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- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

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(54) Title: OPERATOR STATE CHECKPOINTS

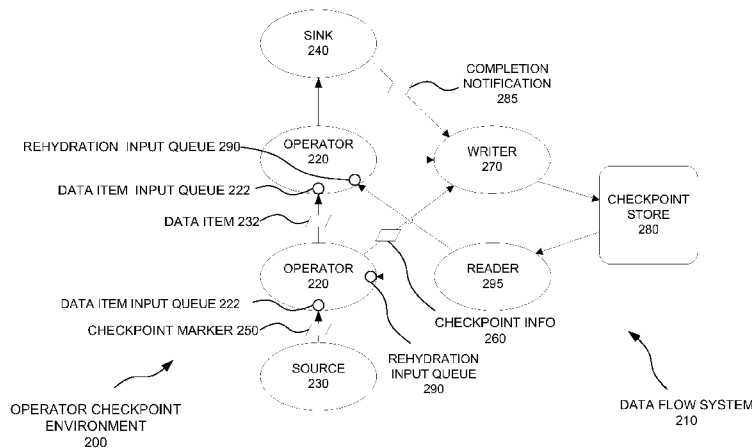
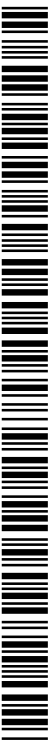


FIGURE 2

(57) Abstract: A checkpoint marker can be received at a first operator. The first operator can process the checkpoint marker by sending the checkpoint marker to a second operator and sending state checkpoint information representing a state of the first operator to a checkpoint writer. The checkpoint information can be used to rehydrate the state of one or more operators. For example, after a system failure, shutdown, etc., checkpoint information can be received from a reader unit at a checkpoint information input queue of the first operator. A state of the first operator can be rehydrated using the checkpoint information. Processing of information in a data input queue of the first operator can be suspended while the checkpoint information is used to rehydrate the state of the first operator. Other operators in a system with the first operator may be checkpointed and rehydrated in the same manner as the first operator.



A. CLASSIFICATION OF SUBJECT MATTER**G06F 9/06(2006.01)i, G06F 9/44(2006.01)i**

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

G06F 9/06; G06F 17/00; G06F 7/00; G06F 12/00; G06F 9/38; G06F 11/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: checkpoint, log, operator, state, rehydrate, recovery, suspend, stop, checkpoint writer;

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 7689863 B1 (KORENEVSKY GREGORY et al.) 30 March 2010 See abstract ; column 2 lines 21-55 ; claims 1, 3, 8 ; and figures 3-6.	1-10
A	US 2009-0287874 A1 (ROGERS ANDREW M. et al.) 19 November 2009 See abstract ; paragraphs [0029]-[0036] ; claims 1, 16, 19 ; and figures 3-5.	1-10
A	US 7778985 B2 (SCHOLTZ JOHANN E.) 17 August 2010 See abstract ; column 9, line 24 - column 10 line 65 ; and claims 1, 13.	1-10
A	US 2009-0094445 A1 (BRANDYBERRY MATTHEW TODD et al.) 09 April 2009 See abstract ; paragraphs [0091]-[0093] ; and claim 1.	1-10

 Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 7689863 B1	30.03.2010	EP 1246063 A2 EP 1246063 A3 US 2002-0174379 A1 US 6834358 B2	02.10.2002 11.04.2007 21.11.2002 21.12.2004
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US 2009-0094445 A1	09.04.2009	None	