

TRUELOG

Integrated Call Recording Platform



Truelog is an advanced Digital Call Recording System, suitable for all sectors of business, industry and emergency services.

A scalable architecture allows cost effective deployment across the market, from the smallest four channel system to large enterprise systems handling hundreds and even thousands of lines.

The Truelog system provides a comprehensive solution for **trunk-side** and **extension-side** recording.

It accommodates Primary Rate and Basic Rate ISDN, analogue trunks and extensions, two-way radios, VOIP recording, and digital extensions on various PABX systems.

Any combination and quantity of these audio circuits can be accommodated simultaneously within a server or a server cluster.

Truelog makes use of a standard PC architecture in combination with custom hardware interface modules. These modules utilise USB connectivity to the server (Universal Serial Bus), providing a number of advantages over the traditional PCI technology usually found in similar professional systems. These advantages include a 'hot-swap' capability which allows maintenance, expansion and reconfiguration to be performed without switching off or restarting the system.

The system employs a number of proprietary **Interface Units** to interface to the various types of telecommunication lines used in the telephone network. The interfaces use non intrusive connections (high impedance) to capture audio and data from these lines.



ISDN Primary Rate Interface

- 30 channels per module
- Compatible with E1 PSTN or inter-PBX links



ISDN Basic Rate Interface

- 2 x So Bus / 4 speech channels per module
- Compatible with So Bus NT - TE connections



Analogue Interface

- 4 channels per module
- Compatible with analogue PSTN, analogue extensions, radio circuits
- DTMF detection for trunks, extensions and radio
- ZVEI tone decoding for two-way radio ID
- FSK Calling Line Identification (CLI) detection



PABX Digital Terminal Interface

- 8 channels per module
- Digital audio is extracted from the terminal's data stream
- PABX CTI info is used to determine call state, dialled no. & CLI
- Decoding of proprietary signalling data is available for specific PABX systems

The various line interfaces work together seamlessly to allow any combination of audio channels to be connected to a server.

A TrueLog server is not limited in the number of channels it can handle, but is rated in accordance with the number of concurrent channels that can be recorded (up to 480 per server).

This is a function of the server's CPU processing capability, which is scaled in accordance with traffic requirements.

Above 480 channels, multiple-server 'Cluster' configurations permit scaling to any number of concurrent channels.

A server cluster configuration allows fully transparent working, including multi-site distributed servers within a WAN environment.

Truelog Software Modules:

A suite of software modules allows user-friendly access to a comprehensive array of features and facilities.

The primary attributes of the platform are **Reliability**, **Functionality**, and **Ease of Use**, ensuring the non-stop capture of accurate and tamper proof recordings for the most demanding applications.

Monitor

A network client application which allows users to view and listen to live calls in progress on any channel to which the user has access, in accordance with authorisation and security settings.

Playback

A network client application which allows users to search for and play back recorded calls in accordance with their authorisation and security settings.

Maintenance

Used by the system administrator to set up the configuration of the system and perform user management. The maintenance module can also be run as a network-client application.

Backup

A server module which manages the automated backup of data to removable media or to a network path.

AQM (Agent Quality Monitoring)

An optional module providing stats and analysis tools for use in a call-centre environment. It provides for the setting up of quality monitoring scheduled tasks, the creation and editing of AQM templates and agent / group evaluations based on assigned schedules and templates.

Agent Screen-Pop

Used in a CTI-equipped system (Computer Telephony Integration), the Agent Screen-Pop is normally minimized and 'pops up' on the user desktop when a new call is made or received. It provides for the referencing of calls, together with the entry of notes and comments which are associated with the call. The Screen-Pop application can also be activated by clicking a tray icon at any time, and allows users to play back any of their own recorded calls.

Automatic updating of client applications

As with any software system, Truelog applications are subject to upgrades, as improvements and new features are added from time to time. When a Truelog user application is launched, it first checks with the server for the availability of a newer version before running. If a new version exists on the server, it is automatically transferred to the client workstation prior to launch.

In this way, only the server needs to be updated when a new version of software is released – all client software is automatically updated, avoiding the need to maintain software on client machines.

Network security

The Truelog server is installed in a near-invisible manner on a customer network, avoiding any network shares or direct access. Server to client communication and data transfer is achieved through a protected FTP process, utilizing a limited number of defined TCP/IP ports.

Monitor

The Monitor application can be installed on any Windows (2000, 2003, XP, VISTA, Windows 7) computer on the network. In a WAN environment, Monitor can connect to any number of remote sites and provide live streaming of calls in progress.

With provision for VPN (Virtual private Networking) at a Truelog site, even a portable computer equipped with a 3G data card can be used for monitoring live calls - only an internet connection is required (streaming at 20kbps).

- Monitoring of multiple Truelog sites in wide area multi-office installations
- Selectable Trunk / Extension / Agent views, subject to user authorization levels
- Comprehensive live call information (outgoing dialled number, incoming calling number, call duration, extension number / name, trunk details)

Trunk Monitoring example

The screenshot shows the 'TrueLog Status Monitor' application window. It has a title bar with 'Monitoring Station Ver 6.7.11.0' and a 'Monitor Channel Continuously' checkbox. Below the title bar are tabs for 'TRUNKS', 'ADMIN', and 'SALES'. The main area is a grid of 40 trunk channels, each with a play button and a status indicator. The status indicators are color-coded: blue for 'Idle', red for 'Outbound', and grey for 'Error'. The channels are labeled with names and numbers, such as 'Phirwe Khumalo', 'Adrian vd Berg', 'Sean Govender', etc. The bottom status bar shows 'Connected to JOHANNESBURG' and 'User: Les Jones'.

Channel	Name	State	Duration	No.
P1.001	Phirwe Khumalo	Inbound	00:01:27	082000001
P1.002	Adrian vd Berg	Inbound	00:08:28	082000002
P1.001	Sean Govender	Inbound	00:03:31	082000003
P1.001	Switchboard	Inbound	00:03:21	082000004
P1.005	Switchboard	Inbound	00:02:20	082000005
P1.006		Idle	00:00:00	No.
P1.007		Idle	00:00:00	No.
P1.008		Idle	00:00:00	No.
P1.009		Idle	00:00:00	No.
P1.010		Idle	00:00:00	No.
P1.011		Idle	00:00:00	No.
P1.012		Idle	00:00:00	No.
P1.013		Idle	00:00:00	No.
P1.014		Idle	00:00:00	No.
P1.015		Idle	00:00:00	No.
P1.016		Idle	00:00:00	No.
P1.017	Lorraine de Klerk	Outbound	00:08:03	0800456786
P1.018		Idle	00:00:00	No.
P1.019		Idle	00:00:00	No.
P1.020	Melanie Johnson	Outbound	00:05:15	0800456786
P1.021		Idle	00:00:00	No.
P1.022	Ebrahim Khan	Outbound	00:52:30	0800456786
P1.023		Outbound	00:03:05	7962638
P1.024		Outbound	00:01:24	6369114
P1.025		Idle	00:00:00	No.
P1.026		Idle	00:00:00	No.
P1.027		Idle	00:00:00	No.
P1.028		Idle	00:00:00	No.
P1.029		Idle	00:00:00	No.
P1.030		Idle	00:00:00	No.
P2.001	Lisa Matthews	Outbound	00:00:03	0800456786
P2.002		Idle	00:00:00	No.
P2.003		Idle	00:00:00	No.
P2.004		Idle	00:00:00	No.
P2.005		Idle	00:00:00	No.
P2.006		Idle	00:00:00	No.
P2.007		Idle	00:00:00	No.
P2.008		Idle	00:00:00	No.
P2.009		Idle	00:00:00	No.
P2.010		Idle	00:00:00	No.
P2.011		Idle	00:00:00	No.
P2.012		Idle	00:00:00	No.
P2.013		Idle	00:00:00	No.
P2.014		Idle	00:00:00	No.
P2.015		Idle	00:00:00	No.
P2.016		Idle	00:00:00	No.
P2.017		Idle	00:00:00	No.
P2.018		Idle	00:00:00	No.
P2.019	Derrick da Silva	Outbound	00:00:25	0800456786
P2.020		Idle	00:00:00	No.
P2.021		Idle	00:00:00	No.
P2.022		Idle	00:00:00	No.
P2.023		Idle	00:00:00	No.
P2.024		Outbound	00:01:25	6369114
P2.025		Idle	00:00:00	No.
P2.026		Idle	00:00:00	No.
P2.027		Idle	00:00:00	No.
P2.028		Idle	00:00:00	No.
P2.029		Idle	00:00:00	No.
P2.030		Idle	00:00:00	No.
A.001		Idle	00:00:00	No.
A.002		Idle	00:00:00	No.
A.003		Idle	00:00:00	No.
A.004		Idle	00:00:00	No.
G.001	Vusi Mogale	Outbound	00:00:57	0800456786
G.002		Idle	00:00:00	No.
G.003		Idle	00:00:00	No.
G.004		Idle	00:00:00	No.
G.005		Error	00:00:00	No.
G.006		Idle	00:00:00	No.
R.001		Voice Detect	00:00:12	No.
R.002		Idle	00:00:00	No.
B01.A		Inbound	01:21:16	0117962500
B01.B		Idle	00:00:00	No.
B02.A		Idle	00:00:00	No.
B02.B		Idle	00:00:00	No.
B03.A		Idle	00:00:00	No.
B03.B		Outbound	01:20:53	0800456786
B04.A		Idle	00:00:00	No.
B04.B		Idle	00:00:00	No.

In the above example, three tabs (Trunks, Admin, Sales) have been configured. The 'Trunks' tab has been selected, displaying the status of each trunk channel. Click on the "Play" button on any channel to listen to the call in progress.

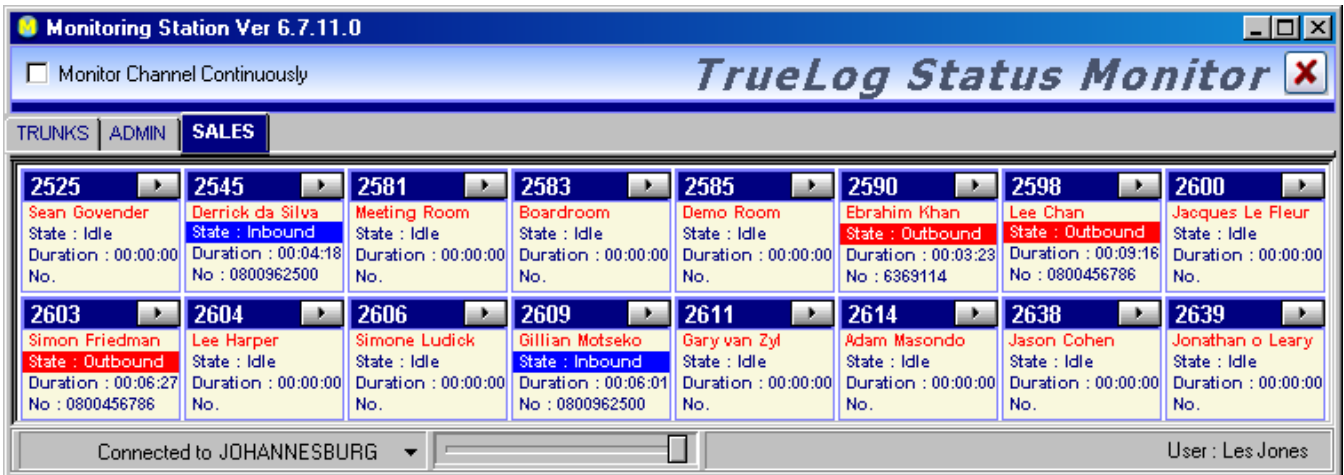
Channel naming in above example

- P1.001 = Primary Rate ISDN Line 1, channel 1
- P2.001 = Primary Rate ISDN Line 2, channel 1
- B01.A = Basic Rate ISDN Line 1, channel A
- B03.B = Basic Rate ISDN Line 3, channel B
- A.001 = Analog Line 1
- A.008 = Analog Line 8
- G.001 = GSM Line 1 (GSM Router or "Premicell")
- R.001 = Radio Channel 1

Note that the Monitor application also provides a convenient view of the physical state of each line.

As can be seen above, Line G.005 is "grayed-out", as it is faulty or disconnected from the PBX.

Extension Monitoring example 1



“SALES” tab selected

Extension Monitoring example 2



“ADMIN” tab selected

Where TrueLog interfaces are connected to the exchange-line side (i.e. trunk-side), the use of a CTI (Computer Telephony Integration) link from the PBX allows the system to emulate extension-side logging for external calls.

In other words, despite the fact that calls are recorded on the exchange lines, specific extensions can be monitored using an extension-view screen such as displayed above. The CTI link provides real-time info relating to all calls in progress, which enables the system to identify which extension is connected to a particular trunk channel, and to present the live audio as if it originated from the applicable extension (whilst the recording in fact takes place on the trunk).

The above extension monitoring examples therefore require either:- 1) extension-side monitoring or, 2) a CTI link from the PBX, using any available protocol (i.e. TAPI, CSTA, TSAPI or proprietary).

It is possible to combine trunk and extension devices within a single view (i.e. a particular tab can include any combination of trunk channels and extension users).

Trunk channels and/or extensions can also be duplicated on different tab views.

Playback

The Playback application can be installed on any Windows (2000, 2003, XP, VISTA, Windows 7) computer on the network. In a WAN environment, the Playback application can connect to any number of remote sites, and where VPN is provided at a TrueLog site, only an internet connection is required.

A user's authorisation level determines the specific calls to which the user has access. This may vary from the user's own calls to those from a defined group of extensions (or department), to multiple departments. Full authorisation allows a user to play back any calls made within the enterprise.

TRUELOG PLAYBACK
RECORDS FOR LAST 7 DAYS

Search Criteria: View Live Data, Last Hour, Today, Yesterday, Last 7 Days, Result Count: 1000, Previous 1000

Selected Host: JHB

Call Start: 2007-11-24 00:00:00, Call End: 2007-11-30 12:00:00

Record: 10844 of 10901, Page: 11 of 11

Rec ID	Call Start Time	TFR Fr	Extension	TFR To	Name	Department	Trunk	Call Type	Tel Number	Destination	Duration	Reference	Comment
312216A	2007-11-30 11:07:01		2539		Jacques le Fleur	Sales	VOIP 1	IN	9040	CPT Admin	00:00:16	70806	
312217A	2007-11-30 11:06:32		2670		Gary van Zyl	Admin	P1.004	OUT	0960123456	Gauteng Online	00:00:19	72600	
312212A	2007-11-30 11:05:50		2539		Sean Cohen	TManagem	P1.006	IN	0113755555		00:01:56	67849	
312213B	2007-11-30 11:05:22	2536	2524		Christine Khoza	Sales	P1.002	T-IN	0116999000		00:02:25	71945	
312213A	2007-11-30 11:04:36		2536	2524	Simone Ludick	Tech Supp	P1.002	IN	0116999000		00:00:46	71945	
312215A	2007-11-30 11:04:18		2568		Agnes Mabunda	Admin	GSM 2	OUT	0828039541		00:03:50	70184	
312210A	2007-11-30 11:03:52		2636		Natasha Pillay	Production	P1.003	OUT	0117967480		00:02:03	70906	
312209A	2007-11-30 11:03:31		2565		Vusi Mogale	AManagem	P1.001	IN	0215551234		00:00:47	71259	
312208A	2007-11-30 11:02:48		2568		Horst Steinman	Tech Supp	P1.001	OUT	0800995637	Microsoft Registration	00:00:17	67769	C/N 711036
312211A	2007-11-30 11:01:39		2529		Les Jones	TManagem	P1.003	IN	0215559876		00:00:28	68103	
312206A	2007-11-30 11:00:15		2638		Adam Masondo	TManagem	P1.002	OUT	0828040346		00:00:44	69824	
312207A	2007-11-30 10:58:54		2549		Donald Govender	Procurement	P1.001	OUT	00441509643100		00:06:14	67952	
312204A	2007-11-30 10:58:17		991		Rad 1	Production	Radio 1	RADIO			00:00:58		
312205A	2007-11-30 10:57:50		2507		Melanie Johnson	Admin	P1.003	OUT	0125556543		00:01:39	71446	
312202B	2007-11-30 10:56:44	2507	2532		Glyn Smith	Planning	P1.002	T-OUT	10212	Telkom Fault Reporting	00:01:28	73159	
312201A	2007-11-30 10:56:30		2565		Abdul Khan	Sales	P1.004	IN	0117962500		00:00:17	70971	
312202A	2007-11-30 10:56:22		2507	2532	Candice Jones	Plannino	P1.002	OUT	10212	Telkom Fault Reporting	00:00:22	73159	

Markers: Save Selection, Clear Selection, Full View, Mark Position, DURATION: 0:28.476, POSITION: 0:00:00, Play Backups, My Basket, Edit Ref/Comment

Frequency: 6000, 8000Hz, 16000, STOPPED, SIZE, Loop, Volume: 0, 100, Normal, Boost

Playback Functionality:-

- Decryption and playback of calls within a selected date & time range, subject to user access levels
- Date / time range shortcut buttons for 'Last Hour', 'Today', 'Yesterday', 'Last 7 days'
- Live-data view displays new calls as they are completed
- Playback of all calls stored on server, as well as archived calls stored on removable or networked backup media
- Display of audio signal level (amplitude) for entire call duration, with 'zoom in' to selected portions of a call

Playback functionality contd.

- Highlight selected areas of a call, replay continuously in 'looped' mode
- **Replay-speed** continuously adjustable between half and double speed
- Add and edit **references** and **comments** for any call
- **Save** a complete call, a portion of a call, or multiple calls to hard drive or removable media (compact .MP3 or .WAV format) in a single 'save' operation
- Integration to Microsoft '**Outlook**' (email calls directly from within Playback)
- Data export to **MS Excel**
- Save calls to a "**user basket**" for direct retrieval later
- Retrieve specific calls based on any combination of filter parameters as follows:-
 - **Date / Time range**
 - **Record ID** (a unique ID assigned to each call)
 - **Extension** or **Agent** Number
 - **Extension** or **Agent** Name
 - **Transferring** and / or **transferred** extension
 - **Department**
 - **Trunk**
 - **Call Type** (All calls, Incoming, Outgoing, Outgoing transferred, Incoming transferred, Radio calls, Unanswered calls, Excluded calls)
 - **Destination** (a name assigned to an external party)
 - **Call duration** (greater than / equal to / less than a certain duration, or between limits)
 - **Reference** (obtained from external application, or manually entered)
 - **Comment** (where assigned). Searching for a specific comment only requires a keyword – similar to searching for an email containing a specific keyword
 - **Project** (derived from an external CRM system)
 - **Campaign** (derived from an external CRM system)
 - **Result** and **SubResult** (derived from an external CRM system)
 - **Hangup initiation** (i.e. local or external party)
 - **Location** (specific branch or remote TrueLog server)

Maintenance

The Maintenance application is installed on the Truelog server and may also be run on any Windows workstation used by a system administrator.

The screenshot shows the TRUELOG MAINTENANCE application interface. The window title is "Maintenance V8-9-15 Connected to 192.168.0.231". The user is "Admin" with "Access Level: 6". The main content area is titled "System Info" and displays the following data:

System Info	
Selected Host	192.168.0.231
Total Records	428789
Trunks	30
Departments	3
Users	398
Extensions	390

Below this is a "Recordings for last 7 days" section with a bar chart showing the following data:

Recordings for last 7 days	
Today	905
Yesterday	699
2008/09/14	7
2008/09/13	4
2008/09/12	612
2008/09/11	717
2008/09/10	732

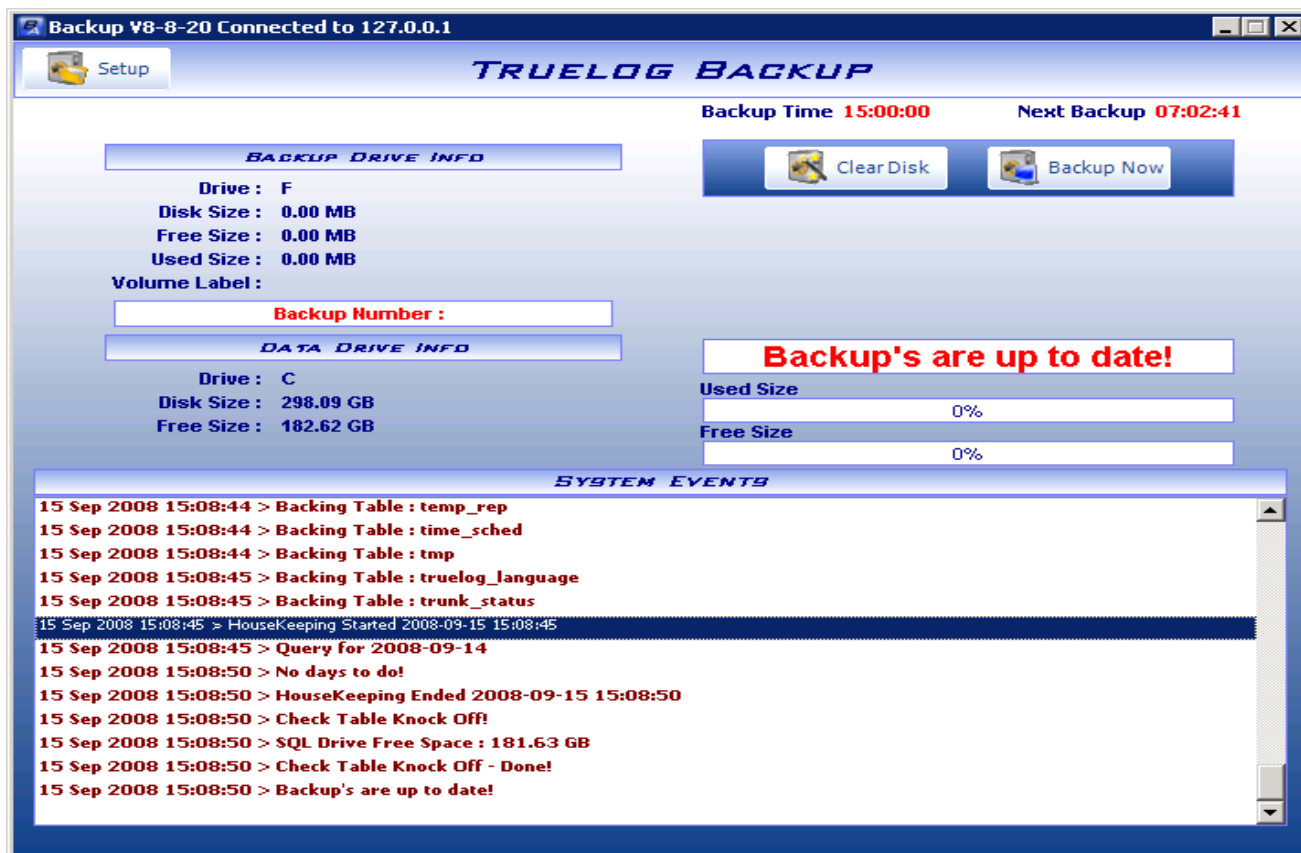
The left sidebar contains navigation buttons for Extensions, Trunks, Logging Profiles, User Admin, Departments, Defined Comments, Audit Trail, Monitor Views, Destinations, Quality Management, Computer Access, and System Events.

The Maintenance module provides a complete set of tools to configure and manage the Truelog system.

- Define Extension numbers / Names, Departments etc
- Define Logging profiles (days of week, times of day to record / not record)
- Assign Logging profiles to extensions and trunks
- Define custom Trunk / Extension customised views for individual users
- Define 'Destinations' by assigning names to specific telephone numbers
- Configure parameters for optional AQM (Agent Quality Monitoring) module
- View Audit Trail of user activity
- Define system access for users and computers

Backup

The Backup application is installed as a Windows 'Service' and automatically performs a backup of each day's calls at a predetermined time of day (usually at midnight).



The system can be configured to archive to a removable SATA drive, removable IOMega Rev drive, external USB hard drive or Flash. Archiving can also be directed to a network path.

Backup can be configured to report its activities via email and / or GSM modem (where equipped).

Archiving does not remove the data from the server, it only copies it across to the archive medium, unless disk space falls below a defined threshold. In this case, the oldest data is incrementally deleted to accommodate newer data.

System Storage Capacity

- The Truelog system captures audio at 64 kilobits per second and converts the audio data to an encrypted MP3 (128 bit MD5) format at 16 kilobits per second. This compression allows for reduced file sizes whilst preserving a high level of voice quality.
- An entry-level Truelog system is configured with a 160GB drive, storing the last 20,000 hours of calls. A 320GB drive enables storage of the last 40,000 hours, and larger drives and drive arrays are available as required (e.g. 1TByte drive provides over 120,000 hours of storage capacity, a 4TByte RAID array provides over 500,000 hours of fault-tolerant storage capacity, directly available on the server).

PABX Integration

The Truelog system can be tailored to diverse PABX and call centre environments.

CDR / SMDR

In the case where a PABX system does not support a third party CTI link, Truelog makes use of the CDR or SMDR output from the PABX to correlate calls recorded on the trunk ports to the extensions associated with the calls.

Truelog accommodates CDR / SMDR via V24 / RS232 or via the LAN, and is usually connected in parallel to the hardware buffer used by the call management system.

In cases where a PBX provides an exclusive LAN connection to a call management system (i.e only a single IP socket is available), Truelog assumes command of the socket and provides a 'proxy' connection to the call management system. Truelog can additionally provide data buffering on this proxy connection.

CTI

Truelog can accommodate various CTI protocols, including TAPI, TSAPI, CSTA and proprietary protocols. Where a CTI server is available, the system monitors the port devices directly from the CTI server.

In the case where a CTI server is not a part of the customer infrastructure, a TSP (Telephony Service Provider) for the specific PBX is installed on the Truelog server, which then assumes the role of a CTI server

CRM and Back-office Integration

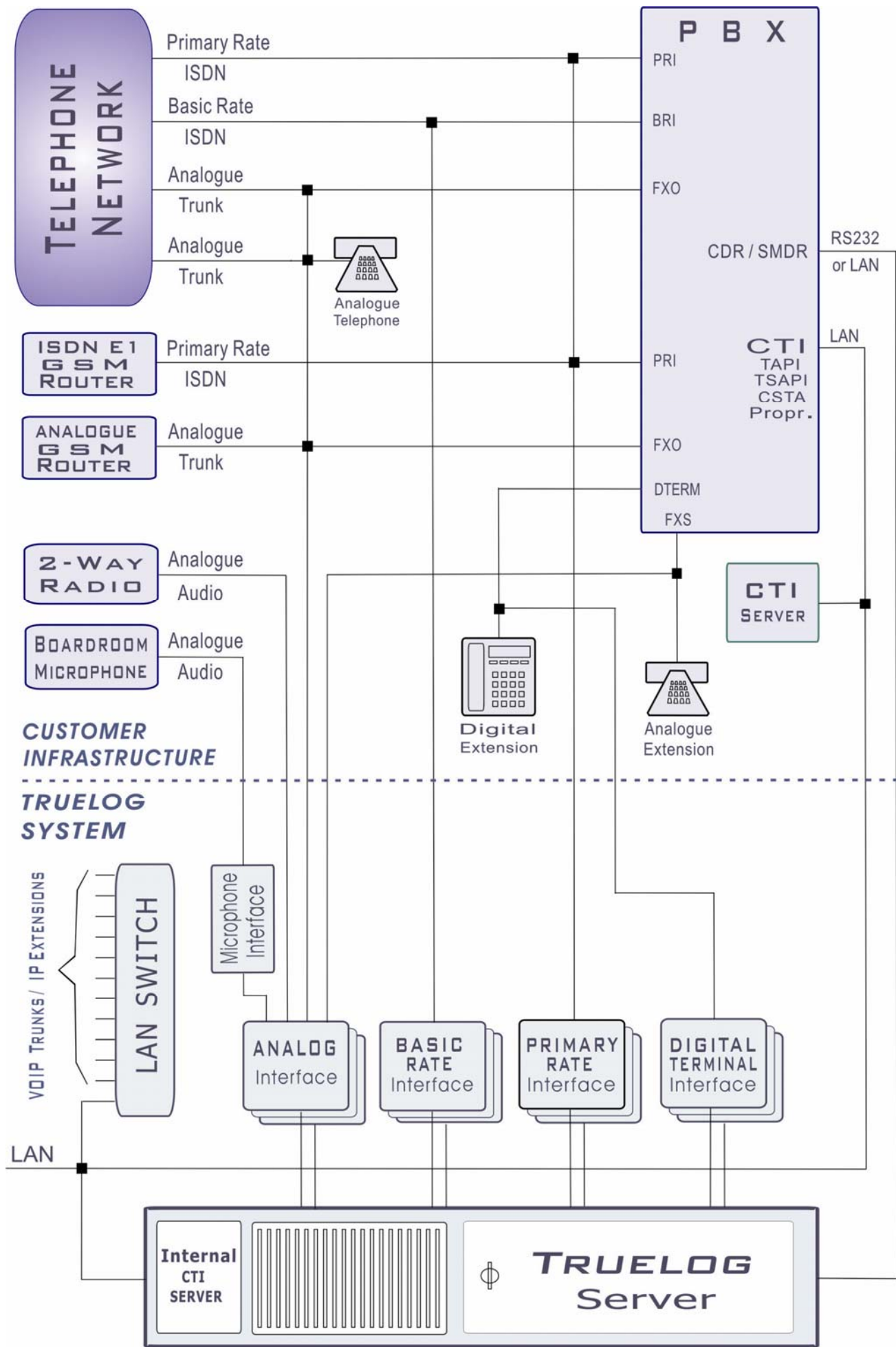
Integration to CRM and back-office systems normally entails call referencing or tagging, and usually requires a CTI link to the PBX. In some instances (e.g. analogue extension monitoring) a CTI link may not be required.

In a basic form, integration can be implemented via the Agent Screen-Pop, which allows the manual entry of a customer code/account number or similar, which is associated with a specific call. Such referenced calls can be retrieved from the Truelog database using the Playback application, or can be retrieved by an external application (e.g. document management system).

The process can be automated with referencing being 'pulled' from the external application, or info may be 'pushed' from Truelog to an external database.

All info pertaining to a call (extension number, dialled or calling number, time of call, duration etc) can be transmitted to a back-office system. The call recording can also be transferred externally, using a Truelog DLL.

Integration at this level is usually undertaken on a joint project basis, involving the customer's software developers.



TRUELOG CONNECTIVITY OPTIONS



Independent Communications Authority of South Africa

Pinmill Farm, 164 Katherine Street, Sandton
Private Bag X10002, Sandton, 2146

**TELECOMMUNICATIONS EQUIPMENT TYPE
APPROVAL LICENCE**

LICENCE NUMBER

TE-2005/133

The Authority, in the exercise of the powers conferred upon it by section 35(1) of the Electronic Communications Act, 2005 (Act 36 of 2005), the applicable Telecommunications Regulations which currently remain in force in terms of section 95 (2) of the Electronic Communications Act and subject to the terms and conditions set out in Addendum A attached hereto and any further conditions which may be imposed by ICASA from time to time, hereby issues a telecommunication equipment type approval licence to the company whose name and particulars are listed below:

COMPANY PARTICULARS

NAME : TRUELOG DIGITAL (PTY) LTD
STREET ADDRESS : 92 INDABA LANE
RIETFontein/HONEYDEW
KRUGERSDORP
TELEPHONE NUMBER: 011-796-2500
FACSIMILE NUMBER : 011-796-2584
REGISTRATION NUMBER : 2005/018415/07

DESCRIPTION OF APPARATUS

TYPE OF EQUIPMENT : ISDN PRI, BRI, ANALOGUE & RADIO CONVERSATION
RECORDING DEVICE
MAKE : TRUELOG
MODEL : PRI, BRI, ANALOG

PARIS MASHILE
CHAIRPERSON: ICASA

DATE: 30 MAR 2009

THIS LICENCE IS VALID UNTIL:

31 MAR 2010

Only the original or a certified copy of the telecommunication equipment type approval license shall be considered valid

P.Mashile (Chairperson), NA Batyi, TVL Makhakhe, R Nkuna, BB Ntombela, FK Sibanda, Dr MM Socikwa,
Prof JCW Van Rooyen (SC), MM Zekwe (Councillors), BK Mottlana (CEO)

Truelog Voice Logging - The Business Case

Background

The telephone continues to be the primary means of communication with customers, suppliers, and most other business contacts. In many companies, the majority of turnover is derived from business which is conducted on the telephone.

A business telephone call may therefore contain information as important as that in any fax, letter or email, but unlike these *black and white* communications, telephone calls are not filed or archived for future reference in most businesses.

In terms of the law, a verbal contract is no less binding than a written one, but enforcing a verbal undertaking or agreement requires proof of what was stated (or possibly *not* stated)

Within large financial services organisations it is therefore standard practice to record all telephone calls, as the *reduction of risk* is of primary importance in this business sector.

With the latest advances in computer technology, a Truelog voice logging & telecom management system is now affordable in any business, and a growing number of companies are enjoying a competitive advantage through the use of this technology.

What are the Business Benefits of a Truelog Voice Logging system?

A Truelog system works continuously in the background, recording every telephone call into and out of your business. With the enormous data capacity of hard disk drives available today, it can easily store five or ten years of a company's telephone calls on a single hard drive.

Consider the advantages of being able to play back any telephone call which takes place in your business. With the Truelog system, any authorised PC user can have immediate access to their *own* calls, heads of departments can play back all calls within their departments, and top management can have access to all calls within the enterprise.

Any user can annotate a call with relevant comments for later reference, and these comments can be viewed and edited by other users who are authorised to access the call.

Finding a particular call is as easy as entering its details in a user friendly program on your own computer, and the system will retrieve it across the network in seconds.

The Truelog system is more than just a call recording system, however.

It is also a useful management tool, offering a wide range of business benefits:-

- 1) **Confirmation of**
 - **Orders placed, orders received**
 - **Information provided**
 - **Instructions given**
 - **Undertakings and promises made**
- 2) **Resolve Misunderstandings and Disputes**
- 3) **Reduced Call Costs**
- 4) **Improved Productivity.**
- 5) **Improved Sales Performance**
- 6) **Improved Customer Service**
- 7) **Optimisation of your Telecommunication Cost Structures**
- 8) **View the Costs of Outgoing Calls**
- 9) **Identify Faulty Lines on your PABX System**
- 10) **View your Unanswered Calls**
- 11) **Analyze your Incoming Calls based on the Number Dialed**
- 12) **Email Alerts for Calls to or from Specific Numbers**
- 13) **Memory Refresh**
- 14) **Uncover Suspicious or even Fraudulent Activities**
- 15) **Centralised Recordings Database for multiple Branch Offices**
- 16) **Facilitates 'Compliance' for businesses in the Financial Services sector**

- 1) **Confirmation of:**
 - **Orders placed**
 - **Information provided**
 - **Instructions given**
 - **Undertakings and promises made**

With a Truelog system in place, the office telephone system becomes a fully validated communication medium.

All business which is conducted on the company telephone, and any discussions regarding any issue, are securely archived and can be easily confirmed or verified at any point in the future.

- 2) **Resolve Misunderstandings and Disputes**

Eliminates the classic “*He said – She said*” scenario

- 3) **Reduced Call Costs**

Installing a voice logging system to record all calls across the business will always lead to a reduction in the number of private calls made.

In businesses where tight control is not exercised over telephone usage, the introduction of a Truelog system will lead to a significant reduction in telephone costs. These savings happen **automatically** and do not require any ongoing management.

Basically, when employees are informed that a Truelog system is installed, they will no longer feel comfortable with using the company telephone for personal calls. Costs are reduced, and remain reduced, **with no further effort being required**.

In many cases, the savings will exceed the amortised monthly cost or rental of the system, providing an immediate return on investment.

- 4) **Improved Productivity**

Employees are paid for their time, and excessive time spent on private calls may be viewed as a waste of company resources. Equally, time spent on legitimate but unnecessarily long company calls may also be viewed as a waste of company time.

Many employees spend a large portion of their working day on the telephone, discussing issues which are unrelated to their job with other employees, suppliers, customers, friends etc, often relying on an over-worked receptionist or voice mail system to take messages from customers

When employees are informed of the presence of a Truelog system in the background, they tend to use their cell phones for personal calls, and cost considerations ensure that the time spent on outgoing private calls is kept to a minimum. And time spent on discussions with colleagues, customers and others also tends to be reduced.

If just thirty minutes of unproductive telephone discussion can be avoided per day, it translates to over ten hours per month. This can effectively add more than a *full working day* to an employee's work month, or more than two weeks per year.

- 5) **Improved Sales Performance**

A Truelog system provides sales managers with the means to analyze both successful and unsuccessful sales calls.

As a sales training tool, the Truelog system allows a manager to evaluate a sales call together with the salesperson involved, identifying any areas of weakness, the need for further training, etc.

And the training of new salespeople is simplified when they can listen to calls made by other experienced salespeople, addressing the different categories of sales which they will encounter.

- 6) **Improved Customer Service**

The Truelog system provides a means to monitor staff interactions with customers, allowing any problems in this area to be identified and addressed.

If your business includes some form of a customer contact centre, your staff will always be at their best when they know that their calls are recorded, thus ensuring a higher level of professionalism.

The Truelog system keeps track of the ringing time for each incoming call, allowing call answer times to be constantly monitored. And where ISDN lines are used, the system will even keep track of which party hung up first (e.g. verify whether a customer did in fact 'slam the phone down').

When a customer complains about being handled badly on the phone, or about having been given the wrong information etc, it is a simple matter of listening to the call to verify the complaint. If the complaint turns out to be unjustified, it is equally simple to email the call to the customer (and the first time this occurs, you have immediate *buy-in* for the system within the department concerned).

7) **Optimisation of your Telecommunication Cost Structures**

The Truelog system incorporates tools to accurately measure and analyse call traffic across your various lines and services, and Truelog Digital will apply these tools to investigate whether your existing cost structures are optimised. Simply put, we are motivated to reduce your costs by as much as possible, in order that we can maximise the ROI from a Truelog system.

As a starting point, many businesses spend thousands of rands per month on the rental of unnecessary Telkom lines. However, the Telkom account is probably the most confusing monthly statement which gets handled by any creditors department. So, it is common for even the most competent financial administrators to merely verify that the final figure is in line with expectations, without attempting to understand exactly how the bewildering array of rentals, usage, discounts and rebates is calculated.

When a high capacity PRI line is installed, the old Analogue lines are usually retained until such time as customers, suppliers etc. are familiar with the new telephone numbers. However, it is common for these old Analogue lines to be completely forgotten, even years after the letterheads and business cards have been changed. As a result, these lines will often remain on the monthly account, *needlessly reducing many a bottom line to the benefit of Telkom.*

On the GSM side, over the last decade or so, the suppliers of GSM *Least-Cost Routing* devices have embarked on a highly successful marketing drive and today, many businesses make extensive use of this equipment. Again, there is often significant room for the optimisation of these solutions.

The Truelog system not only provides the information needed to correctly 'dimension' the PABX lines in accordance with actual call traffic requirements, but also provides a means to analyse the measured call traffic ratios, allowing any over-spend to be identified and addressed. In many cases, the savings from the reduction of excessive lines alone will exceed the monthly cost of a Truelog system.

8) **View the Costs of Outgoing Calls**

The Truelog system calculates the costs of outgoing calls at nominal Telkom rates, making it possible to verify the savings from GSM and VOIP Least Cost Routing solutions. And, unlike a simple call management system, the Truelog system will always identify with complete certainty *who* was responsible for a particular call, even if the call was made from a fax machine, or was made using someone else's PIN number.

9) **Identify Faulty Lines on your PABX System**

Faulty lines can be costly when they prevent a prospective customer from getting through to your sales department. The Truelog system allows the working state of the PABX lines to be viewed at a glance, and it will provide email alerts when a line fault is detected. Where internet access is available to the Truelog system, it will report to a monitoring server at Truelog Digital's offices on an hourly basis to confirm the correct operation of the system. In the event that a line is detected as faulty, the system will report this and a fault docket will be initiated. A similar process occurs if a system fails to report at the allotted time (e.g. someone switches the system off).

10) **View your Unanswered Calls**

The Truelog system will keep track of all incoming calls which are unanswered, and where Calling Line Identification (CLI) is activated on the incoming lines, the number of the calling party will also be logged. This allows potential customers to be called back and any loss of business to be avoided.

11) **Analyze your Incoming Calls based on the Number Dialed**

This unique facility is useful where a business receives telephone enquiries in response to advertisements in multiple publications or media, as it allows calls to be selected on the basis of the response *from a specific publication or medium*.

It is equally useful for companies which use individual telephone numbers for different incoming call queues (e.g. support lines for multiple products).

With ISDN lines equipped on the PABX, individual 0800 or 086x numbers are used for each placement. The Truelog system then allows the calls for each individual advert to be identified (i.e. selected by called DDI number) regardless of which extensions or agents actually received the calls. This allows the response from each publication or advertising medium (or a specific call queue) to be precisely quantified.

12) **Email Alerts for Calls to or from Specific Numbers**

Specify any numbers which you need to keep tabs on - whenever a call is made to or received from such a number, the Truelog system will immediately send you an email, or it can even be set up to send an SMS to your cell phone.

13) **Memory Refresh**

Review a past telephone discussion, establish exactly when a specific call took place, recover information which was jotted down during a call and subsequently lost, etc.

Being able to play back their own calls is particularly useful for staff who handle customer enquiries in a busy environment, and who may have to take a new call before completing their notes on a previous call.

If there is any uncertainty about a customer's requirements, they can quickly listen to an earlier call to confirm the customer's instructions, enquiry etc.

14) **Uncover Suspicious or even Fraudulent Activities**

From an internal perspective: e.g. the unauthorised disclosure of business information, and from an external perspective: e.g. questionable enquiries, malicious calls, nuisance calls, etc

15) **Centralised Recordings Database for multiple Branch Offices**

Where Truelog systems are deployed at branch offices, it takes only a few clicks of the mouse to connect directly to each system from the head office.

Branch office systems can be set up to upload their calls to head office after hours, where they are stored in an integrated database containing all calls across the enterprise.

16) **Facilitates 'Compliance' for businesses in the Financial Services sector**

In this sector, businesses are required to keep detailed and verifiable records of their interactions with clients.

Apart from the regulatory aspects, the availability of telephone call recordings can be vitally important from a risk-management viewpoint.

Recording of compatible Cell Phones

The Truelog system also provides for the recording of conversations and SMS text messages on a number of compatible Nokia mobile phones which utilise the 'Symbian' operating system (i.e. 'Smartphones' such as E55, E65, E71, E90, 6110, 6120, 6210, 6220, N78, N81, N82, N95).

With a Truelog software application installed on the handset, calls are recorded to the phone memory and at the end of each call, the recording is transferred to the Truelog server via the internet. These mobile calls are fully integrated with the 'landline' calls database in the Truelog system.

The Legal Side

Under South African law, a telephone call recording is admissible as evidence if at least one of the parties was aware that a recording was taking place.

Therefore it is sufficient that your own members of staff be aware that a Truelog system is installed, and it is not necessary that external parties be advised (although in some cases, it may be desirable to do so).

The following example of a memo issued to and acknowledged by all staff, serves to legalise the situation. It also ensures that personal calls will be kept to a minimum in future.

Please be advised that in view of the extensive use which we make of telephone communications in the conduct of our business, a decision has been made to evaluate the business benefits of a Truelog Telephone Voice Logging system.

This recording system is connected to the PABX exchange lines, and will record all incoming and outgoing calls.

Please note that internal calls (i.e. between extensions) will not be recorded.

This ensures that in future, all telephone communications will be archived, as is the case with other forms of communication used in our organisation.

Please note that the Voice Logging System is not able to differentiate between business calls and private calls, and although every effort will be made to respect privacy, it is unavoidable that any personal calls made or received on the PABX system will also be recorded.

Conclusion

From a business efficiency perspective, a Truelog system will be beneficial to practically any type of organisation.

Businesses which provide their key members of staff with the means to play back their own telephone calls will therefore benefit from increased efficiency and productivity.

About the company

Truelog Digital is a privately owned technology company focused on the development, sales and support of voice logging systems. The company is a wholly owned subsidiary of Logitel Holdings, under which the initial development of the Truelog system was commenced in 2002.

The Truelog system is a fully South African design, with all intellectual property (hardware and software) residing in the company. The primary design objectives were to produce a resilient system which can be integrated to any of the numerous PABX systems to be found in the market, and which provides unrestricted scalability and ease of maintenance. The user interfaces are highly comprehensive but also highly intuitive, simplifying the tasks of call retrieval. A suite of tools to analyze routing and line utilisation allows for the optimisation of telecoms cost structures within call centres, as well as any business which makes extensive use of the telephone. The system was launched into the South African market in 2004, and in 2005 Truelog Digital (Pty) Ltd was formed to focus exclusively on the product.

The advantages of the Truelog system were recognised by SAPS (South African Police Service) when a tender for the supply of voice logging systems was awarded to BEE partner Redsox Telecommunication in 2006. This has led to the ongoing supply of Truelog systems to the SAPS 10111 emergency response centres, and to the re-awarding of this national tender in 2009.

Truelog Digital is based in Honeydew, Johannesburg, and has technical support offices in Durban and Cape Town. High level support is available on a 24/7 basis, with competent specialists available to travel at the shortest notice. In other areas, the company has alliances with local PABX suppliers who are able to offer effective first line support.

As is the case with all voice logging products today, the Truelog system is computer based, and wherever possible, use is made of remote connectivity to customer systems. This allows the resolution of maintenance and support issues within short turnaround times.

Where a customer has unique or non-standard requirements, a dedicated team of software developers is available for rapid integration to these requirements.

Truelog systems are deployed across all sectors of commerce, industry, and the services sectors. An installed base of some 400 customers across the RSA caters to clients varying from SME installations to large call centre and enterprise systems, with diverse operational and integration requirements.

Product development is an ongoing priority within Truelog, and enhancements are released on a regular basis. Recording interfaces have been developed for numerous proprietary PABX digital extensions, various IP phones, and also the recently introduced "SIP" Voice-Over-IP lines. Recording of Symbian mobile phones, with internet upload to a central server, was released in December 2008.

Truelog's mission is to become the leading provider of voice logging solutions in South Africa, through a process of market leading technical development, coupled to effective customer support. Our philosophy of 'listening to our customers' has served the product well, leading to many customer-driven enhancements in the past, and undoubtedly many more in the future.

Internationally, some 30 successful installations in the U.K. attest to Truelog's status as a world-class product.

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