

# COMPUTER USER SUPPORT SPECIALISTS

A DEEP DIVE FOR SKILLS-BASED HIRING

REV: 04/04/16

# Occupation Overview: Computer User Support Specialists

## Foundational Competencies

- **Active Listening:** Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.
- **Critical Thinking:** Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions, or approaches to problems.
- **Writing:** Communicating effectively in writing as appropriate for the needs of the audience.
- **Complex Problem Solving:** Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.
- **Judgment and Decision Making:** Considering the relative costs and benefits of potential actions to choose the most appropriate one.
- **Monitoring:** Monitoring/assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.
- **Instructing:** Teaching others how to do something.
- **Coordination:** Adjusting actions in relation to others' actions.
- **Service Orientation:** Actively looking for ways to help people.
- **Systems Analysis:** Determining how a system should work and how changes in conditions, operations, and the environment will affect outcomes.

## Occupation-Specific Competencies

- **Basic Tech Support:** Familiarity with the use of some components of commonly-used computer hardware, software, applications, etc. and a basic ability to diagnose customer problems and provide troubleshooting and issue resolution support.
- **Basic Core Operating Systems:** Familiarity with the use of multiple operating systems (e.g., Apple, Microsoft, Android, Linux/Unix) for computer and mobile devices and some knowledge of how to install, configure, and maintain one of those operating systems.
- **Intermediate Microsoft Office:** Demonstrated ability to install, configure, and maintain a wide variety of end-user software packages (which must include a business productivity suite, such as MS Office or Google Docs); Demonstrated intermediate-level skills in the use of a wide variety of end-user software packages.
- **Intermediate General Networking Tools and Concepts:** Demonstrated ability to provide network support with commonly-used tools/devices, including: routers, switches, Ethernet, firewalls, frame relay, LAN, VPN and WAN; demonstrated ability to set-up IP Addresses and run cabling.
- **Basic IT/Hardware:** Familiarity with the use of multiple computer and device hardware and IT systems and some knowledge of how to assemble, configure, install, maintain, and repair some of the hardware/systems.
- **Basic Office Machines:** Familiarity with the use of commonly-used office appliances and hardware components beyond computers/devices such as modems, printers, workstations, routers, and modems, and some knowledge of how to assemble, configure, maintain, and repair some of them.
- **Basic General Database:** Demonstrated proficiency with SQL basics (e.g., selecting, inserting, updating, deleting records), at least one database management software application, and database fundamentals such as normalization, schemas, and relationships.
- **Basic Telecommunications:** Familiarity with installing and maintaining telecommunications over common audio and video channels like AURA, Avaya, and VoIP; familiarity with telecommunications vectoring and video conferencing.
- **Basic Testing:** Demonstrated ability to design tests, create test scripts, ensure that test cases mimic user usage, execute and validate unit tests, and use appropriate test tools for their own changes. Familiarity with system and performance testing.
- **Intermediate General Information Security:** Demonstrated ability to install, configure, troubleshoot, test, and maintain in a secure manner the portion of the IT environment under their responsibility (networks, communication, hardware, software, and other devices) to ensure their confidentiality, integrity, and availability.

## Job Description (Example)

Provide technical assistance to computer users. Answer questions or resolve computer problems for clients in person, or via telephone or electronically. May provide assistance concerning the use of computer hardware and software, including printing, installation, word processing, electronic mail, and operating systems.

- Assists in resolving technical issues.
- Learn and maintain a thorough knowledge of the technical components of our software and supporting software products.
- Create knowledge documents for publication internally and externally.
- Identify customer opportunities and communicate to the appropriate resource.
- Communicate high impact or escalated issues to management.
- Achieve targeted metrics for service quality as an individual and as part of the team.
- Pursue continual improvement aimed at improving customer satisfaction.

## Activities (Example List)

- Oversee the daily performance of computer systems.
- Answer user inquiries regarding computer software or hardware operation to resolve problems.
- Enter commands and observe system functioning to verify correct operations and detect errors.
- Set up equipment for employee use, performing or ensuring proper installation of cables, operating systems, or appropriate software.
- Install and perform minor repairs to hardware, software, or peripheral equipment, following design, or installation specifications.
- Maintain records of daily data communication transactions, problems and remedial actions taken, or installation activities.
- Read technical manuals, confer with users, or conduct computer diagnostics to investigate and resolve problems or to provide technical assistance and support.
- Refer major hardware or software problems or defective products to vendors or technicians for service.

## Prioritized Foundational Competencies: Computer User Support Specialists

Most Common Required Competencies	
1	<b>Active Listening:</b> Giving full attention to what other people are saying, taking time to understand the points being made, asking appropriate questions to identify root cause through iterative questions, making sure to understand the severity of a problem to the end-user, and the impact to the business (network issue vs. PC issue).
2	<b>Service Orientation:</b> Actively looking for ways to help people and viewing role as the “IT Customer Service Department”; owning an issue through completion or transfer to another support specialist; using effective communication and empathy to best help resolve customer issues.
3	<b>Judgment and Decision Making:</b> Considering the relative costs and benefits of potential actions to choose the most appropriate one; looking at the micro-macro effect of your decision and how it aligns with the overall mission of the business; utilizing technical common sense to reduce overall impact of decisions on the customer.

Most Common Break Point Competencies	
1	<b>Active Listening:</b> <i>See previous.</i>
2	<b>Judgment and Decision Making:</b> <i>See previous.</i>
3	<b>Service Orientation:</b> <i>See previous.</i>

Most Preferred Competencies	
1	<b>Critical Thinking:</b> Using logic and reasoning to identify the risks and rewards of alternative solutions, conclusions, or approaches to problems to improve operational efficiency; seeing the big picture and identifying patterns like a large number of tickets for the same type of issue; identifying opportunities for improvement by regularly reevaluating the status-quo.
2	<b>Service Orientation:</b> <i>See previous.</i>
3	<b>Active Listening:</b> <i>See previous.</i>

Most Hard-to-Find Competencies	
1	<b>Writing:</b> Using written summary, process, and technical communications to clearly and effectively transmit relevant and actionable information while adjusting tone and content to the specific audience; adapting layout and prioritization of information for each support situation.
2	<b>Coordination:</b> Adjusting reactions and processes to best serve customer needs; looking at how solutions affect the greater support team; valuing the overall support process in place and your role within it.
3	<b>Service Orientation:</b> <i>See previous.</i>

Most Evolving Competencies	
1	<b>Systems Analysis:</b> Evolution driven by an increasing degree of interconnectivity and variety in products; changes make it important to have the ability to work with vastly dynamic and complex systems to address new types of support requests.
2	<b>Writing:</b> Evolution driven by many new mediums for written communication; changes make it important to successfully adapt language and approach to different platforms (e.g., IM, e-mail, social media, blog posts).
3	<b>Service Orientation:</b> Evolution driven by issues becoming more complex as automated systems handle basic support issues; changes make it important to effectively triage problems and then manage customer expectations while tackling more difficult problems.

## Prioritized Occupation-Specific Competencies: Computer User Support Specialists

Most Common Required Competencies	
1	<b>Basic Tech Support:</b> Familiarity with the use of some components of commonly-used computer hardware, software, applications, etc. and a basic ability to diagnose customer problems and provide troubleshooting and issue resolution support.
2	<b>Basic IT/Hardware:</b> Familiarity with the use of computer, infrastructure, peripheral, and server hardware and some knowledge of how to assemble, configure, install, maintain, and repair some of the hardware/systems.
3	<b>Intermediate Networking Tools and Concepts:</b> Demonstrated ability applying commonly-used networking tools/devices (e.g., routers, Ethernet, firewalls, frame relay, LAN, VPN, and WAN), network topology frameworks, and network security concepts (e.g., encryption technology, wireless support, cloud services, and proxy servers).

Most Preferred Competencies	
1	<b>Intermediate Networking Tools and Concepts:</b> <i>See previous.</i>
2	<b>Basic IT/Hardware:</b> <i>See previous.</i>
3	<b>Intermediate Microsoft Office:</b> Demonstrated use of multiple end-user software packages and cloud solutions (which must include a business productivity suite such as MS Office or Google Docs), and working knowledge of how to install, configure, and maintain some of these packages in an enterprise environment.

Most Evolving Competencies	
1	<b>Intermediate Information Security:</b> Evolution driven by constant change in the landscape of security threats; changes make it important to remain current with information security threats, tools, and methods by joining industry associations, Meetups, or online communities.
2	<b>Intermediate Networking Tools and Concepts:</b> Evolution driven by continued growth in the size and complexity of networks, new protocols being created, and advancement of network hardware; changes make it important to reassess standard solutions to identify new requirements or efficiencies to be applied.
3	<b>Basic Telecommunications:</b> Evolution driven by increased reliance on telecommunication services and hardware as more components of daily life are performed remotely; changes make it important to remain updated on newest industry products and services and how to support them.

Most Common Break Point Competencies	
1	<b>Intermediate Networking Tools &amp; Concepts:</b> <i>See previous.</i>
2	<b>Basic Core Operating Systems:</b> Familiarity with the use of multiple operating systems (e.g., Apple, Microsoft, Android, Linux/Unix) for computer and mobile devices and some knowledge of how to install, configure, and maintain one of those operating systems in an enterprise environment.
3	<b>Basic Tech Support:</b> <i>See previous.</i>

Most Hard-to-Find Competencies	
1	<b>Intermediate Networking Tools and Concepts:</b> <i>See previous.</i>
2	<b>Basic Telecommunications:</b> Familiarity with installing and maintaining telecommunications over common audio, video, and network channels like: Skype, AURA, Avaya, and VoIP; familiarity with telecommunications vectoring and video conferencing.
3	<b>Intermediate Information Security:</b> Demonstrated ability to install, configure, troubleshoot, test, and maintain in a secure manner the portion of the IT environment under area of responsibility (networks, communication, hardware, software, etc.) to ensure their confidentiality, integrity, and availability in both local and cloud instances; awareness of current security threats.

## Work Scenarios: Computer User Support Specialists

Scenario: System Upgrade	List of Competencies
<p>The Tech team at Durell's company has been working on an upgrade to the latest version of the operating system use throughout their office. The upgrade was completed over the weekend. Durell's team prepared for the upgrade along with the Tech Team and made sure they understood how the changes could impact system users. It is now Monday morning and Durell gets his first call of the day. It is a user having a problem opening some of the software they have on their computer. Durell listens intently to their issue, take notes diligently on the Support software used by his team, and asks clarifying questions to make sure he has as many details as possible about the issue. Durell recognizes immediately this may be an issue that is a result of the upgrade. He knows he may need to share the notes from the call with his colleagues so they can identify any patterns in the calls today – that will help his team resolve issues more effectively the first time they talk to callers, which is one of the team's key measurements of success.</p>	<ul style="list-style-type: none"> <li>• <i>Active Listening</i></li> <li>• <i>Critical Thinking</i></li> <li>• <i>Complex Problem Solving</i></li> <li>• <i>Judgment and Decision Making</i></li> <li>• <i>Instructing</i></li> <li>• <i>Service Orientation</i></li> <li>• <i>Systems Analysis</i></li> <li>• Basic Tech Support</li> <li>• Basic Core Operating Systems</li> <li>• Basic Testing</li> </ul>

Scenario: Solving System Upgrade Problem	List of Competencies
<p>The caller is irritated, but Jose keeps calm and remains positive. He knows that providing good customer service is important. Jose uses the notes his team created during previous upgrades to help guide his questions and he identifies through a series of questions that the problem is with software the caller has downloaded themselves. That software was not tested for compatibility with the new operating system. Jose uses the notes to let the caller know how they can check into whether or not there is a need to download a newer version of the software to be compatible with the new operating system. He keeps answering the caller's questions until they are satisfied they have a plan to resolve the issue. When the call is over, the caller is still concerned, but is appreciative of Jose's help and tells Jose "thank you". Jose completes the documentation of the call in the Support software and prepares for the next call. He makes a note that there will probably be similar issues throughout the day and, when he gets a break, will talk with his colleagues and Supervisor to share this issue to see if similar issues are coming in.</p>	<ul style="list-style-type: none"> <li>• <i>Active Listening</i></li> <li>• <i>Critical Thinking</i></li> <li>• <i>Complex Problem Solving</i></li> <li>• <i>Judgment and Decision Making</i></li> <li>• <i>Instructing</i></li> <li>• <i>Service Orientation</i></li> <li>• <i>Systems Analysis</i></li> <li>• Basic Tech Support</li> <li>• Basic Core Operating Systems</li> <li>• Basic Testing</li> </ul>

Scenario: Setting up a Computer	List of Competencies
<p>One of Michelle's jobs is to set up computers for new employees. She gets the new computer, unpacks it, sets it up, and completes an initial test to confirm the computer works. She then loads all of the standard software and tests that the software works correctly. This runs pretty smoothly, but Michelle recognizes that one of the latest software patches does not initially load correctly. She troubleshoots the issue and determines that the patch has not yet been included in the standard software load. She resolves that issue and then updates the standard software load so it is accurate next time. She then fills out the appropriate paperwork to document the process has been completed.</p>	<ul style="list-style-type: none"> <li>• <i>Critical Thinking</i></li> <li>• <i>Complex Problem Solving</i></li> <li>• <i>Judgment and Decision Making</i></li> <li>• <i>Instructing</i></li> <li>• <i>Service Orientation</i></li> <li>• Basic Tech Support</li> <li>• Basic Core Operating Systems</li> <li>• Basic General Networking Tools &amp; Concepts</li> <li>• Basic IT / Hardware</li> <li>• Basic Testing</li> </ul>

Scenario: Setting up New Employee with Computer	List of Competencies
<p>Sofia creates an account in the system for the new employee and confirms they have an email account, the appropriate software, and access to the company's network and common environments. She then schedules a time to deliver the new PC. When the time comes, she sets up the computer at their desk, walks them through their initial log on, the initial email they send/receive, and the most important software. Some new employees get confused and frustrated about certain parts of the process. Sofia takes as much time as needed to answer their questions and make them comfortable. When she leaves, she makes a point of providing the new employee the Help Desk contact information for future questions. Sofia understands that starting a new job can be stressful, and she appreciates the opportunity she has to make a new employee's transition that much easier.</p>	<ul style="list-style-type: none"> <li>• <i>Critical Thinking</i></li> <li>• <i>Complex Problem Solving</i></li> <li>• <i>Judgment and Decision Making</i></li> <li>• <i>Instructing</i></li> <li>• <i>Service Orientation</i></li> <li>• Basic Tech Support</li> <li>• Basic Core Operating Systems</li> <li>• Basic General Networking Tools &amp; Concepts</li> <li>• Basic IT / Hardware</li> <li>• Basic Testing</li> </ul>

# Occupation Deep Dive: Computer User Support Specialists

## Job Titles Within This Occupation

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| <ul style="list-style-type: none"> <li>• Help Desk Technician</li> <li>• Technical Support Engineer</li> <li>• Help Desk Support</li> <li>• Help Desk Analyst</li> <li>• Technical Support Specialist</li> <li>• Technical Support Analyst</li> <li>• Technical Support Representative</li> <li>• Desktop Support Technician</li> <li>• Geek Squad Agent</li> <li>• Information Technology Technician</li> <li>• Applications Analyst</li> </ul> | <ul style="list-style-type: none"> <li>• PC Technician</li> <li>• Help Desk Specialist</li> <li>• Desktop Technician</li> <li>• Computer Technician</li> <li>• Help Desk</li> <li>• Desktop Support Analyst</li> <li>• IT Operations Support Specialist</li> </ul> |
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## Certification and Education Preferences (Example)

- Certified A+ Technician
- Network + Certified
- Cisco Certified Network Associate (CCNA)
- Microsoft Certified Professional (MCP)
- Security +
- Microsoft Certified Systems Engineer (MCSE)
- Information Technology Infrastructure Library (ITIL)

## Tools Used (Example List)

- SQL
- Oracle
- LINUX
- TCP/IP
- Microsoft Operating Systems
- Ticketing Systems
- Knowledge Base Applications
- Deployment/Monitoring Tools
- Active Directories
- Remote Management Software

## Other Relevant Foundational Competencies

1	Speaking
2	Reading Comprehension
3	Time Management
4	Active Learning
5	Social Perceptiveness
6	Learning Strategies
7	Troubleshooting
8	Negotiation
9	Operation Monitoring
10	Management of Personnel Resources
11	Quality Control Analysis
12	Systems Evaluation
13	Persuasion
14	Operations Analysis
15	Operation and Control
16	Equipment Maintenance
17	Repairing
18	Mathematics
19	Science
20	Equipment Selection
21	Installation
22	Programming
23	Technology Design
24	Management of Financial Resources
25	Management of Material Resources

## Other Relevant Occupation-Specific Competencies

1	Telecommunications
2	Business Process and Analysis
3	Server Administration
4	Administrative Support
5	System Administration
6	Employee Training
7	General Data Techniques
8	Software Administration
9	Basic Web Development Languages
10	Office Management
11	Retail Sales
12	Web Development Concepts
13	Core Coding Languages
14	Microsoft Project Management Tools
15	Information Security
16	Software Development
17	Purchasing
18	Data Entry
19	Mathematics
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