



Premier League clash: Southampton v Manchester United game at Old Trafford in the second week of the season was the first to require 24 HD visions

Keeping the world watching

A ‘future-proof’ fibre network provided by BT is delivering live feeds from every Premier League game to broadcasters across 225 territories. **George Bevir** takes a look at the gamechanging technology

THE PREMIER LEAGUE is claimed to be the most-watched football league in the world, with games shown in 730 million homes across 225 territories. That equates to an audience of more than 3 billion.

While Sky Sports and BT Sport are responsible for covering games shown in the UK, the task of delivering live games, highlights and packages of the action to the rest of the world falls to Premier League Productions (PLP), a joint operation between the Premier League and IMG.

PLP is responsible for the production and distribution of all international programming, including all 380 matches, weekly magazine shows and the 24/7 Premier League Content Service channel.

The heart of the operation is at Stockley Park near Heathrow Airport in west London, where PLP head Nick Moody is based.

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NICK MOODY

PREMIER LEAGUE PRODUCTIONS

“PLP is responsible for distributing pictures around the world to all the overseas broadcasters. So we are constantly looking for areas of innovation for broadcasters who increasingly expect more for their money,” says Moody.

BT Media and Broadcast won a tender in March last year to provide fibre-based terrestrial contribution services from all Premier League grounds to PLP, replacing a service provided by ADI.

BT Media and Broadcast vice-president Mark Wilson-Dunn says: “The way we won the contract was by changing the game, by evolving our existing outside broadcast network, employing new technologies to operate over multiple 10G access circuits.

“What this means in practice is the ability to run multiple concurrent visions to the extent they can run the feeds uncompressed,

so the picture quality on the camera can be passed through the network.”

Wilson-Dunn is reluctant to go into detail about the technology “because our competitors are watching”, but says BT changed the way it engineers its outside broadcast network.

He says: “In the past, we used an Openreach circuit that was very robust and purpose designed. What we have now is optical technology that provides greater flexibility and offers more bang for your buck. Rather than sweat an existing asset, we have built something that is future-proof.”

“This network allows us to up our game considerably,” adds Moody. “We have the ability to scale up, so that gives us flexibility.”

At the heart of BT’s service is its newly designed powered cabinet, which has now been installed at every Premier League ground, providing PLP’s OB facilities firm Telegenic with connectivity to Stockley Park.

BT already had powered cabinets at most Premier League grounds, but they had to be redesigned for greater capacity and to house more equipment, including air-con units to keep kit cool over the summer months.

“The contract was signed at the end of March, so we had from then until August to design and build the cabinets, and to install the network and the associated cabling,” says Wilson Dunn.

Each cabinet contains a remotely operated patch panel (see picture) that is operated by BT staff. For Telegenic, the process of plugging into the cabinet and testing the circuits and connectivity from a stadium to IMG takes around an hour.

Each cabinet contains BNC connectors, ASI ports and ISDN back-up lines. They are also equipped with Nevion encapsulators, Adva optical networking and termination kit, and four J2K encoders.

The cabinets have three potential power sources: an onsite generator, a supply line from the club and an emergency UPS, which will run for three or four hours.

Each cabinet is fed by two separate fibre routes: there are two 20G routes from each stadium diversely routed to BT’s TVOB Switching Hubs, one in the BT Tower and another in Colombo House, to which Stockley Park is also connected, with tie lines between the Tower and Colombo House for additional resilience.

Mark Wilson-Dunn: tight-lipped on the technology; below: BT’s newly designed powered cabinet



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MARK WILSON-DUNN

BT MEDIA AND BROADCAST

BT’s agreement is to provide PLP with up to 20 linear, uncompressed HD feeds, with an additional four feeds that can be delivered MPEG4 or J2K. The 20 uncompressed HD feeds are 1.5Gbps each and the other four are 150Mbps.

Moody says: “What that offers is the ability to bring 80 simultaneous uncompressed HD feeds into the PLP production base at IMG Studios at Stockley Park. We bring in the host broadcaster clean feed, a

wide/beauty shot, tactical camera, a high behind camera, multi-angle replay service, hi-motion ISO camera, interview lines, commentary position cameras, and we have unilateral cameras for broadcasters who wish to do pre-match, half-time and pitch-side interviews.” Moody says it also provides broadcasters with the option of doing their own remote productions.

Aside from greater quality, the use of uncompressed signals does away with the business of compressing and decompressing, and cuts the risk of failure by reducing the amount of equipment involved.

BT already provides a manned Ultra High Definition service for broadcasters such as BT Sport, and while there has been little demand to date, the cabinets can also accommodate 4K transport streams.

The BT and PLP contract anticipated a maximum of 10-12 feeds for any particular event, but by the second week they had reached 24, says Moody.

At the end of the season, the capacity from the cabinets is likely to be increased, a process that will involve the whole infrastructure being upgraded, including equipment at Stockley Park. “Every time we put in more capacity and we believe that we have future-proofed enough, we quickly max it out again,” says Moody.

“The tactical camera, which we anticipated would be used for half-time analysis, some broadcasters are actually putting into a second-screen app and transmitting the footage live.

“Broadcasters are very quick to come up with ways to use what we provide in ways that we might not have anticipated.”