Philip Alan Crawley, BSc.(hons.), IEng, MIET.

Chief Engineer

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2003 – The Present

**Head of Systems
Integration Dept.**

Root6 limited
Head of department responsible to the company board for technical design, supervision, and certification of customer projects. Lead consultant in media technology; colourimetry, custom electronics, high-speed networking as well as delivering various internal and external training courses. Supervising all engineering staff.

Running the systems integration department of one of London's most successful technology resellers serving the television and media industry. Designing facilities of varying sizes and managing all budgets, I supervise the pre-sales and design/build process through to completion and commissioning for the client. From there I have to provide certification to show the facilities meet the relevant safety legislation and ensure that Root6 can provide appropriate and ongoing technical support with our in house team of engineers.

My team is two other engineers and a wireman and up to two-dozen contractors as jobs demand. Budgets have ranged from a few tens of thousands to £1.5m. Larger Clients include MTV, Channel Five, Moving Picture Company, Arsenal Football Club and National Geographic.
Over recent years I have grown the fibre/SAN/data side of the installations business and we have managed large DI film installs involving grading rooms and telecine / film-scanning. I also provide consulting services for colourimetry and monitoring as well as cross-format DI/HD working.

I have a well-rounded understanding of current infrastructure and broadcast technology and have taken my team into diverse technologies – ten gigabit Ethernet as well as all kinds of fibre which has allowed us to tackle data centre jobs as well as more traditional film and television machine rooms, OB trucks, studios (virtual and real) and workflows.

I also supervise the documentation process from quoting through method/scope documents as well as handover and certification.

I am responsible for all engineering training for both staff and external customer's engineering teams.

To see the diverse projects I take on visit the Systems Integration pages at www.root6.com

1999 - 2003	**The Resolution Post Group**
	Board-level technical lead driving change for a company that grew from a £5m turnover with twenty staff to £25m with eighty staff within five years.
Chief Engineer then	
Technical Director	Running engineering across the companies that make up one of London's largest T.V. & media facilities groups. I had responsibility for six full-time engineers and freelancers as projects and operational load dictated. I designed, project-managed and supervised the build of Resolution City - 24 suites and large central technical area. I designed and supervised the build of Resolution's first OB unit (location editing based on a fibre channel SAN). I was credited *technical supervisor* for the first three years of "Big Brother" and the first season of "Fame Academy". I also supervised the entire IT infrastructure across all premises, including an in-house implemented video-over-IP remote viewing/approval system for our major client – Endemol Entertainment.
1994 - 1999	**Oasis Television limited**
	Lead technical authority and supervisor of engineering dept.
Chief Engineer	Working in a large West End facility. Responsible to the M.D. for all aspects of engineering across eight on-line, fourteen non-linear, three audio and five Unix-based graphic suites. I designed and supervised the build of O^2 duplication (a daughter company), managing budgets and freelance contractors. Team of four other engineers.
1993 - 1994	**Carlton Broadcast Facilities**
	Staff engineer responsible for maintenance and studio operations. My time was split between studio duties (racking cameras, VT ops etc.) and maintenance – VTRs etc. I was the engineer with sole responsibility for looking after the transmission systems (LMS and BetaCart).
Senior Engineer	
1988 - 1993	**BBC Television News**
	First three years spent in studios. Two years were spent in post-production maintenance (in excess of one hundred VTR head-drum changes).
Engineer	

Qualifications

BBC ETSI certificate	Bsc(hons) 2.1 Programming & applied maths
Wood Norton in summer 1990	Wolverhampton Uni., 1988

Additional Information

 I have a full, clean driving license, but would rather cycle. Mix & play music (drums & guitar), Committed Christian (but I do sometimes work on Sundays!). Full member of the I.E.T. Incorporated Engineer. Good with AutoCAD. Beta tester for open-source PVR project and adviser on podcasting and new media for charities.

References available upon request.

Principle activities in 2012

System Design and Project Management

I have designed and project managed the following jobs from pre-sales consultations with customers to workflow analysis/system requirements through to delivery, certification and training;

- NBC-Universal - as these two companies completed their merger they have amalgamated their television and film facilities into a single building in Central St Giles. I was responsible for all aspects of engineering across the three machine rooms, edit suites, audio studios and screening rooms. I introduced several new technologies including the Amulet KVM-over-IP system.
- Lagos TV, Nigeria - A small 24-7 local TV station that wanted to start digitising its vast library of BetaSP and Umatic recordings. As well as designing and building the archivists positions I delivered the shared storage using an online, nearline storage and a tape robot which integrated with the MAM. The complete system was tested and accepted by the customer in the UK and then I spent a week in Lagos training the staff and adjusting final configuration.
- Arsenal TV - Since building their HD 4-camera virtual studio in 2011 I have continued to work with Arsenal as they progress to file-based delivery, and expanded website and taking many parts of their workflow back in house. This year has seen me build local and remote commentary facilities (at The Emirates as well as Highbury House), develop their own playout facilities and introduce shared storage for all their edit suites and encoding stations.
- Chelsea TV - A refresh of their studio facilities to take them to HD for their Sky channel and re-purpose their SD studio to feed the pitch-side screens with richer content from graphics and EVS.

Training

As well as running the companies "Video and Audio 101", "Television QC" and "TCP/IP for broadcast engineers" single-day training sessions for customers I have delivered a week of bespoke training to the Metropolitan Police's Forensic Lab's video engineering team, covering the following;

- TV Fundamentals; Scanning and Sampling, Colour Systems, Analogue Composite Coding, Digital Component Coding, Conversion of Film to Television, High Definition
- Compression; DCT principles, Intra-Frame vs. Inter-Frame Encoding, blocks and macroblocks etc.
- Video Tape Recording; Magnetic recording principles, rotary recording, Simple VT maintenance *(the MET still have to deal with tape-based evidence with a dwindling number of engineers who can maintain the machines).*
- Television Measurements; Analogue, Digital, Picture Quality Analysis; Analogue picture impairments, digital picture impairments, compression, TV Displays; CRT, LCD and Plasma displays. Problems with LCD and Plasma, Projection systems.

Engineering

- I continue to be the company's authority on colourimetry; I provide advice to customers on colour workflow as well as calibrating and matching display types across different technologies.
- Bespoke fibre - In our efforts to provide optimal networking and infrastructure solutions I have developed the department's capabilities investing in new equipment and training to move us from cladding-alignment to core-alignment fusion splicing as well as staying abreast of new developments in optical cabling.
- Power - I continue to provide auditing and safety testing for mains power as well as championing the 17th Edition and best practise in mains configuration for film and TV facilities.

Career Summary

After graduation I spent five years at the BBC in the engineering department of Television News and Current Affairs, firstly at Lime Grove Studios and then at Television Centre and White City.

Since 1994 I have been running engineering departments in large TV facilities and latterly a leading Systems Integrator. My team has varied between a couple of engineers and two- dozen wiremen and eight engineers.

Having run the technical sides of such productions as "Big Brother" and "Fame Academy" as well as PM'ing > £1m broadcast builds I feel my organisational record is second to none.

Having to run pre-sales, project management and hand-over training has given me excellent communication skills with both colleagues and customers. Additionally I deliver all of root6's training courses and present/demo at trade shows.

I solve technical and workflow problems on a daily basis.

Although I do not prepare contracts I do generate customer documents that are contractual; Method Statements, Scope of Works, test results, technical Report / Letter writing.

I have 25 years of television / IT / digital-film engineering and have worked in studios, post-production, outside broadcast, transmission and data-centres. I have a BBC ETSI certificate in broadcast engineering. My first degree is in maths and programming.

Working for a technical support provider for ten years (and leading tech support of those systems I have designed/delivered) means I am well aware of resource management for tech support teams.

Additional information

I write a technical blog; http://philtechnicalblog.blogspot.co.uk/

Along with an industry colleague I write and produce a regular video podcast on broadcast engineering; http://blip.tv/phil-crawley