The Multinet Gateway Program is developing an MLS switching and network technology to meet Air Force requirements for secure network front ends and secure gateways. Ford Aerospace, under contract to Rome Air Development Center, is building an Advanced Development Model (ADM) for such a gateway system. Based on the ADM for Multinet Gateway System, Ford together with RADC is presently extending the approach to help the government determine the certifiability of the Multinet Gateway System at the A1 level.

In this talk we will describe the software and hardware technology being used to develop this system. The basic points we will discuss include the general problem, the security models and modeling techniques we are using, the formal verification system and the decomposition strategies. In addition we will briefly describe two tools which we will be using on this contract. These are the Partition Based Protection Model which is an extension to the notion of an access matrix to provide for the careful control of the passing of access rights to information to different processes, and the PRODIGE SYSTEM which provides bit level access control to protocol headers for untrusted application (protocol) processes.