

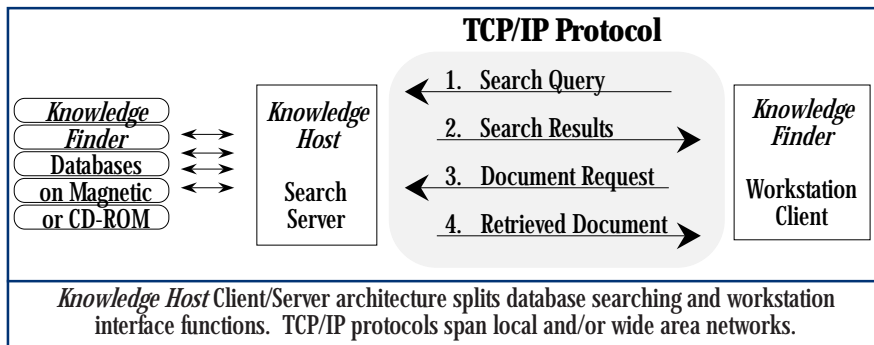
### Overview

The *Knowledge Host* client/server computing environment offers efficient, flexible and comprehensive access to *Knowledge Finder* medical literature databases across local and wide area networks. Traditional database search and access functions are partitioned to optimize use of system resources. Compute-intensive

database search processes run on powerful central network servers. Sophisticated client software provides intuitive user query formulation, browsing control and content presentation at distributed network workstations. Data compression and TCP/IP protocols minimize demands on valuable network bandwidth.

Use of industry-standard communications protocols, hardware platforms and operating systems makes *Knowledge Host* the distributed architecture of choice in small and large institutional network environments. The innovative modular architecture offers economical entry-level server configurations. At the same time, it assures highly cost-effective upgrade and system expansion options to support very large network service demands.

*Knowledge Host* incorporates the acclaimed *Knowledge Finder* search methodologies and database technologies. These include Fuzzy and Boolean logic free-text searching, thesaurus browsing, search results relevance ranking, integrated bibliographic and full-text database access, and highly compressed space-saving database configurations.



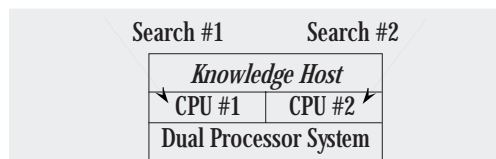
### CHAMP Architecture

A *Knowledge Host* server system may be configured with single or multiple server systems (a complete computer system - a server "node") and/or processors (collectively, server "elements"). When configured with more than one server element, *Knowledge Host* uses Aries' Clustered Host Asymmetric MultiProcessor (CHAMP) architecture.

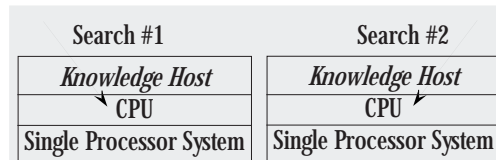
CHAMP provides modular growth, redundancy and reliability configuration options. As your search service requirements and loads grow over time, you can increase processing capacity by:

- Adding CPU(s) to an existing machine.
- Adding additional, similar machines.
- Adding additional, dissimilar machines.

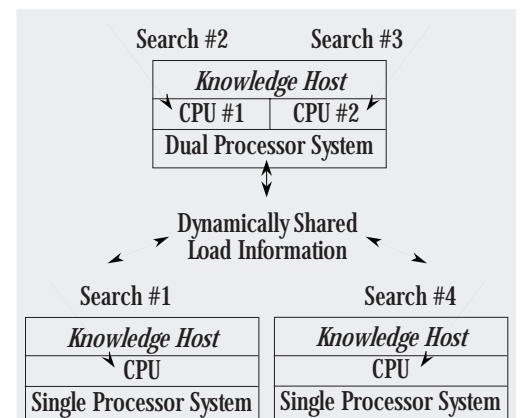
Configuration of multiple systems in a CHAMP cluster is simple, requiring only the specification of a single parameter in a configuration control file.



In a single system/multiprocessor configuration (e.g., dual CPU Pentium, quad CPU SparcStation, etc.), *Knowledge Host* automatically detects and takes advantage of the multiple CPUs, and shares processing load between the CPUs. Scheduling efficiency is high, and almost linear performance gains are achieved as CPU multiplicity increases. Since the incremental cost of multiple CPUs in a single system is significantly less than single CPUs in individual system configurations, substantial server capacity can be achieved in a cost-effective manner.



In a multiple system configuration (i.e., multiple computers) each system runs an independent copy of the *Knowledge Host* server software. Configuration parameters cause each server node connected to the same network segment to automatically synchronize their operations. Subsequently, client search sessions are automatically routed to the server then handing the lightest processing load.



Additional CPUs and systems can be added in a simple, "plug-in" fashion, as server loading and client demand increase. Since existing server elements do not need to be replaced, substantial economies can be realized over an extended system lifetime.

### Performance Characteristics

*Knowledge Host* performance in CHAMP or single system configurations is substantial. For example, a single CPU Pentium 133/Windows NT Server configuration with 64MB of RAM should adequately support 10 concurrent workstation sessions. A dual Pentium Pro 200 system with 96MB RAM should support 40 concurrent sessions. Each additional concurrent session requires approximately 1.5MB RAM.

## Features/Benefits

- **Comprehensive Server Platform Support** - *Knowledge Host* server software runs on most of the popular platforms used by institutions. Setup and operational costs are reduced, and installation times are shortened.
- **Cost-Effective System Clustering** - Run your *Knowledge Host* with a single system or many. CHAMP provides a unique combination of cost-effectiveness, system performance, and almost unlimited system growth potential.
- **Windows and Macintosh Graphic Client Interface** - Satisfy all your users with the interface of their particular choice. The intuitive interface minimizes learning times and training costs, and increases user satisfaction.
- **High Performance Search Software** - Even demanding, large database, multiple term searches complete rapidly and efficiently. More users can conduct more searching in a shorter period of time.
- **Full Knowledge Finder Function** - All functions of the *Knowledge Finder* search software are supported, including Fuzzy, Boolean and Thesaurus searching, with relevance or recency results ranking.
- **Minimized Network Bandwidth Usage** - Extensive data compression and efficient messaging protocols minimize incremental network traffic, and simultaneously improve client response times and performance.
- **Simplified Installation** - Installation of *Knowledge Host* is straightforward and quick. Installer software is downloaded from Aries' Internet site in minutes, assuring latest version availability at all times. With only prior knowledge of their basic server/network technology, administrators can install *Knowledge Host* and have it running with minimal time, effort and complexity.
- **Flexible User Administration and Accounting** - Use the standard *Knowledge Host* administration and accounting services to get up and running quickly. For flexibility, program and tailor your own interfaces to let *Knowledge Host* integrate with your existing institutional databases, files and procedures.

## Server Configurations

The *Knowledge Host* search server can run on several standard hardware and operating system platforms:

- Intel® Pentium®/Pentium Pro® with Windows™ NT/NT Server (v4.0/later).
- Sun® SparcStation®/Solaris® (v2.5/later)
- IBM® RS/6000® with AIX® (v4.2.1/later)
- Apple® Macintosh® PPC (System 7.5 or later).
- Linux (e.g., RedHat Linux 5.1).
- Support for Digital Unix is also planned - please contact Aries for details.

Memory configurations are calculated based on the planned number of concurrent client workstation sessions that will be supported. For best performance, configure your server with at least 48MB RAM plus 1.5 additional RAM for each concurrent user session.

For optimal performance, store your high-usage databases on magnetic hard drive - this provides much better performance compared to CD-ROM storage (which can also be used). Configure at least one CD-ROM drive on your system for database uploading to magnetic hard drive.

Your search server will also need a network interface card, with driver software capable of handling TCP/IP data communications protocols. Network access must be supported with appropriate IP Domain Naming Service (DNS).

## Client Configurations

*Knowledge Finder* client software is available in "native" mode for Windows and Macintosh workstations. *Knowledge Finder* can also be run on UNIX platforms using appropriate emulator software for Windows or Macintosh applications.

Minimum recommended configurations are:

- Windows 3.1, 3.11, 95 or NT, running on 80486 or later machines with 8MB RAM (16MB recommended for Win 95 and NT). WINSOCK TCP/IP support required.
- Macintosh OS 7.5 or later, running on 68030 or later machines with 8MB RAM (16MB recommended). MacTCP® or Open Transport 1.2 (preferred) required for communication.

## Remote Access

Because *Knowledge Host* minimizes network bandwidth usage between server and client machines, it offers an ideal solution for wide-area remote access. Whether your remote clients connect by WAN network, ISDN or modem (14.4KB minimum recommended), communication delays are minimized, and remote searching becomes a practical reality.

## Access Authorization & Control

*Knowledge Host* provides a variety of access controls to simplify system administration:

- System access may be constrained by client IP domain address.
- Automatic controls assure that concurrent use license requirements are observed.
- Optional user name/password access controls are available.
- Straightforward programming API lets you create your own, customized authorization interface.

## Activity Logging

All search session activity can be logged by *Knowledge Host*. Standard logging captures search session duration and source, number of searches conducted, and number of summary and full documents viewed. Sessions statistics are output in a "tab-delimited" format, which can be easily imported into your customized analysis and reporting tools (database, spreadsheet, etc.).

## Knowledge Host Programming API

Aries offers a technical programming interface to *Knowledge Host* functions. This API (Application Programming Interface) lets system developers tailor a search system interface to their unique requirements. The API includes functions to:

- Initiate and terminate search sessions.
- Select database to be searched.
- Submit search requests and receive search results lists.
- Submit document requests and receive document data.