Access Cloud Hosted PBX
Service and Installation Guide
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Welcome to Access One

Welcome to Access One’s Access Cloud Hosted PBX service. Access Cloud Hosted PBX users forgo the costs associated with purchasing and maintaining a company phone system on premise. Compared to premise-based equipment or other system providers, Access One’s Access Cloud Hosted PBX service offers superior quality-of-service and reliability. We bring a 20 plus year record of genuine customer focus. Access Cloud Hosted PBX delivers the professional, enterprise-class features and functionality that small and mid-sized companies need to be more productive, more responsive and more flexible to changing business conditions. Access Cloud Hosted PBX connects your entire workforce – regardless of location – extending to remote and mobile employees the same features as employees located at your headquarters.

Inside this Installation Guide, you will find the necessary materials to guide you through installation and beyond. Each component has been included to answer questions you might have and also serve as a go-to reference when required.

Access One looks forward to a long-lasting partnership with you, built upon mutual understanding and trust. Even after your installation is complete, we will continue to have your best interests at heart by continually inventing new and improved technologies and services to better your business communications.

At Access One, our goal is not merely to provide you the best possible service and solutions right now, but also for many years to come.

Now you can focus on your business instead of your phone system. As a result, your company experiences the benefits of an advanced business phone solution without the initial investment and ongoing operational costs required by expensive traditional systems.

- Lower Cost of Ownership - no system equipment to purchase, install and maintain
- Lower Operating Expenses - one predictable monthly charge
- Flexible and Scalable - the ability to start small and grow with your business
- Business Continuity - with built-in disaster recovery capabilities
- Secure and Reliable - 24/7 monitoring by Access One
Your Installation
To facilitate a smooth launch, we assign you with an Access One Order Manager who will be your main point of contact throughout the installation process. Access One installations are performed during normal business hours between 8:00 a.m. – 5:00 p.m. Central Standard Time, Monday - Friday.

The general expectation is to complete by 5 p.m. Anticipate @ 20 seats/hr for installation.

After hours installations can be arranged at an additional charge.

STEP 1: GET READY
Scheduling, Verification and Preparation
• First order of business! Identify your company’s Point of Contact(s) per site. They will be the main point of contact for your company during service installation. The POC(s) will also be the go-to person(s) within your organization and the person(s) authorized to report issues and request changes to your service once it is implemented. Access One recommends an IT resource for LAN assurance during the installation phase. The POC support post installation is best serviced by someone that can train and assist end-users efficiently.

Develop Build Sheet for Call Flow and Extension Routing
• Access One Sales Engineer will work with your POC(s) to develop a call flow document, referred to as a “Build Sheet” that meets your company needs. As noted in the timeline, the Build Sheet is required early in the installation process to ensure an efficient transition. The final Build Sheet is due three weeks before the access circuit installation, so appropriate programming can take place. Any delays may hold up the installation.
  o Create/Provide Extension List
    The Access One Sales Engineer will work with the POC(s) create or provide an Extension List as part of the Build Sheet with the details of each individual that will have a phone at their desk. The final Build Sheet is also due three weeks before the install date so necessary phone programming can be completed. Any delays can interrupt installation.

Note: Access One does not recommend using extension dialing with x11 (e.g., 911, 311, etc.) digits. In the case of 911, each time those digits are entered as the first three digits, the call will use 911 emergency services immediately. 0911, 1911 also shall always default to 911. If the decision to use extension dialing with any other number followed by “11” will transfer to that extension and make that function unusable within that organization. For example, if a person has the extension 411, then dialing information 411 will default to that person’s extension and NOT to information 411.
  o This meeting will be scheduled by Access One within 3 to 5 days after your contract is signed. At this time, we will confirm your requirements for the service and you will have the opportunity to meet your Access Cloud Hosted PBX Order Manager. Your order will be initiated immediately following the Access Cloud Hosted PBX Kick-off call meeting.
  o This meeting will also schedule the site survey which will finalize the Build Sheet and confirm the probable add-on of the following (not limited to):
    ▪ POE/VLAN capable switch
    ▪ MVG (Managed Voice Gateway) for non-Access One bandwidth
    ▪ Additional low voltage wiring
    ▪ Firewall
• Let’s set the dates and project timeline! Four critical milestone dates are necessary.
  We will schedule them in the following order:
  1. T-1, EOC, or EOF circuit installation
  2. Phone installer site survey and phone placement
  3. Equipment installation
  4. Service activation
STEP 2: GET SET
Circuit Installation, Equipment Set-up, Test & Turn-up

- To facilitate a timely launch, we ask that you expedite the following:
  1. Approve the Build Sheet that includes the phones, call flow, and extension list.
     a. The Build Sheet will be initiated by the Access One Sales Engineer and reviewed during the site survey.
  2. Order an adequate inventory of IP phones. Include spares and additional seats as needed. It is important to coordinate your phone availability with the Access Cloud Hosted PBX service installation date.
  3. Schedule training. Access One provides Access Cloud Hosted PBX phone installation and a single training session for the POC(s) for each site that has Access One Access Cloud Hosted PBX service. It is important to schedule training as soon as you receive a Firm Order Commitment (FOC) date from your Access One Order Manager.

STEP 3: GO!
Activation and Turn-up

- After everything is connected on-site, the Access One installation team will conduct a final authentication of quality. The installation team will place test calls from each individual station. Once the installation team says “it’s a go”, your service is turned up and your improved business communications begins!
- Record your announcements! You will want to provide professionally recorded wav files or record your own auto attendant announcements and on-hold announcements as soon as your service is activated.
- Like any mission-critical installation, it is important that your POC(s) train your employees on their new Access Cloud Hosted PBX service. While easy to use, Access Cloud Hosted PBX has many productivity enhancing features that your employees will need to learn about.
- Sign off on and acknowledge “Close Out” form.
- Your Order Manager will complete a post installation and turn-up call approximately 1 week after your installation and service turn-up.
- Once your service has been fully installed, you may have additional questions. Please contact our Customer Care to assist your needs. You can reach them by calling 800-804-8333.

Access One’s Roles & Responsibilities–Installation Details
Access One will provide the following to ensure a successful Access Cloud Hosted PBX installation process.

Technical Expertise

- Access One Sales Engineer to provide advice and recommendations on how to optimally configure your service, develop the Build Sheet, and assist with phone selection.
- Order Manager to work with your POC(s) through all phases of the installation process.
- Experienced technical staff to provision and activate your service in a timely manner.
- Test and turn up process to ensure a smooth activation of service.

Access One Network Services

*Applies only when purchasing Access One transport services via T1, EOC, or EOF

- Access One reliable high-speed connection between your business location and Access One’s network.
- Access One Managed Equipment will be installed in your office by an Access One installation technician and prepared for easy connectivity into your network.
- Public IP address(es) to route across the Internet.
- Access One will perform wiring up to the DMARC (demarcation point) if you have purchased Access One transport services.
1. DMARC extensions will be the customer responsibility if the building is considered to be “closed” which means building management and the union represented wiring contractor will have to be contacted and a negotiated rate for DMARC extension completed.
2. If an extension of the DMARC is required in “open” buildings, Access One is able to provide this at an additional charge on a time and materials basis.
3. Access One will not perform CAT5/CAT6 wiring project work that requires multiple wire drops to be pulled. We recommend you engage a wiring contractor for these projects or Access One can recommend a wiring contractor.

Equipment
- When purchasing or leasing equipment through Access One, we will order, configure and ship our equipment timed with your project.
- Confirmation, during service activation, that your phones have a dial tone from Access One’s network and Internet connectivity through the CPE to your network interface.
- Perform phone installation for sites with Access One transport services via T1, EOC, or EOF.

Training
- Training your POC(s) on Access Cloud Hosted PBX services and provide materials for the POC(s) to train the remainder of the end users.
- Optional end-user training is available for additional fees.

Post Installation Support
- Access One Order Manager will conduct a post install health check phone call in order to get feedback on the process.
- Access One’s NOC proactively monitors your access circuit for optimal performance. Access One can control Quality of Service to ensure voice traffic is given top priority.
- Expertise to assist your POC(s) with service changes and enhancements.

Customer Responsibility Summary – Things You Need to Do!
This overview provides an explanation of your installation responsibilities.
Please refer to “Customer Roles & Responsibilities: Installation Details” in this guide for complete details.

Assign a Point of Contact(s)
To achieve a smooth installation, Access One requires you to assign a POC(s), per location, for your company. This individual will be your company’s one point of contact for the Access One Sales Engineer in designing the Build Sheet and for the Access One Order Manager during the installation. For post installation, the POC(s) will be the company’s point person to answer phone questions or issues from your company’s employees.

*Only authorized contact(s) may call Access One for Access Cloud Hosted PBX related requests, questions or changes.
Order IP Phones
If you choose to purchase or lease through Access One’s phone leasing program with Access One’s leasing partner, Access One will take care of ensuring your equipment is ordered, configured and shipped to you for a smooth turn up. If you are ordering your own phone equipment you must work with your equipment vendor to determine and order the IP phones that are supported by Access One and ensure that the IP phones are scheduled for delivery prior to the installation date.

Customer-provided handsets from another hosted provider must be certified (make/model) and not be "locked" to another provider. Any additional work to unlock existing phones may incur additional time and install charges.

The IP phones will be delivered directly to your specific address.
**Do NOT unbox and place phone until the Access One install team arrives.**

Please refer to **Phones** at the end of this document for phone pictures and a basic description of the phone. More details can and will be provided upon request.


Your Responsibilities
- Provide access to your site for installers (8am-5pm).
- Provide a connection to your internal network. You or your vendor should provide a cable to connect your equipment to the Access One router.
- Have a technical point of contact available during router installation.
- If you are providing a broadband connection from an alternate provider, Access One will require you to obtain and provide a dedicated, unused Public Static IP address from your existing ISP, in order to configure your Access Cloud Hosted PBX services.

How is Your Network Setup and Configured?
All LAN equipment including switches, firewalls, PCs, servers, and cabling is your responsibility. The Access One Sales Engineer can assist with determining which of the following setup examples work best for you.

**VLAN?**
There are many benefits of installing a VLAN. Benefits are listed in the below table.

<table>
<thead>
<tr>
<th>Benefits of VLAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoid routing voice traffic through organization’s firewall, avoiding call quality and call dropping issues. Voice traffic is still routed through firewall on Access One’s IAD, which is compatible.</td>
</tr>
<tr>
<td>Improved Voice Quality – Since your voice traffic is separated from your data traffic and given top priority, the quality of your phone calls won’t be impacted when employees perform data-intensive tasks like sending large emails or streaming video.</td>
</tr>
<tr>
<td>Provides many benefits of an Overlay Network without the redundant cabling and data drops.</td>
</tr>
<tr>
<td>Provides Quality of Service on the Local Area Network (LAN).</td>
</tr>
<tr>
<td>Facilitates installation of Access One’s Access Cloud Hosted PBX as it eliminates the common issues encountered during installation.</td>
</tr>
</tbody>
</table>
Which Configuration do I use?
This depends largely upon your organization’s priorities, data usage and preferences. Please see the following table to help you make this decision:

<table>
<thead>
<tr>
<th>Scenario</th>
<th>VLAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Already have a VLAN-capable switch</td>
<td>●</td>
</tr>
<tr>
<td>Have an IT expert capable of installing and configuring a VLAN switch to Access One’s standards</td>
<td>●</td>
</tr>
<tr>
<td>Prefer to own equipment rather than Access One owning equipment</td>
<td>●</td>
</tr>
<tr>
<td>Prefer Virtual separation of Voice &amp; Data on LAN</td>
<td>●</td>
</tr>
<tr>
<td>Quality of Service on LAN</td>
<td>●</td>
</tr>
<tr>
<td>Moderate-low file uploads/downloads</td>
<td>●</td>
</tr>
<tr>
<td>Moderate internet usage</td>
<td>●</td>
</tr>
<tr>
<td>Prefer easier and less costly deployment</td>
<td>●</td>
</tr>
<tr>
<td>Provide Access One greater troubleshooting capabilities if voice quality issues arise</td>
<td>●</td>
</tr>
<tr>
<td>Quality of Service on WAN</td>
<td>●</td>
</tr>
<tr>
<td>Heavy internet usage and consistent large file transfers</td>
<td>●</td>
</tr>
<tr>
<td>LAN serving &gt;= 48 users</td>
<td>●</td>
</tr>
</tbody>
</table>

VLAN Example

In this network topology the customer separates the voice and data networks by splitting this traffic onto different Virtual LANs. This will allow DHCP and NAT to be controlled by Access One and it will allow all signaling and media to bypass the customer’s router or firewall.
VLAN Configuration Requirements
1. The customer will need to provide an uplink port that is configured for 802.1Q trunking.
2. The switch uplink port will need to pass tagged VLAN traffic from the Voice VLAN 20 and the VLAN for Public Data 30.
3. The switch port configured for the connection of the customer’s firewall WAN will need to be configured as untagged (access only) VLAN 30.
4. The switch port that connects the customer’s firewall LAN port should be configured as untagged (access only) VLAN 10.
5. The switch ports that connect to non-phone devices on the LAN should be configured as untagged (access only) VLAN 10.
6. The switch ports that connect to Access Cloud Hosted PBX phones on the LAN (not using the built-in switch on the phone) should be configured as untagged (access only) VLAN 20.
7. The switch ports that connect to Access Cloud Hosted PBX phones with a data device using the network port on the phone will need to be configured as untagged for data VLAN 10 and tagged for voice VLAN 20 traffic.
   • Data DHCP will be provided by the customer’s firewall/router (IP range in diagram is only a suggestion)
   • Voice DHCP will be provided by Access One’s router.

Firewall Recommendations
1. Consider Natting your phone through the Access One router to prevent any registration and call completion failures. Otherwise implement steps 2 - 4.
   - Cisco: `no ip nat service sip udp port 7281, no fixup protocol sip udp 7281 and no inspect sip`
   - SonicWall: Uncheck Enable SIP Transformations, Enable Consistent NAT
   - Watchguard: Disable SIP Proxy for Firebox model
3. For any NAT or UDP timer/timeouts, increase timeouts to 300 seconds.
4. If the firewall is locked down for SIP traffic, Access One can provide you with the IP address range of the SBC to allow traffic (for both SIP signaling and RTP).
5. We do not recommend placing the phones behind a wireless repeater.
6. Do not place the phones behind a double Natted network.
7. Employ firewalls with load balancing to route all voice traffic through the Access One connection.
8. Enable consistent/constant NAT on your firewall.
**Access Cloud Hosted PBX Service and Installation Guide v. 06232014**

**Firewall Example**

ALG must be disabled and port 7281 must be open at the firewall

Customer owned and managed firewall (DHCP and NAT for voice and data)

Voice and data traffic routed over the same LAN and through firewall

**No Firewall Example – PC plugged into phone**

Voice and data traffic routed over the same LAN
No Firewall – PC and phone plugged into separate jacks

Voice and data traffic routed over the same LAN and through firewall
IP phones and LAN on separate wires

Firewall – PC and phone plugged into separate jacks

Voice and data traffic routed over the same LAN and through firewall
IP phones and LAN on separate wires
Firewall – Phone LAN and data LAN separate

ALG must be disabled and port 7281 must be open at the firewall

Internet – non Access One

Voice and data traffic separated using VLAN, Voice bypasses customer firewall
**Remote Worker**

Remote Worker(s) will be activated after the main site is activated. Handsets will be shipped to the main site and customer is responsible for transport of those intended for the Remote Worker(s). Customer is responsible for the Local Area Network installation and quality at Remote Worker site(s).

<table>
<thead>
<tr>
<th>Issue</th>
<th>Troubleshooting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Call drops after 20 minutes</td>
<td>This typically results during installation when the firewall settings are incompatible with Access One handset specifications. To prevent these issues, you will need to allow traffic from the Access One SBC IP address range (signaling and media). If firewall issues occur, please contact Access One.</td>
</tr>
<tr>
<td>Phone does not register</td>
<td></td>
</tr>
<tr>
<td>Unable to disable the SIP ALG or VoIP settings. Usually, customers with remote extensions or remote workers experience this issue. The problem commonly occurs with the following two AT&amp;T modems: AT&amp;T 3800HGV-B / 3600HGV AT&amp;T U-Verse 2Wire</td>
<td>Have the carrier put the router in bridge mode and connect another router that doesn’t have the SIP ALG capability, or has the option to turn the ALG off when doing NAT. 1. Don’t double NAT your network. Also, don’t place the phone behind a wireless repeater. 2. Put the handset in a DMZ. Some carriers have instructions on their website explaining how to do this. The changes have to be done online and the handset must be rebooted.</td>
</tr>
</tbody>
</table>

**Verify LAN Configuration Compliance**

In order to complete your installation, Access One will require confirmation that your LAN is configured appropriately to handle Access Cloud Hosted PBX. Specific details about the LAN requirements are located in “Customer Roles & Responsibilities” in this document.

*Access One can troubleshoot LAN issues through Access One’s MSP services for additional fees. LAN assessment and troubleshooting is not part of a standard installation.

**Place Test Calls**

The installation team will place test calls from each station to ensure that the IP phones have been installed properly.

**Record Announcements and Install On-Hold Music**

Immediately after service activation, you should record announcements for your auto attendant, contact center entrance, comfort messages and install on hold music. Contact Access One for assistance with additional uploads.

**Be Available for Activation, Phone Installation and Training**

Please make sure your POC(s) is available on the specified activation and phone installation training. Your Access One Order Manager will ensure all elements are coordinated to meet your service activation date. If the service date is delayed beyond 30 days of the original confirmed service activation date, Access One reserves the right to begin billing for individual seats.

**Train Your End User**

Access One provides a training session to your POC(s) in a single session that provides instruction on the use of features and functions in Access One’s Access Cloud Hosted PBX services as well as provides training material and reference guides for you to deploy to your end-users.

**Discontinue Previous Service**

You will need to cancel service with your previous providers upon activation of Access One services. Access One cannot disconnect your services from a previous carrier.
SOHO Customers
SOHO Customers who provide their own internet connection for calls have additional responsibilities to ensure their service works smoothly for locations that communicate over the public internet and do not use Access One transport services.

HTTP Support
All sites that use alternative transport for internet based services must support and not block HTTP. HTTP must be supported in order for SIP telephone downloads from Access One’s network to properly execute and load on the SIP telephone. Broadband service providers that block HTTP are not acceptable forms of internet access and will not operate with Access Cloud Hosted PBX SOHO users.

Phone Configuration
Customers who purchase their own phones will be required to configure their phones to work with Access One Access Cloud Hosted PBX SOHO service. The best practice to configure phones is to have an administrator configure the phones and then send to the remote users to ensure a technical person is setting them up. Customers will also be responsible for connecting these phones to their network.

Cable Recommendations
Access One recommends 128 Kbps per user upstream bandwidth available for cable traffic. Voice should be the only traffic assigned to the highest class of service at a SOHO site.

DSL Recommendations
Access One recommends business grade or business class DSL Service from their ISP that operates in a Bridge Mode to ensure elimination of multiple instances of Network Address Translation. The ISP will assign static IP addresses. The underlying DSL service provider should eliminate any Network Address Translation from the Network. The minimum upstream bandwidth recommended per SOHO seat is 128 Kbps per user.

Internet T1 (or greater) Recommendations
Access One recommends 128 Kbps per user upstream bandwidth available for cable traffic. Voice should be the only traffic assigned to the highest class of service at a SOHO site.
### Access Cloud Hosted PBX Seat Features

*(in alphabetical order)*

<table>
<thead>
<tr>
<th>Feature</th>
<th>Standard</th>
<th>Premium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Account/Authorization Codes</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Alternate Numbers</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Anonymous Call Rejection</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Automatic Callback</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Automatic Hold/Retrieve</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Barge-in Exempt</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Basic Call Logs</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>BroadWorks Anywhere</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Busy Lamp Field</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Call Forwarding Always</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Call Forwarding Busy</td>
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<td>x</td>
</tr>
<tr>
<td>Call Forwarding No Answer</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Call Forwarding Not Reachable</td>
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<td>x</td>
</tr>
<tr>
<td>Call Forwarding Selective</td>
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<td>Call Notify</td>
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<tr>
<td>Call Park</td>
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<tr>
<td>Call Pickup</td>
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<tr>
<td>Call Return</td>
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<tr>
<td>Call Transfer</td>
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<tr>
<td>Call Waiting</td>
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<td>Calling Line ID Delivery Blocking</td>
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<td>Calling Name Delivery</td>
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<td>Calling Name Retrieval</td>
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<td>Calling Number Delivery</td>
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<td>CommPilot Call Manager</td>
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<td>CommPilot Express</td>
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<td>Communication Barring User-User Control</td>
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<tr>
<td>Custom Ringback Group</td>
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</tr>
<tr>
<td>Custom Ringback User</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Custom Ringback User – Call Waiting</td>
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<tr>
<td>Directed Call Pickup</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Directed Call Pickup with Barge-in</td>
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</tr>
<tr>
<td>Directory Number Hunting</td>
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<tr>
<td>Diversion Inhibitor</td>
<td>x</td>
<td>x</td>
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<tr>
<td>Do Not Disturb</td>
<td>x</td>
<td>x</td>
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<tr>
<td>Enhanced Outgoing Calling Plan</td>
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<tr>
<td>External Calling Line ID Delivery</td>
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<td>x</td>
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<td>Flash Call Hold</td>
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<td>Hoteling Guest</td>
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<tr>
<td>Feature</td>
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<td>Hoteling Host</td>
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<td>Hunt Group</td>
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<td>Incoming Calling Plan</td>
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<td>Instant Group Call</td>
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<td>Internal Calling Line ID Delivery</td>
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<td>Music On Hold</td>
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<td>Music on Hold – User</td>
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<td>Zone Calling Restrictions</td>
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Post Installation – Maintenance and Repair

The rates paid for Access Cloud Hosted PBX services does not cover repair malfunctions or damages caused by:

- The actions of non-authorized personnel or non-authorized added attachments to equipment or non-Access One installed equipment or software or modification of equipment or software;
- Failure of Customer to follow operation or maintenance instructions of the equipment or software manufacturer for equipment or software included in Customer’s IT system;
- Failure to permit Access One timely access to Customer’s equipment or software to perform maintenance;
- Failure of equipment not covered by the Access Cloud Hosted PBX Agreement.
- The movement and or relocation of any covered equipment unless You notify Access One prior to any moves.
- Results or effects from failure of the Customer’s data network or its components such as: Ethernet switches, routers, hubs and wiring.
- Lightning strikes or other electrical surges and Force Majeure events.

Services performed for these uncovered repairs or for other services performed that are out of scope of Access Cloud Hosted PBX services will be subject to charges on an hourly rate for time & materials.
Phones

Polycom SoundPoint IP 321

- 2-line desktop phone
- High resolution backlit 102 x 33-pixel, grayscale graphical LCD
- Integrated 1-port 10/100 Ethernet switch
- Integrated IEEE 802.3af Power over Ethernet (PoE) support (Class 2)
- Focused for common areas, lobbies, break rooms and other wall-mounted deployments
- Dedicated RJ-9 headset port

Polycom SoundPoint IP 331

2-line desktop phone
High resolution backlit 102 x 33-pixel, grayscale graphical LCD
Integrated 2-port 10/100 Ethernet switch
Integrated IEEE 802.3af Power over Ethernet (PoE) support (Class 2)
Dedicated RJ-9 headset port
Polycom SoundPoint IP 335 HD

2-line desktop phone with HD Voice
High resolution backlit 102 x 33-pixel, grayscale graphical LCD
Integrated 2-port 10/100 Ethernet switch
Integrated IEEE 802.3af Power over Ethernet (PoE) support (Class 2)
Dedicated RJ-9 headset port

Polycom SoundPoint IP 450 HD

3-line desktop phone with HD voice
Backlit 256 x 116-pixel multi-layer, grayscale graphical LCD
Integrated IEEE 802.3af Power over Ethernet (PoE) support (Class 2)
Two port 10/100 Ethernet Switch
Dedicated RJ-9 headset port
Polycom SoundPoint IP 550 HD

4-line desktop phone with HD voice
Backlit 320 x 160-pixel, grayscale graphical LCD
Integrated IEEE 802.3af Power over Ethernet (PoE) support (Class 2)
Two port 10/100 Ethernet Switch
Dedicated RJ-9 headset port

Polycom SoundPoint IP 560 HD

4-line desktop phone with HD voice
Backlit 320 x 160-pixel, grayscale graphical LCD
Integrated IEEE 802.3af Power over Ethernet (PoE) support (Class 2)
Two port 10/100/1G Ethernet Switch
Dedicated RJ-9 headset port

Polycom SoundPoint IP 650 HD

6-line standalone (34 lines with three expansion modules) desktop reception phone with HD voice
Backlit 320 x 160-pixel, grayscale display
Integrated IEEE 802.3af Power over Ethernet (PoE) support (Class 2)
Two port 10/100 Ethernet Switch
Dedicated RJ-9 headset port

Polycom SoundPoint IP 650 Expansion Module

14 multifunctional line keys automatically configurable as a line registration, call appearance, speed dial, DSS, or BLF key
160 x 320 pixel graphical LCD
The SoundPoint IP Expansion Module is powered by the host phone
Polycom SoundPoint IP 670 HD (color screen)

6-line standalone (34 lines with three color expansion modules) desktop reception phone with HD voice
Backlit 320 x 160-pixel, color display
Integrated IEEE 802.3af Power over Ethernet (PoE) support (Class 2)
Two port 10/100/1G Ethernet Switch
Dedicated RJ-9 headset port

Polycom SoundPoint IP 670 Color Display Expansion Module

14 multifunctional line keys automatically configurable as a line registration, call appearance, speed dial, DSS, or BLF key
160 x 320 pixel color graphical LCD
The SoundPoint IP Color Expansion Module is powered by the host phone
**Polycom VVX 310 HD**

6-line desktop phone with HD voice
Backlit 8-level Grayscale graphical LCD (208 x 104) resolution
Integrated IEEE 802.3af Power over Ethernet (PoE) support (Class 2)
Two port 10/100/1G Ethernet Switch
Dedicated RJ-9 headset port

**Polycom VVX 500 HD**

12-line desktop phone with HD voice
3.5-in TFT LCD display at QVGA (320x240 pixel) resolution, 4:3 aspect ratio
Integrated IEEE 802.3at Power over Ethernet (PoE) support (Class 4)
Two port 10/100/1G Ethernet Switch
Dedicated RJ-9 headset port
Polycom SoundStation IP 5000 HD

Integrated IEEE 802.3af Power over Ethernet (PoE) support (Class 2)
One port 10/100 Ethernet
Grayscale graphical LCD (248 x 68) resolution
Voice activity detection
7 ft. microphone pickup

Polycom SoundStation IP 6000 HD

Integrated IEEE 802.3af Power over Ethernet (PoE) support (Class 2)
One port 10/100 Ethernet
Grayscale graphical LCD (248 x 68) resolution
Voice activity detection
Automatic gain control
12 ft. microphone pickup
2 optional expansion microphones (2200-07840-001)
Polycom SoundStation IP 7000 HD

Integrated IEEE 802.3af Power over Ethernet (PoE) support (Class 2)
One port 10/100 Ethernet
Grayscale graphical LCD (255 x 128) resolution
Voice activity detection
20 ft. microphone pickup
2 optional expansion microphones (2200-40040-001)
Panasonic TGP500 SIP DECT Base with TPA50 Cordless Handset

DECT 6.0 Base Unit (wall mountable)
Supports up to 6 TPA50 cordless handsets.
One port 10/100 Ethernet
TPA50 supports up to 3 simultaneous conversations
2.1” Large LCD with white back light display
Hands-free speaker option
Belt clip option

Cisco SPA112 ATA (to be used for integration of over-head paging systems)

This Cisco SPA112 ATA (Analog Telephony Adapter) device connects our advanced, feature rich HPBX to an overhead paging system already installed in your building. The ATA device is assigned an extension number (Standard Seat) on your HPBX account. Your paging vendor will need to confirm that your overhead paging equipment can receive a standard FXS or FXO analog connection. For certain systems, you may need to purchase additional equipment to adapt to an FXS or FXO connection. Your paging vendor will also need to configure your paging equipment to accommodate the ATA device.
Access One requires that your overhead paging system vendor be present at the time of your activation appointment. Access One can recommend a vendor if required.

Power Supplies

All phones can be POE with the exception of the Panasonic and the Cisco

**Power Supply - Polycom 24 Volt for IP311/331/335 (part # 2200-17877-001)**
**Power Supply - Polycom 24 Volt for IP450/550/650 (part # 2200-17878-001)**
**Power Supply – Polycom 48 Volt for VVX 310 (part # 2200-46170-001)**
**Power Supply - Polycom 48 Volt for IP560, IP670 and VVX 500 (part # 2200-17671-001)**
**Power Supply kit - Polycom SoundStation IP5000 (part # 2200-43240-001)**
  - Power adapter with 5’ hard-wired cord
  - 7’ AC power cord, which plugs into the power adapter
  - 2’ power insertion cord that connects to a LAN port on the wall or hub/switch device port

**Power Supply kit - Polycom SoundStation IP6000 (part # 2200-42470-001)**
  - Power adapter with 5’ hard-wired cord
  - 7’ AC power cord, which plugs into the power adapter
  - 2’ power insertion cord that connects to a LAN port on the wall or hub/switch device port

**Power Supply kit - Polycom SoundStation IP7000 (part # 2200-40110-001)**
  - Power adapter with 5’ hard-wired cord
  - 7’ AC power cord, which plugs into the power adapter
  - 2’ power insertion cord that connects to a LAN port on the wall or hub/switch device port