

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)
• [X] US 5649113 A 19970715 - ZHU JIANHUA [US], et al
• [A] US 5216593 A 19930601 - DIETRICH BRENDA L [US], et al
• [A] US 5467265 A 19951114 - YAMADA AKIHIRO [JP], et al
• [X] GAGNON R J ET AL: "Optimal strategies for acquiring advanced engineering technologies with linked resources", TECHNOLOGY MANAGEMENT : THE NEW INTERNATIONAL LANGUAGE PORTLAND, OR, USA 27-31 OCT. 1991, NEW YORK, NY, USA,IEEE, US, 27 October 1991 (1991-10-27), pages 348 - 353, XP010051674, ISBN: 0-7803-0161-7
• [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)
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

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