Voice/Data Recording and Replay System
ORS-IP2000

onur

Overview

The ORS-IP2000 is a reliable, effective, fully redundant, highly available and easily adaptable solution for all recording requirements.

Our solution has a proven track record in both civilian and defence applications including:

- Air Traffic Management (Control Center and Tower) Applications
- Unmanned Aircraft System (UAS) Ground Control Systems
- Command and Control Centers
- Surveillance Systems

MORE THAN 1500 CWPs IN USE

MORE THAN 40 AIRPORTS

Architecture

Open Architecture

Our recording system has been designed with "open architecture" approach through modular hardware/software components. Any new recording requirements can easily be accommodated with flexible hardware and software adaptation. 3rd party interfaces can easily be adapted to our recording solution and similarly the recorder can also be interfaced with other systems through industry standard interfaces and protocols.

Data Security and Integrity

The main principle in recording systems is to maintain the original nature of the incoming data and make sure it is recorded in its original state. Furthermore, the recorded data needs to be stored properly with relevant integrity checks. Once stored, recorded data requirements to be protected with proper security measures against unauthorized access.

ORS-IP2000 employs state-of-the-art technologies to ensure the data is recorded in its original state with proper time stamps, as well as necessary security measures to ensure authorized access.

Interoperability

With the introduction of "Interoperability Standards for VOIP ATM components (ED 137)" different components of the voice communication systems such as VCS and Radio Systems are now able to integrate seamlessly with each other.

ORS-IP2000 is fully compliant with ED 137 standards to ensure trouble-free and seamless integration with other complaint 3rd party systems.

Key Facts
- Inherent high availability
- Supports legacy and IP voice and data interfaces
- Fully compliant to EUROCAE ED 137
- Compatible with network-centric operations
- Easy adaptability
- Easy maintainability

Key Features
- Open system architecture
- Vertical and horizontal scalability
- Redundant network topology
- Redundant server architecture
- Main/Hot Stand-by server configuration
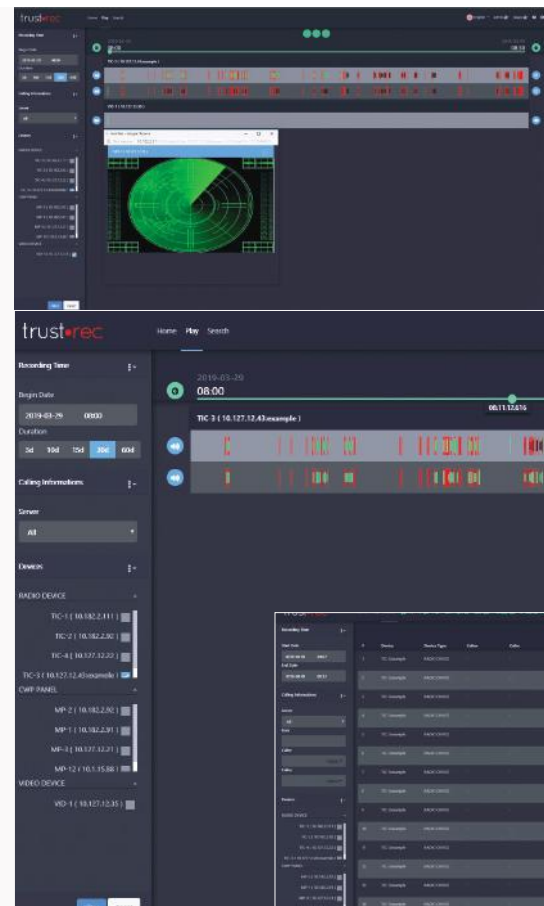
Limitless Expansion

ORS-IP2000 is designed with expansion in mind. There are no limits to the capacity of the total solution:

- Multiple server hardware can be cascaded to create bigger virtual servers
- Storage capacity can be expanded to take advantage of external systems for a virtually limitless recording medium

Reliability

On the hardware level, the following capabilities are leveraged:

- Redundant power supplies
- Redundant network connections
- Different levels of RAID for data redundancy

The software architecture is designed with multiple virtual instances of relevant applications for seamless failover in case of a failure.

Application Areas

- Civilian and Military Air Traffic Management
- UAS/Remotely Piloted Aircraft (RPAS) Ground Control Stations
- Train Control and Management Systems Command and Control Applications
- Network Enabled Capabilities
- Disaster and Emergency Management Communication
- Integrated Communication Systems for Military Platforms
- Law Enforcement Agencies Command and Control Centers

Recording Capabilities

Voice Communication
The main recording requirements in command and control applications are to record all voice communication traffic. ORS-IP2000 is able to interface with common analog and digital audio interfaces.

In addition to analog and digital voice interfaces, ORS-IP2000 also supports recording of the ED 137 compliant voice streams.

Screen (At-the-glass Recording)
To acquire the most relevant data of the incident, authorities require at-the-glass-recording capabilities during investigations. In order to fulfill these requirements, ONUR is partnering with companies specialized in capturing analog and digital screen information. ORS-IP2000 is able to interface with 3rd party manufacturers to record and replay industry standard VGA/DVI/HDMI screen captures.

Radar Data
In addition to radar screens, ORS-IP2000 is able to record and replay radar exchange data such as Synthetic Radar Data (Asterix, AIRCAT500, etc.), Raw Radar Data (raw video).

CCTV and Video Sources
In order to provide a turnkey recording solution, ORS-IP2000 supports recording to IP cameras such as ambient video recording or security cameras so that accurate reconstruction of actual environment is achieved.

Replay Capabilities

Web Based Replay
All of the recorded data can be replayed using ORS-IP2000's integrated web-based interface. There is no more need to install and support a specialized replay application for different operating systems and platforms. Recorded data can be filtered using parameters such as source attributes, network address, time and caller-ID information for more precise investigation. Even the metadata of the network-based protocols can be searched for more in-depth analysis.
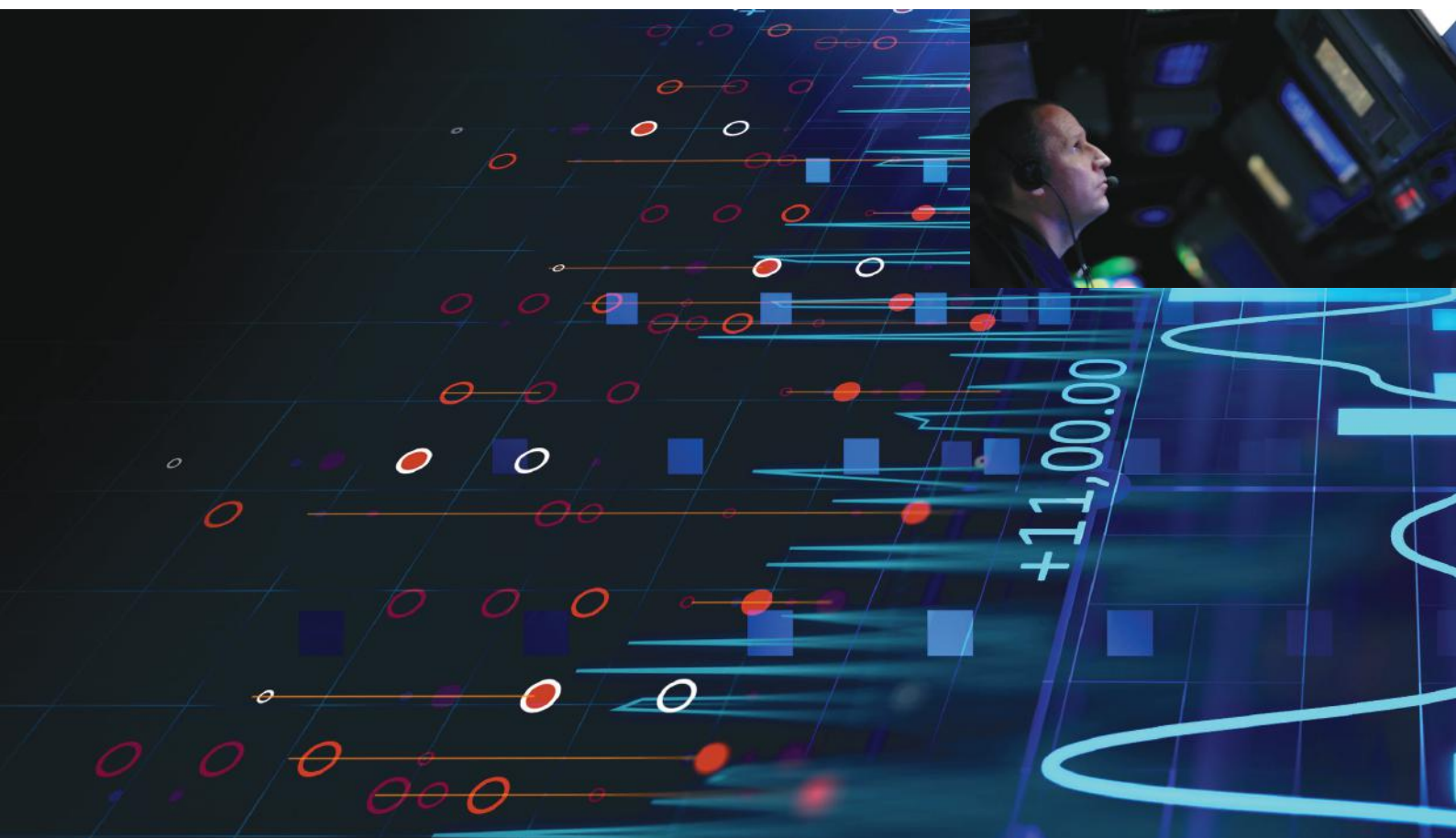
Data Export
Recorded audio, video and data can be exported to external storage devices using common audio and video containers so that they can be played in other medium such as regular PCs.

Re-Stream
In addition to local replay capabilities of ORS-IP2000, recorded data can also be streamed back to external systems. This enables tight integration capabilities with new generation integrated controller working position applications.

Reporting and Management

Access Control and Authentication
Access to the recorded media is handled with the utmost security. There are multiple levels of integrated security measures such as multi-factor authentication, presence of minimum two authenticated users, additional authentication requests for exporting of the media.

Reporting, Alarm Management and Event Logs
A very comprehensive set of reporting tools are provided within the system. Different thresholds can be configured for critical resources to notify system administrators in advance of a potential failure. Notifications are divided into different groups such as "information",

"warning" and "error" for a clearer distinction. Furthermore, such notifications can be shared over the network for central management of the systems via remote locations.

System Management
Similar to replay capabilities, the system can be managed through a web interface. This allows the users to access remote systems easily without the necessity of dedicated applications. Furthermore, industry standard "SNMP MIB" formats are also provided for integration with existing network management tools.

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