

Bret E. Johnson

Significant Experience

Mr. Johnson has 20 years of experience in the telecommunications field. His specialties include a wide variety of telecommunication transmission systems including fiber optic broadband systems, SONET, frame relay, ATM, IP and TDM systems. He is an expert at all forms of circuit interfaces, DACS, and multiplexing of digital signals. He also has significant experience with the switched voice network, SS7 network and has designed, written and worked with a wide variety of network control and tracking software.

In the electric and gas utility environment he has designed and supported a wide variety of microwave and fiber optic systems operating specialized and mission critical electric and gas control networks. Ranging from analog to digital and narrow band radio to microwave and high speed fiber optic systems, Mr. Johnson has designed, specified and managed installation and operations of these networks.

Experience Prior to Utility Telecom

- **Network Engineer** AT&T Broadband / Telecommunications Inc. **1996-2003**
Managed, operated and maintained a significant portion of the nationwide customer service toll-free number network for routing of customer calls to various call centers throughout the US and Canada. Required an in depth knowledge of the SS7 routing network and interfaces.
Operated and maintained SONET equipment from various vendors including AT&T/Lucent, NorTel and Alcatel.
Designed, specified, installed, set-up and maintained various types of multiplexing equipment and circuit interfaces. This included channel bank, M13, 3-1 DACS, 1-0 DACS, CSU/DSU, digital cross connects, and circuit interfaces, varying from single DS-0 to complex OC-192 back bones over SONET, ATM or Frame Relay (familiar with Tellabs, WesTel, Telco Systems, CoastCom, Kentrox, ADC, Cisco/3Com and many more equipment models).
Involved in determining requirements for telecommunications related DC power and HVAC systems at network nodes and hubs.
Designed, built (coded) and maintained a variety of database programs designed to track circuits and assign bandwidth.
Designed, built (coded) and maintained various small database and engineering analysis programs used for network support and voice, data, and video network administration, tracking, invoicing, and billing.
- **Telecommunications Engineer** Public Service Company of Colorado **1985-1996**
Planned, designed, engineered and supervised installation of point-to-point microwave systems. Responsibilities involved all phases of project management including requesting funds to site acquisition through total project turn up and FCC and FAA licensing. Involved some older analog and newer digital microwave systems and included all aspects of the towers, shelters, DC power systems, batteries, and stand-by generator systems.
Involved in engineering, installing and maintaining fiber optic multiplex equipment associated with several mission critical control networks.
Engineered, specified equipment, supervised installation and turn up of two-way radio systems for the gas and electric operations areas of the company. Included dispatch consoles, base stations, control stations and repeaters of conventional VHF and UHF systems and a complex 800 MHz Motorola SmartNet trunked system in the Denver area.
Designed and supported various types of multiplex equipment and digital channel banks, M13, 1-0 DACS, CSU/DSU, cross-connects, etc.
Operated and maintained a mainframe based database to track internal and leased circuits and equipment. The database was used to monitor and assign bandwidth on fiber multiplexers.

Supported corporate data network design on a continuing basis. This included deciding where to put bridges and routers, bandwidth requirements, disaster recovery requirements, etc.
Served as inter-company liaison for managing and negotiating telecommunications related contracts and agreements regarding network sharing and operations of inter-connected utility microwave and fiber networks

- **Experience Prior to 1985**

Electronic assembler and technician, welder, fabricator and electrician work while working way through college.

Current Position Senior Consultant

Education B.S. Degree, Electrical Engineering, May, 1985, University of Colorado at Denver.