Installation Detecting Method for Software

BACKGROUND OF THE INVENTION

1. Field of the Invention

The invention relates to software test, in particularly to an installation detecting method for software.

2. Description of the Related Art

In recent years, with the rapid development of domestic economy, due to the dramatic expansion in the usage range and client number of the application systems, and the rapid increment in the quantity of transaction, the installation process of many original application systems becomes more complicated and the installation qualities of versions put into production become more and more difficult to adapt the demand of the service development, such that these shortcomings cause some application systems to appear serious operation malfunctions successively, which has a severe impact on the operations of enterprises. These reveal the quality hidden troubles existed in the application systems and have an impact on the stable development of the service, at the same time the development requirements of the new services also present a higher demand for qualities of the application systems. The installation detection of the version put into production is to perform the installability detection of multiple systems application versions to be put into production, so as to enable the quality of the application software version to reach the online demand in the quasi production environment consistent with the hardware structures and software configurations of the production environment according to the system installation and operation steps requirements in the implementation process specification of the system installation, after passing the tests of users acceptance and performance.

SUMMARY OF THE INVENTION

To solve the above problems existing in the related art, the invention provides an installation detecting method for software, comprising the steps of: step 1, setting up a document test scenario of the software to detect the integrality and correctness of documents; step 2, setting up an environment test scenario of the software to detect environment targets of the software; and step 3, setting up an installation test scenario of the software to detect installation and configuration of the software after finishing the detection of the documents and the environment targets.

Wherein, the step 1 comprising: detecting whether needed information exists in the documents; and detecting whether operation steps in the documents are integral and correct.

The step 2 comprising: detecting environment of infrastructure type and environment of application systems type based on the set up environment test scenario.

The step 3 comprising: detecting installation of infrastructure type and installation of application type based on the set up installation test scenario; and detecting the availability of the software after finishing the detection of the installation of infrastructure type and the installation of application type.

According to the method of the invention, the documents comprise documents of online installation type and documents of operation and maintenance type, wherein, the documents of online installation type comprise documents of infrastructure type and documents of application systems; and the documents of operation and maintenance type comprise documents of operation and maintenance manual type and documents of operation and maintenance for future reference type.

According to the method of the invention, the environment

detection of the infrastructure type is implemented by detecting at least one of the following detection items: operating system environment, database environment, middleware environment, and network environment.

Wherein, the environment detection of the application systems type is implemented by detecting at least one of the following detection items: software version, name of a host computer, IP address, directory right, size of disk space and information of security.

The installation detection of the infrastructure type is implemented by detecting at least one of the following detection items: installation configuration of operating systems, installation configuration of database, data configuration in the database, installation configuration of middleware, installation configuration of assistant software and installation configuration of cluster.

The installation detection of the application type is implemented by detecting at least one of following detection items: installation configuration of application, detail configuration, user management of the application systems, and startup, operation and stop of the application systems.

Therefore, adopting the method of the invention can further widen and upgrade the detecting method on the basis of the software test work of ordinary meaning, and aiming at the version put into production to set up the evaluation mechanisms of the test quality independently facing the installation links.

Other characteristics and advantages of the invention will be described in the following specification and partly become apparent from the specification or understand from implementation of the invention. The objects and other advantages of the invention could be implemented and obtained from the structure particularly indicated in the written specification, claims and the drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

The drawings are used to provide the further understanding of the invention and constitute a part of the specification, the drawings are used to explain the invention together with the embodiments of the invention, and do not intend to limit the invention. In the drawings:

Fig. 1 is the flowchart of the method according to the invention.

DETAILED DESCRIPTION OF THE EMBODIMENTS

The preferred embodiments of the invention will be illustrated in combination with the drawings, it should be understood that the preferred embodiments described herein are only used to illustrate and explain the invention and not intended to limit the invention.

Fig. 1 is the flowchart of the method according to the invention.

As shown in Fig. 1, the method comprising the steps of:

S102, setting up a document test scenario of the software to detect the integrality and correctness of documents;

S104, setting up an environment test scenario of the software to detect the environment targets of the software; and

S106, setting up an installation test scenario of the software to detect installation and configuration of the software after finishing the detection of the documents and the environment targets.

Wherein, S102 comprising: detecting whether needed information exists in the documents; and detecting whether operation steps in the documents are integral and correct.

S104 comprising: detecting environment of infrastructure type and environment of application systems type based on the set up environment test scenario.

S106 comprising: detecting installation of infrastructure type and installation of application type based on the set up installation test

scenario; and detecting the availability of the software after finishing the detection of the installation of infrastructure type and the installation of application type.

According to the method of the invention, the documents comprise documents of online installation type and documents of operation and maintenance type, wherein, the documents of online installation type comprise documents of infrastructure type and documents of application systems; and the documents of operation and maintenance type comprise documents of operation and maintenance manual type and documents of operation and maintenance for future reference type.

According to the method of the invention, the environment detection of the infrastructure type is implemented by detecting at least one of the following detection items: operating system environment, database environment, middleware environment, and network environment.

Wherein, the environment detection of the application systems type is implemented by detecting at least one of the following detection items: software version, name of a host computer, IP address, directory right, size of disk space and information of security.

The installation detection of the infrastructure type is implemented by detecting at least one of the following detection items: installation configuration of operating systems, installation configuration of database, data configuration in the database, installation configuration of middleware, installation configuration of assistant software and installation configuration of cluster.

The installation detection of the application type is implemented by detecting at least one of following detection items: installation configuration of application, detail configuration, user management of the application systems, and startup, operation and stop of the application systems.

Hereinafter, another embodiment of the invention will be

described.

Installability detection of the versions put into production is performed according to the system installation and the operation steps requirements in implementation process specification of the system installation. Two methods are generally adopted: static detection and dynamic detection, wherein, the detection of document type and environment type is static detection; the installation configurations need to be dynamically detected. The operation steps of detection of document type are mainly focus on detecting the matching usage manual of installation, configuration, backup, recovery, emergency and so on, the detection of document type is mainly focus on the static detection of all kinds of documents to detect whether the key information of all documents exists, and whether all documents have the integral specification contents. The detection operation steps of environment type mainly perform the static detection to detect the key information of the system software environment based on the successful system environment deployment. The detection steps of installation and configuration type are mainly on dynamic detection to ensure that systems and application can be installed, deployed, configured, used and maintained normally.

Section 1: Detection operation steps of the document type

The detection of the document type is mainly to detect the matching usage manual of installation, configuration, backup, recovery, emergency and so on, and mainly to perform the static detection to detect whether the key information of all documents exists and whether all documents have integral operation steps.

First, perform the documents detection of online installation type.

1. Infrastructure type

(1) For "the routine maintenance manual of the system", detecting the contents, such as startup, routine maintenance operation, emergency recovery, log backup and so on of the system;

(2) For "the configuration parameters list of the operation system", detecting the configuration content related to each type of hardware and software of the system;

(3) For "the configuration parameters list of the database", detecting progress configuration of the database server, the division of database memory, the structure of database table, size of log and so on;

(4) For "the backup/recovery operation manual of the database", detecting manner, capacity, medium, time and so on of backup, and according to the level of the malfunction and information of malfunction, performing the flow detection of recovery specifically according to the manual;

(5) For "the log backup manual of the database", detecting the strategy, manner and content of backup;

(6) For "the operation manual of the middleware", detecting whether there are steps of middleware startup, stop and so on, and the related configuration and so on in the documents;

(7) For "the configuration parameters list of middleware", detecting whether there are information of memory allocation of middleware process, the address and ports connected with database and application in the documents;

(8) For "the backup manual of the middleware", detecting whether there is a backup of log; and

(9) For "the configuration parameters list of the network", detecting statically.

2. Application systems type

(1) For "the installation configuration manual of the application systems", detecting the contents comprising user name, password, right, structures and right of the directory , executable program, the startup and stop of the service, the configuration information of the application connected to other mediums, disk capacity, configuration files, schedule list of log files and so on;

(2) For "the log backup manual of the application", detecting the directory of backup, size of backup, information of backup and so on;

(3) For "the typical transaction list", detecting the typical transaction list, service type, service name, service planning quantity;

(4) For "the description of interfaces with other systems", detecting compatibility of ensuring systems (an optional item); and

(5) For "the upgrade and reconstruction of the systems", detecting the document illustration after upgrading and reconstructing the systems (option item).

Hereinafter, perform the documents detection of operation and maintenance type.

1. The documents of operation and maintenance type

(1) For "the operation instructions of application systems maintenance interface", detecting the function operation manual of the maintenance interface;

(2) For "the operation regulations of the foreground services processing", detecting the normalized management manual of the foreground services;

(3) For "the operation instructions of foreground services processing", detecting the function manual;

(4) For "the operation regulations of the background services processing interface", detecting the normalized management manual; and

(5) For "the operation instructions of the background services processing interface", detecting the function manual.

2. The documents of operation and maintenance for future reference type

(1) For "the preliminary design specification of the system application", detecting whether the requirements and design are reasonable;

(2) For "the detailed design specification of the system

application", detecting whether the requirements and design are reasonable;

(3) For "the description of each function module of the application program", detecting whether each function module is consistent with the design, and whether the operations are simple and so on;

(4) For "the network topological graph of the application systems", detecting the network topological graph;

(5) For "the physical connection graph of the application systems", detecting the relation graph of the physical connection;

(6) For "the logic structure graph of the application systems", detecting the relation graph of connection between each system;

(7) For "the instructions of specific meaning and efficient conditions of the maintenance parameters", detecting the definitions of the parameters, standard of the definitions and the precondition of the maintenance;

(8) For "the interpret table of the application systems error codes", detecting the summary table of problems;

(9) For "the list of the system software (installation software package, version, serial number, users number, authorization code and so on)", detecting the legality of the software;

(10) For "the system installation mediums and the random data", detecting the legality and the operability of the software;

(11) For "the design specification of the database", detecting whether the choice of production is reasonable, and whether the planning is perfect;

(12) For "the strategy explanation of the data cleaning", detecting the method, manner and time of the data cleaning;

(13) For "the manual of FAQ", detecting the summary table of the FAQ;

(14) For "the related after-sales service agreement and the contract copy", detecting the service guarantee of the subsequent product and the

division of the personnel responsibility;

(15) For "the contact person and the contact manner of the maintenance manufacturer", detecting the members of production service guarantee group, daily operation and maintenance, and the manufacture emergency demand; and

(16) For "the contact manner of the secondary technique support personnel and their direct leader (name, telephone, mail)", detecting the members of production service guarantee group, daily operation and maintenance, and manufacture emergency demand.

Section 2: The detection operation steps of the environment type

Here, the detection operation mainly performs the static detection for mostly detecting the key information of the system software environment based on the successful deployment of the system environment.

First, perform the detection of the environment of infrastructure type.

1. The environment of the operating system

(1) For the version of the application software, detecting the version number of the application software;

(2) For the version of the operating system, detecting the version number of the operating system; and

(3) For the patch of the operating system, detecting the patch number of the operating system.

2. The environment of the database

(1) For the version of the database, detecting the version number of the database;

(2) For the patch of the database, detecting the patch number of the database; and

(3) For the configuration of the database, detecting the environment variables of the database installation.

3. The environment of the middleware

(1) Detecting the version number of the middleware; and

(2) Detecting the patch number of the middleware.

4. The network environment

(1) For the network, detecting the network environment.

Hereinafter, perform the environment detection of the application system type.

(1) Detecting the version of the application software;

(2) Detecting the version of the assistant software;

(3) Detecting the patch of the assistant software;

(4) Detecting the name of the host computer;

(5) Detecting the IP address;

(6) Detecting the ports;

(7) Detecting the right of the application directory of the software, and should not exceed the right;

(8) Detecting whether the systems meet the demand for disk space from the software and the database;

(9) For the security information, detecting whether there are documents (such as, software package, data, users and personal directory and so on) irrespective with the system in the system ; and

(10) Detecting whether the environment satisfy other demands of the software.

Section 3: The detection operation steps of installation and configuration type

Because the high implementation of installation configuration is the basic guarantee of the system operation, the dynamic detection is performed mainly to ensure the system and the application could be installed, deployed, configured, used and maintained normally.

First, perform the installation detection of the infrastructure type.

(1) For the installation configuration of the operating system, the operating system could be installed and configured correctly according to "the configuration parameters table of the operating system" provided

by the project group;

(2) For the installation configuration of the database, the database could be installed and configured correctly according to "the configuration parameters table of the database";

(3) For the underlying data and the startup data of the database, the operation steps are: the data are injected to ensure that the tested systems are not empty and ensure that the service functions could run normally at the same time by the guarantee engineers of the operation maintenance departments, the project group and the test environment cooperating with each other according to the "typical transaction list" provided by the service departments;

(4) For the data import, the data could be imported correctly according to "the data transplantation manual of the database" of the project group, only detecting the capacity of the imported data while not detecting the specific content of the imported data;

(5) For the data cleaning, the data could be cleaned correctly while not detecting functions according to "the data transplantation manual of the database" of the project group;

(6) For the data export, the data could be exported correctly according to "the data transplantation manual of the database" of the project group, only detecting whether the data capacity are consistent while not detecting the specific content of the exported data;

(7) For the installation configuration of the middleware, the middleware could be installed and configured correctly according to "the configuration parameters table of the middleware";

(8) For the installation configuration of the assistant software, the assistant software could be installed and configured correctly according to "the configuration parameters table of the assistant software"; and

(9) For the installation configuration of the cluster, the cluster could be installed and configured correctly according to "the installation method of software and hardware of cluster" provided by the project

group.

Next, perform the installation detection of the application type.

(1) For the installation configuration of the application, the installation configuration of the application systems could be finished correctly by the test environment guarantee group according to "the installation configuration manual of the application systems";

(2) For the detail configuration, detecting whether the necessary software package, directory, files are included in the application systems configuration and whether the capacity is correct and so on;

(3) For the user management, detecting whether the user name, password, right of application systems are in line with the rules; and

(4) For the startup, operation and stop of the service, detecting whether the system could be started, run, close and so on normally.

Next, perform the green light detection.

(1) For whether the typical service is available, according to the "typical transaction list" provided by service departments, detecting whether the application systems is available after finishing installation and configuration, whether the data are in line with the test demand, wherein, the operation comprises debugging of functions and performances.

Setting up the relatively independent detection guarantee system and the quality detection method of software online version installation is important for improving the validity of the software test from the points of view of technique and management.

It can be summarized from above that adopting the method of the invention can further widen and upgrade the detecting method on the basis of the software test work of ordinary meaning, and aiming at the version put into production to set up the evaluation mechanisms of the test quality independently facing the installation links.

Above are the only preferred embodiments of the invention, and not intended to limit the invention, for those skilled in the art, the

invention could have various modifications and alterations. The modifications, equivalent and alterations within the spirits and principle of the invention should be included in the scope of the invention.

CLAIMS

What is claimed is:

1. An installation detecting method for software, characterized in that the method comprising the steps of:

step 1, setting up a document test scenario of the software to detect the integrality and correctness of documents;

step 2, setting up an environment test scenario of the software to detect environment targets of the software; and

step 3, setting up an installation test scenario of the software to detect installation and configuration of the software after finishing the detection of the documents and the environment targets.

2. The method of claim 1, characterized in that the step 1 comprising:

detecting whether needed information exists in the documents; and

detecting whether operation steps in the documents are integral and correct.

3. The method of claim 2, characterized in that the step 2 comprising:

detecting environment of infrastructure type and environment of application systems type based on the set up environment test scenario.

4. The method of claim 3, characterized in that the step 3 comprising:

detecting installation of infrastructure type and installation of application type based on the set up installation test scenario; and

detecting the availability of the software after finishing the detection of the installation of infrastructure type and the installation of application type.

5. The method of claim 4, characterized in that the documents comprise documents of online installation type and documents of operation and maintenance type, wherein,

the documents of online installation type comprise documents of infrastructure type and documents of application systems; and

the documents of operation and maintenance type comprise documents of operation and maintenance manual type and documents of operation and maintenance for future reference type.

6. The method of claim 5, characterized in that the environment detection of the infrastructure type is implemented by detecting at least one of the following detection items: operating system environment, database environment, middleware environment, and network environment.

7. The method of claim 6, characterized in that the environment detection of the application systems type is implemented by detecting at least one of the following detection items: software version, name of a host computer, IP address, directory right, size of disk space and information of security.

8. The method of claim 7, characterized in that the installation detection of the infrastructure type is implemented by detecting at least one of the following detection items: installation configuration of operating systems, installation configuration of database, data configuration in the database, installation configuration of middleware, installation configuration of assistant software and installation configuration of cluster.

9. The method of claim 8, characterized in that the installation detection of the application type is implemented by detecting at least one of following detection items: installation configuration of application, detail configuration, user management of the application systems, and startup, operation and stop of the application systems.