In wider use, the term "architecture" always means "unchanging deep structure."

—*Stewart Brand*, How Buildings Learn

In the face of increasing complexity of systems and their interactions, both internally and with each other, an architecture comprising a set of structures provides the primary means for dealing with complexity in order to ensure that the resulting system has the required properties. Structures provide ways to understand the system as sets of interacting components.

Each structure is intended to help the architect understand how to satisfy particular concerns, such as changeability or performance. The job of demonstrating that particular concerns are satisfied may fall to others, but the architect must be able to demonstrate that *all* concerns have been met.

Network architecture: the communication equipment, protocols, and transmission links that constitute a network, and the methods by which they are arranged.

—*http://www.wtcs.org/snmp4tpc/jton.htm*

The Role of Architect

When buildings are designed, constructed, or renovated, we designate key designers as "architects" and give them a broad range of responsibilities. An architect prepares initial sketches of the building, showing both external appearance and internal layout, and discusses these sketches with clients until all concerned have agreed that what is shown is what they want. The sketches are abstractions: they focus attention on the pertinent details of a particular aspect of the building, omitting other concerns.

After the clients and architects agree on these abstractions, the architects prepare, or supervise the preparation of, much more detailed drawings, as well as associated textual specifications. These drawings and specifications describe many "nitty-gritty" details of a building, such as plumbing, siding materials, window glazing, and electrical wiring.

On rare occasions, an architect simply hands the detailed plans to a builder who completes the project in accordance with the plans. For more important projects, the architect remains involved, regularly inspects the work, and may propose changes or accept suggestions for change from both the builder and customer. When the architect supervises the project, it is not considered complete until he certifies that it is in substantial compliance with the plans and specifications.

We employ an architect to assure that the design (1) meets the needs of the client, including the characteristics previously noted; (2) has conceptual integrity by using the same design rules throughout; and (3) meets legal and safety requirements. An important part of the architect's role is to ensure that the design concepts are consistently realized during the implementation.