

Principal Software Engineer Role – Digital TV/ Broadband

The Opportunity

An exciting opportunity for a specialist embedded software engineer with expert-level skills in digital set-top-box driver software to move into a leading-edge research role. The role will offer a rare combination of intellectual challenge, cross-sector variety and commercial project discipline. The successful candidate will have the chance to integrate, evaluate and work with some of key emerging technologies in the Digital TV, broadband, IMS and related sectors. You will interface with some of the thought leaders in the industry, and will be able to extend your skills into some of the most challenging and interesting new areas of technology.

The company is a small, fast-growing technology research institute, launched with government support in 2006 in the heart of one of Yorkshire's technology hot-spots to act as a catalyst for growth in the region.

Key Accountabilities

You will deliver high-quality reference designs, analyses and consultancy services to commercially aggressive schedules.

You will become an acknowledged expert in specific technologies relevant to the sector.

Responsibilities

As Principal Software Engineer within a Digital TV research team you will be responsible for bringing up set-top box reference platforms quickly, and integrating and evaluating new technologies and applications on them. You will become expert in some technologies of current interest such as forensic watermarking, Digital Rights Management (DRM), IP Multimedia Subsystems (IMS) and Peer-to-Peer networks.

You will work closely with silicon vendors such as Broadcom and ST, Conditional Access vendors, and other engineers to bring up, adapt and tune driver stacks, and will solve whatever software problems occur in order to get the platforms running the applications.

Areas likely to be of initial interest include home networking standards such as DLNA and DVB CPCM, DRM systems such as OMA, Microsoft DRM and Marlin, and technologies such as DVB IPDC, IMS, and peer-to-peer distribution systems that are starting to become relevant to the Digital TV sector.

The Candidate

Personal profile

Highly motivated and mature, tightly goal-focussed, able to “go the extra mile” to ensure the successful delivery of projects .

Outstanding problem-solver and lateral thinker, who revels in difficult technical challenges, and can always “find a way”.

Comfortable working with new silicon and new technologies where existing documentation may be either incomplete or inaccurate.

Able to work independently, but also considerate of other team members and mindful of project interdependencies

Key skills and experience

You will have over 5 years' embedded software experience in the digital TV industry, and will have already played a key role in developing several products that have been successfully delivered.

You will be expert in working at the driver level within DVB/ MPEG STB stacks, including video and graphics drivers, in a pre-emptive RTOS environments, preferably including embedded Linux

You will have a good general understanding of the architecture and principles of relevant Internet standards, protocols and architectures such as TCP/IP, P2P, RTP, GSM, IMS and SIP.

In addition to this, knowledge of DRM and content protection systems, the architecture of hierarchical trust models, public key infrastructures, cryptography, and hardware and software robustness techniques would be advantageous.

Qualifications

You will have a good degree in a relevant technical subject.

In Summary :

Experience	<ul style="list-style-type: none">• 5 years + in digital STB software• Broadcom BCM 74xx, ST 7xxx drivers• Embedded software / systems development and debug• Key contributor to several successful product designs• System bringup and prototyping• Video and graphics drivers.
Skills	<ul style="list-style-type: none">• Real-time embedded C, C++• Pre-emptive RTOS• Managing complex register-level hw interfaces• System integration and troubleshooting• System problem diagnosis and resolution• Performance-critical software routines• Low-level test design• Experiment design• Communication protocols
Knowledge	<ul style="list-style-type: none">• DVB, MPEG 2, MPEG 4• Relevant networking, telecomms and internet protocols (TCP/IP, RTP, P2P, SIP, IMS, GSM, IPSec,,...)• Content security architectures such as PKI, trust hierarchies, and basic cryptographic principles• Any knowledge of standards such as DVB CPCM, DVB IPDC, Marlin, WM DRM, or OMA DRM 2.0 would be advantageous.
Attributes	<ul style="list-style-type: none">• Fanatical problem-solver• Independent thinker• Imaginative and creative• Highly motivated, energetic and enthusiastic