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## (54) SYSTEMS AND METHODS FOR DETERMINING EXECUTION STATE

(57) There is described a method of enabling identification of the execution state of an item of software at runtime. The method comprises receiving from one or more clients one or more respective labelled sets of invocation data generated at the one or more clients by the execution of an executable of the item of software configured to cause the collection of invocation data at runtime for one or more callable units of the item of software, wherein each labelled set of invocation data comprises a label indicating an execution state of the item of

software during a respective portion of runtime and invocation data corresponding to said respective portion of runtime; training, based on said collection of invocation data, an identification algorithm to identify the execution state of the item of software from collected invocation data of the item of software. There is also described a related method of identifying the execution state of an executable during a portion of runtime, as well as related apparatus and computer programs.