

COLIN McCORMACK

EXPERT WITNESS & TECHNICAL CONSULTANT – TELECOMMUNICATIONS & COMPLEX SYSTEMS

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SUMMARY

Colin McCormack is a highly experienced systems and software engineer with over four decades of experience across telecommunications, embedded systems, distributed infrastructure, and complex legacy environments.

Recognised as an expert witness by the Supreme Court of New South Wales, Colin has provided expert opinion and consulting support in multiple telecommunications-related legal matters.

Colin's work focuses on the analysis of complex systems, particularly where data integrity, software behaviour, and system architecture are central to the issues in dispute. He has extensive experience extracting and interpreting data from legacy systems, assessing the reliability and completeness of available data, and providing clear, defensible technical conclusions.

He is available for appointment as an expert witness or consulting expert in matters involving telecommunications systems, billing infrastructure, data integrity, software behaviour, and complex system failures.

EXPERT WITNESS & LEGAL CONSULTING EXPERIENCE

Expert Witness - Hitech, Worldlink & Armidale 2-Way v Optus

Marque Lawyers | Supreme Court of New South Wales | c. 2010-2012

Engaged as expert witness by the plaintiffs in a test case involving alleged underpayment of reseller commissions by Optus. The matter concerned the treatment of customer associations and commission entitlements within Optus billing systems.

- Extracted and analysed data from legacy billing systems that had been partially purged and were difficult to access
- Assessed system structure and behaviour to determine what data could be recovered and how reliably it could be interpreted
- Prepared technical reports for the court during proceedings
- Accepted by the Supreme Court of New South Wales as a qualified expert witness in telecommunications systems and billing infrastructure

Expert Witness - Ryberg Telecommunications v Optus

Landers & Rogers | Supreme Court of New South Wales | c. 2013-2014

Engaged as expert witness in proceedings involving alleged breach of contract and misleading or deceptive conduct relating to reseller commission arrangements.

- Analysed legacy billing system data to assess commission entitlements under competing interpretations of system behaviour
- Examined patterns of customer account migration within billing systems to evaluate claims of improper reassignment
- Assessed the accessibility and reliability of available data given constraints of legacy systems and selective data preservation
- Attended court during proceedings and prepared to give evidence

Consulting Expert - Telecommunications Reseller Dispute v Optus

Danaher Legal | Victorian matter | c. 2019-2020

Engaged as a consulting expert, advising the legal team on technical aspects of a dispute involving telecommunications billing systems and reseller commission arrangements.

- Advised on expected system behaviour and the nature and availability of relevant data within legacy billing systems
- Provided technical input into discovery strategy, including what data should exist and how it might be obtained
- Assessed claims regarding the difficulty of extracting data from legacy systems
- Analysed data extracted from billing infrastructure to support legal arguments

KEY SKILLS & TECHNOLOGIES

Technical Domains

- Telecommunications billing & provisioning systems
- Mobile network infrastructure
- Legacy system analysis & data extraction
- Protocol stack behaviour & network communications
- Satellite, cellular & broadband communications systems
- Distributed & networked systems
- Embedded & real-time systems
- Software behaviour & fault analysis
- Data integrity assessment

Analytical Capabilities

- Extraction and interpretation of data from complex legacy systems
- Custom tooling development for data analysis
- Assessment of data preservation and completeness
- Damage quantification from system and billing data
- Technical report preparation for legal proceedings

Platforms & Environments

- Linux & embedded Linux systems
- Real-time operating systems
- POSIX and Unix-derived environments
- TCP/IP and wide-area network environments

AREAS OF EXPERTISE

Telecommunications systems and infrastructure

Deep familiarity with telecommunications billing systems, reseller commission structures, mobile network provisioning, and the legacy infrastructure on which these systems typically run. Experience spans satellite, fixed-line, and mobile data environments.

Legacy system analysis and data extraction

Extensive experience working with legacy systems that have evolved over time, assessing what data is present, what has been preserved or purged, and how reliably conclusions can be drawn from partial datasets. Capable of developing custom software tools to extract, correlate, and analyse data from complex legacy environments.

Data integrity and preservation assessment

Experience assessing whether data has been adequately preserved, evaluating claims about accessibility and extractability of data from complex systems, and identifying patterns in what data is and is not available.

Quantum of damages assessment

Experience assessing the financial impact of alleged conduct by modelling commission entitlements and account behaviour against available system data.

Software behaviour and system failure

Broad expertise in analysing software and system failures across embedded, real-time, distributed, and networked environments. Capable of providing technical opinion in matters involving software defects, system integration failures, firmware faults, and network infrastructure failures.

TELECOMMUNICATIONS BACKGROUND

Colin's telecommunications experience spans multiple decades and a wide range of technologies, systems, and infrastructure:

- **Telecommunications systems** - Engineering work across satellite, fixed-line, and mobile data environments, including involvement in early international telecommunications infrastructure projects
- **Protocol engineering** - Extensive experience across networking and communications protocols, including TCP/IP, OSI/SNA environments, mobile data systems, and proprietary communication stacks
- **Mobile and distributed systems** - Work on large-scale distributed control systems operating over cellular and wide-area networks, including diagnosis and resolution of provisioning and communication failures
- **Data network infrastructure** - Design and implementation of networked systems for large-scale data distribution, including satellite-based and hybrid communication environments
- **Legacy systems** - Deep experience working with long-lived telecommunications systems, including analysis of system behaviour, data structures, and historical data retention and migration issues

PROFESSIONAL BACKGROUND

Principal Software Engineer *Hunter Industries (12 years, USA & remote from Australia)*

Embedded and real-time systems engineering for a US-based industrial manufacturer. Technical troubleshooting, systems architecture, legacy software maintenance, and resolution of complex cross-system problems.

Systems Architect / Senior Engineer *Various (40 years, Australia)*

Four decades of work across defence, banking, government, manufacturing, agribusiness, and telecommunications sectors, at principal, lead, and architect level. Notable engagements include:

- **Royal Australian Navy** - diagnosis and resolution of faults in an oceanographic sonar system
- **Australian Taxation Office** - re-architecture of a workflow infrastructure system for nationwide deployment on constrained hardware
- **Chinese Government** - technical consulting on national Linux development (contributed to foundations of early Chinese Linux distributions)
- **Medline access advocacy** - provided evidence to an Australian Parliamentary Committee on access to medical literature databases for Australian researchers and practitioners

CONFERENCE PRESENTATIONS

- **TCL Conference** - Presented on HTTP web server implementation in Tcl
- **linux.conf.au (LinuxConf Australia)** - Presented on ColdStore, a persistent object store and streaming media system

PROFESSIONAL PROFILE

Colin McCormack consults through Percolation (percolation.com.au), providing senior systems and software engineering expertise to organisations dealing with technically complex problems. Expert witness and consulting expert services are available in matters falling within his areas of technical expertise.

References and further documentation available on request.