

The **TelcoBridges™** Toolpack Application Development Platform enables service providers and solution developers to design, deploy and monitor advanced application solutions on **TelcoBridges'** family of carrier-grade media gateways and multi-service application platform devices.

Intuitive yet powerful, *Toolpack* provides a comprehensive set of software tools for the development of core telephony applications and advanced solutions such as unified communications, ring-back tones, and prepaid/postpaid calling. Consisting of a run-time engine, application programming interface and integrated development environment (IDE), *Toolpack* provides the core development facilities that solution developers require to rapidly create and deploy applications that tie together real-time communications from the network with stored data sources to provide unique subscriber-specific services. Easy to install with its Web-based configuration GUI, *Toolpack* features a number of pre-built modules, as well as full access to its open source code and includes a reference telephony application to kick-start development efforts.

Toolpack also supports the operations, administration, maintenance and provisioning (OAM&P) requirements that service providers require to ensure five 9s availability, with features enabling them to monitor, manage, and enhance their system capabilities without causing service disruption. Featuring a web-based interface *Toolpack* automatically and transparently manages all system aspects ranging from clock failover, call and media resource synchronization, and stack failover to application monitoring and restarting, host server back-up, and live distributed software upgrades. No additional code is required to achieve a 'no-loss-of-service' end-state and minimal code is required to achieve a 'no-loss-of-call' system. Finally, *Toolpack* provides an abstraction layer that enables applications to scale gracefully, and without code changes, as T1/E1/J1, DS3, and STM-1 interfaces are added or modified.

FEATURES & BENEFITS

Enhanced time to market: *Toolpack* features pre-built C++ modules for core telephony functions such as signalling, call bridging, leg handling, call routing, and transcoding, as well as modules for advanced features such as voicemail, IVR, and database access, among many others. *Toolpack* includes a full reference telephony application that demonstrates many of these features.

Carrier grade: *Toolpack's* High Availability Manager and Resource Manager services ensure that applications benefit from redundancy and optimal resource usage across the underlying hardware platform. User applications benefit from *Toolpack's* high-availability runtime and database features with strict minimum of coding effort.

Flexibility: *Toolpack* comes with full source code, allowing solution developers to adapt it to their specific requirements. *Toolpack* supports application version management, dynamic version configuration and validation, and the ability to roll production versions back.

Scalability: *Toolpack* enables developers to take full advantage of the underlying hardware design of the **TelcoBridges** media gateways and multi-service application platforms. With the addition of the **TelcoBridges** TMS1600 media switch, developers can interconnect up to 16 **TelcoBridges** platforms, offering the ability to scale up to 32, 768 non-blocking channels in a single system.

TelcoBridges' *Toolpack* offers service providers and solution developers a comprehensive environment for the development, deployment and management of advanced telephony applications and other subscriber-specific services. For more information on how *Toolpack* can help accelerate your application solution efforts, visit www.telcobridges.com.

TelcoBridges' Toolpack Application Development Platform provides ready-to-compile and customizable C++ modules integrating the main functions required to create and deploy an advanced telecom application.

TECHNICAL SPECIFICATIONS

- > Discrete, ready-to-use C++ modules
- > Ready-to-compile
- > Completely customizable
- > Provided with source code
- > Reference Telephony Application
 - * Fully-featured any-to-any media gateway application and scripting engine for call routing
 - * Built-in 'no loss of service' redundancy
- > Web-based configuration GUI
 - * Hardware and E1/T1/J1, DS3 and OC3/STM-1 configuration
 - * SIP, SS7 MTP2/3, ISUP, TCAP and ISDN signalling stack configuration
 - * Interface, traffic and call statistics
 - * Alarms and events
 - * Hardware pre-provisioning
 - * Dynamic configuration repository
 - * Supports live reconfigurations – no restart required
- > ODBC database access (Oracle, MySQL, SQLite, Microsoft SQL)
- > Call bridging
 - * VoIP, TDM, hair-pinning
 - * Access to signalling IEs (SS7 and ISDN IEs, SIP SDPs)
- > Call leg handling (alerting, answer, etc.)
- > IVR (play, record, pause, stop, etc.)
- > IVR menu
- > Ringback tones
- > Voicemail
- > Call routing via scriptable (Ruby) engine
- > TB-StreamServer audio playback/recording application
- > Call Detail Records (RADIUS, ODBC Database)

> FIGURE 1

Create your solution using the industry's best telecom platform and pre-developed application building blocks.

TelcoBridges' Toolpack™ provides ready-to-compile and customizable C++ modules integrating the main functions required to build your telecom application.

Toolpack HA & RESOURCE MANAGER

Toolpack's HA & Resource Manager transparently manages the underlying TelcoBridges hardware platform:

- > Manages SIP, SS7, and ISDN signalling
- > Controls hardware resources and adapts media formats
 - * VoIP: IP, UDP, RTP, RTCP
 - * TDM: E1/T1/J1, DS3, OC3/STM-1
- > Controls and shares IVR and VoIP transcoding resources across the whole system
 - * IVR: play, record, tone detect./generation/suppression
 - * VoIP: complete set of codecs, G.168-128 ms on all channels, T.38, RFC2833
- > Non-blocking scalability up to 32,768 universal channels
- > Hardware redundancy
- > Software fault-detection and redundancy
- > Distributed software module upgrades

OPEN DEVELOPMENT ENVIRONMENT

- > Source code is available to developers
- > Synchronous application development with asynchronous operation and thread pooling

OPERATING SYSTEM SUPPORT

- > Intel/SPARC Solaris, Linux (RedHat Fedora, RedHat Enterprise, Centos, Debian), and Windows

> FIGURE 1

