIP has grown up As a richer much more robust technology SIP today is fully capable of supporting the communication systems that power our twenty first century work and life This second edition handbook has been revamped to cover the newest standards services and products You ll find the latest on SIP usage beyond VoIP including Presence instant messaging IM mobility and emergency services as well as peer to peer SIP applications quality of service and security issues everything you need to build and deploy today s SIP services This book will help you Work with SIP in Presence and event based communications Handle SIP based application level mobility issues Develop applications to facilitate communications access for users with disabilities Set up Internet based emergency services Explore how peer to peer SIP systems may change VoIP Understand the critical importance of Internet transparency Identify relevant standards and specifications Handle potential quality of service and security problems **Voice Over IPv6** Daniel Minoli,2011-04-01 IPv6 Internet Protocol version 6 is the future of Internet telephony And this book is your guide to that future IPv6 is the replacement for the currently used IPv4 Internet Protocol version 4 IPv6 will offer increased IP addresses full 128 bit addresses compared to the 32 bit addresses of IPv4 enhanced security and greater robustness It will also be fully backwards compatible with existing IPv4 systems These capabilities will finally make Internet telephony a viable competitor to conventional switched telephone networks In this book Dan Minoli clearly explains IPv6 and how telephone networks can be built on its foundations This is not just another IPv6 book instead it focuses on those aspects of IPv6 relevant to Internet telephony systems and voice networks Minoli uses a compare contrast approach exploring where IPv6 is similar to IPv4 and where it differs to let you quickly grasp the essence of IPv6 and the similarities and differences between current IPv4 based systems and IPv6 based systems If you will be designing implementing or maintaining the next generation of Internet telephony systems then you need the information in this book Explains the essential concepts of IPv6 and how they relate to Internet telephony Describes how Internet telephony systems using IPv6 are different from and better than Internet telephony systems based on the older IPv4 standard Discusses how to transition existing IPv4 Internet telephony systems and conventional switched systems to IPv6 based systems Extensive treatment of security issues including IP layer encryption and authentication methods Explains connection techniques including plug and play approaches for equipment used in IPv6 systems The first title describing how the next generation Internet protocol IPv6 can be used for Internet telephony Explains

IPv6 as it applies to Internet telephony VoIP Shows how IPv6 gives better security QoS and signal integrity in Internet telephony   Carrier Grade Voice Over IP Daniel Collins,2000-10-13 A must have practical primer on true carrier class VoIP how to use cutting edge signaling schemes quality of service QoS techniques and existing protocols to deliver Ma Bell quality service This is where telecom managers engineers and network managers can go for an easy to grasp explantion of TIPHON the solution to problems with H 323 and IETF specs to ensure relliability of signaling over IP Delves into resource reservation schemes that can provide very high QoS   **Introduction to SIP IP Telephony Systems** Lawrence Harte,2003-11 This book explains why people and companies are using SIP equipment and software to efficiently upgrade existing telephone systems develop their own advanced communications services and to more easily integrate telephone network with company information systems This book provides descriptions of the function parts of SIP systems along with the fundamentals of how SIP systems operate It identifies and explains what key services are possible through the use of SIP and how existing phone systems can be upgraded to SIP capabilities It describes why it is easy to integrate SIP with information systems along with how to develop new advanced revenue producing services The reader will learn the basic SIP system development and installation process and how to manage SIP systems Explained are the typical costs of SIP systems and how SIP technology is changing to meet future multimedia communication needs   **DIGITAL TELEPHONY, 3RD ED** Bellamy,2006 Market_Desc Hardware and Software Engineers in telecommunications Senior or Graduate Students in Electrical Engineering Computer Engineering and Computer Science Special Features An up to date revision of a best selling title with an emphasis on system level design considerations and the reasons digital technology has supplanted analog technology in telephone networks worldwide From the reviews of the Second Edition The book stresses how systems operate and the rationale behind their design rather than presenting rigorous analytical formulations Readers will find the practicality and breadth essential to mastering the concepts of modern communications systems Telecommunication Journal Written by a well known expert in the field Correlates classical communications theory and the implementation of communications equipment and systems About The Book This is an up to date revision of a best selling title with an emphasis on system level design considerations and the reasons digital technology has supplanted analog technology in telephone networks worldwide The book correlates classical communications theory and the implementation of communications equipment and systems

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