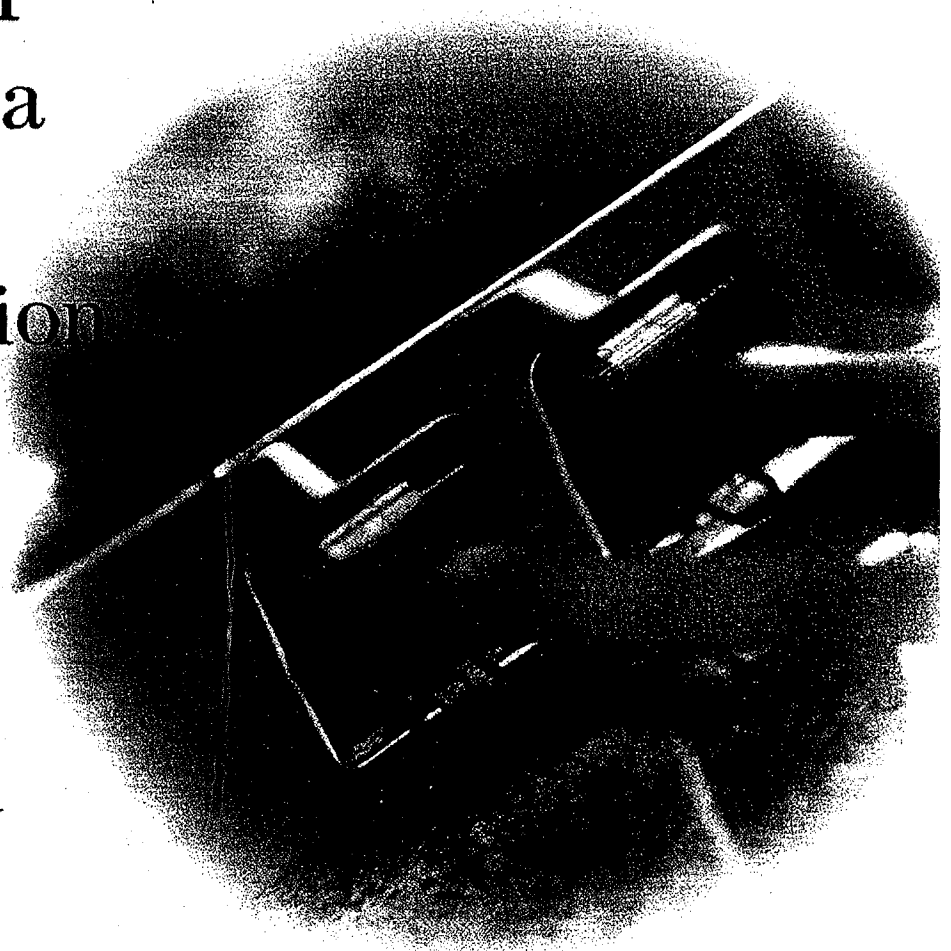


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# Internet Communications Using SIP

Delivering VoIP  
and Multimedia  
Services with  
Session Initiation  
Protocol

Henry Sinnreich  
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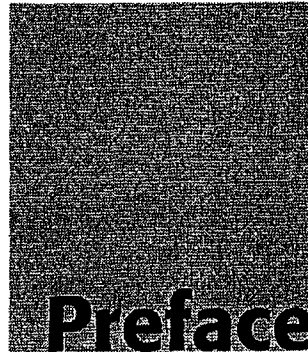
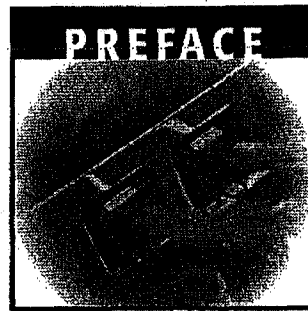
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This book is less about explaining the protocol details and how SIP works, but rather what SIP does and the new services enabled by SIP. Protocol details are kept to a minimum and mentioned only to the extent necessary to understand how the respective services can be built.

The book *Internet Communications Using SIP: Delivering VoIP and Multimedia Services with Session Initiation Protocol*<sup>1</sup> deals with *redefining communications* over the Internet, and is of interest to everybody in the telecommunications and Internet industry working in technology companies, for service providers and for students in the areas of communication and networks.

The authors of this book have had the privilege to closely monitor and contribute to the development of the Session Initiation Protocol in the Internet Engineering Task Force and to its deployment for new IP communication services in WorldCom, Inc.

Working in the telecommunications industry, we discovered SIP and were struck by the same thought: SIP will revolutionize telecommunications!

SIP will also considerably enrich the Internet. To quote Vint Cerf: SIP is probably the third great protocol of the Internet, after TCP/IP and HTTP.

<sup>1</sup>The authors would like to credit Teresa Hastings from WorldCom for coining this expression.

Two factors drove us to write this book: IP communications based on SIP is a rising tide for all ships and we want to convey the message. At the same time many concepts from legacy telephony networks are still trying to make it to the Internet, such as H.323 signaling and the "softswitch" type of central control, and we believe this requires a better understanding of SIP.

The exciting and very demanding protocol development work in the IETF SIP and other Working Groups has provided an incredible environment for critical assessment and open discussion of many detailed aspects of IP communications. SIP has generated so many contributions, that overload is one of the main challenges of the SIP working group. SIP is spilling over into several new working groups in the IETF and is also pursued in other international standards organizations.

Finally, this book is about practical implementation and network design. For the past three years, the authors have been involved in the design of a carrier-class SIP network and services.

The topics in this book reflect the multiple design and implementation issues and also the decisions service providers have to make to provide SIP-based IP communication services. The authors have had the benefit of working with some of the leading experts on SIP from the IETF, WorldCom, and from many vendors in this emerging field.

Real time IP communications are by no means a closed chapter, so we had also to rely on concepts that are discussed in IETF working groups or have been proposed by various engineers, without having as yet been accepted as a standard, or even enjoy rough consensus.

Important lessons were learned from implementing SIP and not least after both authors installed SIP phones at home and in the office. Memorable evenings and weekends were spent discussing the protocol and the book on our flawless SIP phone connection over the public Internet (using cable modem and DSL Internet access), and also within the enterprise network and for overseas. Hopefully some of this "hands on" experience has found its way into the book.