

Make Networks Work

Software Solutions for:

**NETWORK DESIGN
ANALYSIS & TESTING**

**CYBER TRAINING
& ASSESSMENT**

Every commercial enterprise, educational campus, government institution, military operations space, logistics warehouse and critical infrastructure facility has either a permanent or ad hoc network for moving data, voice and video between people, systems, sensors and controllers.

SCALABLE provides software for the engineers and operators of mission-critical, business-critical environments to help ensure the networks, the networked systems and the distributed applications work effectively under all normal and emergency operating scenarios.

SCALABLE solutions address the complete operational life-cycle:

- **Planning | Design | Development**
- **Deployment | Analysis | Testing | Evaluation**
- **Operational Training**

With SCALABLE, you Make Networks Work.

SCALABLE offers solutions for:

- Research on protocols and waveforms
- Network design and architecture optimization
- RF interference and propagation modeling
- Mission planning
- Early-stage device design comparisons
- Live applications performance analysis
- Disaster response preparation
- Hardware and software development
- Communications problem identification
- Live hardware testing and certification
- Equipment scalability evaluation
- Cyber resiliency assessment
- Cyber training

Network Modeling

The SCALABLE network modeling applications are used to design, analyze and test networks, networked systems and distributed applications behavior.

QualNet[®] QualNet software can model networks comprised of **thousands of nodes at faster-than-real-time speeds with real-world high fidelity.**

It is a powerful tool for **developing** networked equipment, protocols and waveforms, and **experimenting** with potential operating scenarios for various network architectures.



EXata software extends the QualNet functionality by adding a **system-in-the-loop emulation interface** and an optional **Cyber Library** of cyber attacks, defenses and vulnerabilities.

This enables the seamless integration of live hardware and applications with the virtual network models for effective operational **testing**, and the **assessment** of networks as to their resiliency to cyber threats.

Cyber Training

Critical networks are almost always under some level of passive or active cyber attack. Users of these networks need practical experience on how to continue working effectively and achieve their business or mission objectives despite the environment being under attack. Beyond topical exercises, they need **realistic operational training.**

Network Defense TRAINER Network Defense Trainer (NDT) is a **live-virtual-constructive** system for creating flexible **cyber ranges**. The integration of live hardware and applications with virtual network models delivers a highly cost effective cyber training solution that addresses operational scenarios with both the network fabric and the network end-points.

The added ability to realistically represent **mobile wireless** components and applications, and the option to federate with other **kinetic training simulators**, is unique in the industry.

NDT systems are used to train all types of cyber warriors and cyber-impacted network users.

Expertise & Cyber

SCALABLE was founded in 1999 by experts in the areas of network protocol design, wireless waveform propagation, discrete event simulation and high performance parallel-processing computing.

SCALABLE now also offers advanced modeling and simulation technology for cyber attacks, defenses and vulnerabilities.

HOST LEVEL

- Defensive Breach
- Host Vulnerability Exploitation
- Virus / Worm Propagation

NETWORK LEVEL

- Denial of Service
- Jamming
- Routing Misconfiguration
- Signals Intelligence
- Sniffing / Eavesdropping / Passive Traffic Analysis

Technical Partnerships

SCALABLE products can be integrated with a wide range of third-party simulation and analysis tools, such as:

- Analytical Graphics, Inc. (AGI) System Toolkit (STK) for advanced mobility and satellite behavior models
- VT MAK VR-Forces for interaction with computer generated forces models
- Presagis STAGE for interaction with computer generated forces models

Analogies

Architects use CAD software to model buildings before construction in order to **visualize** the structure and **optimize** their designs.

Aircraft engineers use simulation technology to **predict** airflow behavior over different wing configurations across a range of operating scenarios.

Astronauts spend many hours in operational simulators **training** on how systems function and how to effectively respond to various situations.

SCALABLE software provides similar solutions to **network equipment designers, software developers, network architects, mission planners, IT consultants and communications specialists.**

- Visualize information flow
- Optimize network & system designs
- Predict network & applications behavior
- Train networked personnel

Customers

With more than 1,000 license deployments worldwide, SCALABLE plays an integral part of the development, analysis, deployment, testing, training and operations of mission-critical defense and business-critical commercial data, voice and video networks.

Affiliations

