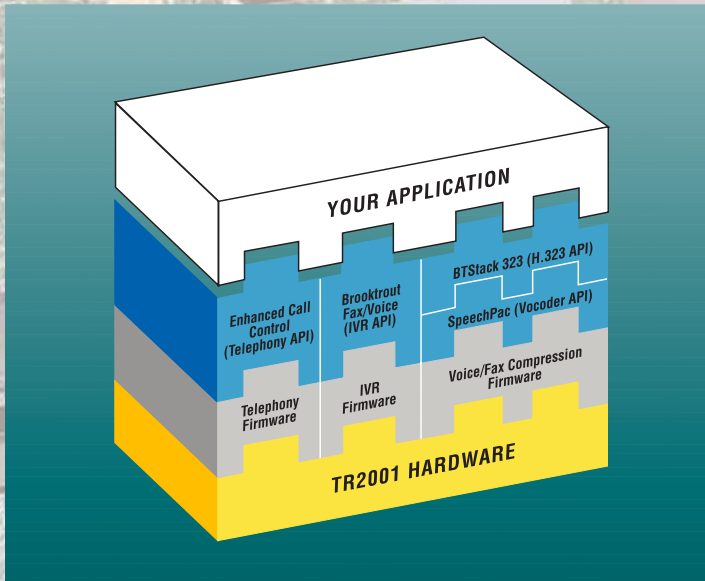


TR2001 Software Developer's Kit (SDK)



Development Environment for IP Telephony Applications

The TR2001™ SDK provides IP telephony developers with the key technology components needed for rapid development of standards-based IP telephony applications based on the TR2001 platform. The TR2001 SDK is a packaged offering that constitutes a complete IP telephony development environment.

The TR2001 is a highly-efficient IP telephony platform, supporting up to 60 H.323-compliant voice and fax channels in a single PCI slot. The TR2001's low profile and low power consumption enable the creation of high-density, high-reliability systems for voice and fax over IP. The TR2001 SDK consists of:

APIs and Software:

- BTStack323
- SpeechPac
- Brooktrout voice/fax API for TR2001 with Enhanced Call Control
- Sample Applications with documented source code
- Documentation

Hardware Capabilities

- DSP Resource
- Line Interface

APIs and Software

BTStack323™ Protocol Stack and API

The BTStack323 is an H.323 protocol stack that runs within an IP telephony gateway or application server. BTStack323 is fully compliant with the ITU H.323 standard and has demonstrated compatibility with Microsoft NetMeeting, Netscape CoolTalk, and VocalTec Internet Phone applications. BTStack323 has a high-level API that has been developed specifically to support rapid IP voice and fax development.

BTStack323 supports the real-time audio and H.225/245 control functions of the H.323 stack needed by an IP voice/fax application. An API has been developed that presents only those functions needed, in a format appropriate for IP telephony development. The BTStack323 software is designed to work with the SpeechPac voice compression software and shares a common data buffer, minimizing delay.

SpeechPac Voice/Fax Compression Firmware and API

SpeechPac is DSP-based voice/fax compression firmware for IP voice and real-time fax applications. This field-proven software processes real-time voice streams on the Brooktrout TR2001 Series DSP resource board with little

Specifications

APIs and Software

- BTStack323
- SpeechPac
- Brooktrout API for TR2001 - IVR and Enhanced Call Control
- Sample Applications

Voice/Fax Firmware

- Voice processing/conditioning
- G.711
- G.723.1
- G.729A
- SX7300/SX9600
- FaxRelay

DSP Hardware

- Board: Brooktrout TR2001
- System Interface: PCI
- TDM Interface: MVIP
- Channels: 24

Line Interface Hardware

- Board: Brooktrout Technology Netaccess PRI-PCI
- System Interface: PCI
- TDM Interface: MVIP
- Network Interface: T1 or E1

DEVELOPER TRAINING

Brooktrout Technology offers comprehensive IP Telephony Developer Training, covering system architecture, APIs, sample applications, system design, testing and debugging.

HOW TO ORDER

TR2001 SDKs are available in a variety of configurations. For the development of single gateway applications, such as web push-to-talk, internet call-waiting, where one end of the application is a standard telephone and the other end is a multi-media PC, a single set of board hardware is required. For the development of gateway to gateway applications, such as phone-to-phone and fax-to-fax applications which require a gateway at either end, two full sets of board hardware is required. Both configurations are available with T1 or E1 network interfaces.

Contact your Brooktrout sales representative to place an order for an SDK and IP Telephony Developer Training.

intervention required by the host application. The SpeechPac system supports ITU standard vocoders—G.723.1, G.729a, G.711, plus Lucent's popular SX7300 and SX9600 coders.

SpeechPac has its own API for developers who wish to use other H.323 protocol stacks, or alternative protocols. SpeechPac's API also gives developers precise control to implement advanced features, such as dynamic switching of vocoders during a call to adjust to network conditions.

SpeechPac's FaxRelay firmware allows each "voice" channel to act as a pipe for fax data, dynamically on a call-by-call basis.

Brooktrout Fax/Voice API with Enhanced Call Control

Brooktrout Technology's Fax and Voice API for TR2001 provides developers with interactive voice response (IVR) application development needed in IP telephony. This is a streamlined version of the standard Brooktrout Fax/Voice API which provides voice response functions within many advanced messaging applications. High-level functions enable programmers to quickly create working applications.

The Enhanced Call Control (ECC) API provides telephony call control for on-board line interfaces or standalone Brooktrout Technology Netaccess line interfaces. ECC abstracts the application from telecom service specifics, allowing developers to create application functions independent of the underlying telephone service, for example analog, robbed-bit or ISDN. For developers wishing to utilize specific ISDN D-channel signalling, Brooktrout also offers separately a lower-level Simple Message Interface (SMI) API and developer tools.

Sample Applications

The TR2001 SDK contains sample applications with documented source code. These applications demonstrate proper use of the SpeechPac and BTstack323 APIs, and

provide code sections for common functions such as opening a channel or selecting a vocoder. Functions are ready to "cut-and-paste", greatly accelerating creation of custom applications.

Hardware

DSP Hardware: TR2001 IP telephony board

SDKs contain 24 port TR2001 boards, independent of whether a T1 or E1 kit is selected. Boards support the full firmware set including all vocoders and FaxRelay.

Line Interface Hardware: Brooktrout's NetAccess PRI PCI WAN Access Card

Brooktrout Technology's Netaccess PRI-PCI cards provide a robust digital WAN access feature set. These cards provide a T1 or E1 interface, complete on-board ISDN signaling, data-formatting software, and drivers. Netaccess PRI-PCI cards also come equipped with a Multi-Vendor Integration Protocol (MVIP™) bus interface for connection to the DSP board.

Migration and Updates

Brooktrout Technology's long-standing practice has been to improve its hardware and firmware while preserving developers' investments in their applications. Consistent with this, the APIs will remain stable as firmware updates become available. Brooktrout maintains an FTP site where developers can access latest firmware, drivers, sample applications and documentation to keep their development and test environments up-to-date.

For further information, contact your local Brooktrout Technology representative.

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