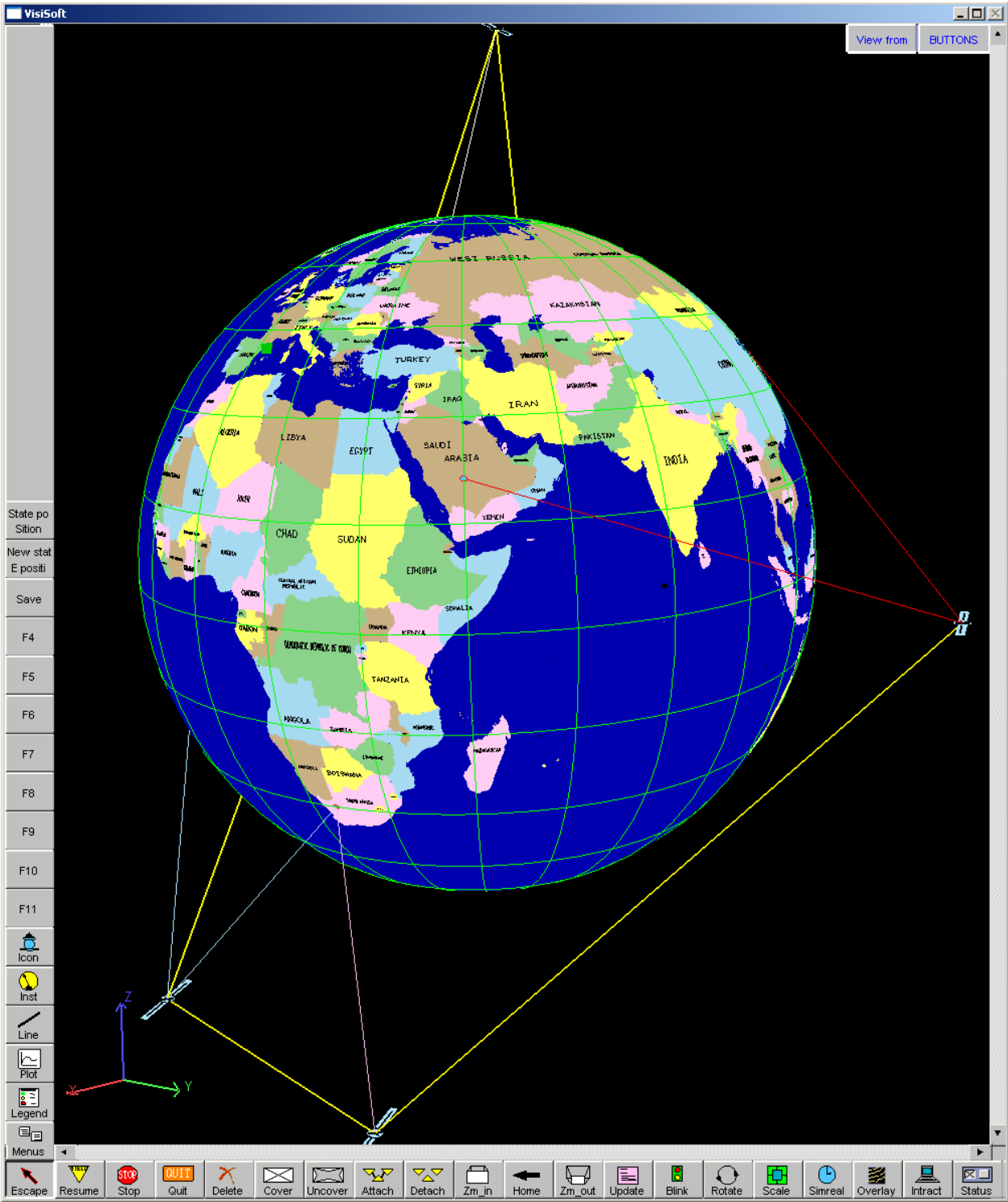


# Use Of The *RUN-TIME GRAPHICS (RTG)* System



Visual Software International (VSI) provides a new approach to building software and simulations. It has cut large scale system life cycle costs by as much as an order of magnitude. This approach, embodied in the *VisiSoft* system, is based upon significant advancements in software and simulation technology. It provides *real* control and reuse of complex modules and models. It has broken the barriers to rapid development of complex systems, and supports high resolution modeling to insure validity. This is done in part by achieving graphical interfaces so that complex systems are visualized in a fully tailored user-friendly environment. This success has resulted in rapid completion of systems and simulations that easily meet customer validity constraints. It accomplishes much higher levels of system scalability.

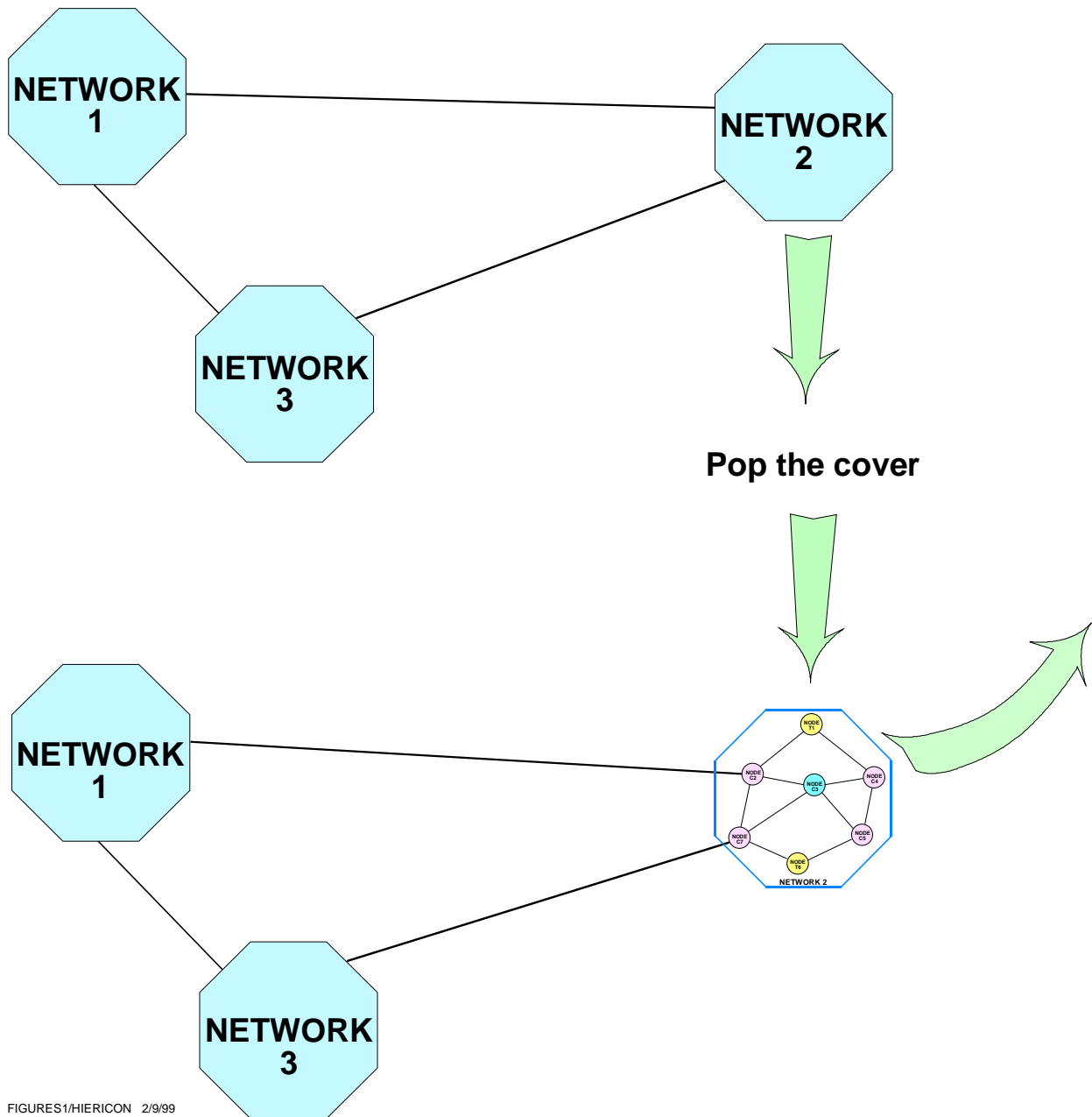
VSI has extended its simulation Run-Time Graphics (RTG) system to achieve new levels of ease of development and use. RTG illustrates the activities of complex systems and simulations as they unfold in real time or faster than real time. It allows users to interact fully with simulations *while they are running*.

RTG provides for hierarchical icons that support, for example, the development of an aggregate facility such as a network, and the push-down of this facility into basic entities, such as various equipment of different types, with appropriate graphic interaction at each level in the hierarchy. In addition, hierarchical icon movement is supported, where icons can contain sub-icons that move independently of each other, but relative to the next level in the hierarchy. Using RTG, thousands of graphical entities are easily made visible - without screen clutter - a real breakthrough.

The hierarchical RTG facility allows network managers or designers to assemble a network from an extensive library of icons, literally by “point and click” selection, and then have the elements move around on realistic terrain and foliage, or in the air or space, while using detailed simulated movement and traffic. This offers a valuable capability to respond to changing conditions in a real time planning environment. For example, a user can quickly devise plans to support alternative courses of action to a changing network environment, then simulate the functioning of that network to ensure that it will continue to work satisfactorily under anticipated conditions. This capability of allowing the user to modify the structure being simulated - *while the simulation is running* – represents a major breakthrough for many applications.

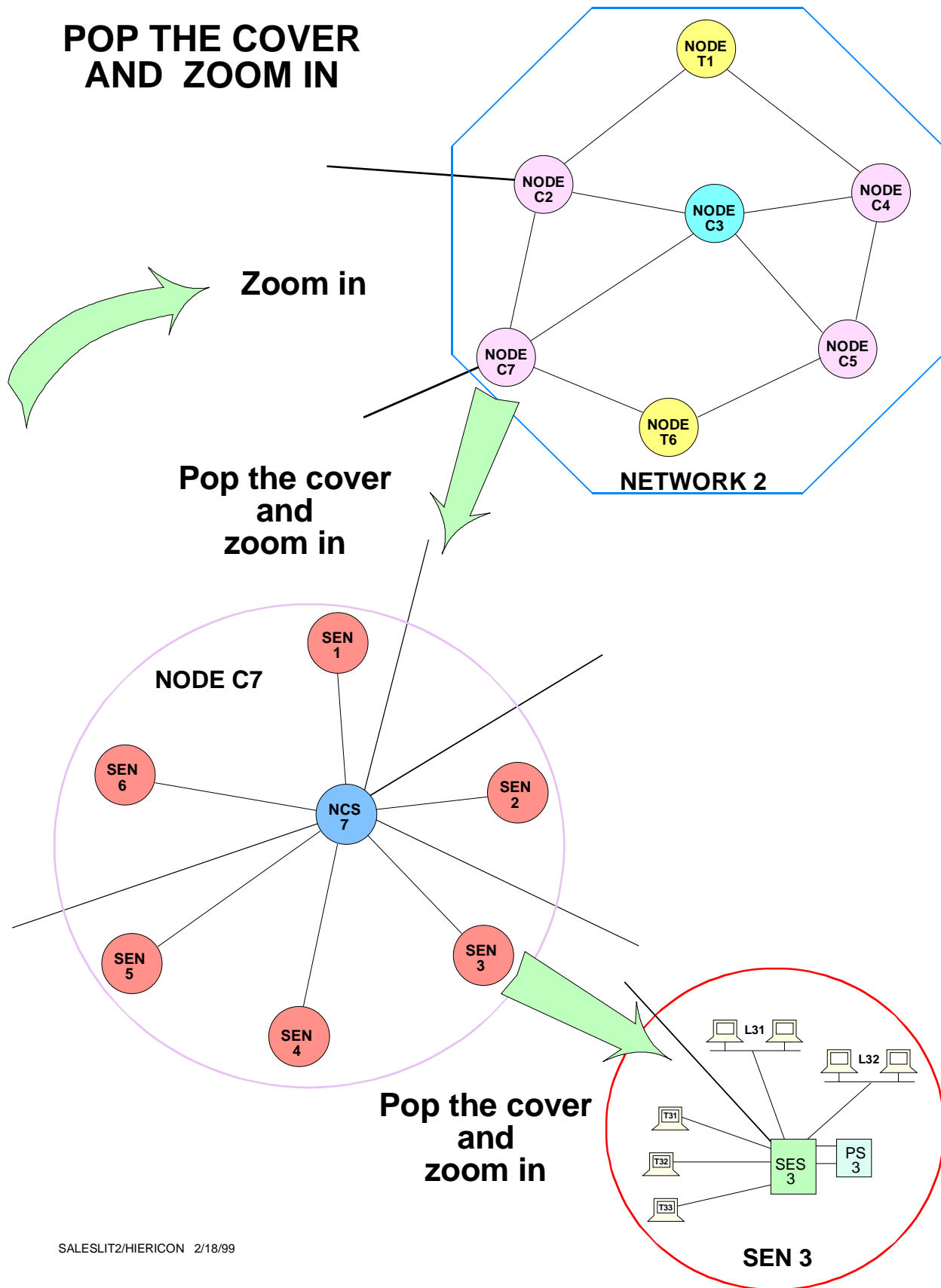
# INTERACT WITH HIERARCHICAL ICONIC MODELS

**WHILE THE SIMULATION IS RUNNING !**



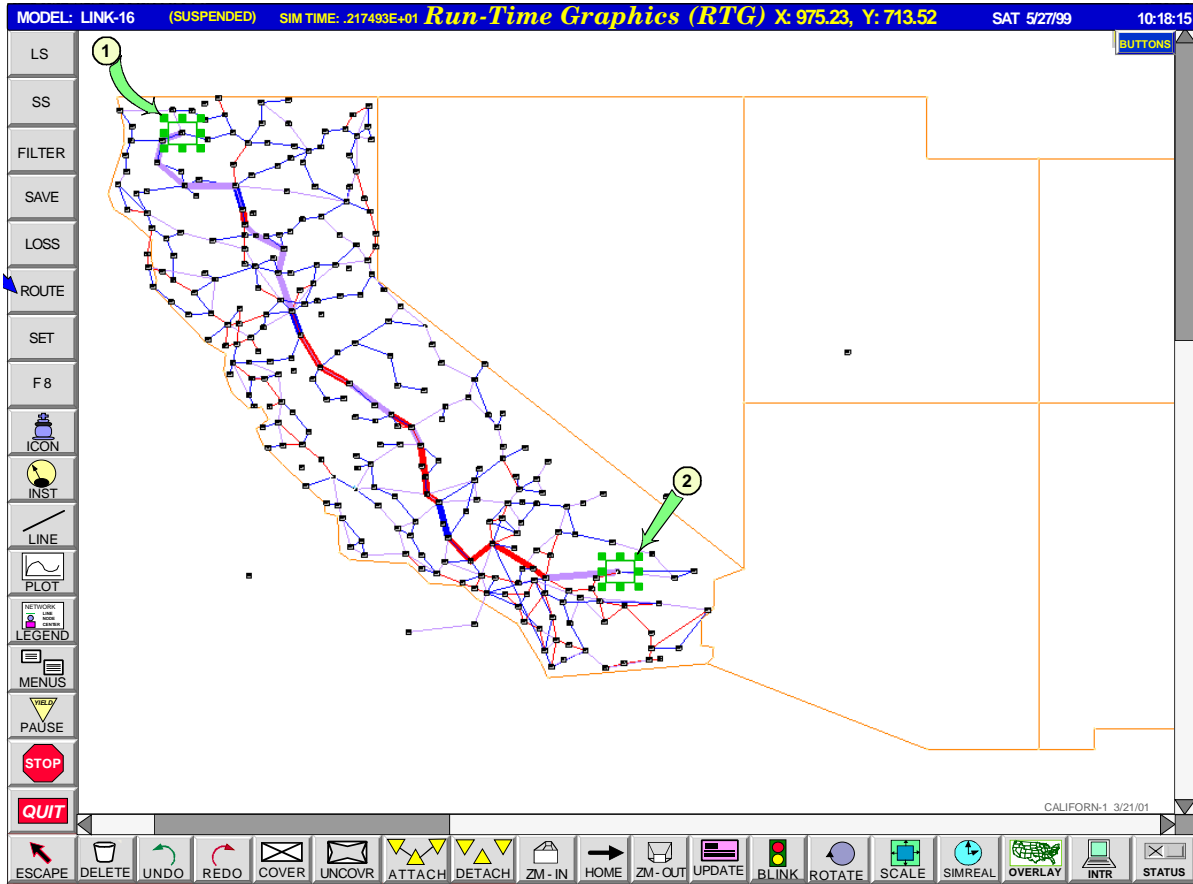
FIGURES1/HIERICON 2/9/99

# POP THE COVER AND ZOOM IN



SALESKIT2/HIERICON 2/18/99

RTG supports both the General Simulation System (GSS) and the Visual Software Environment (VSE). When GSS is used to simulate complex system dynamics, RTG provides dynamic visualization as events unfold. It is limited only by the modelers imagination. Similarly, VSE can be fielding real time data on any system that is dynamic, including electrical and communications networks, and traffic. The figure below is an example of a route in a communications network.



The figures on the next page provide examples of 3D views of air traffic as well as radar tracking devices and communications equipment. The ability to create 3D background overlays is illustrated in these figures. Background overlays created for different applications include terrain, foliage, buildings, road networks, bodies of water, etc. The figures on the last page illustrate RF coverage maps on the globe.



