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(54) Title: DISTRIBUTED SNAPSHOT OF RACK

(57) Abstract: Here when we are required to take distributed snapshot of a rack, the Distributed Snapshot Service will generate a snapshot token consisting of the rack identifier and a local timestamp. The generated snapshot token will be forwarded to the spine switch connecting all the different cloud components of the rack. The spine switch of the rack will forward the snapshot token to all different cloud components of the rack and the messages or events that have to be considered for the distributed snapshot will be tagged with the snapshot token by the spine switch. The cloud components of the rack will independently take their snapshots and tag it with the snapshot token and component identifier, and send it to the remote Distributed Snapshot Service.



WO 2019/220173 A1

Distributed Snapshot of Rack

In this invention we provide distributed snapshot of different subsystems of the cloud like virtual switching nodes, virtual compute nodes and virtual storage nodes held by the rack. When we are required to take distributed snapshot of a rack, the Distributed Snapshot Service will generate a snapshot token consisting of the rack identifier and timestamp of the system where the Distributed Snapshot Service is running. The generated snapshot token will be forwarded to the cloud component consisting of the entry point for the packets of the rack or the spine switch of the rack connecting all the different cloud components of the rack like virtual switching nodes, virtual compute nodes, virtual storage nodes, etc. The spine switch of the rack will forward the snapshot token to all different cloud components of the rack and the messages or events that have to be considered for the distributed snapshot will be tagged with the snapshot token by the spine switch and subsequently other components in the rack will tag the snapshot token as well for events or messages generated due to the above spine switch snapshot token tagged event or message. The cloud components of the rack will independently take their snapshots and tag it with the snapshot token and component identifier, and send it to the remote Distributed Snapshot Service.

Claims

Following is the claim for this invention:-

1. In this invention we provide distributed snapshot of different subsystems of the cloud like virtual switching nodes, virtual compute nodes and virtual storage nodes held by the rack. When we are required to take distributed snapshot of a rack, the Distributed Snapshot Service will generate a snapshot token consisting of the rack identifier and timestamp of the system where the Distributed Snapshot Service is running. The generated snapshot token will be forwarded to the cloud component consisting of the entry point for the packets of the rack or the spine switch of the rack connecting all the different cloud components of the rack like virtual switching nodes, virtual compute nodes, virtual storage nodes, etc. The spine switch of the rack will forward the snapshot token to all different cloud components of the rack and the messages or events that have to be considered for the distributed snapshot will be tagged with the snapshot token by the spine switch and subsequently other components in the rack will tag the snapshot token as well for events or messages generated due to the above spine switch snapshot token tagged event or message. The cloud components of the rack will independently take their snapshots and tag it with the snapshot token and component identifier, and send it to the remote Distributed Snapshot Service. The above novel technique of taking Distributed Snapshot of the rack holding different cloud components is the claim for this invention.

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A. CLASSIFICATION OF SUBJECT MATTER G06F17/30, G06F15/16 Version=2018.01		
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		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) Databases: TotalPatent One, IPO Internal Database Keywords: snapshot, distributed, token, virtual, cloud		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 8489831 B2 (HEWLETT PACKARD ENTERPRISE DEVELOPMENT LP) 16 July 2013 (16.07.2013) abstract, column 1 lines 62-67, claim 1 -----	1
Y	US 20110258461 A1 (EMC CORP) 20 October 2011 (20/10/2011) paragraphs [0008]-[0011], claims 1 and 7	1
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> 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 another 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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Information on patent family members

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Citation	Pub.Date	Family	Pub.Date
US 8489831 B2	16-07-2013	US 2010082921 A1	01-04-2010
US 2011258461 A1	20-10-2011	CA 2751180 A1	05-08-2010
		EP 2391968 A2	07-12-2011
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