

CA9-97-029

**SETTING INSTANCE BREAKPOINTS IN OBJECT
ORIENTED COMPUTER PROGRAMS**Abstract

A mechanism for setting a conditional breakpoint on all methods called by a specific instance of a class. To set the instance breakpoint, the debugger must first determine all of the methods that can be applied to the object type or class. In an environment in which full debugging information includes the correspondence between virtual function tables and specific classes, and full class hierarchy information, the methods can be located by locating the pointer to the type's virtual function table, and from the virtual function table, locating the specific class in the debugging information. Identifying the specific type permits all of the base classes of the type to be identified in the debugging information, and from the class hierarchy information, all methods for objects of the type can be compiled. The debugger then sets a conditional breakpoint on each method, the condition specifying that the breakpoint should cause program execution to automatically stop only if the method is being called for the particular object or instance for which the instance breakpoint was set. Information gathered at these program suspensions can be used in granular program debugging to locate problems particular to the specific instance.