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(71) Applicant *(for all designated States except US)*: **MICROSOFT CORPORATION** [US/US]; One Microsoft Way, Redmond, Washington 98052-6399 (US).

(72) Inventors: **WRIGHTON, David Charles**; One Microsoft Way, Redmond, Washington 98052-6399 (US). **UNOKI, Robert Sadao**; One Microsoft Way, Redmond, Washington 98052-6399 (US).

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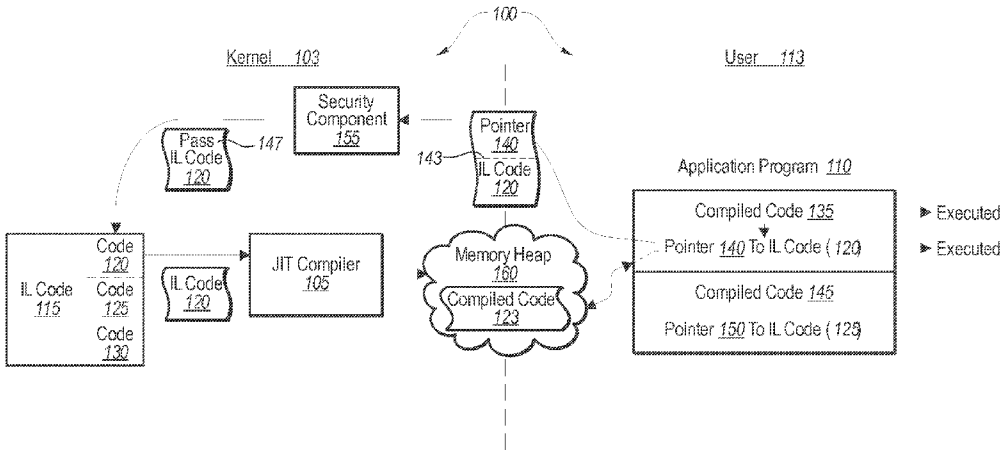
(54) **Title:** COMPILING EXECUTABLE CODE INTO A LESS-TRUSTED ADDRESS SPACE



(57) **Abstract:** Unsafe application programs that implement managed code can be executed in a secure fashion. In particular, an operating system can be configured to execute an application program in user mode, but handle managed code compilation through a type-safe JIT compiler operating in kernel mode. The operating system can also designate a single memory location to be accessed through multiple address spaces with different permission sets. An application program operating in user mode can be executed in the read/execute address space, while the JIT compiler operates in a read/write address space. When encountering one or more pointers to intermediate language code, the application runtime can send one or more compilation requests to a kernel mode security component, which validates the requests. If validated, the JIT compiler will compile the requested intermediate language code, and the application program can access the compiled code from a shared memory heap.

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