Concurrent Technologies Corporation’s Special Operations Forces (SOF) Tactical Network (C5ISR*) Capabilities

Delivering Client-Focused Solutions that Work

- Tactical Network Modeling, Simulation and Analysis (MS&A)
- Tactical Network Analysis, Design, Testing, and Integration
- Tactical Network Support
- Technology Management
- High Speed Data Communications Systems (HSDCS)
- Intelligent Transportation Systems (ITS) (5.9GHz) Broadband and Federal Communication Commission (FCC) for Public Safety (4.9GHz Wireless) Networks

*Command, Control, Communications, Computers, Combat Systems, Intelligence, Surveillance, and Reconnaissance
Concurrent Technologies Corporation (CTC) provides a broad range of tactical C5ISR capabilities to support SOF’s tactical and strategic networks both within the continental United States (CONUS) and outside CONUS (OCONUS), along with a variety of local, state, regional, and federal networks with unique broadband communication requirements. CTC’s staff has the necessary background and Subject Matter Expertise (SME) to provide direct warfighter support to Combat Operations Centers (COC) in forward deployed combat zones as well as supporting the homeland Warfighter responding to natural and manmade disasters. CTC possesses a vast amount of experience operating in high threat and high stress environments, providing clients with a calm, assured, and highly efficient partner in times of greatest need.

Tactical Network Modeling, Simulation and Analysis (MS&A)

Concurrent Technologies Corporation’s (CTC’s) core competency in Network Modeling, Simulation and Analysis (MS&A) is based on long experience in the dual fields of network engineering and modeling and simulation. CTC’s network MS&A staff brings a diverse background to the core competency, including experience in communications product design, network architectures, network protocols, wireless and wired transmission modeling, and network modeling at varying levels of abstraction and fidelity. CTC combines this experience with in-depth knowledge of multiple simulation and analysis tools (such as OPNET™, QualNet™, and custom tools) and thorough understanding of the client’s network and requirements to ensure maximum return on the MS&A resources invested.

CTC’s expertise in network MS&A can be applied successfully to: optimize planning, design and execution of everything from minor network upgrades to major architectural changes; maximize the efficient use of existing network resources; roll out new services and applications; approve network survivability; troubleshoot existing performance problems; and much more.

CTC offers clients:

- Extensive experience with the tools and products that United States Special Operations Command (USSOCOM) is currently using and evaluating. These include: OPNET’s Modeling and Simulation tool chain, Riverbed Steelhead appliances for Wide Area Network (WAN) acceleration, OPNET’s ACE Live for application monitoring and analysis, and Riverbed’s® Cascade® for NetFlow monitoring.
- The ability and insight to utilize these technologies to drive innovation and support advanced network-level Service Level Agreements (SLAs) (throughput, latency, availability) and isolate service impacting issues before they become critical.
- OPNET™ and QualNet™ Expertise

CTC has developed a real-time modeling and simulation capability that can be used to perform predictive data analysis of application (video, voice, and data) performance in broadband municipal wireless, cellular data, satellite, or terrestrial copper/optical networks. This simulation capability provides the ability to accurately design and functionally test solutions for critical communication networks in a virtual environment. Municipalities, counties, and states can benefit from the capability by:

- Predicting network performance before spending money on deployment
- Conducting pre-installation performance analysis and capacity planning
- Pre-installation performance and capacity planning consulting
- Systems and hardware performance modeling
- Traffic flow analysis
- Wireless, wired, and hybrid network simulation
Tactical Network Analysis, Design, Testing, and Integration

CTC’s core competency in Tactical Network Analysis, Design, Testing, and Integration is based on significant experience working in direct support of the United States Marine Corps (USMC).

CTC offers clients:
- Subject Matter Experts (SMEs) with extensive experience developing service-level management solutions. Over 20 years experience in Research and Development (R&D) for communication products includes four Service Level Management (SLM)/SLA patents.
- SMEs with extensive Modeling and Simulation, network analysis, and WAN acceleration experience. This includes data compression R&D experience and two WAN acceleration patents.
- SMEs with extensive Web development experience using C#, jQuery, java script, Visual Basic. Over 10 years experience specifically in operational Web-based systems. Knowledge of database system structures used by operational forces allows us to rapidly integrate with existing systems.
- The ability to deploy alongside operational forces, which allows us to rapidly develop unique collaborative systems to meet immediate needs of deployed operational forces.

Tactical Network Support

CTC’s core competency in Tactical Web Portal development and management is based on significant experience working in direct support of USSOCOM, Marine Special Operations Command (MARSOC) and the USMC in both Garrison and deployed environments.

CTC offers clients:
- Personnel are prepared to and have deployed on a moment’s notice.
- Personnel are 100% cleared to appropriate levels. This allows CTC to quickly focus all efforts to support the Secure Internet Protocol Routing (SIPR) network Web portals if needed, as frequently happens when supporting tactically operational forces.
- Personnel who are on-hand to support Top Secret (TS) Networks as required.
- Extensive experience with operational forces gives us the ability to provide unique insight to operational commanders and their staffs. Background and experience allows us to easily and accurately communicate using appropriate acronyms and vernacular essential for direct support of operational forces.
- Our staff has credibility with Special Operations Forces (SOF) and the USMC operational forces gained through years of deployed direct support. Support includes 12 hours a day, seven days a week coverage for more than five years in Iraq and two years in Afghanistan. Our staff has also accumulated several years of support aboard ship during Marine Expeditionary Brigade (MEB) and Marine Expeditionary Unit (MEU) deployments.

Technology Management

CTC’s competency in Technology Management is based on significant experience analyzing and developing technology assessments.
CTC offers clients:
  o Digital satellite radio
  o Fast router technology
  o Communications-on-the-move (COTM)
  o Alternative power sources

CTC develops the following program acquisition documentation:
  o Concepts of Operation (CONOP)
  o Operations and Maintenance (O&M) manuals
  o Technical Design Packages (TDPs)
  o Test Plans

High Speed Data Communications Systems (HSDCS)
CTC has developed and operates a wireless broadband network operating in the licensed bandwidth allocated by the Federal Communication Commission (FCC) for Public Safety (4.9 GHz) and Intelligent Transportation System (ITS) (5.9GHz) broadband wireless networks. This network provides a test bed to evaluate the cost/performance tradeoff when utilizing these types of networks to support public safety and first responders. CTC’s 500-square-foot Systems Integration Laboratory provides the resources to test and evaluate technologies that are under consideration for public safety or ITS wireless networks. Our experience with Homeland Security and the Department of Defense (DoD) enables us to facilitate interagency government and private-sector communications for national emergencies. We can provide the common language to communicate between agencies.

Intelligent Transportation Systems (ITS) (5.9GHz) Broadband and Federal Communication Commission (FCC) for Public Safety (4.9GHz Wireless) Networks
CTC competency in Intelligent Transportation Systems (ITS) (5.9GHz) Broadband and Federal Communication Commission (FCC) for Public Safety (4.9GHz Wireless) Networks is based on significant experience working in direct support of 4.9 GHz and 5.9 GHz licensed and 2.4 GHz and 5.8 GHz unlicensed broadband wireless networks.

CTC offers clients:
  • Wireless network system architecture design
  • Equipment evaluation in a test bed network
  • Modeling and simulation of 4.9 GHz and 5.9 GHz licensed and 2.4 GHz and 5.8 GHz unlicensed broadband wireless networks
  • Technical assessments and feasibility studies
    – Data repository and side-by-side analysis of wireless communications networks
    – Wireless broadband network baseline performance analysis
    – Application software/firmware performance analysis
  • Cost versus performance tradeoff analysis
  • Testing and evaluation of emerging technologies
  • Technology demonstrations
  • Installation of wireless networks
  • Spectrum management
    – Site surveys
    – Spectrum analysis

Contact Information
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