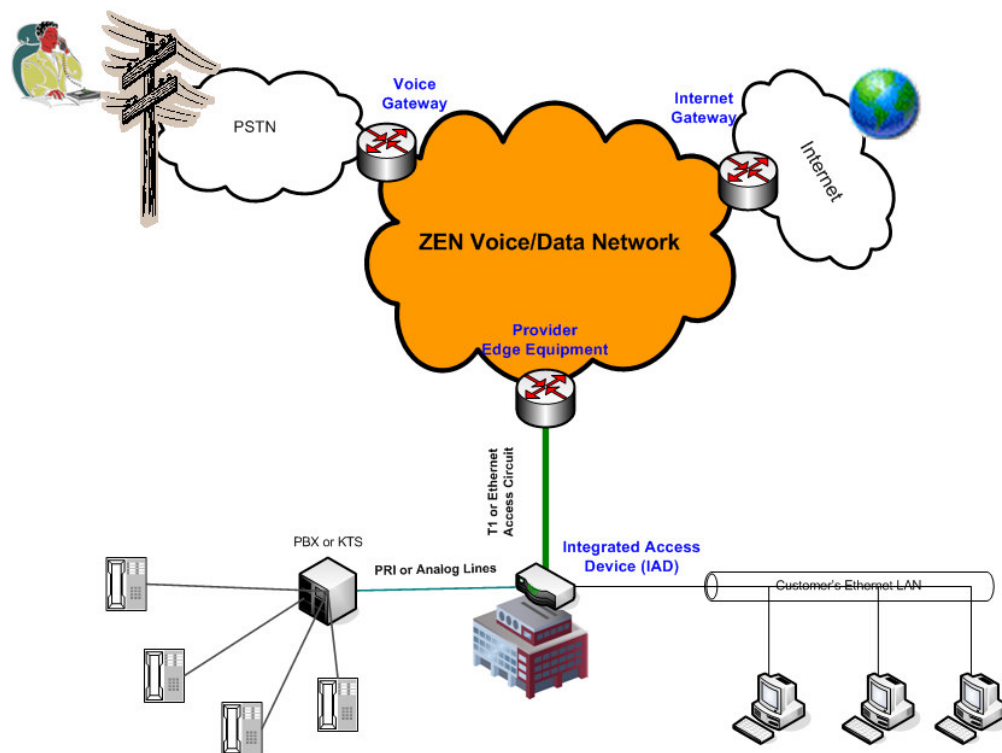


## SERVICE DELIVERY OVERVIEW

Zayo Enterprise Networks (ZEN) offers a managed converged voice and Internet solution for businesses owning and managing a premise-based KTS or PBX system. Voice and Internet services are delivered over a single broadband access circuit using the Internet Protocol (IP). Within the ZEN network facilities, Internet traffic is directed to the nearest Internet peering point while phone calls are sent and received over the traditional public switched telephone network.

The broadband bandwidth is dynamically allocated between voice and Internet. When people are not speaking on the phone, the entire bandwidth is available for Internet. Voice traffic always takes priority for maximum call quality. You can benefit from new technology without investing heavily in new phones or abandoning the investment you already have with your phone system.

## MANAGED CONVERGED VOICE SERVICE



### ➤ Standard Customer Premise Network Configuration

#### Standard Network Configuration

- T1 or Ethernet WAN circuit
- Traffic shaping – voice high priority
- Compressed Voice (g7.29 codec)
- DNS – URL/public IP address resolution
- User Assignable Public IPs upon request (2 assignable by default; 6, 14 or 30 assignable upon approval; Note: one assignable IP address is typically assigned as a default gateway address)
- DHCP – allocate private IP addresses to PCs
- Basic Firewall – allow PCs to reach Internet, block traffic from Internet (unless requested by PC)
- Customer provided firewall may be used

- Static routing

#### **Standard Analog Interface**

- Analog interface to a Key Telephone System (KTS) is provided by a standard punch-down block
- Two-wire loop-start signaling

#### **Standard PRI Interface**

- PRI (RJ45 connector)
- PRI Channels: 23B Channels / 1D Channel
- Switch/PBX Type: National ISDN 2 (NI2)
- DID Digits Transferred: 10 digits
- Resource Selection: Linear (search for available resource beginning with the first DSO on the first PRI)
- Framing/Coding: ESF/B8ZS
- Facility Data Link (FDL): ANSI

#### **Non-Standard Configuration**

Non-standard network configuration requests may be supported upon request. The customer's network Administrator and the ZEN Sales Engineer will work together to develop an appropriate network design. Additional installation and monthly recurring charges may apply.

- Voice/Data router
  - As part of the service, an appropriate Integrated Access Device (IAD) will be installed, managed, and maintained at your network's edge.
- Direct Inward Dial (DID) numbers are available in blocks of 20 numbers and include Caller ID delivery.
- ZEN is scalable and flexible to meet the needs of your business.
  - Unlike traditional PRI service, you buy only the number of concurrent calls you need today (up to 48 concurrent calls) and you can increase by single increments as you add more employees or call volume grows. Available term commitments are 12, 24, or 36 months.
- Long Distance provides cost-effective intrastate, interstate, international and toll-free calling.
- Unlimited local calling with no per usage charge.

#### **STANDARD BUSINESS SERVICES**

The following standard features may be included, depending on the service delivery interface for your phone system – analog lines, or PRI. These service options are available to enhance your overall KTS or PBX phone system service.

<i>Account/Authorization Codes</i>	<i>Caller ID</i>	<i>Call Return</i>
<i>Call Transfer</i>	<i>Call Hold</i>	<i>Calling Plans (Toll Restrictions)</i>
<i>Fax Line</i>	<i>Last Number Redial</i>	<i>Series Completion</i>
<i>Toll-free Numbers</i>	<i>E911</i>	<i>3-Way Call</i>

- *Account/Authorization Codes*: Allows tracking of calls against account codes or restricting toll calls unless a valid access code is entered.

- *Caller ID*: Display a callers phone number and name.
- *Call Return*: Allows a user to return a call to the last party who called.
- *Call Transfer*: Allows a user to transfer a call to another phone.
- *Call Hold*: Allow a call to be placed on-hold and taken off-hold.
- *Calling Plans (toll restrictions)*: Provides a Class of Service for call blocking at a service location. Options available include:
  - *Classes of Service with 900/976 Blocking*:

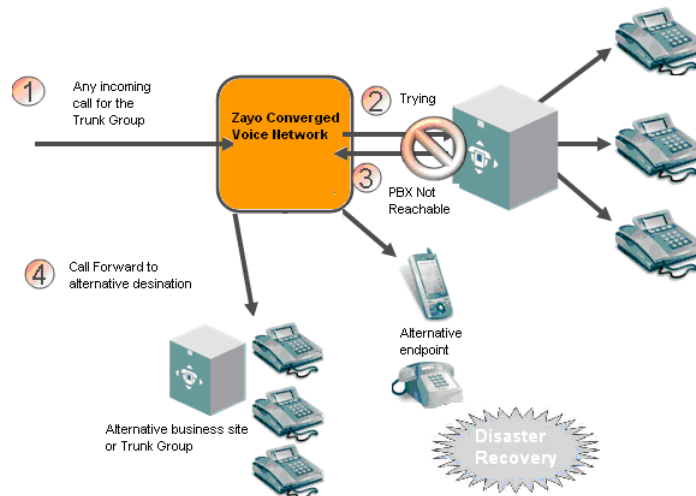
IntraCustomer Only -	Block Local, IntraLATA Toll, InterLATA & International
IntraLATA only -	Block NPA 900 & 976 like NXXs, InterLATA & International, Allow NPA 800
World Zone 1 only -	Block NPA 900 & 976 like NXXs & International
Unrestricted -	Block NPA 900 & 976 like NXXs
  - *Classes of Service without 900/976 Blocking*:

IntraLATA only -	Block InterLATA & International, Allow NPA 800
World Zone 1 only -	Block International
Unrestricted -	Block nothing
- *Fax Line A* dedicated fax line allows your fax machine to be connected directly to an FXS analog port on a ZEN provided integrated access device for better fax reliability (see below FAQs for more on fax machines).
- *Last Number Redial*: Allows a user to access and dial the last dialed number using a feature access code.
- *Series Completion*: Allows calls to be forwarded to the next line in the series for key system implementations.
- *Toll Free Inbound numbers*: Allows callers to dial an 8xx number to reach your company without the callers incurring long distance charges. Toll-free long distance incurred by callers is charged to your company's ZEN service.
- *E911*: Provides emergency 9-1-1 dialing.
- *3-Way Calling*: Allows a user to use Three-Way Call conferencing.

## **BUSINESS CONTINUITY**

Trunk Group Unreachable Destination provides the enterprise with the option to reroute incoming calls to alternative locations in the event of a loss of connectivity with the premise-based PBX.

Automatically redirect incoming calls to another enterprise location, answering service, call center, remote office, mobile phone, etc. The alternative destination can be to another Zayo Enterprise Trunk Group or Hosted voice service, or to any public switched telephone network destination.



Setup of the Trunk Group Unreachable Destination service is done through the Zayo Enterprise web voice portal. Once the Trunk Group Unreachable Destination service has been setup, it is automatically used when the PBX is considered unreachable – i.e. a failure response is detected other than a busy condition.

After all connections and equipment are back in service and online, Trunk Group Unreachable Destination deactivates itself, which allows calls to resume normal flow to your PBX.

## FREQUENTLY ASKED QUESTIONS

### General Questions

**Q:** What is the ZEN Converged Voice service?

**A:** This service combines voice and Internet access over a single high-speed broadband connection to your office. Instead of having multiple voice and Internet circuits from the incumbent phone company, your phone and Internet service is consolidated and delivered over a single carrier-class high-speed data connection.

An integrated access device provided by ZEN is installed in your office to split and direct Internet and voice traffic. ZEN uses Voice over IP (VoIP) technology to provide voice service to your premise. The integrated access device converts voice calls between PRI or Analog and IP data.

**Q:** Can I use regular fax machines?

**A:** Fax machines may be used. However, fax transmission can be unpredictable when used with any VoIP service. This is particularly true if your fax machine is connected to your PBX where VoIP calls are delivered in a compressed format. Connecting the fax machine directly to an analog FXS port on the integrated access device allows us to “tune” the fax line for better reliability.

It is a good idea to handle faxes completely outside of the ZEN service (or any VoIP service) if your business depends heavily on sending and receiving faxes. This is particularly true of credit card machines.

**Q:** Will I be down for any length of time during setup?

**A:** In most cases, there will be very minimal amount of downtime. A short disruption may occur in your phone service during the configuration process when your existing phone numbers are ported to the ZEN service. There may be a brief interruption of existing Internet service while the Integrated Access Device (IAD) is being installed.

Q: Will we be able to keep our current phone numbers?

A: Yes, ZEN supports local number portability (LNP), which allows you to keep your current phone numbers.

Q: If my WAN connection fails, will I still have phone service?

A: ZEN service level objective is to provide 100% availability. ZEN is managed over a highly redundant backbone network to minimize the possibility of service failure. However, just like traditional voice service, a local loop failure can cause the phone system to go down. **Trunk Group Unreachable Destination** can be configured so inbound calls are automatically rerouted to another phone number in the event of a system failure.

### ***Voice Questions***

Q: Are my calls sent over the Internet?

A: With ZEN, calls do not travel across the public Internet. Instead, they are on high-quality carrier lines just like any other phone call. ZEN uses voice-over-IP only between a point of presence (POP) and the customer premise.

Q: What level of voice quality can I expect?

A: Voice quality is comparable to that of your existing phone service. The Integrated Access Device uses a Quality of Service algorithm to mark and prioritize voice packets for transmission over the WAN.

Q: Can I make calls to any phone?

A: Of course! Call anyone, anywhere.

Q: Do I pay a separate Long Distance Company?

A: No. ZEN provides long-distance service at very competitive rates.

### ***Network Questions***

Q: I host my own website at our office. Can I still host my own website if I get ZEN service?

A: ZEN service is delivered over a business-grade, always on, high-speed, dedicated Internet access circuit suitable for hosting your own public host systems, such as your website.

Q: Does it work with a Firewall?

A: The Integrated Access Device used for ZEN service provides basic network address translation and blocks all Internet traffic unless requested by your PC. For additional LAN protection, you may wish to manage your own external firewall.