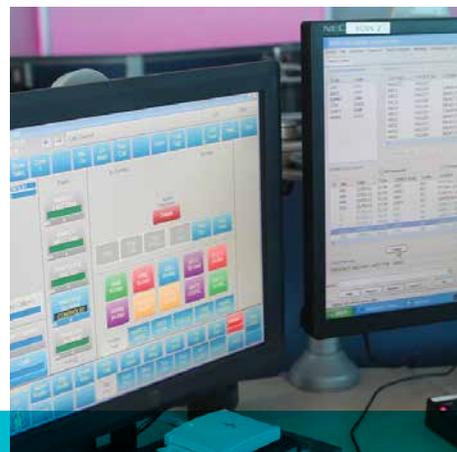
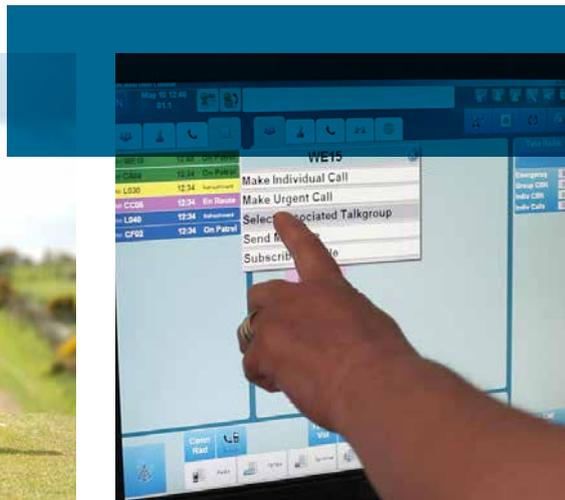
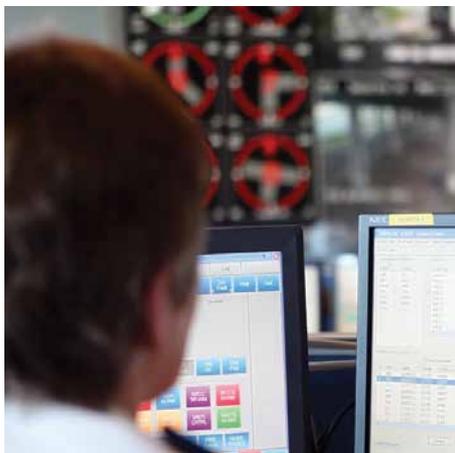


CAPITA

Capita communications and control solutions

DSX Integrated Communication Control Systems

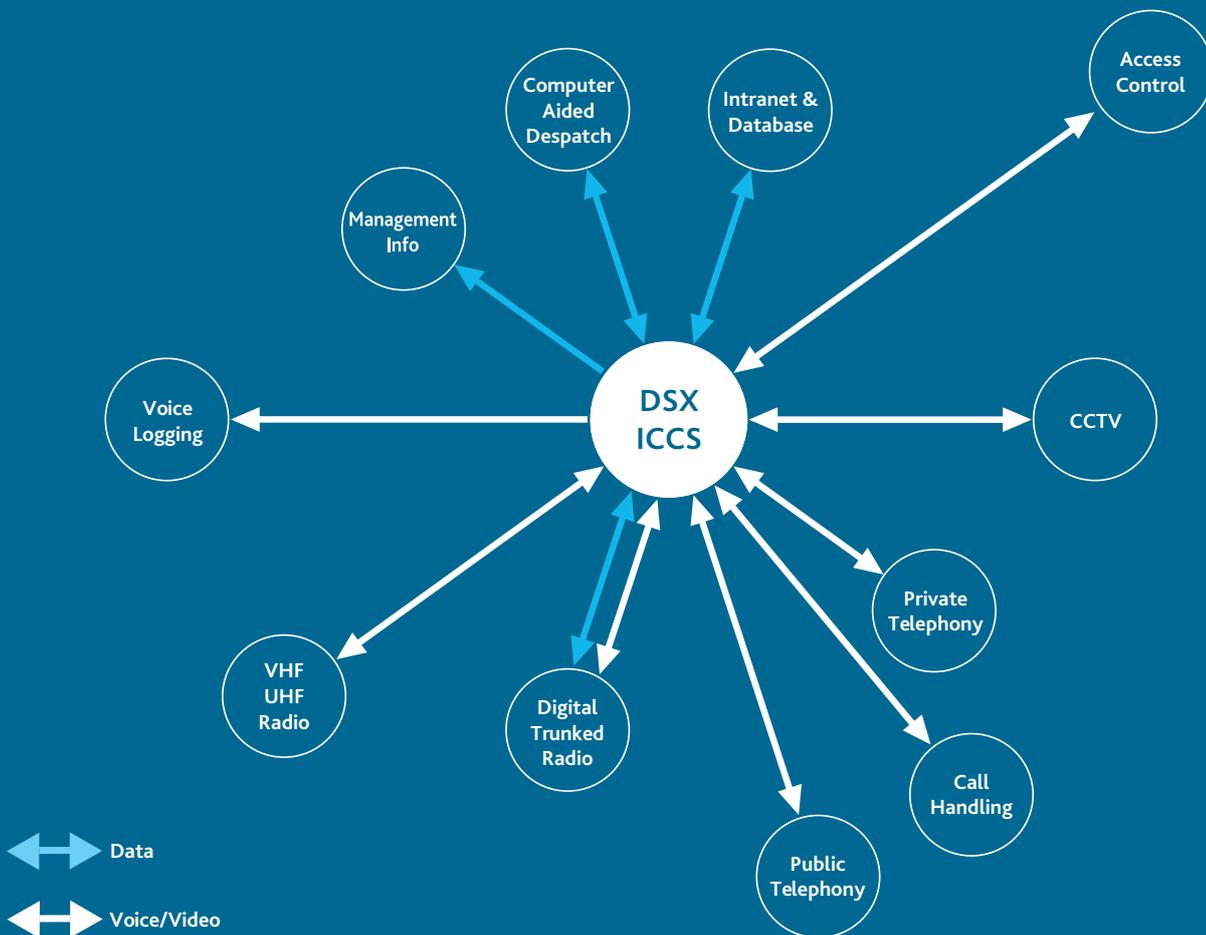


DSX

Integrated Communication Control Systems

The DSX range of Integrated Communication Control Systems (ICCS) is the hub of the Capita Secure Information Solutions (Capita) Control Room product range, designed to provide single touchscreen control to a host of integrated subsystems. These may include digital trunk and analogue PMR radio systems, call handling systems, digital and analogue telephony, CCTV, voice recorders, intercom systems, door locks and alarms. It also provides the capability to integrate with both internal and external sources for provision of the correct decision making information for the dispatch process.

These systems have been specifically designed to meet the demanding needs of the Emergency Service Call-Handling and Dispatch environment. Capita solutions have been proven over many years in the mission critical Public Safety environment where security and resilience in communications can be the difference between life and death. Our extensive product range is also being used to provide valuable solutions to many other organisations such as transport authorities, port authorities and a range of private companies for whom secure and reliable communications are vital.



Product Pedigree

The UK market leader in its field, the Capita DSX range of solutions has a pedigree stretching back to 1991 with the introduction of the first generation DS1000 system and is a product range which has continually developed to meet the evolving needs of our customers.

A strong dedicated product user group is actively involved in this process. The ongoing dialogue with this group has led to progressive enhancements being made to both features and functionality, so much so that many have now become industry standard requirements.

Over 130 DSX systems are now in use with UK based customers in Police, Fire, Ambulance, Coastguard, Military and Highways Agency installations. The DSX is the only ICCS solution that is currently being used to fully support countrywide operation in the UK, by agencies such as British Transport Police, the Maritime and Coastguard Agency and RAF Search and Rescue.

The flexibility and resilience of the DSX solution resulted in it being selected for deployment by all Ambulance Trusts in the UK to support them in their vital life saving work. This demonstrates the confidence placed in this system and Capita's ability to deploy a working solution on a national basis.

Capita covers all aspects of the product life cycle, as the product design, system implementation and ongoing support activities are all provided by in-house teams. This ensures that engineering and support staff have direct access to system design authorities when in-depth system information is required.

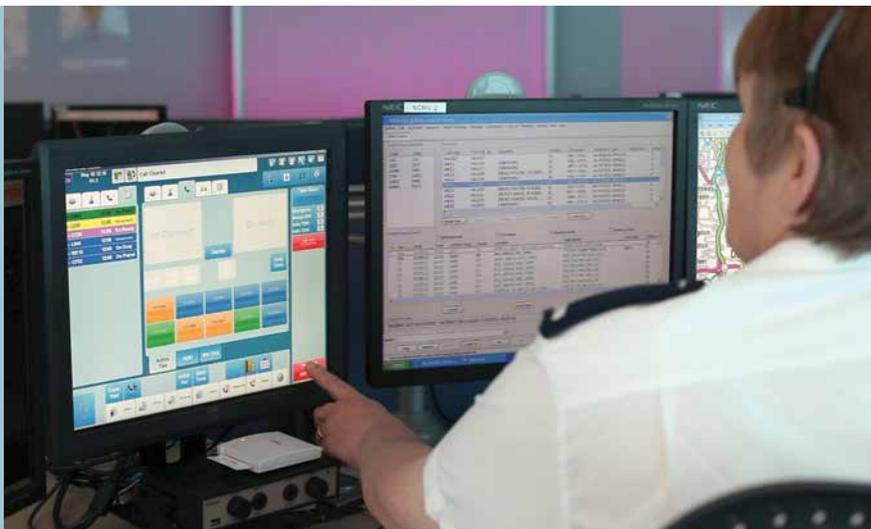


Operational Focus

The DSX system ensures that users can efficiently manage radio and telephony voice communications whilst being able to easily access other resources, such as CCTV images, recorded audio replay, etc.

Due to the integrated nature of the system it is easy to cross connect different types of communications in a seamless manner. Something that is not easily possible with separate telephone and radio solutions.

The DSX range of systems has been designed with consistent user input to ensure that it delivers an intuitive, consistent and easy to use interface. This has been important in ensuring that minimal operator training is required.



Deployment Options

DSX systems can be deployed in many configurations to cope with all operational scenarios.

Options include:

- Centralised solution where a single resilient system can support both local site operator consoles and consoles installed at remote sites.
- Distributed solution where several DSX systems are installed at different locations and inter-networked.

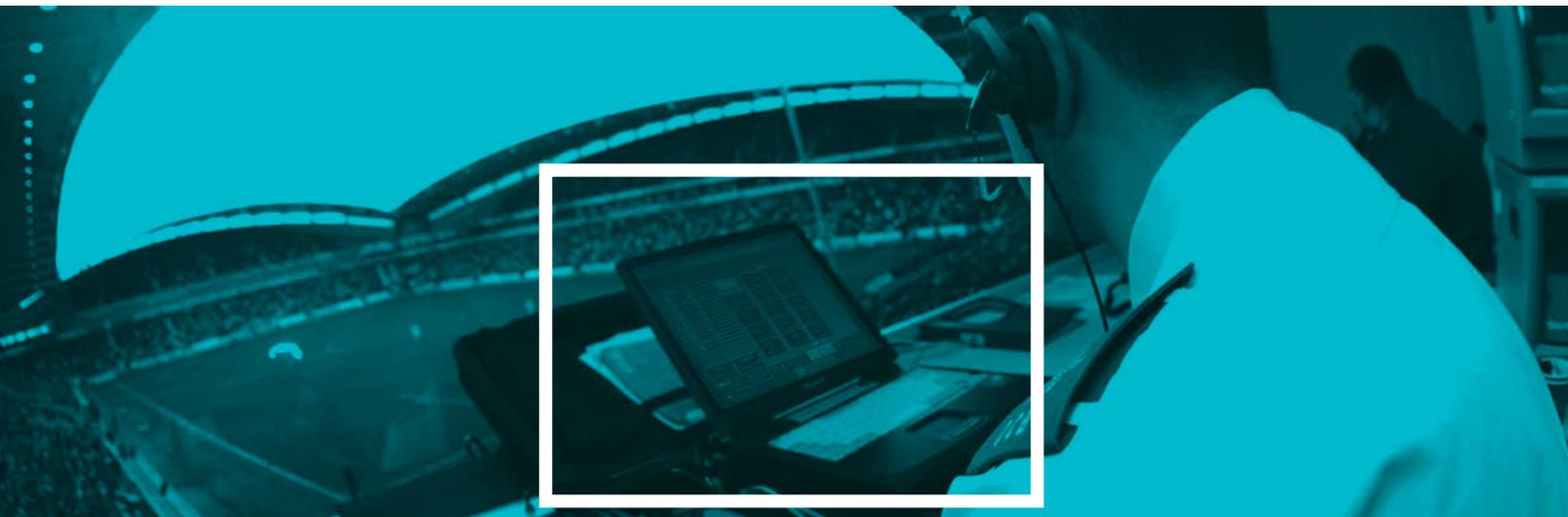
The DSX “logical partitioning” functionality can be used with both deployment options to provide partitioning of terminals into virtual control rooms. This allows systems to be configured to mirror customer organisational structure, and as a means of partitioning systems for multi-agency/multi-team working.

For all deployment options operator consoles may be connected to the central switching architecture by means of the following technologies:

- Voice over IP (G.711 and G.729 options) with integrated SIP Softphone
- X.21 fixed line
- Analogue fixed line
- ISDN dial up connection

These connectivity technologies allow operator consoles to be deployed either permanently or on a temporary basis at all locations where dispatcher control is required. DSX portable terminals are extensively used to extend control room capabilities into sporting stadia and many other locations to provide management and control of both planned and unplanned events.

The use of a central switch architecture ensures that low bandwidth links can be used to deploy operator consoles without requiring the high bandwidth needed where audio switching and combining is undertaken at the operator console. This approach also ensures that central access is available to all operator audio, regardless of eventual console location, for supervisory monitoring and centralised audio recording applications.





Integration

DSX systems are based around the use of open standards, and provide many external interfaces for integration with IT systems all based on the use of XML messages.

Some examples of the interfaces provided are:

Trunk Radio System Interface (TRSI)

This interface is used to provide access to status information and to provide short data message exchange between Computer Aided Dispatch (CAD) systems and radio devices.

Trunk Radio Location Interface (TRLI)

This interface is used to provide control and reporting mechanisms for location based information for integration with GIS systems. Radio manufacturer proprietary reporting formats are converted to a defined single information feed to hide the complexity of a mixed fleet implementation from the GIS system.

DSX Command and Control Interface (DCCI)

This interface provides a mechanism to integrate the operation of DSX operator consoles with the equivalent operator console of a CAD system. This allows the CAD system to generate commands to make and control telephone and radio calls and to provide auto logon functionality so that a dispatcher has single sign on to multiple applications via CAD.

Alarms Interface (AI)

This interface allows the integration of GSM/Tetra wireless alarm systems with the DSX to provide seamless presentation to all dispatchers.

Call Event Interface (CEI)

This interface provides call event data relating to operator, telephone and radio events. This interface can be used by Management Information Systems to provide call handling statistics and by Voice Recording applications to tag recorded audio for later retrieval. In addition the DSX operator console provides a built in web browser so that integration with any web based application or information source can be easily achieved.



Future Proof Solution

The DSX product range is based on a modular architecture that offers the lowest risk approach to ensuring that you have a system that can be migrated towards the “Next Generation” of communications systems. Capita’s commitment to ensuring an evolutionary approach to product development has already been demonstrated by those customers who have successfully evolved their systems from previous generation DS1000 systems to the DS2000 system.

The DSX product range provides a system architecture that is fully compatible with use in a service oriented control room architecture using enterprise service bus technology.

The ability to provide an evolutionary approach stems from the DSX range’s modular architecture. This architecture allows additional components to be easily added to support new technologies, such as new radio systems, new telephony signalling and delivery standards. It allows individual modules to be replaced should improved technology offerings become available as part of the ongoing product improvement process.

The open standards interfaces allow for ease of integration with other product offerings from Capita and from other system suppliers thereby assisting customers to implement an integrated control room solution now. In the future they will be further enhanced to provide additional functionality as customers move towards a seamless single control room solution of totally complimentary components.

Capita is a leading supplier of ICCS systems, with the longest track record and unrivalled experience.

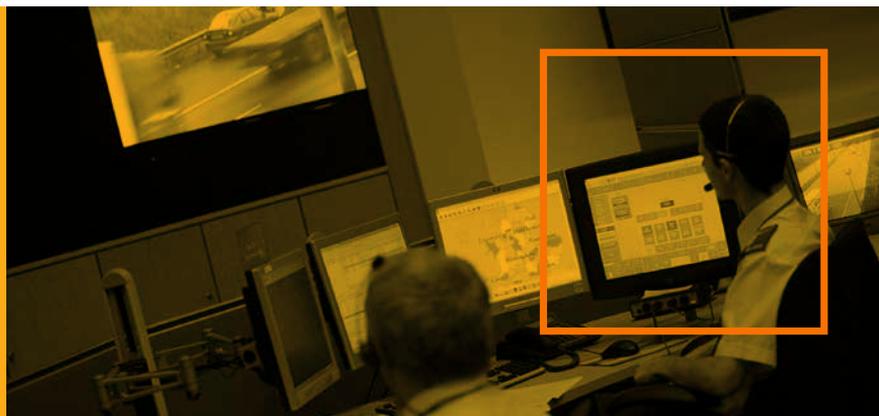
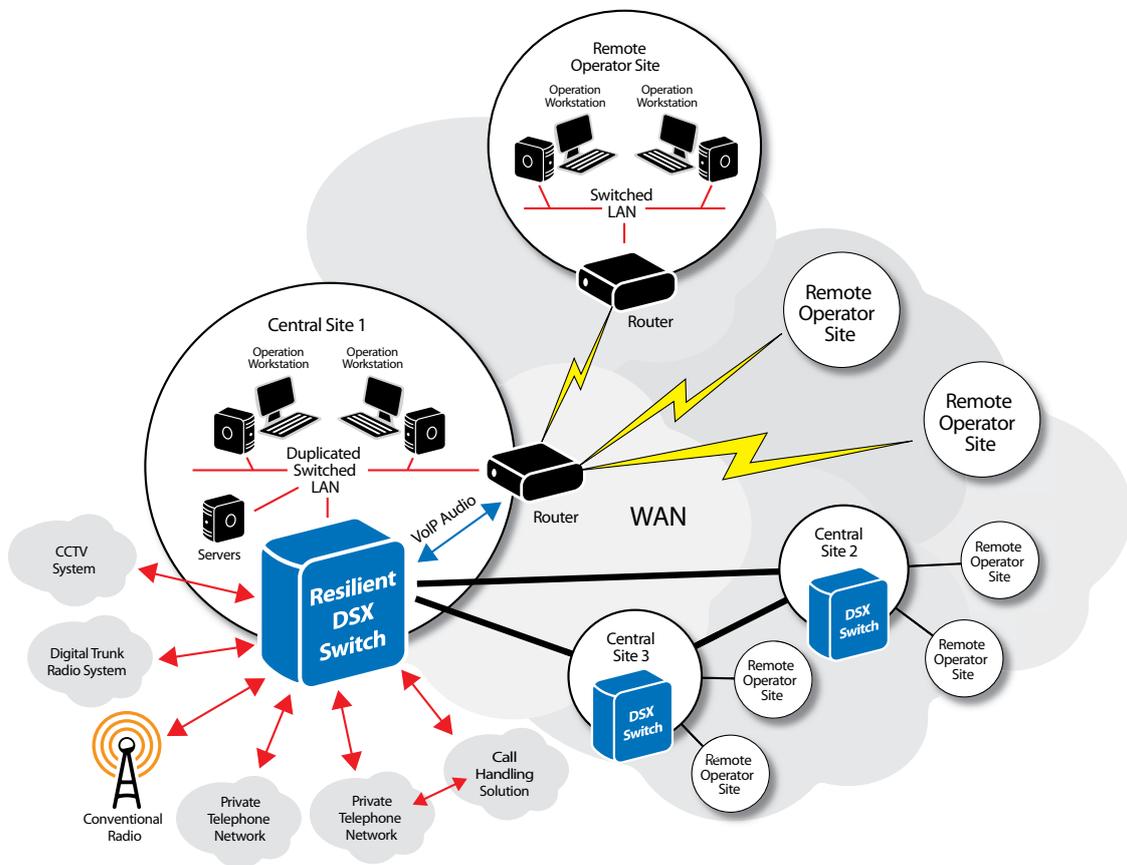
As the product manufacturer, Capita has complete control over the solutions it provides. Capita works closely with its customers to understand their needs. This, coupled with Capita’s unrivalled experience ensures that the product will continue to fully meet the medium and long term requirements of its customers.

DSX Architecture

The DSX architecture is based around a central fully resilient switch. This coupled with fully resilient network and duplicated server architecture provides a system design which ensures the highest levels of availability.

The architecture is based around the use of Microsoft Windows Servers and XML based open interfaces to other systems.

A modular approach to the provision of interfaces means that it is easy to integrate control of other systems such as CCTV and Voice Recording solutions into the operator console.

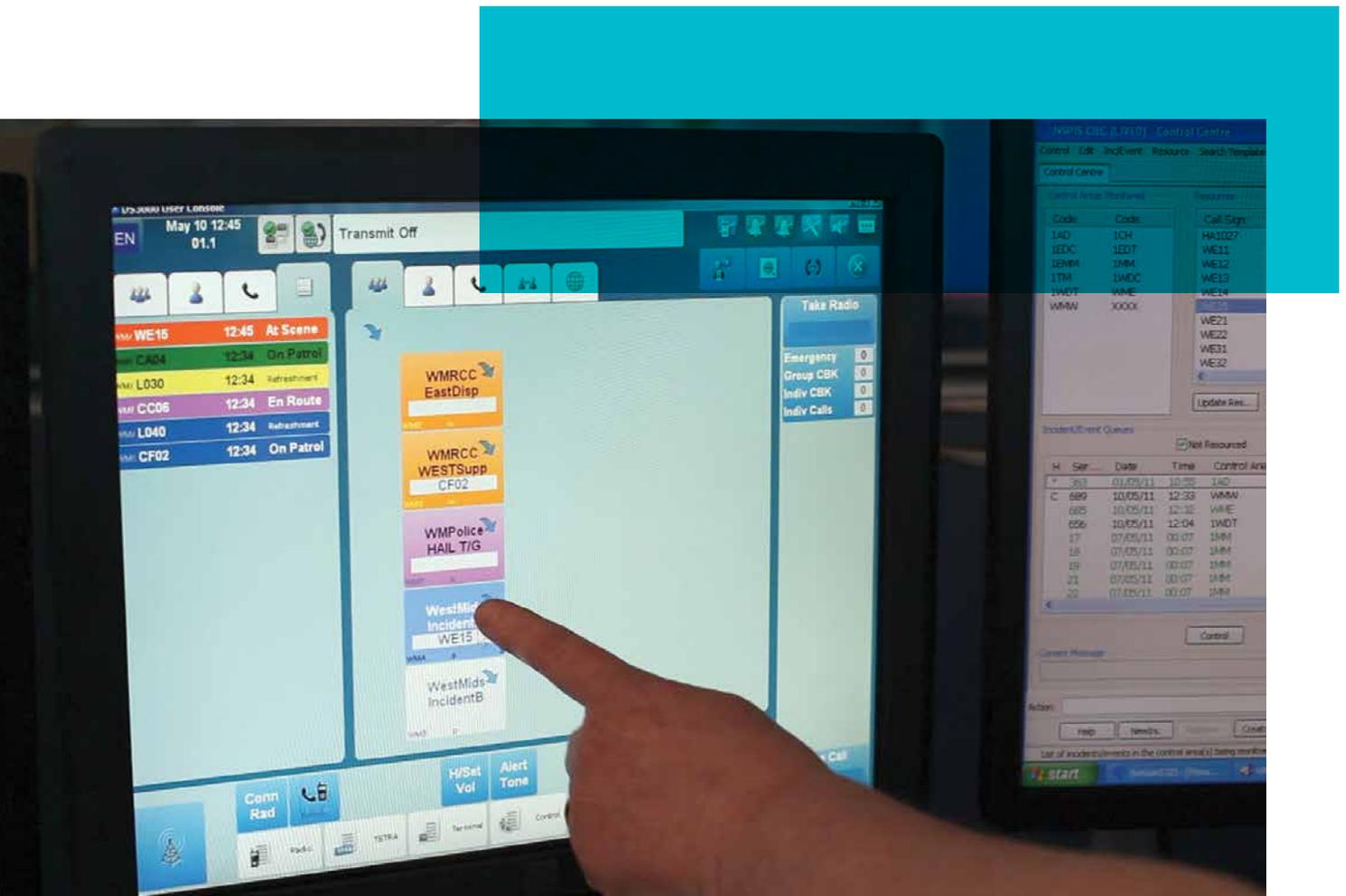


Key Functionality

The functionality presented to any individual user is defined by the system profile with which they log on. Any operator console is capable of accessing any functionality and thus multi-role capability can easily be achieved to cope with both multi-agency and multi-skilled operator scenarios.

- **Key Trunk Radio Functionality**
 - Advanced Dispatcher Interface "pooling" techniques to cope with operational and resilience requirements - interfaces can be dynamically allocated to operators
 - Full Group/Individual call functionality
 - Emergency alarm reporting
 - Short data functionality
 - Control of radio management functions
 - Customer wide alias database
- **Telephony**
 - One touch dialling with hot key support and directories
 - Comprehensive extension management facilities
 - Automatic Call Distribution, with flexible call queueing
 - Integration with Call Handling solutions e.g. Siemens HiPath ProCenter, Nortel CC6, Cisco UCM
- **Fully integrated Browser**
 - CCTV Presentation
 - Presentation of any customer web based information
- **Miscellaneous features**
 - Inter-Operator intercom functionality
 - Integrated instant replay recording
 - Radio alarm display
 - Ancillary equipment control
 - Control room door
 - Barrier control
 - CCTV camera control
- **Networking**
 - Systems can be networked to access resources remotely providing improved resilience
 - Operators can connect to a DSX system via local LAN or via fixed or dial up WAN connections
- **Supervisory**
 - Control room activity overview
 - Monitor calls and operators
 - Intrude to assist in critical situations
 - Override if the situation is critical
- **System Management**
 - System configuration fully manageable





User Interface

The user interface has been designed “by users for users”. A key requirement was to minimise the number of actions required to access key functionality. It is an intuitive interface which can be quickly learnt by operators, thus resulting in reduced training time. The user can access all functions via a touchscreen or mouse. A keyboard is only required for some system management activities.

A single DSX system can offer its user interface in multiple languages to support an organisation with a multi-lingual team of operators.

The user audio interface is provided by means of a headset interface unit and loudspeaker. Headsets from all leading manufacturers have been approved for use on DSX systems, including those which have been designed to assist users with achieving compliance with the latest Health & Safety daily noise exposure guidelines.





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