

Network Modeling Software Licensing

QualNet® **EXata®**

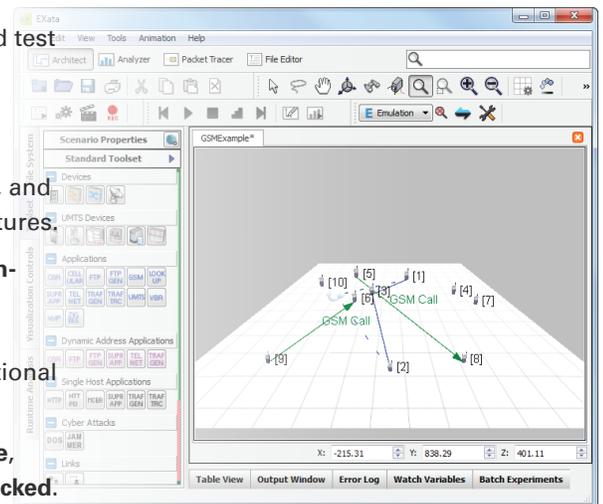
Overview

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

QualNet® software (QualNet) 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 (EXata) 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.

Both QualNet and EXata are licensed in two versions, **Developer** and **Run-Time**, and the software licenses can be managed as either **Node-Locked** or **Server-Locked**.



Developer Licenses

QualNet Developer and EXata Developer licenses deliver the full functionality of the network modeling platforms.

- **Design Mode:** Create virtual network models (and create new protocol and waveform component models)
- **Visualize Mode:** Define and execute “what if” operational scenarios in simulation
- **Analyzer:** Process results and generate reports

Every customer will have one or more Developer licenses in their environment. This enables network engineers and architects to use **Design Mode** to create virtual network models of all types of network geometries and configurations. These models are then used in **Visualize Mode** to run “what if” predictive scenarios.

The virtual network models can leverage both the included and any optionally licensed component libraries for protocols, waveforms and propagation effects.

Design Mode is also used to create custom component models which can then be used in specialized virtual network models.

Run-Time Licenses

QualNet Run-Time and EXata Run-Time licenses expand a network modeling environment to additional engineers and analysts on a team who simply run simulations, create reports and analyze results using virtual network models created by others with a Developer license.

- **Visualize Mode:** Define and execute “what if” operational scenarios in simulation
- **Analyzer:** Process results and generate reports

Run-Time licenses deliver a specific sub-set of the functionality of a Developer license, and provide a highly cost-effective way to extend the utility of network modeling to a large technical group.

Association

In a multi-person modeling and simulation team, there must be at least one Developer license, either used by a specific individual or shared amongst the team, to create virtual network models.

For other team members to work concurrently, up to five (5) Run-Time licenses can be “associated” with each Developer license. This association is defined and managed as follows:

- When a Run-Time license is purchased, the order must specify a previously purchased Developer license with which the Run-Time license is to be “associated”
- The SCALABLE Order Processing department will review the specified Developer license order to determine which if any optional component libraries for protocols, waveforms and propagation effects have also been licensed
- When the Run-Time license is provided to the customer, it will include licenses for all of optional component libraries which had been licensed along with the associated Developer license **at no additional charge** (*with certain exceptions described below*)
- **The intent of this association concept is to ensure that a virtual network model created using a specific configuration of a Developer license is completely compatible with the Run-Time licenses used by colleagues for simulation and analysis**

- Software Maintenance and Technical Support fees are additional, and are calculated at the same percentage rates as other products
- Licenses for additional processor core support on Developer platforms are not matched on associated Run-Time licenses, but may be purchased at standard pricing
- Run-Time licenses are not available as part of the EDU Program or the EDU-Industry Partnership Program

Exceptions

Certain component model licenses that may be part of a Developer platform configuration are not included automatically by association when a Run-Time license is purchased, but may be acquired separately.

- Component model licenses for the LTE and Federation Interfaces libraries are available to add to a Run-Time license at 25% of the standard purchase price
- A license for the Military Radios Library can be included with a Run-Time license at no additional charge, but requires approval under ITAR regulations before delivery

License Management

SCALABLE software licenses are managed via a license service created during the software installation process. This service uses one or more unique keys that are activated during set-up to keep track of valid licenses.

When an order is placed with SCALABLE, it should specify whether the license key(s) should be constructed as Node-Locked or Server-Locked. **If no preference is specified, the default is Node-Locked.**

Node-Locked Licenses

A Node-Locked license is tied to a specific host computer such as a laptop or workstation. The license key is generated using a host name and host ID, typically a MAC address. The license service runs on that same machine. The licensed software will run on only that specific host. A node-locked license is convenient when a license will be used almost exclusively by a specific user, or when the host may be moved around to various locations with changing network connections.

Server-Locked Licenses

Server-Locked licenses can be shared amongst a team of users. The license service is installed on a separate license server accessible to all users over the network.

Licenses are checked out on a first-come first-served basis by clients within a specific IP address range when a particular application is launched, and are checked back in when the application is closed.

Each client machine must have the SCALABLE software and libraries installed, and have a client license file.

Dongle Option

For special situations such as Classified computing environments, where it is not feasible to create a license key tied to a specific host, SCALABLE offers the option to purchase a hardware dongle attached via USB to manage software licenses.

Multi-Core | Multi-Processor Licensing

SCALABLE simulation technology and the component models that are used to create virtual network models are written to take advantage of the parallel processing capabilities of multi-core processors and multi-processor systems.

The QualNet and EXata modeling platforms come with licenses for a default number of processor cores. Licenses to

support additional cores can be added at any time to increase simulation performance.

- QualNet Developer and Run-time licenses support two (2) processor cores by default
- EXata Developer and Run-Time licenses supports four (4) processor cores by default