IP Call Center Technology

A Guide to Building the Modern Multimedia Contact Center

Teracom's IP Call Center Technology is an intensive course on IP and multimedia in contact centers, extremely valuable for anyone involved with contact center planning, management, products or services.

In two days, you'll get up to speed on IP in the call center world:

- What a multimedia IP contact center is
- New features and services that can be supported
- The components that are used
- Why you want to do it
- How to apply it in your organization

We've done the research for you! Impossible to find in one place anywhere else, this incredibly comprehensive and up-to-date course will save you hundreds of hours trying to research these topics yourself. Numerous detailed checklists and templates will ensure you're not missing any critical items … or alternatives vendors might "forget" to mention.

An unbiased, complete picture from an expert in the field. You'll learn the details of 20 advantages of using IP technology, 50 real opportunities for cost savings and the offerings of 15 vendors. We'll review numerous solutions for small, medium, large, and widely-dispersed businesses including both purchased and hosted options. On the technology side, you'll get up to speed on universal queues, multimedia skills-based routing, distributed IVRs, cross-channel transaction tracking, IP-call monitoring and more.

Essential tips, checklists and templates you can put to immediate use. The 370-page student manual lists 150 questions that need to be asked of vendors, a 40-point checklist of advantages of a hosted solution, a vendor directory and detailed glossary. As a special bonus, you'll also receive guidance on the procurement process and a detailed template for generating a Request For Proposal you can put to immediate use.

Course Objective

Get you up to speed on IP in the call center with a complete, unbiased picture and a thorough understanding of the technologies, benefits, issues, options for solutions, migration and integration strategies, vendors and practical templates and checklists you can put to immediate use.

Who should attend

Professionals planning, managing, supporting or operating a contact center, or involved in contact center products and services.

Tuition Fees

US$795 for this two-day course.

Please see the following pages for registration options and complete information on course content, benefits, course materials and reviews by attendees.

Course Content (High-Level Summary)

Part 1: Establishing A Base

- IP and Multimedia in the Contact Center
- VoIP and IP Telephony Overview
- Classic Call Center Technology

Part 2: What, How And Why

- IP Contact Centers: Components and Operation
- Premise-Based Solutions
- Hosted Solutions and Architecture Choices
- Provable Benefits, Cost Savings and Advantages

Part 3: Getting Ready To Build

- Infrastructure Upgrade Requirements
- Formulating an RFP – and Dealing with Vendors
- Vendor Reviews
- Business Case Examples

Appendix

- RFP Template, Vendor Directory, Glossary

Here's What Seminar Attendees Like You Are Saying

Hundreds of people like you have benefited from Teracom's training. Many tell us their Teracom course was their best course ever; filled gaps in their knowledge and tied everything together… knowledge they've been needing for years. Here's a sampling of comments from Teracom alumni:

"Excellent across the board. I gained a better understanding of call center IP technologies, and liked most the examples of products and use cases. The instructor provided very thorough explanations and was very knowledgeable about products."
– Raphael Reyes, New York City Employees Retirement System

"Seminar was applicable to current projects and issues. The course materials are useful and will provide a great reference. The instructor is well informed on current issues and explains topics well."
– Mary Helbach, MoneyGram International

"The seminar delivered exactly what was advertised, at a very high quality. Truth in advertising!" – Gary Lundberg, Copper Mountain Networks

"Upped my knowledge of IP and awareness, from the business side, of what I need to prepare for and potential impacts. I liked most the book - good manual to refer to. Also, specific vendor info is good, non-biased opinions of strengths and weaknesses. Instructor is very knowledgeable."
– Paula Feit, MoneyGram International

"Made quite a few concepts clear to me, and was presented in an easy-to-understand manner. The instructor is very skilled and informative."
– Daneen Ausby, New York City Employees Retirement System

"Covered everything - got a great foundation in IP call center technology. The book will be a great reference to go back and refer to."
– Angeline Maack, MoneyGram International

"Gave me a better understanding of how VoIP projects need to be structured for successful implementation. The discussion of 'gotchas' was very helpful. Jay is extremely knowledgeable and presents the material in a way that fosters understanding."
– Alison Carr, Discover Financial Services

"I got an understanding of all the different uses of VoIP, and different ideas to bring back to my company. I liked most what Jay brought to the table - this man was a book of knowledge. Jay was very well spoken and professional. I enjoyed the class."
– Kelly Grubel, AvMed Health Plans

"I liked most that the course content was impartial; we were not pushed in any specific direction. Provided good information so that we can make an informed decision. The instructor gave good examples, kept participants interested. Very good presentation skills."
– Jennifer Beverly, Discovercard

"Jay is very knowledgeable and able to explain complex information in layman's terms."
- Susan Landry, DND

Twelve Reasons to Take This Course

Teracom's courses have been taught to wide acclaim across North America since 1992 and are designed for the **professional** needing to fill in the gaps, build a solid base of knowledge… and understand how it all fits together.

1. Cut through the buzzwords, jargon and vendor hype to gain a solid understanding of IP contact center technology that you can put to use today... and going forward.
2. Get up to speed on IP in the contact center: what a multimedia IP contact center is, new features and services that can be supported, the components that are used, why you want to do it and how to apply it in your organization.
3. Get clear explanations of the choices for implementing IP contact center solutions, allowing you to make meaningful comparisons and informed decisions with confidence.
4. Fill gaps in your knowledge of VoIP, IP telephony and classic call centre technology.
5. Learn about IP-based contact center features and capabilities: the components and operation of an IP contact center, universal queues and multimedia skills-based routing, remote agents, distributed IVRs, CTI-less application integration, cross-channel transaction tracking, IP call monitoring and more.
6. Get a broad, unbiased view of mainstream practical choices and solutions: premise-based solutions, hosted solutions, architecture choices, provable benefits, cost savings and advantages, business case examples. Learn which is best for your organization.
7. Get a wealth of practical guidance on implementation and project management. Learn the top ten technology-oriented actions that should be taken to ensure success, infrastructure upgrade requirements, learn about voice quality, security threats and special analysis and troubleshooting requirements; review vendors products, strengths and weaknesses and get tips on dealing with vendors.
8. Obtain a 370-page student manual with tips, checklists and templates you can put to immediate use – totally up-to-date and bringing together all of this information, impossible to find in one place anywhere else. Includes 150 questions that need to be asked of vendors, a 40-point checklist of advantages of a hosted solution, a vendor directory, detailed glossary and a detailed 850-line template for generating a Request For Proposal.
9. Share practical insights, tips and tricks with other class members, discussing implementation issues in the context of the Business Cases and Vendor Survey.
10. Benefit from *unbiased*, complete information from an expert in the field. Gain vendor-independent knowledge that can be applied to any related project or system, and gain the broad understanding necessary to make the right choices for your situation.
11. Learn from the best. Not only do Teracom's instructors consistently receive highest ratings on student evaluations and specific praise of their ability to get *ideas* across, our instructors hold Bachelor of Engineering degrees or equivalent and have decades of experience working in the field.
12. Certification is included, with a certificate attesting to your IP contact center technology knowledge suitable for framing.

Without bogging down on unnecessary details, understand the ideas, concepts, technologies and solutions, increasing your confidence and allowing you to make informed choices and meaningful comparisons – knowledge you can't get on the job, reading trade magazines or talking to vendors.

Tuition Fees

This high-quality, up-to-date course is value priced at only $995 for the two days, including certification, certificate and 370-page course book. Compare to $1499 and up for lower quality courses elsewhere.

How to Register

Space in our seminars is limited, and may sell out, so please register as early as possible to reserve your place. You can register online or by phone:

- Register online at www.teracomtraining.com.
- Register by phone at 1-877-412-2700.

We accept Visa, MasterCard and American Express, as well as checks and purchase orders.

Detailed Course Description

Part 1: Establishing a Base

The first part of this course introduces the broad concepts and strategic goals of IP in the contact center, and reviews existing call center technologies and supporting technologies for IP contact centers like VoIP and SIP to establish a base of knowledge you can build on.

1. THE SHIFT TOWARD IP

We will begin with a summary of the major themes: call centers are complex environments, legacy techniques have shortcomings, there are real benefits to implementing IP-based systems, and there are many pitfalls to avoid. This section describes the broad reasons why the industry is shifting toward IP, the "killer apps" for this technology, when to apply them and the major implementation issues.

A. Business Links to the Call Center
   1. Business Applications
   2. Requirements of a Call Center
   3. Customer Transaction Life Cycles
   4. Front Office/Back Office Functions

B. Problems with Legacy Call Centers
   1. Location Specific
   2. Restrain Multimodal Communications
   3. Limit Self Service Options
   4. Limit Interoperability

C. The Open Architecture
   1. Standards Based vs. Proprietary Interface
   2. The Killer Apps
   3. Multimedia Contact Channels
   4. Issues, Costs, and Timing

D. Drivers for Implementation
   1. Greenfields – New Installations
   2. Reduce Operating Costs
   3. Increase Customer Contact Options
   4. Prepare for New Features and Capabilities

2. SUPPORTING TECHNOLOGY OVERVIEW: VOIP

A good review of the basic technologies that will be used to support IP call centers is provided so that you can fill in gaps and/or get up to speed in critical areas. You will learn how VoIP works, how IP calls are set up using SIP and the duties of communication servers and gateways.

A. Voice over IP
   1. Packetizing Voice
   2. Media Gateways
   3. Softswitches
   4. IP Addressing and Routing

B. VOIP Network Services and Providers

C. IP Telephony
   1. IP End Devices and Terminals
   2. Communications Servers and IP PBXs
   3. SIP Signaling
   4. Proxy Servers
   5. IP Centrex Services

3. CLASSIC CALL CENTER TECHNOLOGY

This section will provide you with a solid understanding of how current technology used in "legacy" call centers functions to better understand the differences of IP-based systems. You will learn how an ACD routes calls, how an IVR processes caller information and interacts with the CTI server, and how the CTI server extracts customer records from databases and delivers them to an agent via screen-pops.

A. Types of Call Centers
   1. Inbound
   2. Outbound
   3. Blended

B. Automatic Call Distribution Switch
   1. Major Functions of the ACD
   2. Anatomy of a Call Flow
   3. Service Level Metrics
   4. Call Routing Methods

C. Computer Telephony Integration
   1. CTI Server Components and Messages
   2. Delivering Screen Pops
   3. Interactive Voice Response Unit Flows
   4. Enhanced Skills-Based Routing

D. Multi-site Operations
   1. Distributed Call Center Silos
   2. Carrier Call Routing Options
   3. On-site Call Routing Options

E. Management Reporting
   1. Real Time Administration
   2. Performance Management Reports
   3. System Management Reports

Part 2: What, How and Why

With a solid technical background in place, we now tackle the main ingredients of the IP call center. You'll understand the media choices for customer communications: voice, e-mail, web-chat, web collaboration, click-to-talk – and how these are handled in a modern, multimedia contact center.

4. IP CONTACT CENTER COMPONENTS

In this section, you will learn about the new components and functions being introduced into the contact center, and the duties that the agents' IP phones and desktop applications perform in this environment. You'll understand how new IP-based functions both improve and complicate center operations.

A. Call Control and Media Servers

B. Multimedia Applications and Channels
   1. Voice Mail and Call Back
   2. Web Chat and E-Mail
   3. Click-to-Talk, Click-to-Video
   4. Web Collaboration and Co-Browsing

C. Contact Center Subsystems
   1. IP Call Recording and Monitoring
   2. New Complexities for Workforce Management
   3. Cross Channel Transaction Tracking
   4. Web-Based Standards for the IVR
   5. IP IVR – Local, WAN-based, and Distributed

D. ACD Software Functions
   1. Basic Call Routing
   2. Multimedia Skills Based Routing
   3. Universal Queue

4. Out-dialing

E. System Integration
1. Data-Support Programming – Web Services, XML, SOAP
2. Voice-Support Programming – VXML, CCXML
3. Common Application Programming Interfaces
4. Software Development Kits

F. IP Phones
1. Components and Software
2. Protocol Support
3. IP Features
4. Display Options
5. Specialized Contact Center Applications
6. Feature Keys

G. Desktop Applications
1. Softphones
2. Fat Client vs. Half Client
3. Agent Functions and Features
4. Supervisor Functions and Features
5. IP Phone Integration

5. PREMISE-BASED SOLUTIONS

This section describes the hardware, software, architectures, and techniques that are available for you to build small, medium and large contact centers. Options and example system layouts for each category are detailed including remote agents, virtual contact centers, universal queues, and multimedia skills-based routing.

A. Pure IP Solutions for Medium and Small Businesses
1. Typical Features and Options
2. Contact Center in a Box
3. Remote Extensions
4. Example Layout

B. Pure IP Solutions for Large Enterprises
1. Network Based Application Servers
2. Virtual Contact Center
3. CTI-Less Operations
4. Internet Connected Agents
5. Redundancy Options
6. Example Layout

C. IP Enabled and Hybrid Solutions
1. Advantages and Disadvantages
2. ACD/PBX Enhancements
3. Seamless Enterprise Hybrid
4. Example Layout

D. Multi-site Solutions
1. IP Trunking and On-Net Calling
2. Centralized vs. Distributed Control
3. Centralized vs. Distributed Gateways
4. Unified Queuing
5. Example Layout

6. HOSTED SOLUTIONS

You will learn in this section how hosted contact center providers, using IP-based technologies, can offer many variations of leasing or outsourcing, strategies that must be considered by almost every organization. You'll understand the many forms of hosted services available, a checklist of 40 advantages over premise-based solutions and the many pitfalls that should be avoided when choosing these options.

A. Hosting Options
   1. Contact Center Services
   2. Multi-tenant Architecture
   3. Network Services
   4. Application Services
   5. Outsourcing and Home Sourcing

B. Advantages over Premise-Based
   1. Responsibility
   2. Flexibility
   3. Expandability and Reach
   4. Cash Flow

C. Service Provider Marketplace
   1. Telecommunications Carriers
   2. Hardware and Software Companies
   3. Specialized Application Providers

D. Selecting a Hosted Solution
   1. Capabilities of Provider
   2. Security and Reliability Guarantees
   3. Management Support
   4. Hidden Costs – Pricing Models

7. BENEFITS OF AN IP CONTACT CENTER

The industry hype promoting the advantages and savings of IP contact centers makes it difficult to understand what is true or not. In this section, we cut through the hype and define 20 real benefits and describe under what circumstances they can be achieved. We will list 50 real opportunities for hard dollar savings separately so they are not confused with softer, long term benefits and make a link to strategic call center goals.

A. Reduced Complexity in Deployment and Maintenance
   1. Standards Based Open Systems
   2. Integrated Functionality
   3. Faster and Less Costly Upgrade

B. Location Flexibility
   1. Systems Separate From Agents
   2. Flexible Agents – Home Shoring and Overflow
   3. Linking Specialists and Idle Workers
   4. Outsource Some or All of the People and Systems

C. Universal Queue
   1. Consolidate Multiple Center Sites
   2. Reduce Abandon Call Rate and Average Speed of Answer
   3. Increase Agent and Trunk Utilization

D. Single network Deployment and Maintenance
   1. Simplify Network Hierarchy
   2. Reduce the Physical Number of Elements
   3. Centralize Management, Monitoring and Reporting
   4. Facilitate Business Continuity Planning

E. Unite Business Processes
   1. Broaden Choice of Contact Mode for Customers
   2. Support Multimodal Mobile Phones
   3. Establish One Set of Rules Across Business Applications
   4. Monitor and Report Across All Aspects of a Transaction

5. Collect Customer Data Across All Sites and Call Modes

F. Opportunities For Cost Reduction
1. Reduced Telecommunications Costs
2. Consolidate Infrastructure and Staff
3. Lower Cost Per Seat
4. Improve Self Service Options

G. Establish Long Term Strategy
1. Increase Productivity
2. Decompose System into Smaller Parts
3. Rapidly Follow Business Opportunities
4. Build Scalable Adaptive Systems

Part 3: Getting Ready To Build

In the third part of the course, we turn to the practical, addressing what upgrades you're likely to need to existing infrastructure, and how to go about selecting a solution to fit your needs and dealing with vendors. Included in the Appendix is a template for a Request for Proposal with over 800 line items plus a vendor directory and glossary that you can put to immediate use.

8. INFRASTRUCTURE UPGRADE REQUIREMENTS

The benefits and cost saving potential of IP contact center technologies must be tempered by the complexity and expense of building and maintaining such systems. Here, you will learn the top ten technology-oriented actions that should be undertaken to ensure that the systems and networks function successfully and what upgrades are most likely needed.

A. Problems and Concerns
1. Security
2. Upgrade Costs
3. Timing
4. Regulations
5. Skills Gap

B. Assess Existing Network Capabilities
1. Voice Quality Factors
2. Capacity
3. Impact of Voice on the Data Network

C. Network Upgrade Requirements
1. Switches and Routers
2. Data Protocol Modifications
3. Power to Network Devices

D. Reliability and Stability
1. Fault Tolerant Architecture
2. Redundancy Options
3. Distributed Call Control Options

E. Network and Computer Security
1. Twenty Risks and Vulnerabilities
2. Ten Network Protection Optimization Steps
3. Three-Tier Secure Framework
4. IP Call Center-Specific Features
5. Managing the Remote and Outsourced Machines

F. Network Management and Troubleshooting
1. Integrating the Data Network Tools
2. Measuring Voice Quality
3. Auditing the Network
4. Monitoring VOIP Activity

9. FORMULATING A REQUEST FOR PROPOSAL – AND DEALING WITH VENDORS

The next step is finding the best solution to fit **your** needs. In this section, you will learn how to do it the "right way" with a solid procurement process: how to develop and issue an RFP and dealing with vendors' responses. We'll give you a list of over 150 questions vendors should asked; for example, when a virtual contact center spans multiple time zones, are licenses based upon total aggregate seats available or actual concurrent seats occupied? The appendix contains a template for the RFP with over 800 line items that you can put to immediate use.

A. Executive Summary
   1. Type of Company and Customers
   2. Current Situation
   3. Long Term Plan
   4. Financial Considerations

B. System Architecture
   1. Structure: Single vs. Multi-site
   2. Remote Extensions
   3. Trunking
   4. Sever and Network Equipment
   5. Reliability and Availability
   6. Security

C. Voice Requirements
   1. Subsystems
   2. Maximum Seats, Groups and Queues
   3. Call Routing and Handling
   4. Outdial and Call Blending

D. Multimedia Handling
   1. Types of Contacts Supported
   2. Universal Queue
   3. Cross Channel Tracking
   4. Self Service Capabilities

E. Integrations
   1. Supported Standards
   2. Switch Vendors and Protocols
   3. IVR and XML/VXML Support
   4. CRM Vendors and Data Bases
   5. Time Frame for Integrations

F. Desktop and Phone
   1. Proprietary Features and Protocols
   2. Agent and Supervisor Phones
   3. Desktop Applications
   4. Productivity Features

G. Hosted Service Providers
   1. Architecture Implementation
   2. Core Functionality and Capacity
   3. Integration Capability and Experience
   4. Data Security and Isolation
   5. Customer Requirements and Limitations

H. Operations and Management
   1. Administration and Supervision
   2. Call Monitoring
   3. Performance Reporting
   4. Training, Collaboration and Conferencing
   5. On-going Testing

10. SELECTED VENDOR REVIEWS

To better select the correct solution, it is essential to understand the approaches of different vendors, products and industry trends. In this section, you'll gain an understanding of the product lines of several key players that have interesting hardware and software offerings, in the categories of small and medium businesses, large enterprises, and hosted solutions.

A. Small and Medium Businesses
   1. 3COM
   2. Altigen
   3. Zultys
   4. Pingtel

B. Large and Multi-site Businesses
   1. Avaya
   2. Nortel
   3. Cisco
   4. Shoretel
   5. Cosmocom

C. Hosted Services
   1. Contractual
   2. MCI
   3. EagleIP
   4. Echopass
   5. Pandora Networks

11. BUSINESS CASE EXAMPLES

To cement your knowledge and give you insight into the right solution for your needs, we'll round out the course by understanding how other companies are using IP-based contact center technologies. We will review actual cases of deployments across several categories of organizations to give you a reference for future decision making.

A. Small Companies

B. Medium Organizations

C. Large Enterprises

D. Multi-site Centers

E. Hosted Services

12. APPENDIX

The appendix includes a good list of vendors by product type, and for those who will be seeking vendor proposals, we have included a contact center RFP template with over 800 line items to get you started. Also included is a glossary of terms, jargon and buzzwords unique to IP contact centers.

A. Vendor Listing

B. Call Center RFP Template

C. IP Call Center Acronyms

Training on DVD/Video

Teracom's self-paced DVD-video courses: ideal for those who need to learn about telecom, datacom, networking, IP, wireless and VoIP outside of structured seminars. Our current library includes:

- V1 Fundamentals of Telecom 1: Telephony and the PSTN; Telecom Industry; Telecom Equipment
- V2 Fundamentals of Telecom 2: Analog and Digital; DS0-DS3; TDM; T1, T3, ISDN, SONET, Fiber
- V3 Fundamentals of Datacom and Networking: WANs and LANs, Frames vs. Packets · Network Services and Network Equipment · The Network "Cloud"
- V4 Understanding Networking 1: Protocol Stacks · OSI Layers · IP Addressing · Bandwidth on Demand Packet Networks · Frame Relay · ATM · TCP/IP over MPLS
- V5 Understanding Networking 2: The Internet · ISPs · IP Security · Firewalls · Encryption IPsec · VPNs
- DVD6 Understanding Wireless 1: Analog vs. Digital; Cellular; CDMA, TDMA, GSM/GPRS; 3G, wireless web
- DVD8 Voice over IP 1: The Many Flavors of VoIP · Advantages, Challenges, Potential Issues
- DVD9 Voice over IP 2: Protocols, Standards, Buzzwords · Voice Quality · Codecs · Compression
- DVD10 Voice over IP 3: VoIP on WANs · QoS · Centrex VoIP and PBX · VoIP in the Call Center

Each course comes with an approx. 2-hour full-color multimedia DVD combining an on-camera instructor, extensive graphics and point-by-point bullets, along with a comprehensive workbook/textbook with copies of all graphics and detailed reference notes sure to be a valuable reference for years to come. It's as close as you can get to private lessons from the Director of the Institute without actually being there. PLUS, each course comes with an online test and certification suitable for framing.

We are offering some very special pricing packages including our core training package (V1-V5) at US$879 for the set of five courses on DVD with detailed workbooks. Other packages including the full library and individual courses are also available. **Please visit www.teracomtraining.com for full details**.

Compare this to $500 for *one* course on CD or VHS elsewhere, and you'll agree that this is a very good deal. Hundreds of organizations have purchased our video sets!
Order today to make this invaluable addition to your telecommunications training library.

Bring This Course to Your Location

Since 1992, we have provided high-quality on-site training at 3Com, Qualcomm, Intel, Cisco, Nortel, AT&T, Alcatel, Kyocera, T-Mobile, Verizon, McLeod USA, Equifax, Transamerica Insurance, the US Air Force, Bell Canada, Panasonic, Boeing, the NSA, Florida Power and Light and Western Wireless... to name a few.

Onsite training has special advantages:

- Your personnel will be up to a common speed with a solid knowledge base.
- We'll fill in the gaps and put in place productivity-enhancing structured understanding.
- The seminar will be a strong team-building exercise.
- Significant reductions in training costs are often achieved.
- Each student receives a detailed workbook / textbook that will be a valuable reference for years to come.

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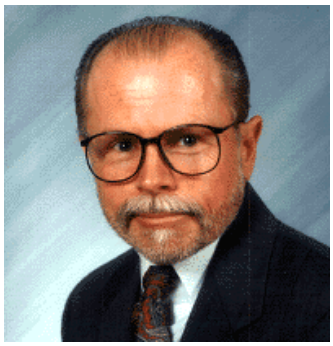
About the Course Director, Jay McGuire



Jay D. McGuire is the author and lead instructor for this course. Mr. McGuire holds advanced degrees in engineering and has been a professional trainer since 1982.

Jay specializes in delivering instructor-led technical training covering the fields of telecommunications, data communications and networking, local area networks, and call center and customer care technologies.

His publications and training manuals use a highly graphical approach to teaching technical concepts to non-technical audiences from a wide range of corporate environments.

Jay has held past positions as a telecommunications manager for a Fortune 100 insurance company and as a digital design engineer.

