Self-Diagnosis Tips for BVoIP Service Issues Relating to your Premises Equipment, Local Area Network or PBX

The BVoIP support teams work to resolve your AT&T related service issues. Resolutions of problems with your CPE, LAN or PBX are out-of-scope for the BVoIP support teams. This means the restoration, repair and remedy to your customer equipment can not be completed by AT&T.

In many cases issues with your CPE, LAN and PBX can be diagnosed by you and your IT staff, thus eliminating your need to submit a trouble ticket. Importantly, AT&T can only resolve trouble tickets that involve AT&T-related service issues. Below are several tips and tasks — many of which you may already be aware - which you can perform prior to placing a trouble ticket. This guide in self-diagnosis can result in your self restoral of service without creating a ticket, or identify an equipment issue that must be handled by you or your equipment vendor.—not AT&T.

**Power and Grounding Related**

1. **Verify power to your site.** Appears obvious, but does your building have power? Verifying power goes beyond the lights being on in your part of the office. Is there power to the individual pieces of equipment in your equipment/telco room? Is the primary telephone switch board receiving power? Does the desk, phone or laptop experiencing the problem have power?

2. **Verify power for all communication devices.** Your customer firewall, router or switch which connects to the AT&T router all need to be properly powered. Power related issues impact any electronic devices within your BVoIP network, not just your AT&T router. Your individual phone sets and laptops need power to function. Lack of power to any of these devices could be the reason for your service issue.

3. **Check power sources and outlets.** Is any equipment connected to a UPS or power strip? If so, try moving the power cord to a completely different wall outlet. We recommend not just moving it to another outlet in the same faceplate, but to a totally different known working outlet.

4. **Have you suffered a temporary loss of power?** Experiencing a temporary power outage or surge, whether a few seconds or a few hours, can affect electronic devices. Often a simple power cycle (turning the device on & off) can retrain the equipment and resolve your problem. Depending upon the model of AT&T Router, you will either need to toggle a Power Switch or unplug the device and leave off for a count of twenty (20). You would then toggle the power switch back on or plug the device in again. If you should have other equipment which may require a power cycle, check that device’s user guide for steps and warnings regarding a power cycle.

5. **Verify equipment grounding.** Experiencing a temporary power outage or surge, whether a few seconds or a few hours, can affect electronic devices if the equipment is not correctly grounded. Verify the power outlet has a functional ground. Also verify the AT&T router has a separate grounding wire attached to it.

**NOTE:** Please be aware that power cycling your AT&T router or other equipment is a valid restoral method. However, in some instances it can just mask potential equipment issues. Track how often your equipment requires a power cycle or re-boot. If you are constantly performing a power cycle you
may need to contact AT&T regarding your AT&T router or specific equipment vendor for your non-
AT&T devices. Frequency of power cycling is vital in isolating what may be causing the equipment to
require continual power cycling.

Network Devices: AT&T and Vendor Equipment

1. **Check the lights on your equipment.** Today's communications equipment is intelligent and has the
ability to "tell" you what is wrong. Many user guides have a trouble shooting section. Instructions or
diagrams will assist you in interpreting the various lights to point you to internal repairs. Further, if you
do need to contact our repair team, knowing the AT&T router status lights can expedite the repair
process.

2. **Inspect your cabling.** Loose wires or dirty connections will impact your equipment. This can even
include bent, twisted or crimped wiring. A few minutes spent verifying your connections could resolve
your issue immediately.

3. **What is the status of the LAN/PRI interfaces on your equipment?** What is the status of your
equipment and the various interfaces? This would include your customer firewall, router or switch. It
is recommended you refer to your equipment user guide for specific details and trouble shooting
steps.

Software Issues

1. **Verify using most recent software.** Confirm that any recent advisories sent to you regarding known
bugs and suggested version upgrades have been put into place. The communication between your
devices and AT&T router and BVoIP network is critical. Failure to have the most recent software
could hamper your devices from having full voice and/or data capabilities.

2. **Investigate the relationship between recent upgrades and service issues.** Were any recent changes
made prior to your problems occurring? If so, have you contacted your vendor to discuss? Have you
tried reverting to the previous software version or re-installing the new software?

Voice Issues

1. **Has the phone system been checked?** Many problems are found to be within customer phone
equipment. A quick check of the equipment can include checking the status lights for potential
corrections – you need to refer to your device’s user guide for specific details.

2. **Are all phones experiencing problems?** If the problem is not widespread, the issue may be within
your equipment. You can check individual phone sets or common equipment for a possible problem.
3. **What are the features and functions of your equipment?** Issues with your service may not be an issue with your IP Flexible Reach network, but rather with features programmed within your equipment or part of a 3rd party external service (example: “Office @ Hand”). Being familiar with the features you have available will assist you in determining to call your equipment/feature vendor directly regarding your features or AT&T “Office @ Hand”.

4. **Create a call log.** Call logs are an effective method to assist you in determining where the root cause of the issue resides. A comprehensive call log can prove helpful to your equipment vendor or AT&T depending on who is responsible for the repair. When you are experiencing problems placing calls you can track:

   - Number (including area code) of the phone attempting to place the call,
   - Number (including area code) of the phone you are trying to reach,
   - If known, note if the number you are calling is a landline or wireless device
   - Date and time of when the call was placed, and
   - Result of the call (example: fast busy, dead air or a recording. If you get a recording make note of the full verbiage of the recording).

**NOTE 1:** The same type of call log information can be gathered when callers are having difficulty reaching you.

**NOTE 2:** AT&T’s IP Flexible Reach service supports transmission of G.711 and G.729 protocols between calling endpoints. AT&T does not perform transcoding (conversion) between protocols in our network.

Customers with PBXs (Customer Premise Equipment [CPE] with IP interfaces to AT&T’s router), must perform transcoding within their equipment to ensure successful communication between endpoints using different protocols.

AT&T recommends customers work with their PBX vendor to set their CPE with an IP Interface to automatically negotiate between G.711 and G.729. This will maximize SIP connectivity with other IP based sites and achieve the best voice transmission between endpoints.

AT&T recommends customers with PBXs that have analog or TDM interface use auto negotiation for the reasons detailed above. Therefore we set our routers for auto negotiation.

**Internet Issue**

1. **Are all PCs experiencing problems or just a few?** If one PC is experiencing the problem, the issue may be related to that single computer or desk. In this case, there is no need to call AT&T to open a ticket. You should reach out to your equipment vendor. If PCs within a specific area or quadrant of
your office are having internet issues, then this may be an internal hardware or cabling issue. Again, this scenario does not warrant opening a ticket with AT&T.

2. Is the internet working from the AT&T router, but you can not access the internet from your LAN? You have the ability to plug your laptop directly into the router. By accessing the internet directly from the AT&T router you have proven the AT&T network is working and there is no need to open a ticket. If you can not access the internet directly from the AT&T router, make sure to note that fact when opening your ticket.

3. Do you have a pass-thru router? A pass-thru router is a customer owned router which is normally connected to the AT&T router. A non-Cisco router Internal Switch Port 2 is specifically configured to disable the AT&T router firewall and allow the customer’s pass-thru router to manage the Internet traffic. A Cisco router LAN interface does not have a built in Firewall. If your site has a Pass-Thru router and you are having an issue connecting to the Internet, you may want to verify the operational integrity of your pass-thru router prior to contacting AT&T Support.

Environmental Factors

1. Your building. How long the problem has been occurring may be related to changes in your building. Recent construction can inadvertently impact your service. Contractors or construction teams renovating rooms, placing new AC duct work, or performing plumbing work in the basement can accidentally impact your wiring or power.

2. Your office. Moving to a new desk may require a change in settings on a PC or phone set. If a new cubicle has not been used recently, have the LAN ports and outlets been checked? Even the simple act of moving cubical walls can crimp or bend cords.

If you need additional assistance, please call the Help Desk as highlighted on your letter “Service Activation is complete for your AT&T IP Flexible Reach order.”