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Building a **VoIP Network** with

Nortel's® Multimedia
Communication Server 5100

Larry Chaffin

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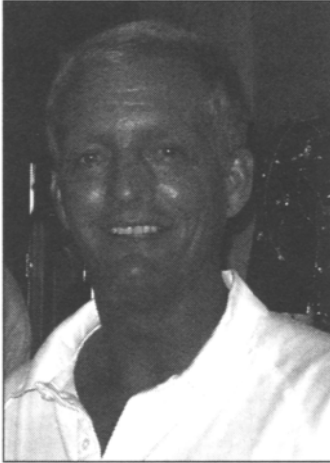
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Larry Chaffin is the CEO/Chairman of Pluto Networks, a worldwide network consulting company specializing in VoIP, WLAN, and security. Larry is an accomplished author, and in addition to writing this book, he has contributed to Syngress Publishing's *Managing Cisco Secure Networks* (ISBN: 1-93183-656-6), *Skype Me* (ISBN: 1-59749-032-6), and *Practical VoIP Security* (ISBN: 1-59749-060-1). He has also coauthored/ghostwritten 11 other technology books on VoIP, WLAN, security, and optical technologies. Larry has more than 29 vendor certifications from companies such as Avaya, Cisco, HP, IBM, isc2, Juniper, Microsoft, Nortel, PMI, and

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Dedication

This book is dedicated in loving memory of my grandmother, Jeanne Warner, who past away during the writing of this book. Her warm heart and spirit will be missed very much.



A Word from the Author

I would like to thank many people who helped me during the writing of this book. First and foremost, the staff at Syngress, Gary and Andrew. I could have not worked with two nicer people on my first solo book project. Also I would like to thank members of the Nortel team: Steve Cook, Denis Fortier, Curt Nelson, and Gary Shook. Without their help with providing screen shots or making systems available to me for screen shots, this book would be incomplete. Also thanks to my two puppies, Jordan and Clyde, who put up with many sleepless nights while I was writing through all hours of the night.

Even though we did not have room in this book for the Microsoft Outlook Client, Web Collaboration, or IP Phones options, we will be making this information available on the Syngress Web site when the book is purchased. This adjunct material should be available by September.

All proceeds from the royalties of this book will be donated to charity by Larry Chaffin on behalf of Pluto Networks and its Save the Homeless Campaign.

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Foreword

The first thing I think of when talking about the MCS 5100 is what's not to like? It has everything that you would need for a system that will grow with your company, and it provides multimedia and IP phone support. When customers see this system, they react by saying, "Wow, it does all of that and more?" It is the kind of system that administrators who begin using it wonder how they got along without it.

But let's talk about the writing of this book. It took some time to write this book because many different people helped me obtain access to a system that I could mold and set up to meet my needs. They allowed me to take a full system, rip it bare, and reinstall everything just to get the screen shots and setup I needed. Friends are a great thing to have when you need help. Most of the writing for this book came when I was traveling back and forth to London, Tokyo, and Hong Kong.

Most of my friends wonder how I have time to do all of the work I do, travel, and write an entire book by myself. Well, it takes a lot of time management to do everything plus do other work. But if you want to know the truth, I would not have it any other way right now; being wanted and being busy are good things. When customers stop calling, and you are sitting around surfing the Web, you know there is a problem. So accessing a VPN to Canada all the time to configure an MCS 5100 and make other changes is not so bad.

Some people have already asked me what is next for me. Well, I am thinking of a follow-up to this book already. There is some good news about the new partnership between Nortel and Microsoft for use of the SIP Client. Don't be surprised if you see the PC Client from the MCS 5100 in use with the Microsoft LCS soon. Remember you heard it here first.

I have found it is easy to stop and smell the roses when you do something great, such as writing a book. But it is even better when you can take time to smell the roses while you are running with them in your hand.

—Larry Chaffin,
CEO/Chairman of Pluto Networks

Chapter 1

Getting Started with the MCS 5100

Solutions in this chapter:

- What Is the MCS 5100?
- Application Tools
- Alliances

- ☑ Summary
- ☑ Solutions Fast Track
- ☑ Frequently Asked Questions

Introduction

The Nortel Multimedia Communications Server (MCS) 5100 is one of the first systems to push SIP to the forefront ahead of its competitors in the voice over IP (VoIP) arena. It takes the best of both worlds from a PBX system and a computer application system and combines them into the system we will be looking at throughout this book. This first chapter provides a high-level overview of what the system is and what it is not, and a look at some of the major services provided by the MCS 5100.

To understand how this system works and how it operates with other systems, you need to have somewhat of an understanding of the SIP Protocol (see Chapter 8). Although the MCS 5100 can also provide and use H.323, most users and enterprise users are moving to SIP due with its complexity compared to H.323. Currently there are a few other major players that are following the lead of Nortel using SIP; for example, Cisco and Microsoft. In the Microsoft LCS and the new version of Call Manager both have gone to a SIP-based presence for their clients.

But Nortel has continued to evolve in front of the competitors by offering more than just a phone and voice mail. It has expanded into other areas of mobility such as personal digital assistants (PDAs) and wireless clients. The ability Nortel has to do SIP to endpoints such as those from Polycom has proven the potential of the MCS 5100 to expand outside the normal realm of a VoIP PBX. The system has the capability to move communication toward a single platform.

A group of components and applications that can all work on a single system provides users and administrators with a better experience than a dispersed system. An example of this is a user who is on the Nortel PC Client, using the instant messenger—at the same time he or she can receive and make calls to others, send files, and perform a whiteboard task. Also the user could be using a video call between one or more people at the same time. In a dispersed system a user would have to have three to nine different applications open at one time to do the same tasks as the MCS 5100.

This is the beauty of the Nortel MCS 5100 system in comparison to other PBXes or VoIP PBXes—it gives you everything you need at your fingertips and in easy reach for outstanding communications to users in and out of the enterprise.

What Is the MCS 5100?

The Multimedia Communications Server 5100 (MCS 5100) is a SIP-based application server (for information on SIP, see Chapter 8). It can deliver SIP-based multimedia and collaborative applications in either a LAN or WAN network. As with all VoIP PBX systems, you can have a choice between either a Nortel IP Phone at your desk and the PC Client softphone on your computer. If you would like the best of both worlds, the Nortel IP Phone and the PC Client will work together, or the PC Client can be used with the Nortel CS 1000 family of products for a PBX Converged Desktop.

Conferencing, collaboration, and video are main components within the MCS 5100. These components provide users with a full multimedia office experience not seen on other VoIP PBX systems.

Users of the MCS 5100 do not have to pay for costly audio conferencing and videoconferencing; the MCS 5100 provides these services within the system. These services are very scalable to any network. The system also provides a Web collaboration tool that allows users to not only make an audio or video call but also share or create documents in moments.

The MCS 5100 has addressed the issue of current security concerns about instant message usage within a network. Now you can have instant messaging in a secure VoIP network to and from your IP phone or PC Client. Being able to provide a secure instant messaging environment is a great feature of the MCS 5100; in collaboration with SIP-based user presence, this feature allows users to communicate in real time. Knowing who is available, if they are talking on the phone, or away from their desk provides users with valuable information during the day. This allows users to make better use of their time and have better control of their day.

As stated earlier, the MCS 5100 is an application server; this statement may be very puzzling to people who thought it was just a PBX. Nortel has stated that the MCS 5100 is not a PBX and not a VoIP PBX, but an application server that has the capability to transform enterprise communications. It