

## **LoopCare™ Interactive Voice Response System Enables Field Technicians to Conduct Loop Tests without Repair Center Assistance**

Field technicians who need to execute LoopCare tests are traditionally required to have access to the network using a laptop, or they must rely on an attendant in the repair center to perform the tests and report the results to them over the phone.

Tollgrade's LoopCare Interactive Voice Response (IVR) System enables field technicians to execute loop test requests and receive results via voice output using any wireless/wireline telephone with a touch-tone keypad. Technicians can gain access and perform tests without the assistance of a tester in the repair center or needing access to a laptop computer.



A field technician gains access to IVR by dialing an assigned telephone number via a touch-tone telephone.

After being successfully authorized by entering a User ID and password, the technician is able to select options to test (by telephone number, circuit ID or circuit access information) and then choose a test request. Test results are returned to the technician by voice output. (Multiple tests of one or more lines can be conducted during a single phone call.)

### *IVR Application Flow*

Within the IVR Application, a series of menus and prompts with voice announcements is used to guide technicians through the system, enabling them to make various test requests on different types of lines and receive results in spoken format. In order to make the system easy to understand, the IVR Application supports the use of pre-recorded WAV files for the menu prompts and results. (A text-to-speech engine is used when the pre-recorded WAV files are not available or are not supported).

Some of the menus in the IVR Application include the Volume Control Menu, User Entry Confirmation Menu and Circuit Selection Menu. The Main Menu is context-sensitive, allowing it to determine the state of the user request, and adds options for repeating results as the user chooses. The LoopCare IVR System is highly customizable, allowing for disabling of menu options or entire menus.

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### **BENEFITS OF THE LOOPCARE IVR SYSTEM**

- Enables field technicians to conduct LoopCare tests easily and rapidly without waiting for assistance from repair center.
- Enables secure access to LoopCare test functions through any touch-tone phone, eliminating the cost and expense of portable computers.
- Retains tone requests on the line after technician logout, allowing the IVR system to support more user sessions than the physical number of dial-in ports.

### **SYSTEM DESCRIPTION**

The LoopCare IVR System uses a dialogic voice board that resides in a PCI slot on a Windows® 2000-based PC. Each board can support up to twelve telephone lines for dial-in access, with each PC supporting a maximum of two dialogic boards for POTS testing applications. The dialogic voice boards provide the interface between the analog POTS lines and the LoopCare IVR Application.

An overall architecture of the LoopCare IVR System for testing POTS lines appears on the back page of this bulletin.

### *LoopCare IVR Application*

The LoopCare IVR Application provides an interface between the dialogic voice boards and the LoopCare server using the LoopCare Test Requester CORBA API.

### Supported Test Requests

The LoopCare test requests available to IVR users can be categorized into tone or test requests.

#### TONE REQUESTS

- TONE request for pair identification purposes
- CABLE TONE request for cable binder identification purposes
- RESPOND request for putting the test unit in a listen mode for performing double-ended insertion loss tests

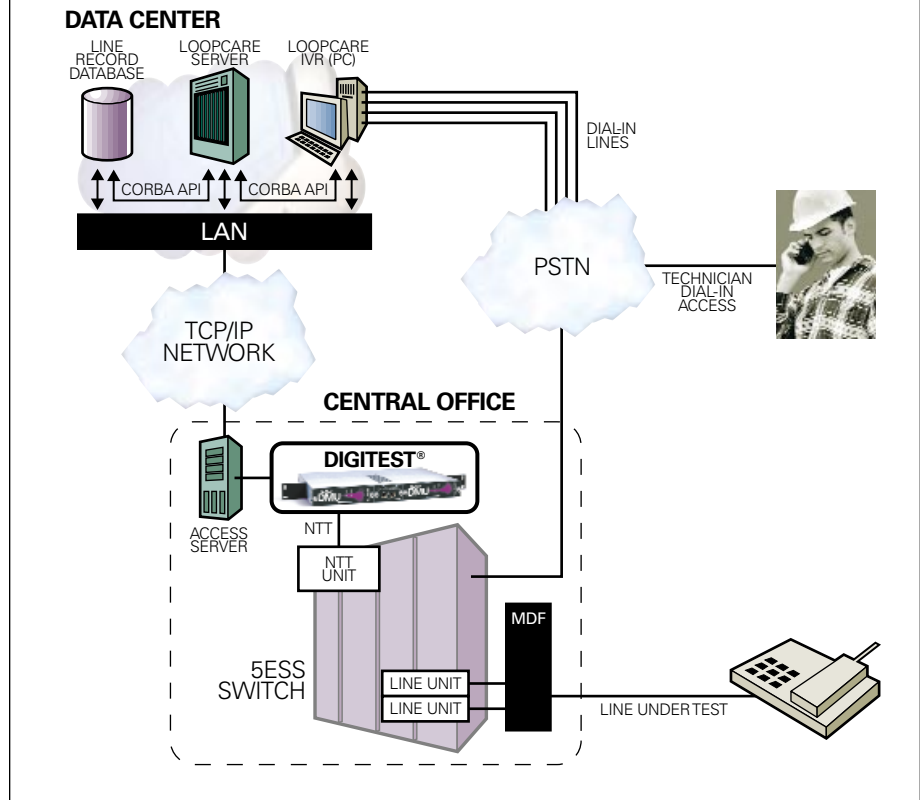
#### TEST REQUESTS

- FULL request for testing POTS and DSL services
- LOOP request for testing POTS and DSL services
- MET request for testing POTS and DSL services
- LOC1 request for performing single-sided, resistive fault sectionalization on unbalanced opens
- MEASURE WIDEBAND TONE for identification of the frequency and level of an applied wideband tone

#### Test Results

The LoopCare IVR System provides technicians with VERification Code test results, narrative summary messages, status updates and all system messages, via voice output. Users may conduct multiple tests per IVR session and can request that test results be repeated (for example, when they are taking notes). If the User is performing a test request on a line, access to the current line under test is automatically released whenever the user selects a different line to test, logs out of the IVR System or hangs up the phone. For tone requests, access is automatically held if the user hangs up the phone, thus allowing the technician to search for the tone and not hold up access to the IVR System.

## LOOPCARE IVR ARCHITECTURE FOR POTS LINES



### ABOUT LOOPCARE

With more than 20 years of progressive development, LoopCare has evolved to become the world's premier Test Operations Support System (OSS). Currently managing more than 75 percent of the copper pairs in the United States, LoopCare is the heart of the installation and maintenance process for more than 150 million POTS, ISDN and DSL subscribers worldwide.

Whether testing via a PSTN trunk, DLC, DSLAM or external access device,

LoopCare efficiently manages the entire test process through a variety of partnerships and interfaces with industry-leading network element providers and switch manufacturers. This proven flexibility, when combined with a simple graphical user interface, Integrated Voice Response (IVR) and CORBA-based open architecture, enables LoopCare to maximize the effectiveness of the network edge while minimizing operating expenses.

### FOR MORE INFORMATION

For more information about Tollgrade's LoopCare IVR System, contact your sales representative or call our Sales and Marketing Department at 1-800-878-3399.