



NICELOG TECHNICAL SPECIFICATION

NiceLog is multi-channel digital communications recorder that will simultaneously record and replay messages from multiple devices consecutively. The solution offers instant access to all online* messages with various options for online storage from local hard disk drive to storage area networks (SAN). The solution also provides archiving options to store long term records or as a secondary backup to the online storage. Archive options are available as local devices or remote devices depending on customer preference.

**Online – electronic storage directly accessible to the recorder – local or remote hard disk drive or array*

Stand Alone or Multi Server / Distributed Environment

NiceLog can be used either as a stand-alone unit as part of a larger networked multi unit solution. It can be mixed with unlimited numbers of additional NiceLog, Nice VoIP or NiceCall Focus recorders to offer many thousands of recording channels. The system allows centralised configuration, administration and control, with applications offering replay from the whole solution as a single system, giving complete transparency to the user of numbers of voice records, types etc.

Any system can have multiple devices deployed (recorders, CLS, Storage Center, etc.) to offer additional redundancy within the architecture to prevent down time due to any single failure within the system or organisations network. NICE can offer full consultancy on the best architecture for a specific environment and application.

Recording Convention

All recordings are made to the recorder's local hard disk and then intelligently stored, based on the recorder's configuration, to external devices and or local archive devices. The recordings will be digitised into a proprietary NICE format, electronically compressed to the customers specified algorithm and stored.

NICE recording algorithms (proprietary digitisation) ensure recordings made are secure and unreadable as a single electronic file. This prevents unauthorised access to recordings and ensures recordings can be submitted as evidence in a court of law.

The benefit of using a lower compression rate (data rate) is that it allows more information to be stored on each device (HDD, tape or disk). Most organisations now use G729a as the standard in recording compression, offering excellent quality and high compression.

Recording Confidence

NiceLog monitors all areas vital to the recording process and flags an alarm if a fault is detected. In addition, the archive process performs read-after-write checks to ensure the integrity of the recorded information.

NiceLog offers many methods of recording, with the preferred method utilising switch information to collate the call records to those of the switch ensuring whole interactions are available for a user to review. The system ensures recording of calls even if the switch CTI feed becomes unavailable, ensuring compliance and recording.

RECORDING

Number of Inputs (channels)

The NiceLog solution can record many thousands of mixed telephony, radio, audio and VoIP inputs within an integrated system, with no restriction on the number of mixed devices.

The NiceLog server has 10 PCI slots, 7 available for installation of recording cards offering the following capacities within a single NiceLog server:

Type of Input	No inputs per card	Channel capacity of Server
Analogue inputs:	24	16 to 192
Digital (proprietary digital telephony extensions) inputs:	24	16 to 192
E1 (European Digital Trunks):	30	30 to 480
T1 (North American Digital Trunks):	24	24 to 480
ISDN Basic Rate (BRI):	12 (24ch card, 12 BRI Connections)	12 to 96 (24 to 192ch card, 12 to 96 BRI Connections)
Mixed Analogue & Digital:	24	16 to 192
Proprietary Interface Cards	Available on request	Available on request

Note: Systems capacity can be purchased in increments of 8 channels.

For the types of input supported see 'Recording Input Types' below.

Compression

Each NiceLog server can be configured to use multiple audio compression algorithms depending of the customer's preference and application. Compression can be set on a per channel basis offering flexibility to suite any application.

Type of Compression	No cards per server	Compression
G711 (Uncompressed)	N/A – Native to system	64Kb/s
ADPCM16	N/A – Native to system	16Kb/s
G729a (acelp)	1 to 4	8Kb/s
G723.1	1 to 4	6.3 / 5.3 Kb/s

Clock Synchronisation

Loggers in the NiceLog System can be synchronised to a single clock source using one of the following hardware options:

External IRIG-B Time Source - IRIG-B time code, from an external clock that is normally connected to the NICE Supervision workstation, is distributed to the Loggers via a BNC or RJ11 clock synchronization bus.

Internal IRIG-B Precision Time Source - IRIG-B time code, from the CPU clock on the NICE Supervision workstation, is distributed to the Loggers via a BNC or RJ-11 clock synchronization bus.

DCF-77 Receiver-DCF-77 time code, from a DCF-77 receiver card that is installed in the NICE Supervision workstation, is distributed to the Loggers via a clock synchronization bus.

Recording Input Types

Below are listed some of the recording input types supported by NiceLog. Please see specific data sheets for application.

Analogue Digital Extension

- Alcatel - 683 Kbps
- Nortel, NEC - 512 Kbps
- Avaya, Siemens, Ericsson, Philips, Tadiran, Telrad - 384 Kbps
- Aspect, Matra - 256 Kbps
- ISDN ST interface - 192 Kbps

EI/TI Trunk

- EI impedance = 75* Ω /120 Ω
- TI impedance = 100 Ω
- EI characteristics according to G.703 (HBD3, 2.048 Mbps rate)
- TI characteristics according to G.703 (B8ZS/AMI, 1.544 Mbps rate)
- Framing according to G.704

SCx Bus

BT Syntegra Megalink

STORAGE

Online Storage

NICE offer various on-line and off-line storage options within the recording solution. NICE has built in many options within the solution to offer various sizes of on-line storage, resilience and backup of the data, ensuring online data is available for the required retention period and secure! Delivered as an in-the-box solution or as an intelligent, network based, centralised solution (Storage Canter). In addition to on-line storage, the recording servers can be equipped with removable media options as required by the customer.

Type of device	Ch/hrs @ G711	Ch/hrs @ ADPCM16	Ch/hrs @ G729a	Ch/hrs @ G723.1	Notes
Internal Single 74 GB	2,100	8,400	11,200	21,333	Basic configuration
Internal Single 150 GB	4,400	17,600	23,467	44,700	Larger online storage for higher traffic volumes or additional online availability
Internal Single 250 GB	6,700	26,800	35,733	68,063	Maximum online storage for large customers or maximum online storage
Internal RAID 1, 74 GB	2,100	8,400	11,200	21,333	Basic resilient internal HDD configuration – Raid 1 or disk mirroring duplicates data between disks to protect against data loss or system down time due to a disk failure

Type of device	Ch/hrs @ G711	Ch/hrs @ ADPCM16	Ch/hrs @ G729a	Ch/hrs @ G723.1	Notes
Internal RAID 1, 150 GB	4,400	17,600	23,467	44,700	Largest capacity resilient internal HDD configuration – Raid 1 or disk mirroring duplicates data between disks to protect against data loss or system down time due to a disk failure
Internal RAID 5, 74 GB	6,700	8,400	35,733	21,333	Fully resilient internal HDD configuration – Raid 5 offering full resilience to protect against data loss or system down time due to a single disk failure
Internal RAID 5, 150 GB	4,400	17,600	23,467	44,700	Largest capacity fully resilient internal HDD configuration – Raid 5 offering full resilience to protect against data loss or system down time due to a single disk failure

Note: 'channel hours' is a measurement of online capacity assuming the recorder records one channel constantly (24 hours per day). For an approximate calculation of online storage as applicable to a specific customer, the number above would be divided the total number of channels in the recorder. This number would then be multiplied by the average channel utilisation in a 24 hour period (most customers are below 15%) - (channel hours / total number of channels) x (100 – percent utilisation).

System Function

All recordings are made to the recorder's local hard disk and then intelligently stored, based on the recorders configuration, to external devices and or local archive device.

Off-line Storage (Archive)

Off-line storage can be included as a single or dual drive configuration within the NiceLog Server, or as a remote storage option. Internal options include:

Type of device	Ch/hrs @ G711	Ch/hrs @ ADPCM16	Ch/hrs @ G729a	Ch/hrs @ G723.1	Notes
DVD RAM (9.4GB)	300	1200	2400	3047	Basic configuration
DDS4 (20 GB)	625	2500	5000	6350	Larger online storage for higher traffic volumes or additional online availability
AIT - 1	750	3000	6000	7620	
AIT - 2	1125	4500	9000	11429	Maximum online storage for large customers or maximum online storage

NOTE: for offline storage options, compatibility and capacity please see the 'NICE Storage Canter' technical specification.

Replay of Archives Messages

Messages that are stored on a removable media can be replayed by either inserting the media into a recorder within the system or by inserting it into a dedicated (optional) replay server offering a secure replay facility for the media. Replay of off-line media can be conducted via all of the NICE replay applications and is transparent to the user that the call is on off-line media. Tape based media may deliver slower response times than on-line or optical media.

ADMINISTRATION / REPLAY

Control

Each NiceLog unit can be controlled locally using a local screen and keyboard directly with the NiceLog server. This is used for configuration and maintenance purposes, and it is recommended that all installations include a rack mount keyboard / monitor drawer as part of the installation.

Remote Control

All user applications are delivered over the network (LAN or WAN) providing flexible deployment and ease of access. All functionality of the system can be accessed via the network applications offering specific functionality for each type of user within an organisation.

Remote Access

NiceVoIP is available with full remote access and maintenance capability. Remote support, diagnostics and upgrades can be conducted over a customer provided, secure high speed connection (ISDN, ADSL, VPN, etc.).

Security

The system utilises a locked down version of windows 2003 to optimise server security and prevent network attack. All user accounts are administered by the system administrator, offering access permissions and restriction to all elements of the system.

NiceLog Applications

Every NiceLog system comes complete with the following applications as standard:

NICE Query	Explorer style search and replay tool
NICE Monitor	Allows any channel on the recorder to be monitored (listed to) in real time
NICE Administrator	Provides full administration and configuration of the system
NICE Supervision	Provides the convenience of supervising all NICE components from one Supervision window. The following products are monitored by NICE Supervision: NiceLog recorders, NiceCall Focus recorders, Media Library Servers, NiceCLS Databases, and NiceScreen recorders.

NiceLog Applications PC Requirements

Operating system	Microsoft Windows 98, Windows NT Workstation / Server 4.0, Windows 2000 Professional, Windows XP or Windows 2003 Server Standard Edition. NOTE: Operating systems should be installed with the latest service pack
Browser	Microsoft Internet Explorer 5.0 or higher
CPU	Pentium II 233 MHz or higher (400 MHz recommended)
Internal memory	32 MB (64 MB is recommended)
Hard Disk Drive Free space	100 MB
CD-ROM	Optional, for software installation
Network Interface Card	10/ 100 Ethernet (TCP/IP) NIC
Sound card	If Playback Over LAN is required

Replay to Telephone

The NiceLog system comes complete with 4 audio outputs on the rear of the server. These can be connected: to standard analogue telephony lines via a NICE RAP unit (see options section) for the playback of traditional radio and telephony across the organisation's telephony network and interconnects. Supported by all NICE replay applications this offers a LAN free replay route, and is ideal for replaying calls to field staff over standard telephony or radio interconnects.

Record Enable Criteria

DTMF, Off Hook Detect, Ring Detect, Voice Operation, Contact Closure, continuous record and fax.

Hold time: Adjustable in the range 1 to 14 seconds.

Automatic Gain control can be configured on both the recording and replay, offering the ability to record or replay calls with or without automatic gain.

Disclosure / Output of Recordings

Selected messages can be copied from the NiceLog system onto media, as required by the customer. NICE applications support direct output to an audio device, such as cassette tape, MP3 recorder, telephone, etc. Also supported is the direct creation of a Windows compatible audio file (.wav) enabling calls to be output to a multimedia device such as CD, DVD, email, etc. Please see specific applications information for details of how these applications can make this process faster, more efficient and improve service provision to your organisation.

INTEGRATION

The NICE recording solution also offers integration into the various elements of an organisation's infrastructure, to augment the recordings and ensure records can be located and retrieved quickly and accurately.

Telephony Integration

Offers automated call data with every telephony call such as; CLI, Position / Extension / User, dialled digits, tracking of transferred calls and the free seating of call takers / dispatchers for ease of correlation of records. Example integrations include: Alcatel, Aspect, Avaya, Ericsson, Cisco, Concerto (formerly Melita & Rockwell), Envoy, NEC, Nortel, Siemens, BT, Etrali.

ANI-ALI Integration

Offers the ability take data from the CAD system detailing; Caller Address, Telephone Number, Name, City, State / Province and also information such as Incident Number:

ICCS Integration

Delivers the ability to track calls by; Talk Group, Dispatcher, User ID, Alias, and provide details of SDS based emergency calls etc. ensuring you can rapidly correlate and find all radio communications associated to an incident or individual.

Computer Aided Despatch (CAD) Integration

Offers the ability to directly correlate all voice communications with a specific Incident, in a single step.

Custom Integrations

Are available from NICE to take data or send data to other systems within the customer environment.

SPECIFICATIONS

Analogue Inputs

The analogue inputs may be connected to a telephone line or any communications device meeting the input level requirements.

Bandwidth:	300 Hz to 3.4 kHz
Sensitivity:	Two ranges selectable per channel -
-35 to +6 dBV	suitable for telephones and most other communications systems
-20 to +15 dBV	suitable for direct connection to high level line inputs
Input Impedance:	>50 k Ω over the range 300 Hz to 3.4 kHz, 600 Ω optional
Isolation:	>3.5 kV rms ac 50 Hz Common Mode

Digital Inputs

Optional digital interfaces can be installed in place of the analogue input cards.

Digital interfaces:

- ISDN E1 (DASS2, Q.931, DPNSS, EDSSI)
- ISDN T1 (Q.931, National ISDN 1 and 2)
- PCM30
- PCM32
- ISDN BR (Q931)

ELECTRICAL Single AC PSU

PSU:	90 to 132 V / 180 to 264 V, 47 to 63 Hz, switchable
Power consumption:	Typically less than 90 W (peak 150 W)
Max. in-rush current:	45 A at 115 V; 70 A at 230 V

Other PSU Options

Dual Hot Swap AC PSU
AC/DC PSU 115 / 230V AC; 10 - 32V DC

ENVIRONMENT

Temperature:	Storage: -20 to +60 °C Operating: +5 to +40 °C
Humidity:	
Storage	- 5% to 80% relative humidity,
Operating	- 20% to 80% relative humidity
Heat Dissipation:	1500Btu/hr maximum for full configuration
Vibration:	IEC 68-2-6:Test Fc 0.075 mm pk, displacement (10 Hz to 57 Hz) 1 g peak (57 Hz to 200 Hz) non-operational
Shock and bump:	IEC 68-2-29:Test Eb 10 g peak 16 ms duration, 1000 bumps, non-operational
Drop:	1 m onto concrete in freight pack non-operational
EMC emission:	EN55022 Class A, FCC15 Class A
EMC susceptibility:	EN50082/1
ESD:	EN50082/1
Electrical Safety:	IEC950, EN60950
Approvals:	Approvals for connection to world-wide PTTs include-
BABT	- NS/1362/23/T/605 387
FCC68	- 5C7 GTB-22932-RC-N
AUSTEL, BAKOM	

PHYSICAL

Dimensions:	4u high x 25.5" deep and 19" wide (180 mm H x 650 mm D x 480 mm W)
Weight:	75 Lbs (35 Kg) when fully populated
Colour:	Cream

OPTIONS / ACCESSORIES

NICE solutions offer multiple applications to provide access to the recordings and the recording system for administration, monitoring and output of interactions. Each application offers unique benefits to different types of users and can be deployed as required within an organisation.

USB Alarms Unit

Free-standing unit incorporating the ability to trigger external 3rd party alarming and warning systems via relay contacts. The USB device connects directly to the recorder, with LED status indicators on the front of the device providing user feedback. It can be linked to any external device for signalling of alarms (lights, buzzers, electronic equipment, etc.).

Remote Audio Playback Unit

The RAP is used for playback of recordings over a phone/extension and is connected to the analogue ports at the rear of the recorder.

NICE Last Message Replay

Answers the needs of any organisation requiring instant access to the last or recent calls (recorded message).

NICE Scenario Replay

Offers a powerful interface to voice recordings, providing a visual representation of transmissions with on screen filters and selection capability. Easy to use and powerful, this application is the new standard in interfaces for organisations who need to collate and distribute communications rapidly.

Monitoring & Administration

Applications supplied as standard with all systems offering the ability to fully administer the system, replay calls and monitor recording channels. The Monitor feature is widely used by organisations offering a non intrusive live 'listen in' functionality.

Performance Management

Applications from NICE are developed to deliver massive benefits over manual processes and huge advantages in the whole process of managing and measuring all areas of interaction management and an organisations service delivery. 'NICE Perform' and 'NICE Universe' products offer market leading applications and features to suit any organisations' needs.

NICE Reports Package

Call management reports based on the utilisation and activity of the communications, people and infrastructure connected to the voice recorder. Ideal for resource planning and management of the wider infrastructure.

NICE CLS

NICE CLS provides the recording solution with a centralised database, offering integration with most of the worlds leading telephony and Radio switches. Integrations with additional CAD, CRM and other electronic systems means that the solution can capture and correlate additional customer data with the recordings to provide integrated retrieval with things such as, Incident number, customer reference number, caller number, Call talker ID, Dispatcher Name, Radio ID, Talk Group, etc.

NiceLog Media Library

Software application and label printer for the management of offline media.

NICE Storage Center

Is an intelligent server based application offering customers the ability to integrate with NAS and SAN devices to deliver the full capability of the storage vendors products. Storage Center also provides intelligence for the transfer of data across the network to storage devices and has sophisticated rules enabling intelligent management of data (keep, delete, archive, etc.).

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