

What is claimed is:

1. A system for monitoring an application, comprising:
 - one or more hardware processors configured to:
 - generate a code graph of processes associated with one or more packages of the application, the code graph representing invocation relationships between the processes;
 - instrument a process of the code graph to receive a duration time for the process when the process is executed;
 - detect a transaction trace indicating execution of a transaction including the process;
 - determine a duration score for the process indicating a relationship between a duration time for the process and a transaction time for the transaction;
 - determine an instrumentation threshold value;
 - determine whether the duration score satisfies the instrumentation threshold value;
 - in response to determining that the duration score satisfies the instrumentation threshold value:
 - determine, based on referencing the code graph, a second process invoked by the process; and
 - instrument the second process to receive a second duration time for the second process when execution of the second process is detected in a second transaction trace of a second transaction;
 - detect the second transaction trace indicating execution of the second transaction, the second transaction trace including the process and the second process with the first process invoking the second process;
 - determine a second duration score for the second process indicating a relationship between a second duration time for the second process and the duration time for the process;
 - determine whether the second duration score satisfies the instrumentation threshold value;
 - in response to determining that the second duration score satisfies the instrumentation threshold value:

determine, based on referencing the code graph, a third process invoked by the second process; and
instrument the third process to receive a third duration time for the third process when execution of the third process is detected in a third transaction trace of a third transaction;
detect the third transaction trace indicating execution of the third transaction, the third transaction trace including the process, the second process, and the third process, the first process invoking the second process, the second process invoking the third process;
determine a third duration score for the third process indicating a relationship between the third duration time for the third process and the second duration time for the second process;
determine a pruning threshold value;
determine whether the third duration score satisfies the pruning threshold value; and
in response to determining that the third duration score satisfies the pruning threshold value, uninstrument the second process to cause the second process to not return the second duration time for the second process when execution of the second process is detected in a fourth transaction trace of a fourth transaction.

2. The system of claim 1, wherein the one or more processors are further configured to:
generate an informational display for the second transaction trace; and
provide an indication of the process, the duration score of the process, the second process being invoked by the process, and the second duration score of the second process to the informational display.

3. The system of claim 1, wherein the one or more processors are further configured to:

generate an informational display for the third transaction trace; and
provide an indication of the duration score of the process, the third process being
invoked by the process, and the third duration score of the third process to
the informational display.

4. The system of claim 1, wherein the one or more processors are further
configured to:

generate an informational display for the transaction trace; and
provide an indication of the process and the duration score of the process to the
informational display.

5. The system of claim 1, wherein the one or more processors configured to
instrument the second process includes the one or more processors being configured to send
an instruction to an agent monitoring the application that causes the agent to inject a code into
the second process that causes the second process to return the second duration time when the
second process is executed.

6. The system of claim 1, wherein the one or more processors are further
configured to receive the instrumentation score threshold value from a user input.

7. The system of claim 1, wherein the process belongs to a first package of the
application and the second process belongs to a second package of the application different
from the first package.

8. The system of claim 1, wherein the one or more processors are further
configured to receive a selection of the one or more packages of the application from a user
input and generate the code graph based on the user input, the one or more packages being a
subset of all packages of the application.

9. The system of claim 1, wherein the one or more processors are further
configured to, in response to determining that the duration score fails to satisfy the
instrumentation threshold value, forgo instrumentation of the second process invoked by the
process.

10. A method for monitoring an application, comprising:
- generating a code graph of processes associated with one or more packages of the application executing, the code graph representing invocation relationships between the processes;
 - instrumenting a process of the code graph to receive a duration time for the process when the process is executed;
 - monitoring the application to detect a transaction trace indicating execution of a transaction including the process;
 - determining a duration score for the process indicating a relationship between a duration time for the process and a transaction time the transaction;
 - determining an instrumentation threshold value;
 - determining whether the duration score satisfies the instrumentation threshold value;
 - in response to determining that the duration score satisfies the instrumentation threshold value:
 - determining, based on referencing the code graph, a second process invoked by the process; and
 - instrumenting the second process to receive a second duration time for the second process when execution of the second process is detected in a second transaction trace of a second transaction;
 - detecting the second transaction trace indicating execution of the second transaction, the second transaction trace including the process and the second process with the first process invoking the second process;
 - determining a second duration score for the second process indicating a relationship between a second duration time for the second process and the duration time for the process;
 - determining whether the second duration score satisfies the instrumentation threshold value;
 - in response to determining that the second duration score satisfies the instrumentation threshold value:
 - determining, based on referencing the code graph, a third process invoked by the second process; and

instrumenting the third process to receive a third duration time for the third process when execution of the third process is detected in a third transaction trace of a third transaction;

detecting the third transaction trace indicating execution of the third transaction, the third transaction trace including the process, the second process, and the third process, the first process invoking the second process, the second process invoking the third process;

determining a third duration score for the third process indicating a relationship between the third duration time for the third process and the second duration time for the second process;

determining a pruning threshold value;

determining whether the third duration score satisfies the pruning threshold value;

and

in response to determining that the third duration score satisfies the pruning threshold value, uninstrumenting the second process to cause the second process to not return the second duration time for the second process when execution of the second process is detected in a fourth transaction trace of a fourth transaction.

11. The method of claim 10, further comprising:

generating an informational display for the second transaction trace; and

providing an indication of the process, the duration score of the process, the second process being invoked by the process, and the second duration score of the second process to the informational display.

12. The method of claim 10, further comprising:

generating an informational display for the third transaction trace; and

providing an indication of the duration score of the process, the third process being invoked by the process, and the third duration score of the third process to the informational display.

13. The method of claim 10, wherein instrumenting the second process includes sending an instruction to an agent monitoring the application that causes the agent to inject a code into the second process that causes the second process to return the second duration time when the second process is executed.

14. The method of claim 10, further comprising a selection of the one or more packages of the application from a user input and generating the code graph based on the user input, the one or more packages being a subset of all packages of the application.

15. The method of claim 10, further comprising, in response to determining that the duration score fails to satisfy the instrumentation threshold value, forgoing instrumentation of the second process invoked by the process.

16. A non-transitory computer readable medium storing instructions that when executed by a processor configures the processor to:

generate a code graph of processes associated with one or more packages of an application, the code graph representing invocation relationships between the processes;

instrument a process of the code graph to receive a duration time for the process when the process is executed;

monitor the application to detect a transaction trace indicating execution of a transaction including the process;

determine a duration score for the process indicating a relationship between a duration time for the process and a transaction time the transaction;

determine an instrumentation threshold value;

determine whether the duration score satisfies the instrumentation threshold value;

in response to determining that the duration score satisfies the instrumentation threshold value:

determine, based on referencing the code graph, a second process invoked by the process; and

instrument the second process to receive a second duration time for the second process when execution of the second process is detected in a second transaction trace of a second transaction;

detect the second transaction trace indicating execution of the second transaction,
the second transaction trace including the process and the second process
with the first process invoking the second process;
determine a second duration score for the second process indicating a relationship
between a second duration time for the second process and the duration
time for the process;
determine whether the second duration score satisfies the instrumentation
threshold value;
in response to determining that the second duration score satisfies the
instrumentation threshold value:
determine, based on referencing the code graph, a third process invoked by
the second process; and
instrument the third process to receive a third duration time for the third
process when execution of the third process is detected in a third
transaction trace of a third transaction;
detect the third transaction trace indicating execution of the third transaction, the
third transaction trace including the process, the second process, and the
third process, the first process invoking the second process, the second
process invoking the third process;
determine a third duration score for the third process indicating a relationship
between the third duration time for the third process and the second
duration time for the second process;
determine a pruning threshold value;
determine whether the third duration score satisfies the pruning threshold value;
and

in response to determining that the third duration score satisfies the pruning threshold value, uninstrument the second process to cause the second process to not return the second duration time for the second process when execution of the second process is detected in a fourth transaction trace of a fourth transaction.

17. The non-transitory computer readable medium of claim 16, wherein the instructions when executed by the processor further configures the processor to:

- generate an informational display for the transaction trace; and
- provide an indication of the process and the duration score of the process to the informational display.

18. The non-transitory computer readable medium of claim 16, wherein the instructions that configures the processor to instrument the second process includes the instructions configuring the processor to send an instruction to an agent monitoring the application that causes the agent to inject a code into the second process that causes the second process to return the second duration time when the second process is executed.

19. The non-transitory computer readable medium of claim 16, wherein the process belongs to a first package of the application and the second process belongs to a second package of the application different from the first package.

20. The non-transitory computer readable medium of claim 16, wherein the instructions when executed by the processor further configures the processor to receive a selection of the one or more packages of the application from a user input and generate the code graph based on the user input, the one or more packages being a subset of all packages of the application.