



TECHNICAL SUPPORT CAPABILITIES

NCTC Preferred Billing and Customer Care Provider

Element's 200+ trained technical support engineers take over 90,000 calls a month supporting more than 100,000 cable and internet subscribers and an additional 300,000 hotel rooms. We have a full training department including in-house Cisco CCNA, CompTIA+, digital video, analog video and VoIP technical programs. We also have an R&D department that created (and supports) our proprietary ticketing system.

Outsource all or part of your technical support needs to Element Customer Care.

CAPABILITIES:

- High Speed Internet Support
 - Tier 1 Internet Support
 - Tier 2 Internet Support
 - Tier 3 Internet Support
- Video Technical Support
 - Analog
 - Digital
 - Pay-per-view/VOD
- Voice Technical Support
- Dispatch

EXPERIENCE:

Ticketing Systems:

Computer Associates
 SoFront
 Remedy
 Resolv
 Salesforce.com
 ETS (Our Own)
 Numerous proprietary

Internet Products:

ADSL/VDSL
 HPNA
 Dial-Up
 WiFi
 Ethernet
 Cable/Coax
 Powerline

Modem/CPE:

2 Wire
 Motorola Surfboard
 TuT
 Cisco LRE
 Hitron
 Elastic
 Arris

Provisioning Systems:

IBBS
 Alopa
 WiBoss
 Aradial
 Iris
 Passym
 CEON

Switches:

Paradyne DSLAM
 SMS DSLAM
 HiTron
 TUT
 Teledex
 Cisco LRE/Cosco Ethernet
 HP Ethernet and fiber family
 D-Link
 Linksys

WiFi:

Trango
 Strix Systems
 3Com
 Motorola Canopy
 Cisco
 Colubris
 Linksys
 Buffalo
 Netgear

Data Head-Ends:

Cisco
 Arris
 Nomadix
 Terayon
 Colubris
 Knovative
 Big Band
 Pfense
 MANY More!

Monitoring:

SNMPC
 Nagios
 OpenNMS
 Cacti
 MRTG
 Nimsoft-NimBUS
 Zabbix
 Ciscoworks
 ETS (In-house)

This is just a sampling of our experience. Please contact us with questions.

TECHNICAL SUPPORT CALL FLOW

1. Customer Service Receives Call

- Verify active subscriber
 - Moves/Adds/Changes
 - Preliminary trouble-shooting (based on client capabilities)
 - Verify has service
 - Billing Questions
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2. Tier 1 Tech Support – “*From fingers to wall plate*”

- Check end users physical connectivity to network
- Check configuration issues for the following platforms
 - Microsoft Windows (9x/Me, 2000/2003, XP, Vista)
 - Apple OS X
- Desktop Application Help
 - Web browsers
 - E-mail clients (i.e. Outlook)
 - VPN
 - VOIP
- Networking (LAN) Verification
 - Check head-end status/availability using client diagnostic tools
 - Core LAN component availability (i.e switches, CMTS, access points)
 - Verify IP connectivity with diagnostic tools/ utilities (PING, Traceroutes)
- Non-PC Device set-up (based on client requests)
 - PDA and Pocket PC (IPAQ and Palm)
 - Gaming Stations (i.e. Xbox, PlayStation2)

3. Tier 2 Tech Support – “*From wall plate to router*”

- Network analysis
 - Calling/troubleshooting with ISP
 - WLAN/LAN uptime and availability of CPE's (bridges, switches, gateways and WAPs)
 - Verify central server availability (i.e. radius, management portals)
 - Authentication issues (Radius, provisioning based on customer system)
 - Analyze and act upon network anomalies
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4. Tier 3 (NOC) – “*From router and beyond*”

- Network Configuration and Verification
 - Wireless analysis (signal measurements based on provided tools)
 - Line testing (CAT-6, CAT-3, xDSL) if test equipment is provided
 - Failure analysis (what is the root cause of problem)
 - Check or verify hardware (WAP, switches, gateway) firmware configuration
 - Software patch server through the tools provided by engineers
- System Administration
 - Verify software processes are functioning
 - Network management tools administration (i.e. interpret SNMP information)
 - System error logs and alarm analysis