

Acceptance Testing In Complex Systems

Acceptance Tests are a natural part of any system installation, standard or bespoke.

However, the acceptance and handover of broadcast systems is becoming more onerous due to increasing system complexity and the rapid pace of change. For example, a number of software based products from different vendors may need to interface to each other despite launching in a time of changing standards. "Life was certainly a lot simpler joining hardware products by a length of coax with a defined standard!" says Tom Swan, Sales and Marketing Director of system integrator dB Broadcast.



dB Broadcast has developed acceptance processes and associated procedures specially developed for its system integration work within the broadcast industry and these are customised for each project undertaken. dB works with the customer's engineering personnel to prepare and agree the details of the acceptance protocols for each phase of the acceptance tests.

In order to ensure a trouble free transfer of services and operational start-up for a new area or facility and to confirm the satisfactory attainment of project objectives, dB will carry out a series of staged acceptance tests. Here, Tom summarises the company's approach to acceptance testing.

Factory Acceptance Tests (FAT)

The FAT is a customised testing stage carried out at dB's facility, and is executed before shipping the pre-built system to site. dB carries out as much work at this stage as it can, finding that this reduces problems later on, and minimises downtime and the overall impact on the customer. The FAT is often carried out alongside the customer and includes confirmation of the general functionality of the system or parts of the system, confirmation of quality of build, and confirmation of equipment against the bill of materials.

Site Acceptance Tests (SAT)

The final acceptance of the facility at the client site is probably the most important phase of any complex broadcast facility build - and can often be the most stressful due to approaching deadlines. From experience, dB Broadcast has learnt the importance of allowing sufficient time and resource to undertake this work.

This phase is a joint responsibility between dB Broadcast and the customer, and is further complicated by the need to involve many other groups: Operational Staff, Service Departments, Vendors, Network Departments to mention but a few. For this reason it is vital to the success of this phase that there are clearly agreed responsibilities, test scripts and an agreed defects handling process.

Defects handling system

The importance of a flexible, reliable defects handling system should not be underestimated. It should not be over complicated but needs to be effective and the process understood by all, this system will be heavily used during a critical phase of the delivery.

If an issue occurs, an Issue Report is generated, which will be processed according to an Issue Handling Procedure. The severity level is assessed on a scale from Critical Failure to Cosmetic Issues and Change Requests. Responsibilities are defined for rectifying the issue(s), and as they are resolved, testing and sign-off are performed at sub-system, Core and Infrastructure Integration levels, followed by Overall Acceptance Testing sign-off.

A rigorous and systematic procedure such as this can help to ensure that even in times of great complexity, system operation can be assured.

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