

PATENT COOPERATION TREATY

TRANSLATION

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing (day/month/year)	15.05.2012
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Applicant's or agent's file reference 1152549	FOR FURTHER ACTION See paragraph 2 below
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International application No. PCT/JP2012/057069	International filing date (day/month/year) 19.03.2012	Priority date (day/month/year)
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International Patent Classification (IPC) or both national classification and IPC
G06F9/50 (2006.01) i, G06F9/46 (2006.01) i

Applicant
FUJITSU LIMITED

1. This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/JP	Date of completion of this opinion	Authorized officer
Facsimile No.		Telephone No.

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International application No.

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Box No. I **Basis of this opinion**

1. With regard to the **language**, this opinion has been established on the basis of:
 - the international application in the language in which it was filed
 - a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).
2. This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing filed or furnished:
 - a. (means)
 - on paper
 - in electronic form
 - b. (time)
 - in the international application as filed
 - together with the international application in electronic form
 - subsequently to this Authority for the purposes of search
4. In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5. Additional comments:

**WRITTEN OPINION OF THE
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Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
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1. Statement			
Novelty (N)		Claims <u>1-20</u>	YES
		Claims _____	NO
Inventive step (IS)		Claims <u>1-20</u>	YES
		Claims _____	NO
Industrial applicability (IA)		Claims <u>1-20</u>	YES
		Claims _____	NO

2. Citations and explanations:	
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Document 1: JP 2010-237926 A (FUJITSU FIP CORP.) 21 October 2010, entire text, all drawings

Document 2: JP 2009-48607 A (HITACHI, LTD.) 05 March 2009, entire text, all drawings & US 2009/0055507 A1 & EP 2028592 A1

Document 3: JP 2011-210032 A (HITACHI, LTD.) 20 October 2011, entire text, all drawings

The invention as in claims 1-20 is novel and involves an inventive step in relation to the documents cited in the ISR.

Document 1 discloses a system in which a plurality of virtual machine servers that implement virtual machines are connected through a network wherein, when an earthquake occurs, the system determines the virtual machines that are to be transferred to a different virtual machine server on the basis of the estimated time until the earthquake shock wave arrives and the estimated strength thereof, and executes the transfer. Document 1 also discloses the feature, when it is determined that the transfer cannot be done by the estimated earthquake

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

shock wave arrival time, of making the transfer within the time by dividing the virtual machines into segments and transferring thereof to a plurality of virtual machine servers, taking into consideration the transmission capacity of the communication line.

Document 2 discloses a system wherein a plurality of servers geographically distant from one another are connected by a network, wherein, if a disaster strikes a server, the system transfers the applications on that server to another server and performs recovery from the disaster.

Document 3 discloses a system in which a plurality of data centers are connected by a WAN, wherein if a disaster is predicted in the region where one of the data centers is located, the virtual machines on the servers in that data center are migrated to servers of another data center.

However, none of the documents cited in the ISR discloses the feature of

"a first virtual machine implementation device, in response to instructions to move a first virtual machine, divides the data related to the aforementioned first virtual machine into segments and transmits the segmented data to a second virtual machine implementation device via a first network device of network devices,

the aforementioned first network device determines if it is possible for the segmented data transmitted from the aforementioned first virtual machine implementation device to be transmitted to the aforementioned second network device disposed on the aforementioned second virtual machine implementation device side, and if transmission is not possible, the segmented data is

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citations and explanations supporting such statement

stored in a memory unit, and if it is determined that it is possible for the segmented data to be transmitted to the aforementioned second network device, the aforementioned segmented data in the aforementioned memory unit is transmitted to the aforementioned second network device", and

even a person skilled in the art could not easily conceive of this feature.