



Significantly, Cadcorp GeognoSIS can directly read and display any of the 160-plus GIS, CAD, graphic data and database formats that all other Cadcorp SIS modules can read and doesn't depend on translation to allow data to be served and displayed.

"Cadcorp GeognoSIS provides a single, consistent user interface through which management and staff throughout the brigade's area of operations, no matter where they are located, can access a wide range of data from a variety of databases using their normal desktop PCs," explains Jon Ball, information systems manager, Royal Berkshire Fire & Rescue Service.

From a system architecture viewpoint there are four databases relating to performance management at RBFRS. Emergency calls information from REMSDAQ, the brigade's current mobilising system, which will be replaced when a new regional control centre opens in a couple of years, is stored in the Incident Recording System (IRS) database. A second database, Firewatch, contains all the information relating to RBFRS staff and equipment, while IBIS, the Integrated Buildings Information System is built on the National Land and Property Gazetteer (NLPG) and holds information relating to every building in the brigade's area of operations, including their location, size and type. Bi-directional interfaces exist between the Firewatch, IRS and IBIS databases.

A fourth system, pbviews, comprises four databases – daily data, monthly data, postcode areas and the web portal – and is the key tool used by RBFRS in tracking and aggregating performance across both time and location. Using information from IRS, Firewatch and IBIS, the system can display measures based on various selection criteria, including performance, criticality, location or ownership, in graphical form, for multiple locations simultaneously and acts as a central repository for all RBFRS performance information.

Underpinning all of these systems is Cadcorp GeognoSIS, which enables information to be accessed and presented via what RBFRS calls 'web maps'. GeognoSIS allows Internet access to the OS MasterMap map base for the brigade's area of operations along with all other geo-referenced data and delivers requested information via web maps. In essence, when a pbviews user makes a request for information, pbviews interrogates Cadcorp GeognoSIS which then activates and displays the appropriate web map. By clicking on a location or incident on the web map a hyperlink then launches the appropriate database – Firewatch, IRS or IBIS – and full details of the selected item are passed to pbviews to be aggregated, processed and then presented to the user.

Web maps in use

One aspect of performance monitoring and management in which web maps and Cadcorp GeognoSIS play an important role is in the capture of incidents from the REMSDAQ mobilising system and the checks made on these incidents against RBFRS' validation criteria to determine whether they pass or fail. For example, in the case of dwelling fires, an incident failure might be that the fire was not confined to the room of origin; the fire crew did not arrive within the target time; or one or more of a number of other measures were not met.

All incidents have to be validated for IRS. The GeognoSIS-based web map system shows the location of all incidents that have not been checked by performance review staff and that failed RBFRS' defined checks. These must be validated by performance review staff, identified as a 'pass' or a 'fail' and a reason given for either before the information is forwarded as XML data to the government department at Garston responsible for collating UK fire statistics.

In addition to this validation procedure, routine performance monitoring by individual fire stations is carried out using web maps via each station's individual intranet page. The web maps show the location of all incidents - dwelling fires, deliberate fires, road traffic collisions, automatic fire alarms, hoax calls and other building fires - for the current and previous financial year, as well as crewing and appliance availability and current incidents information from the Firewatch database and the REMSDAQ mobilising system. In addition to any failures documented during the validation process, the system also shows the preventative actions that have been carried out and the proposed new actions for each station.



Similar validation and performance monitoring activities are undertaken in relation to IBIS – the Integrated Buildings Information System. Again, using web maps, all information relating to new premises, alterations to premises or removal of premises is accessed by performance review and protection staff via individual intranet pages. Any changes to the NLPG data on which IBIS is built are catered for by periodic downloads to the Cadcorp GeognoSIS system for display via the web maps.

For performance management activities, access to web maps is provided through the four pbviews databases mentioned earlier – daily, monthly, post code and portal. This provides an overall view of performance and allows for analysis by a number of criteria, such as incidents by type of building, by location, by time period or by post code area and by certain predefined targets. For example, if there is more than a certain number of fires of a given type in a given area the system will

set up an 'alarm' for community safety officers who can then use web maps to go and investigate.

Benefits all round

Although the web maps system for performance monitoring and management at RBFRS is still in its early days the benefits that it brings to the brigade in terms of enabling management and staff to combine different types of data and view it in a geographical context are already clear to see.

For the brigade's fire-fighters and community safety officers it will enable, for example, better and easier targeting of the top 10 or top 20 risk areas by providing a rolling web map update of risk areas showing those that have been dealt with (red turned off) and the new top 10 or 20 (red turned on).

For the brigade's management, the use of pbviews to present performance information in a geographical context though Cadcorp GeognoSIS and web maps will enable much better performance analysis and management as well as trend analysis over time and by incident or area characteristic.

"The aim of the Royal Berkshire Fire & Rescue Service, as it is with any other fire brigade, is to try to prevent fire in the first place and if and when it does happen, to protect people and premises from the effects of fire and other hazardous incidents," says Jon Ball. "The use of Cadcorp GeognoSIS to deliver performance information in a geographical context to the people who need it, as and when they need it, will make that information more readily understandable and thereby help us to provide an even better service to the citizens and businesses in the area we cover."



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