Air Traffic Control - One Solution

Control Rooms - One Solution

Trading Floors - One Solution

Advantage: Recording

Remote - Record - Replay
Since the 1950s, “black boxes” or cockpit voice recorders and flight data recorders have been installed in commercial airplanes, recording conversations in the cockpit and important instrument data during flights. Recording exactly what has occurred in the air helps to reconstruct and analyze incidents so that precise data can be provided for technical investigations. Incident recording solutions are now legal requirements for all commercial flights.

The technology used for flight data recording has advanced steadily over the years, and today we are on the verge of the next stage of evolution in the incident recording industry. For the air traffic controller (ATC) on the ground, voice and radar data recording are mandatory. Screen, keyboard and mouse recording solutions have achieved extremely high levels of reliability and usability. Today, all ATC incidents can easily be recorded, reconstructed and immediately replayed, facilitating post-event analysis, investigation and training purposes.

Incident recording is now becoming common in a much broader set of industries. Capturing the situation users, operators or traders experience at any given moment in time can be crucial in such diverse environments as control rooms for emergency services, nuclear and conventional power plants, grid management, industrial environments and financial trading floors. In some industries, regulation which would require the recording and storage of incident history is already in the pipeline. For example, transaction recording is recommended and/or required by new laws and regulations affecting the trading and financial services industries. The Dodd-Frank Act and the MiFID regulations have introduced options and requirements for keeping more extensive records of financial transactions in the US and Europe. The overall goal is to replicate and replay the exact workplace environment at the time a trade is executed. Records must be stored securely and easily accessible.

The SkyRec BlackBox recording solution together with the WEY Distribution Platform not only satisfies pending legal requirements but also creates state-of-the-art workplaces featuring remoting, recording and replaying functions. By harnessing the very latest system architecture, it is now possible to achieve recording landscapes that are cost-effective, secure and efficient. Understanding the most advanced solutions available today translates into an early advantage.
Mission Critical Recording & Data Distribution

Benefits
- Provides a highly flexible data distribution solution
- Records video, audio and serial data streams
- Optimizes space at the desk and in technical rooms
- Runs on COTS hardware and common operating system platforms
- Provides access to recorded data in seconds
- Synchronously replays voice, video and serial channels
- Distributes data over copper or fiber optic Ethernet networks
- State-of-the-art lossless compression technology minimizes data storage and bandwidth requirements
- Multiple redundancy options at power supply, network and data storage levels
- Easy to maintain solution with hot-pluggable components
- High MTBF levels
- True Channel Communications so that all channels can be switched independently and in any combination with each other

Definition of the Concept

With the combination of the WEY Distribution Platform and the SkyRec BlackBox from SkySoft-ATM, users now have access to a highly flexible solution for distributing data sources (video, audio and serial channels) and recording incidents at the same time.

This is a system that provides secure, shared access to any number of computers among multiple and simultaneous users in a controlled manner. For control rooms, trading floors, emergency services, railways, as well as road and air traffic management organizations, the WEY-SkySoft approach is paramount for safety, training and legally required recording purposes.

Wherever multiple screen workplaces are necessary, data sources can be displayed and arranged exactly as required, and the workplaces can be recorded in real time. With IP Remote KVM Extenders, personal and shared workstations as well as recorders are located in a centralized, protected and air conditioned system room.

The office or control room workplaces are free from PCs under the desks and users benefit from a quieter and more comfortable environment.
The SkyRec BlackBox

The ability to record and replay multimedia information from multiple sources is a key element for safety-critical information management systems.

Workplace monitor recording, combined with audio, keyboard and mouse capture, makes it possible to reconstruct and analyze events occurring at mission critical workplaces. Recorded data can be used for legal compliance purposes, training needs or technical investigations. Reporting has never been easier to perform and share.

The SkyRec BlackBox offers a solution without compromise. Recorded material is identical to the original. Even when compressed more than 25,000 times, the data is not altered.

A unique window replay HMI provides immediate access to recorded periods of interest with enhanced search tools. All data can be exported to standard media (USB sticks, DVD, CD, portable HDD, etc.). The hardware is modular in design and can be tailored to accommodate single or multiple screen recording needs as well as an almost unlimited number of solution architecture choices.

Standard Features

- Lossless data recording
- Fail-safe equipment with passive splitters
- Redundant recording capabilities
- Captures high resolution monitors up to 2560x1600
- Logs keyboard and mouse entries
- Optical Character Recognition (OCR) search tool
- Runs on Windows or Linux
- Configurable frame rate capture and compression
- Compatible with VGA and DVI video signals on the same video grabbers
- Accommodates both IP Remote and recording hardware in the same chassis
- Easy maintenance with hot-pluggable recording cards
- SFP module supports fiber optic or Ethernet connection to recorders
- COTS recorder and NAS data storage
- Existing interfaces can be used with leading voice recording solutions
- Synchronized multimedia replay
When Flexibility is Essential - KVMA is the Solution

The requirements placed on modern control rooms continue to increase in number and complexity. Given the broad range of duties performed there, it has become necessary to connect and integrate a whole host of diverse IT systems, such as control, alarming, monitoring and communications systems as well as standard office programs. The effective, intuitive and ergonomic access to these systems from each and every workplace, as well as fail-safe redundancy and security concepts are indispensable. At the same time, control center managers need organizational flexibility. With a free-seating arrangement, operators can sit at any workplace and perform their tasks according to their user profiles. Distance restrictions between people working in different buildings, cities and countries have now been eliminated.

Systems which are intuitive to use and bring effective results in the daily work environment should ideally be built around KVMA switching-over-IP systems. With this solution, only the KVMA signals (Keyboard, Video, Mouse and Audio) are transmitted and distributed to user workplaces, from where the computers are then controlled. The computers themselves are located in one or more centralized, secure and efficiently cooled system rooms. Heat and noise emissions are eliminated from the operator’s working environment. This technique functions without intruding on any systems, and works completely independently of the operating system, the type of computer or the application in use. One significant advantage it offers is that signals from a single source (such as a PC) can be made available to multiple desks without latency. And when all the signals from all the available systems are controlled using a single multifunctional keyboard, the ergonomics of the solution is perfect.

There are many KVMA providers and manufacturers on the market today that provide partial solutions. Important though, is an overall concept which consolidates the growing demands of operators, IT personnel and management. With the WEY Distribution Platform, which is IP-based and infinitely scalable (future-proof), WEY offers a solution, developed in Switzerland, which provides the ideal way to operate multiple systems in the workplace - and do so securely.

As an example of a perfect partnership integration endeavor, WEY and Skysoft have developed a recording solution which further optimizes security and efficiency in the control room. The full integration of the SkyRec BlackBox with the WEY Distribution Platform means that with minimal effort, a multitude of workplaces can now be recorded to capture the exact situation an operator is experiencing at any moment in time.
Technical Details

IP Remote
- Multichannel transmitting, IP Remote supports:
  - DVI/VGA dual head (2x up to 1920x1200@60Hz)
  - DVI dual link (up to 2560x1600@60Hz)
  - Stereo in DVD quality (2x In & Out)
  - USB 2.0 transparent
  - PS2
  - Serial (2x)
- Fully integrated fail-safe splitters and video grabber
- Configurable frame rate for capture
- Runs on Windows and Linux
- COTS hardware
- RJ45 or fiber optic network

WEY Multifunctional Keyboard
- Standard 102-key layout
- 24 additional freely programmable softkeys
  (shortcuts, functions, serial commands)
- Customer-specific key engraving and key colors
- Integrated displays to show softkey functions,
  communicate with WDP and/or view videos
- Integrated loudspeakers and earphone plug
- Serial commands can be sent directly from keyboard

IP Input / Output Cards
- For external communication with and from a WDP system
- Different cards feature 4 optocouplers,
  4 relays or 4 serial interfaces
- Multiple IP I/O cards can be used in one system
- Transmission occurs in real-time over CAT6 cable
- EURO format cards for multiple chassis types from 1 to 16 cards
Company Description

WEY Technology is the world market leader in the technical provisioning of trading floors. With WEY solutions, customers easily switch and distribute signals from any and all data sources, interfaces and PCs to an unlimited number of workplaces – in real time! With over three decades of experience gained in the trading floor market, WEY also applies its know-how to deploying mission-critical workplaces in the control room environment – with resounding success.

WEY serves major customers in air traffic control, nuclear and power plant monitoring, water works, road and rail traffic, emergency services and industrial process control. The keys to success lie in the concept of KVMA switching-over-IP, an innovative product line developed and manufactured with ultramodern production facilities in-house in Switzerland, and collaboration with carefully selected partners to develop fully aligned and integrated solutions. The WEY Group has deployed over 35,000 workplaces worldwide.

Company Description

SkySoft-ATM's corporate mission is to rethink the design and the implementation of ATM systems. The company brings innovative solutions to the many challenges of Air Traffic Control. By combining technical performance and a human approach, SkySoft-ATM achieves high productivity, reliability and safety standards. User-friendliness and flexibility are the central themes of the company’s vision, which leads to custom-made solutions, developed in close cooperation with clients.

SkySoft-ATM is one of the market leaders for recording solutions and has successfully designed and deployed the biggest screen recording project in Europe for DFS (Germany). SkyRec is currently recording over 2000 screens, thousands of keyboards and mice as well as radar and voice channels worldwide. Furthermore, with its partners DFS and SITA, SkySoft-ATM has developed SkyManager, a turnkey ATM system. With Albatross, SkySoft-ATM is also the initiator of the first open source community in the ATM domain.