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Published: — with international search report

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Title: METHODS AND APPARATUS FOR IDENTIFYING WORKFLOW GRAPHS USING AN ITERATIVE ANALYSIS OF EMPIRICAL DATA

Abstract: A method and system for generating a workflow graph from empirical data of a process are described. A processing system obtains data corresponding to multiple instances of a process, the process including a set of tasks, the data including information about order of occurrences of the tasks. The processing system analyzes the occurrences of the tasks to identify order constraints. The processing system partitions nodes representing tasks into subsets based upon the order constraints, wherein the subsets are sequence ordered with respect to each other such that all nodes associated with a given subset either precede or follow all nodes associated with another subset. The processing system partitions nodes representing tasks into subgroups, wherein each subgroup includes one or more nodes that occur without order constraints relative to nodes associated with other subgroups. A workflow graph representative of the process is constructed wherein nodes are connected by edges.
**INTERNATIONAL SEARCH REPORT**

**International application No**

PCT/US07/19559

**A CLASSIFICATION OF SUBJECT MATTER**

**IPC**

G06F 9/44 (2006 01), G06F 17/30 (2006 01)

**USPC**

705/7

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)

U S

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)

Google, ScienceDirect, EAST search terms workflow graphs, generation of, reduction of graphs

**C DOCUMENTS CONSIDERED TO BE RELEVANT**

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No</th>
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<td>Y</td>
<td>US 20070055558 A1 (SHANAHAN, et al.) 21 August 2006 (21 08 2006), see especially [abstract], [0006], [0050], [0064], [0094-5], [0098], [0100], [0184], [0203].</td>
<td>1-24</td>
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**D** Further documents are listed in the continuation of Box C [ ]

See patent family annex

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<td>document published prior to the international filing date but later than the priority date claimed</td>
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Date of the actual completion of the international search

3 1 July 2008 (3 107 2008)

Date of mailing of the international search report

09 SEP 2008

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