

Zoey™ Customer Care Solution Note

How to improve customer satisfaction and reduce churn with an IVR System



Customer Retention Challenge Overview

Customers expect exceptional call quality with competitively priced VoIP services. When line quality issues arise in triple and quadruple-play networks, customer churn soars. For example, in their annual financial statement, a large VoIP provider declared a churn rate of 3% per month for Q4 2007. Due to the nature of packet-switched networks, service providers have to continuously monitor call quality to pre-emptively eliminate bottlenecks in order to improve voice quality.

When a customer has a problem with service, customer care agents need accurate intelligence to make valid decisions based on analysis while avoiding costly and unnecessary truck rolls.

Tektronix' Zoey is an automated Interactive Voice Response (IVR) test system that customers can call anytime they suspect there is a problem with their line. The most common line quality issues are measured and the customer is given a verbal report at the end of the test. When customers have a line issue, they feel reassured that it will be sent to customer care for corrective action. In this way, Zoey improves your customer's loyalty along with your brand's value, helping you to reduce churn and retain customers.

Value Added Features

- Increases the value of your customer care by freeing up resources to meet more important objectives such as ensuring the Customer Desired Due Date (CDDD)
- Reduces Mean Time To Repair (MTTR), which, in turn, improves brand value and reduces churn
- Available any time of the day - ideal for identifying transient issues
- Provides end-to-end visibility in mixed circuit & packet environments

Issue:

New VoIP services over triple and quadruple-play networks generate many more customer service calls than traditional PSTN lines:

- Traditional voice issues such as **echo & noise** have returned
- **Jitter and clipping** are new problems with packet switched networks

Solution:

- Allow customers to self-test their line with an automated IVR system called Zoey
- Zoey guides customers through voice quality tests and is available at all times
- Zoey tests most common line problems such as caller ID, echo & noise, voice quality, and DTMF tones

Merits:

- Customers care agents have specific diagnostic measurements when a customer calls with an issue
- Customers have a self-test option if they want to verify a self-installation. This creates a positive customer relationship from the start to improve loyalty
- Issues are resolved quickly, improving support staff morale
- Increased customer satisfaction reduces churn



Background

Today's networks are converging towards an all-IP-based infrastructure to reduce capital and operational expenditure. However, IP networks were never designed for the demands of real-time services such as voice which has stringent requirements for network delay, jitter, and packet loss.

As a result, service providers need service quality management tools that proactively detect quality degradation of VoIP traffic.

Challenges for Next-Generation Networks

Classic PSTN problems have now returned with the introduction of packet-switched networks:

- Echo & noise, voice clarity, and DTMF issues arise due to codec configuration problems
- Clipping, packet loss, jitter, and delay occur due to IP routing issues

To build and maintain a network that has a strong quality-of-experience rating, it is essential to use testing that spans the network end-to-end.

Zoey Improves Customer Care

Service Providers often receive multiple customer care calls after a self-service installation due to voice-quality issues. This is costly because it takes precious time from the customer care agent and customer retention can become an issue. On top of this, a truck roll can waste time if the reported problem is found to be elsewhere in the network.

Zoey is an interactive service that customers can call to test their own installation and diagnose common issues. This can make a real difference in maintaining customer loyalty, by involving the customer in a positive way to give them peace of mind that their service is being tested.

If a customer loses faith in one of your services, there is a risk that they will move all their business elsewhere. This is why Zoey is so important. She strengthens the relationship with your customers.

<u>Customer Support per Subscriber / Year</u>	Annual Average [‡]
Phone support duration (hours)	0.23
Average on-site visits/sub (per year)	0.20
Average on-site visit duration (hours)	0.9
% Overtime labor	15%
Operations Support (minutes/visit)	7
Truck roll costs (no labor)	15 \$
Labor cost / visit (support + tech + ops)	17 \$
Install + maintenance cost / subscriber	32 \$
Total new subscriber maintenance	4,856,500 \$
<u>Impact: Service Quality Issues</u>	
Subscriber turn-over (%)	0.30 %
Revenue lost	124,740 \$
Total New Subscriber Installation Cost	5,155,480 \$
First 3 Year Total	15,466,440 \$

Figure 1: Service Provider VoIP Troubleshooting Costs with Phone Support Only

[‡] Values are for the first 3 years of operation with 150,000 new subscribers per year. Contact Tektronik for further details of ROI calculations. Metrics are from a Tier 1 voice over IP provider.

When Zoey detects that the voice service is faulty, it can automatically transfer the customer to a customer care agent. Because the details of the test results are stored on a back-end server, the customer care or operations group can help customers troubleshoot more efficiently. This adds credibility to your rapid resolution of customer issues, and reduces repair time.

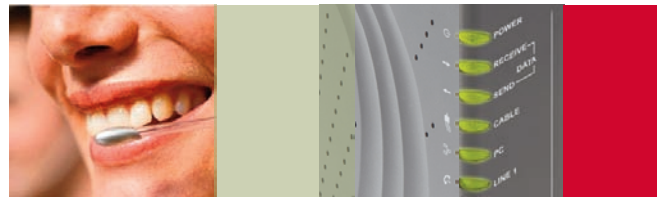
Field technicians can also use Zoey to quickly test service deliveries and maintenance activities. Zoey helps to ensure that they get the job done right the first time, every time. Day-of-installation test results can be used as a baseline reference for future testing and troubleshooting.

Zoey tests the most common line quality issues:

- Caller ID
- Voice Quality
- DTMF Tones
- Echo & Noise

Business Case for Zoey

Zoey is proven to reduce customer support costs over a three year period for self-installation subscribers by 56%. Figure 1 shows an example of the typical customer care costs for the first three years of VoIP rollout.



<u>Reduced Technician Visits</u>	Annual Average [†]
Reduced phone support time	34%
Reduction in visits / truck rolls	13%
Reduced Truck Rolls	19,500
Visit duration reduction	0.3
% overtime labor reduction	10%
Visit cost / subscriber saved	18 \$
Total installation cost reduction	2,717,850 \$
<u>Impact: Service Quality Issues</u>	
Improved subscriber retention (%)	0.2%
Revenue preserved	149,490 \$
Total Subscriber-Related Cost Savings	2,867,340 \$
First 3 Year Total	8,602,020 \$
<u>Savings vs. Phone-Support-Only Model</u>	
First 3 Year Support Savings	55.6%

Figure 2: Service Provider Savings with Zoey Interactive VoIP Testing

Key Features and Benefits

- Provide interactive self-testing for your self-install VoIP customers
- Reduce loading on technical support, avoid superfluous truck rolls and solve problems faster
- Zoey can perform quality tests for:
 - Speech MOS, echo and noise
 - Caller ID, DTMF transmission
- QoS results are centrally accessible to operations staff and field technicians - support customers using objective, accurate service quality test data
- Zoey can be used with Tektronix MTA Loopback testing and PowerProbe 30 day-of-install test results to remotely identify inside wiring and handset quality issues

Tektronix innovates again with its Zoey service - She drastically improves OPEX without having to install equipment at the customer premises.

Triple and Quadruple-Play Services

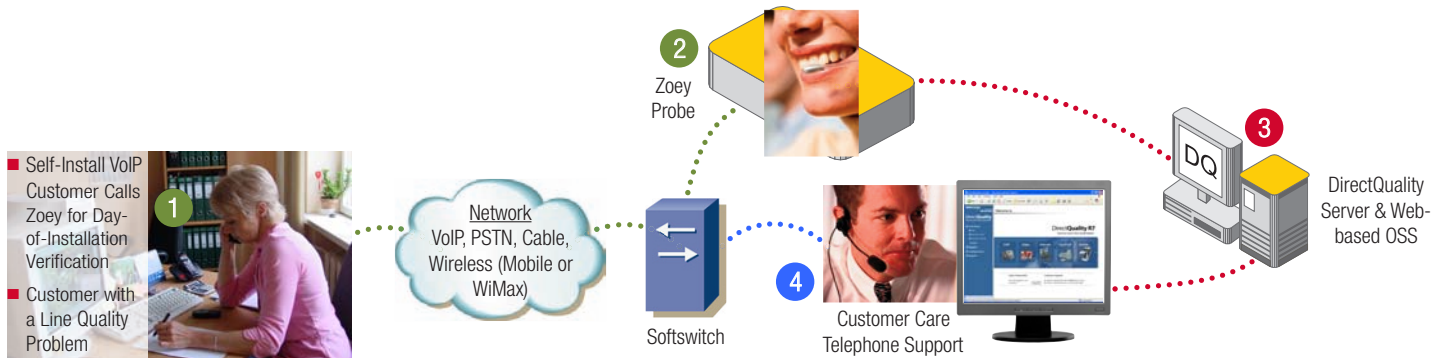
Triple and quadruple play provides value to your customers by allowing you to reuse the same infrastructure for multiple service delivery. This improves the ROI for your deployment versus a pure-play service provider. However, if the quality of one service is poor, you could lose a customer for the entire triple / quadruple play service package.

The business case shown in Figures 1 and 2 take into account lost voice subscriber revenue only. The rollover effects of losing a voice subscriber in a triple or quadruple play environment will result in far more serious revenue losses.

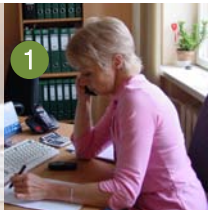
This is why it is important to pay special attention to line quality issues, and it is also why Zoey plays such a key role in customer retention.

The Zoey Interactive Test Sequence

- 1 Customers with line quality problems call Zoey.
- 2 Zoey responds with interactive test choices for Speech Quality, Echo & Noise, DTMF Transmission, and Caller ID.
- 3 DirectQuality manages the interactive tests and records the results.
- 4 If trouble is found, the call is "routed to" or "conferenced with" Customer Support. Access to the test results is provided through a Web-based OSS, allowing the problem to be quickly resolved.



- Self-Install VoIP Customer Calls Zoey for Day-of-Installation Verification
- Customer with a Line Quality Problem





Summary

When rolling out a new VoIP service, you create a marketing plan, select the best equipment, and hire staff to make the new service a reality. The cost is enormous. A strong base of satisfied customers is the reward that generates your return on investment.

Protect the investment in your network with the ability to properly serve your customers in an accurate and fast manner. By making Zoey a part of your self-installation deployment, you will reduce operational costs and the number of customers leaving your network while you grow and improve your reputation.

The business case for Zoey is based on real metrics from a tier 1 cable operator in the US for a new subscriber base of 150,000 per year. If you would like more information about how much Zoey can save your organization or to get a better understanding about how the calculations for the Zoey business case were made, please contact Tektronix Active Assurance Marketing Department at +1-514-879-9111 ext. 284.

About Tektronix:

Tektronix has more than 60 years of experience in providing network operators and equipment manufacturers with an unparalleled suite of network diagnostics and management solutions for fixed, mobile, IP and converged multi-service networks.

These solutions support architectures and applications such as fixed mobile convergence, IMS, broadband wireless access, WiMAX, VoIP and triple play, including IPTV.

For Further Information:

Tektronix maintains a comprehensive, constantly expanding collection of application notes, technical briefs and other resources to help engineers working on the cutting edge of technology.

Please visit www.tektronix.com/ActiveAssurance

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