

Product: ShoreTel system

System version: ShoreTel5 Release1.2

Multi-Zone Paging with Valcom Class Connect Setup

The Valcom Class Connect is a paging system that is commonly used in schools. The product is known as Class Connect, www.Class-Connection.com as well as Multipath™ Intercom System, www.valcom.com.

Overview

The Valcom Class Connect paging system can be driven from a ShoreTel system using one or more analog trunk ports on a ShoreGear voice switch. As the Class Connect was designed to be operated from a phone, rather than a PBX, a small amount of customization using custom dialing rules must be made to the ShoreGear voice switch in order to operate the Class Connect.

This release note describes a standard setup with Valcom and ShoreTel and illustrates the ShoreTel customization with an example.

Brief Description of the Problem

The reason that the Class Connect will not operate with a ShoreGear analog trunk right out of the box are the protocols and policies that ShoreTel implements for a trunk connected to a central office.

In a normal phone call:

- The user goes off hook, hears internal dial tone, and
- dials an access code (typically 9) for an external trunk, and ShoreTel plays external dial tone.

- The user dials some digits, and when the ShoreGear switch has determined that the user has entered a public telephone number,
- the ShoreGear selects a trunk from the trunk group (previously selected with the 9),
- takes it off hook,
- waits until loop current is detected from the central office,
- listens for dials tone to make sure that there isn't an incoming call on this trunk, and
- then beeps the digits to the central office.

The first problem is that the Class Connect used “#” for the first digit of a command (#110 means All Call Page). ShoreTel uses “#” as a “carriage return” to indicate that the last digit has been entered. The “#” is sometimes required when the number of digits needed for a number isn't known by ShoreTel.

The second problem is that the Class Connect uses a non-standard dial tone, in order to inform the telephone user that this is not a real outside trunk (no 911 available here).

In order to work around the “#” problem, we need a method to get ShoreGear to simply setup an audio path between the handset and the trunk.

The technique chosen here is to treat the Class Connect as an off system extension with a twist. The twist is not to out-pulse the off system extension digits dialed, just grab the trunk and set up the audio path.

Getting around the non-standard dial tone problem is done by turning off dial tone detection on the trunk. Dial tone detection is also called glare. Curing both of these problems is done by setting up custom dialing rules on the ShoreGear trunk group.

Out of the Box Set up

The Class Connect is attached with one or more RJ-11 phone cables to trunk port(s) on a ShoreGear. It's just that simple. In order to test the Class Connect, plug the RJ-11 into a real phone. Go off hook, and you'll hear a strange dial tone. Dial # 110 (All Call Page), you'll hear a chime, and then you just start talking.

Setting ShoreGear Custom Dialing Rules

Here's what we do...

- Add the string ;1G;1I to the custom plan string of the Paging trunk group. The first three characters say to wait 1 second after going off hook and presume a connection even if dial tone is not heard, the second three characters say not to outpulse the off system extension (e.g. 199) after the trunk is seized.
 - Add trunks in the Paging trunk group that are to be connected to the Class Connect box [it supports up to four of them].
- To use this setup, dial 199, wait 1+ second and hear the Class Connect box's dial tone then press the DTMF to access the feature you want.
- Use Director in Support Mode, accessed by pressing Ctrl-Shift and clicking on User Name before logging in.
 - Set up a dedicated loop start trunk group (let's call it Paging). The access code doesn't matter (it might as well be 9), since it won't be added to any user group.
 - Assign the Class Connect box an extension, e.g.199, and add that as an Off System Extension (199-199) in the Paging trunk group.

