

PACKAGE ID - 001132SUN0000 CHACO2.0

KWIC TITLE - Graph Partitioning and Sequencing Software

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LIMITATION CODE -COPY **AUDIENCE CODE** - LIM

COMPLETION DATE - 09/01/1995 **PUBLICATION DATE** - 03/01/1995

DESCRIPTION - Graph partitioning is a fundamental problem in many scientific contexts. CHACO2.0 is a software package designed to partition and sequence graphs. CHACO2.0 allows for recursive application of several methods for finding small edge separators in weighted graphs. These methods include inertial, spectral, Kernighan Lin and multilevel methods in addition to several simpler strategies. Each of these approaches can be used to partition the graph into two, four, or eight pieces at each level of recursion. In addition, the Kernighan Lin method can be used to improve partitions generated by any of the other algorithms. CHACO2.0 can also be used to address various graph sequencing problems, with applications to scientific computing, database design, gene sequencing and other problems.

PACKAGE CONTENTS - Media Directory; Software Abstract; Media Includes Source Code, User's Guide, Compilation Instructions, Sample Problem Input Data;

SOURCE CODE INCLUDED? - Yes

MEDIA QUANTITY - 1 3.5 Diskette

METHOD OF SOLUTION - A number of novel algorithmic advances are encoded in CHACO2.0. See the user's guide for full details.

COMPUTER - SUN

OPERATING SYSTEMS - Any Unix operating system

PROGRAMMING LANGUAGES - C

SOFTWARE LIMITATIONS - None

SOURCE CODE AVAILABLE (Y/N) - Y

UNIQUE FEATURES - CHACO2.0 has broader functionality than any competing software, and its algorithms are superior to anything in the literature.

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RELATED SOFTWARE - This release supplants version 1.0 of CHACO.

OTHER PROG/OPER SYS INFO - Files ending in .ps are documentation, while those ending with .c are source code.

TIME REQUIREMENTS - The code should partition a graph with 100k vertices in under a minute.

ABSTRACT STATUS - Submitted 12/4/96. Released AS-IS 12/23/96.

SUBJECT CLASS CODE - NP

KEYWORDS -

COMPUTER PROGRAM DOCUMENTATION
C CODES
DIAGRAMS
DATA PROCESSING
ALGORITHMS
COMPUTER CALCULATIONS
MATHEMATICS

EDB SUBJECT CATEGORIES -
990200

SPONSOR - DOE/DP

PACKAGE TYPE - AS - IS