

Title (en)  
OPTIMAL EQUIPMENT ALLOCATION

Title (de)  
OPTIMALE AUSRÜSTUNGSZUWEISUNG

Title (fr)  
AFFECTATION OPTIMALE D'EQUIPEMENT

Publication  
**EP 1064604 A4 20050511 (EN)**

Application  
**EP 98961922 A 19981204**

Priority  
• US 9825819 W 19981204  
• US 6516897 P 19971205

Abstract (en)  
[origin: WO9930249A1] A method for optimally allocating equipment to jobs at multiple geographic locations to maximize utilization of scarce and expensive resources needed for oil-well fracturing operations (90). The computer implemented method obtains fracturing problem data (91), determines variable parameters (92) and problem constraints (93) and using an algebraic modeling language, builds a fracturing problem model (94) for optimally allocating fracturing equipment to fracturing jobs at multiple geographic locations. The model is expressed as an objective function (95) and a set of problem constraints (95). An optimal solution (96) is generated for the model using a solver software problem to satisfy the problem constraints (93) and optimize the objective function (94). The model can be rerun for different oil-well fracturing operations (90) scenarios and optimal solutions (96) generated for each scenario to determine optimal equipment.

IPC 1-7  
**G06F 17/60**

IPC 8 full level  
**G06Q 10/00** (2006.01)

CPC (source: EP)  
**G06Q 10/06** (2013.01)

Citation (search report)  
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• [A] US 5216593 A 19930601 - DIETRICH BRENDA L [US], et al  
• [A] US 5467265 A 19951114 - YAMADA AKIHIRO [JP], et al  
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• [X] PORTER B ET AL: "Machine requirements planning and workload assignment using genetic algorithms", EVOLUTIONARY COMPUTATION, 1995., IEEE INTERNATIONAL CONFERENCE ON PERTH, WA, AUSTRALIA 29 NOV.-1 DEC. 1995, NEW YORK, NY, USA,IEEE, US, vol. 2, 29 November 1995 (1995-11-29), pages 711 - 715, XP010156355, ISBN: 0-7803-2759-4  
• [A] LEE H G ET AL: "Constraint logic programming and mixed integer programming", SYSTEM SCIENCES, 1993, PROCEEDING OF THE TWENTY-SIXTH HAWAII INTERNATIONAL CONFERENCE ON WAILEA, HI, USA 5-8 JAN. 1993, LOS ALAMITOS, CA, USA,IEEE, US, vol. iii, 5 January 1993 (1993-01-05), pages 543 - 552, XP010031675, ISBN: 0-8186-3230-5  
• [A] VASQUEZ A ET AL: "Concurrent resource allocation for production scheduling", PROCEEDINGS OF THE INTERNATIONAL CONFERENCE ON ROBOTICS AND AUTOMATION SACRAMENTO, APR. 9 - 11, 1991, LOS ALAMITOS, IEEE COMP. SOC. PRESS, US, vol. VOL. 2 CONF. 7, 9 April 1991 (1991-04-09), pages 1060 - 1066, XP010023932, ISBN: 0-8186-2163-X  
• See references of WO 9930249A1

Designated contracting state (EPC)  
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DOCDB simple family (publication)  
**WO 9930249 A1 19990617**; AU 1711699 A 19990628; CA 2311638 A1 19990617; EP 1064604 A1 20010103; EP 1064604 A4 20050511

DOCDB simple family (application)  
**US 9825819 W 19981204**; AU 1711699 A 19981204; CA 2311638 A 19981204; EP 98961922 A 19981204