SYSTEM FOR AND METHOD OF DETERMINING DATA CONNECTIONS BETWEEN SOFTWARE APPLICATIONS

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This International Application claims priority of U.S. Application No. 16/051,660 filed August 1, 2018, the disclosure of which is expressly incorporated by reference herein in its entirety.

FIELD

[0002] The present invention relates generally to a system for and a method of determining data connections between software applications as those applications are built rather than after their complete deployment.

BACKGROUND

[0003] Software applications very rarely run in isolation. In fact, software applications, particularly applications that process data from diverse sources, may receive and send data to dozens of different locations throughout a series of connected resources. If the application code is operating as intended, this interaction doesn't generally cause problems. However, should the application fail to operate as intended or if other applications with which the application interacts fail, the result may be data corruption or erroneous results. The impact of corrupt data or erroneous results that are relied on to the detriment of an organization can be costly. Current methods of tracking interactions between applications involve adding intended data connections into program requirements documents and test plans. These amount to intentions rather than results as coding errors or unintended program operation can cause connections to break or perform in an unexpected manner. Thus, existing methods of documenting connections between applications can result in lack of visibility to actual connections, the inability to trace connection issues and the inability to validate interconnections in an application that has been introduced into production. What is needed is a system for and a method of defining application connectivity in such a way that it is self-regulating.

SUMMARY

[0003a] According to a first aspect of the present invention, there is provided a method of controlling data connections of an application program, the method comprising: establishing a service definition; establishing definitions of allowed connections; storing the service definition and definitions of allowed connections in an application service

registry; embedding the definitions of allowed connections as metadata in a source code document; automatically deriving firewall rules from the metadata; automatically deriving an allowed connection data listing from the metadata; and configuring an application interface manager using the allowed application data listing.

[0003b] According to a second aspect of the present invention, there is provided a system for automatically regulating data connections of an application program, the system comprising: an application service registry; a source data repository in communication with the application service registry; the application service registry comprising software instructions that when executed by a first processor cause the first processor to: extract metadata information pertaining to permitted application data connections; the source data repository comprising software instructions that when executed by a second processor, cause the second processor to: establish a software application requirements definition which comprises allowed connections with other applications and data sources; store the definitions of allowed connections to a metadata document; automatically establish firewall rules from the metadata; automatically establish an allowed application data listing from the metadata; and configure an application interface manager using the allowed application data listing.

[0004] In exemplary embodiments, connectivity between an application and other applications or data sources is encoded in the source code (source code, object code, scripts, interpreted code, and the like) such that these relationships are defined and can be used to automatically generate connectivity maps. This allows information flow to be reliably