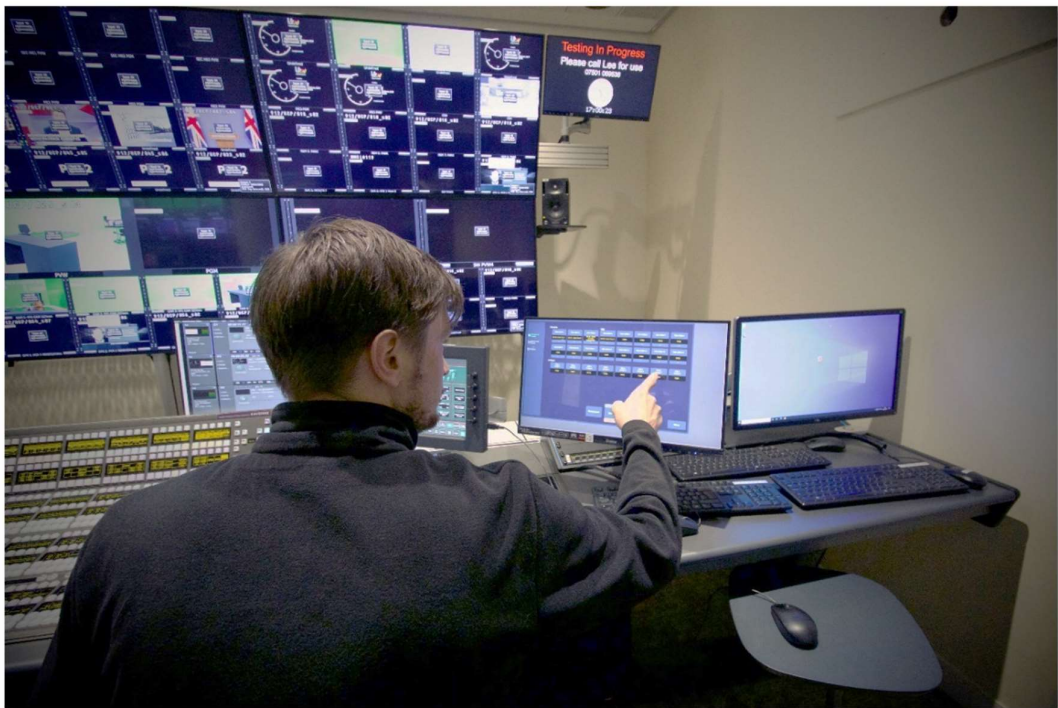




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## dB Broadcast Helps ITN Transition to IP

*System provides new control and monitoring level for ITN*



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## Customer profile

Independent Television News (ITN) makes award-winning news programmes for ITV, Channel 4 and Channel 5, reaching around 10 million people daily. Based in London, it comprises two divisions: Broadcast News and ITN Productions.

ITN Productions, ITN's independent production company, produces high quality creative content across seven business areas: television and film, sports, advertising, education, industry programming, post production, news production services and archive footage.

## The challenge

In summer 2020, ITN approached a number of systems integrators seeking a technology partner to help it through its transition to IP, having already done a certain amount of preparatory work in-house. This work examined the requirements and expectations of the overall system in terms of integration with other facilities at ITN headquarters in Gray's Inn Road in London and other locations.

ITN's legacy infrastructure was HD-SDI, with multiple routers serving different functions across studios, lines and ingest. Some of those routers were end-of-life, having been in operation for almost 20 years. There was also a legacy end-of-life routing control system in place, which was no longer supported as a product. It was decided to replace it with an advanced solution that could not only provide ITN with a system to meet current but additionally future needs, without disruption to day-to-day operations.

## The solution

With unrivalled experience in implementing IP systems, dB Broadcast was selected as systems integrator. dB is the UK's largest independent SI, a respected centre of excellence with comprehensive testing facilities including hosting PoC systems at its headquarters in Cambridgeshire.

dB Broadcast began analysing requirements and the research undertaken by ITN's in-house team. From there, dB was in a position to ratify the final selection of vendors for the SMPTE ST 2110 IP-based project using NMOS network protocols.

dB Broadcast proposed an EVS Cerebrum system to ITN. Cerebrum is a part of EVS' MediaInfra solution offering advanced broadcast control and monitoring, featuring powerful and customizable interfaces allowing the user to control, configure and monitor any broadcast environment. For ITN Cerebrum provides router control and system alarming and monitoring, plus advanced control features such as automated routing of talkback to remote sites.

EVS Cerebrum combines IP orchestration with all the normal functions expected of a control system such as legacy device support. It also has all required tally management aspects, given that some galleries and studio spaces at ITN are shared. Having all of those underlying core modules as part of the package was key in enabling dB Broadcast to deliver a single system. Cerebrum's visual control was felt to offer operational advantages as it could interface with all of ITN's infrastructure and offered advanced control and logical functions to improve workflows.



A key part of the approach was that ITN would be able to operate the system itself long term. The dB team was able to undertake the design of the relevant panels itself and create a system that not only matched ITN's desired workflows but also allows them to operate it on their own.

The contract to deliver the ITN router replacement project began in the late autumn of 2020. dB Broadcast then built the system at its premises, staging the entire gallery – despite COVID-19 restrictions in place at the time. The system was moved from dB Broadcast and installed at Gray's Inn Road in early 2022.

The IP environment at ITN is anchored by an Arista media network infrastructure. There are three EVS Cerebrum servers in the central apparatus area for control of the Arista network: primary, secondary and a witness to manage failover. Cerebrum hosts the NMOS registry. The Cerebrum Designer was used to design and create bespoke Graphic User Interfaces (GUIs) for each desk. Each user has a unique login, so they can log in at any position and retrieve their own specific GUI for resilience.

At ITN Cerebrum controls multiple devices – edit and graphics suites, media management, vision and audio mixers, and multiviewers. It orchestrates the integration of Grass Valley K-Frame X vision mixers; Grass Valley MV821 multiviewers and IQUCP Adaptation SDI-IP-SDI gateways; Calrec's Impulse audio cores; Telos Alliance VOIP system; and both Riedel and RTS Telex intercom.

ITN's core news operations – ITV, Channel 4 and Channel 5 – are all HD-based. The system also services ITN Productions, which covers area like sports and other commercial production, and the new technology gives ITN the opportunity to operate in UHD if required, though this is not the current focus.

## Key benefits

### Endpoint Monitoring

Cerebrum's functionality allows engineers to instantly understand the current status of endpoints to inform on-air decision-making

### Control and Monitoring

Cerebrum provides system alarm and monitoring for ITN plus advanced control features such as automated routing of talkback to remote sites

### Workflow Transparency

The manufacturer-agnostic nature of EVS Cerebrum enables ITN to choose what it considers to be 'best of breed' solutions and continue to use preferred and familiar products for its productions

### Powerful Configurability

Flexibility of control and assignment of resources enables ITN to rapidly configure production control rooms for live to-camera presenter pieces

### Development Opportunities

Flexibility and functionality of Cerebrum will allow the ITN engineering team to hone and improve its workflows into the future

### Responsive Support

The EVS team implements customer requests continually to evolve system functionality in a sensible, managed manner

## Outcomes

dB Broadcast, working with Cerebrum, was able to standardize on open NMOS control at ITN, with some testing and validation required along the way to ensure that all vendor product end points demonstrate 100% compliance. With EVS, the team has created what is called the IP end point monitor, effectively a background function of Cerebrum that allows engineers to understand the current status for each leg of the redundant -7 end point.

When an engineer seeks to establish a route between a source and a destination, the system is able to distinguish the health of the end point at a high level. This ability to determine the current status of an end device and thus make an informed decision immediately is essential for a news-based operation.

The project team has been able to provide some useful workflow enhancements for operators, for example when they route an OS to an input on a Calrec Artemis audio mixing desk. Based on that selection, Cerebrum knows it needs to route the IFB associated with that input on the desk so that it is effectively presented back to the OS with the correct return mix-minus feed so the presenter hears the studio not themselves. This is handled seamlessly within Cerebrum: the sound operators don't need to know how it happens.

"It is really important that Cerebrum remains agnostic. This, for me, is why Cerebrum as a control system is so good", **dB Broadcast Technology Director Mike Bryan** says. "The desire of the operational team to use equipment with which they are familiar and comfortable has not been a constraining factor here. The operational and technical teams have been able to pick products that work very well and fit operational requirements, with the Cerebrum sitting comfortably over the top controlling everything. The ability of Cerebrum to control products from any manufacturer is really, really useful. That's the joy of Cerebrum."

A straightforward but much appreciated workflow improvement at ITN involves shooting presenters talking to camera, with the monitor stack inside the production control room visible in the



background.

Historically, due to the way the monitor stack was previously arranged, it would take considerable time and effort to configure the monitors with pictures relevant to the presenter's story line. Now, thanks to the development of a Cerebrum panel, operators can recall monitor stack

layouts and route images as they desire, enabling the production team to set up complex presenter shots in seconds.

“The support we get with the EVS team is excellent. If we have queries, we get instant feedback. We have asked for lots of features to be added during the progress of the project and these quickly become part of a development Sprint for inclusion in the next version of Cerebrum software. Cerebrum is continually evolving, but evolving in what feels like a very sensible, managed way. That makes it good for us and for clients in one fell swoop,” says Bryan.

“The biggest benefit ITN sees out of all of this is the control system”, **Jon Roberts, Director of Technology, Production and Innovation** added. “In many ways, the big game changer for us long term is Cerebrum. The flexibility and functionality it brings us, right at the foundation of our media infrastructure, is increasingly exciting. Having the ability and support to continually develop our workflows and end-user tools is critical to our ever-evolving business and we're looking forward to exploring the additional capability that this gives us going forward.”

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Based on an original article written for EVS by Fergal Ringrose. <https://evs.com/expertise/customer-stories/cerebrum-provides-new-control-and-monitoring-level-itn>