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Technical Requirements

The following are the technical requirements for the Packet8 Complete Contact Center. Please select from the items below to go over specific requirements for Service, PC, Internet access, and Packet8 Virtual Office service.

Telephony

Phone Requirements

To receive telephone calls from the Packet8 system, each agent must have either a Packet 8 Virtual Office extension and telephone.

Note: An agent telephone set should be dedicated for Packet8 calls. If the telephone is busy with outbound or calls other than those routed by Packet8, or the agent does not answer, the system will redistribute the call to the next eligible agent. We suggest a second telephone line or telephone if needed for Contact Center agents to ensure the Packet8 telephone is always available for Customer calls.

Land-line Phone

The phone must be a Touch-Tone® telephone with a network-dialable number. A network-dialable number is any number that can be called on the Public Telephone Network, without the use of a required extension. This is also called a direct dial access.

VoIP Phone

The following VoIP phones are supported:

- Cisco 7940/7960 series IP phone
- Grandstream BudgeTone 100
- eyeBeam from CounterPath Solutions (formerly Xten)

Note: Phones must be SIP enabled

Bandwidth Requirements:

Codec	Quality	Bandwidth
G.729	Medium	31.2 Kb/s
G.711ulaw	High	87.2 Kb/s

Please be aware of these bandwidth requirements, as the more agents on VoIP, the more guaranteed bandwidth is required. Most cable internet connections (e.g. Comcast) have a maximum theoretical throughput of 10Mb/s. However, most ISPs impose a lower limit on their bandwidth; as such the maximum throughput at Comcast is around 3.0 Mb/s.

Also, some providers might offer different bandwidths depending on the direction of the traffic. Usually, the speed given by the ISPs are for download. The upload bandwidth may be limited to approximately 128 Kb/s and 384 Kb/s.

This might impact voice quality as a phone conversation is two-way which in turn can be considered both an

"upload" and "download". The requirements above do not include any additional internet traffic including the Packet8 application which can be up to 20 Kb/s per agent. (Average for Packet8 is 2 Kb/s).

PC

Using the Microsoft Explorer browser, agents and supervisors and administrators can access the Packet8 Service web application and login using the username and password. Upon login, a java applet is loaded and runs in the browser. The applet connects the browser to one of the web servers in the Packet8 data center. The agent application runs entirely in our data center - user PCs need only to run the browser, and any other applications needed for your Contact Center service.

Fast performing PCs enable efficiency in Contact Centers. It is true that less current PCs can function at a minimally acceptable level. We believe that better desktop performance will benefit your business, and our view is reflected in our recommendation for PC requirements.

Required Hardware:

- o System: Minimum hardware requirements for user PCs depend on the number and types of applications that will run on the computer in addition to Internet Explorer 5.5 SP 2 or 6.0 listed on this table are published minimum requirements from the Microsoft Internet Explorer Home Page, along with Packet8's recommendation in the shaded area:

IE 5 .5 requirements	Processor	Minimum RAM
Windows 95	486/66 Mhz	16 Mb
Windows 98	486/66 Mhz	16 Mb
Window NT 4.0	486/66 Mhz	32 Mb
Windows 2000*	133 Mhz Pentium compatible	64 Mb
Ideal	Pentium III	256Mb
PACKET8 RECOMMENDED		

* The specifications listed here are System Requirements for Windows 2000 Professional, as published in the Microsoft Windows 2000 Home Page.

(<http://www.microsoft.com/windows2000/guide/professional/sysreq/default.asp>).

Display: The display for each users PC should be set to 1024x768, 256-color minimum. Packet8 recommends a minimum 17" SVGA screen for agents and supervisors. For the optimal display capability for report viewing, a 19" or 21" SVGA screen is best.

How Do I Change My Display?

From the Windows taskbar, click Start, Settings, Control Panel, Display, Settings. Move the Sliding Tab in the Screen area box until the setting reads '1024 by 768 pixels', then click OK.

Network

Internet Access for Packet8 Users

User PCs are required to have access to the Internet. Accessing the Packet8 OnDemand service using

a browser is comparable to accessing most other Web sites from the Internet. It is recommended that the Internet connection is a high performance one - for medium sized offices a T1 or fractional T1 may be warranted. For smaller offices or home offices, a DSL connection is recommended.

Firewall Configuration

The Packet8 application communicates with agents through three sets of firewall ports.

HTTP Ports

Two ports are used for HTTP. These are typically opened to allow web traffic.

- o 80 (Internet - http)
- o 443 (SSL - https)

Application Ports

A range of ports are used for pushing application data to the web UI, and for chat sessions. The firewall must be configured as follows:

- o Permit outgoing connections only
- o Destination is www.myPacket8.com
- o The range of ports used is 11022-11050
- o Traffic is TCP

If the firewall cannot be configured to allow outgoing connections, the agent UI must be run in "http proxy" mode. To switch to proxy mode, add the following to your Packet8 URL:

```
&http_mode=1
```

Your URL might look like:

```
www.myPacket8.com/acme/AGUI/agui_login.php?tenant=acme&http_mode=1
```

VoIP Ports

A range of ports are used for VoIP traffic. The firewall must be configured to permit outgoing UDP traffic on these ports:

- o 5060 (SIP)
- o 16000 - 33000 (RTP)

E-Mail Servers

For email contacts, you will need a POP3 or IMAP mail server, and an email address for support queries (support@yourcompany.com). The application supports both regular POP3/IMAP as well as over secure socket layer (SSL). To configure the email application, you will need to know the:

- o POP3 or IMAP Mail Server Address
- o POP3 or IMAP Mail Server Name
- o Mailbox username
- o Mailbox password

Customer Support can supply additional technical detail or assistance. If you maintain your own mail server, your IT staff usually performs these tasks. If you do not have a mail server, you can use mail services such as those offered by Yahoo or Earthlink.

Once configured, Packet8 accesses your mail server and retrieves emails sent to your support mailbox (example: *support@yourcompany.com*). It's the same method used by any other mail service user retrieving email. Support email messages are converted to CRM cases, processed and routed to agents according to the rules defined in the Packet8 configuration. The email is delivered to the agent application using the web-based Packet8 Agent Application. It is not necessary to install an email client on the Agent PC.

Note: Configure your email application only when ready to begin processing of PRODUCTION email CRM cases. For training environments and familiarization, we suggest creating and configuring a test mailbox.

Depending on your email server setup one or more of the following ports should be opened for inbound communication for Packet8 server to retrieve queue email:

- 110 - POP3
- 995 - POP3 over SSL
- 143 - IMAP
- 993 - IMAP over SSL

Internet Access for End User Customers

End User Customers who wish to connect to the Support Center must connect to the Internet using Internet Explorer 5.5 SP 2 or 6.0. For best performance and fastest screen refresh, a minimum 56K connection may be used. Performance is dependent upon the quality and speed of the connection.