



IBM Series/1 Event Driven Executive Indexed Access Method Version 2.1 (5719-AM4)

The IBM Series/1 Event Driven Executive Indexed Access Method Version 2.1 (5719-AM4) is a data management facility that enables you to build, maintain, and retrieve indexed data sets or "files." Each record of an indexed data set is identified by the contents of predefined fields called "keys." The Indexed Access Method creates indexes of these keys to allow records to be retrieved easily.

This product runs on current and subsequent releases of the IBM Series/1 Event Driven Executive Version 5 operating system (5719-XS5) and the IBM Series/1 Event Driven Executive Version 5 for the Series/1 System Unit operating system (5719-XJ5).

The Indexed Access Method provides features such as:

- Record access by a primary key or secondary keys.
 - Direct and sequential access modes.
 - Support for frequent record insertion and deletion. The space occupied by a deleted record is immediately available for a new record.
 - Data paging, which keeps the most recently used blocks of indexes and data records in processor storage to improve performance.
 - Block I/O support for Event Driven Language (EDL) application programs. This support enables you to specify a buffer in your application program into which the Indexed Access Method module, \$IAM, can read a block of data directly, thereby bypassing its own buffering logic. Block I/O enables your program to process blocks of data instead of individual records and reduces the number of calls to \$IAM.
- Concurrent access to a single indexed file by several requests from one or more programs. When a program is modifying a file, a locking system maintains data integrity by preventing other programs from getting access to the portion of the file being modified.
 - Implementation as a separate task with a buffer pool that supports all requests, thus optimizing the space required for physical I/O.
 - The \$IAMUT1 utility program, which defines, creates, loads, unloads, and reorganizes indexed files.
 - The \$IAMUT3 module, which application programs can load in order to define and create primary or secondary indexed files.
 - The \$VERIFY utility program, which checks the validity of an indexed file and prints control block and free space information.
 - Data protection features:
 - The exclusive option specifies that the file is for exclusive use
 - The immediate write back option causes all updated records to be written back to the file immediately
 - The primary key modification prevention feature ensures that the index matches the corresponding data.

- The following functions, which are available through the Event Driven Language CALL instruction:
 - Open and close an indexed file
 - Obtain information about an indexed file
 - Load sequenced records
 - Retrieve records by key, sequentially or directly
 - Insert, delete, and update records.
- File support required by:
 - Applications that use COBOL indexed files
 - Applications that use PL/I indexed files
 - Sort/Merge when sorting with input from indexed files
 - Multiple Terminal Manager for transaction programs that gain access to indexed files through FILEIO
 - Transaction Processing System for transactions that gain access to indexed files through an FCP call.

Specified Operating Environment

Machine Requirements

This product operates on IBM Series/1 systems and on the IBM Series/1 System Unit. To install the Indexed Access Method Version 2.1, you need the minimum machine configuration required to install the IBM Series/1 Event Driven Executive Basic Supervisor and Emulator Version 5 (5719-XS5). In addition, a minimum of 128K bytes of Series/1 processor storage is required.

The storage requirements for Version 2.1 of the Indexed Access Method range from approximately 20K bytes to approximately 33K bytes, depending on the function you install and the performance requirements of your system. These storage values do not include the Indexed Access Method control blocks, central buffer (minimum size is twice the block size), update buffers (minimum size is twice the record size), and paging area. You also must ensure that there is sufficient diskette or disk space for your application data sets. The *IBM Series/1 Event Driven Executive Indexed Access Method User's Guide*, SC34-0771 describes how to determine your storage requirements when installing the Indexed Access Method.

To use the block I/O support, each application must be linked with the block I/O module, IAMFR, and the Indexed Access Method link module, IAM. These modules increase the size of an application by 4.3K bytes.

Programming Requirements

The Indexed Access Method Version 2.1 requires the following licensed programs:

- IBM Series/1 Event Driven Executive Basic Supervisor and Emulator Version 5 (5719-XS5) or a subsequent release of this program.
- IBM Series/1 Event Driven Executive Sort/Merge (5719-SM2) if the Indexed Access Method utility program is to be used to build a secondary index for an existing primary file.

Note: To benefit from improvements made to the Indexed Access Method link module, IAM, users who want to migrate to Version 2.1 of the Indexed Access Method will need to relink their existing application programs with the new IAM module. The module has been rewritten in the Series/1 Assembler language to reduce processor overhead.

You can prepare applications that use the Indexed Access Method with any of the following licensed programs:

- IBM Series/1 Event Driven Executive Program Preparation Facility (5719-XX6)
- IBM Series/1 Event Driven Executive Macro Assembler (5719-ASA) and the IBM Series/1 Event Driven Executive Macro Library (5719-LM9)
- IBM Series/1 Event Driven Executive Macro Library/Host (5740-LM6) and the IBM System/370 Program Preparation Facility for Series/1 (5799-BNA).

In addition, subsets of Indexed Access Method functions are accessible through:

- IBM Series/1 Event Driven Executive COBOL Version 2 Compiler and Resident Library (5719-CB5) and the IBM Series/1 Event Driven Executive COBOL Version 2 Transient Library (5719-CB6)
- IBM Series/1 Event Driven Executive PL/I Compiler and Resident Library (5719-PL5) and the IBM Series/1 Event Driven Executive PL/I Transient Library (5719-PL6)
- IBM Series/1 Event Driven Executive Sort/Merge (5719-SM2)
- IBM Series/1 Event Driven Executive Multiple Terminal Manager (5719-MS2)
- IBM Series/1 Event Driven Executive Transaction Processing System (5719-TR1).

Licensed Program Materials Availability

Restricted materials — No. This licensed program is available without source licensed program materials. It is available in object code.

Supplemental Terms

Testing Period

The testing period for the Basic License is one month.

Installation/Location License

Not applicable. A separate license is required for each machine on which the licensed program will be used.

Usage License

Not applicable.

Type/Duration of Program Services

Central Service, until discontinued by IBM with a minimum of six months written notice.

Warranty

The IBM Series/1 Event Driven Executive Indexed Access Method Version 2.1 (5719-AM4) licensed program will conform, when shipped to the Customer, to its Licensed Program Specifications which are in effect for it at that time, provided it is properly used in a Specified Operating Environment. If the Customer believes there is a defect in the program such that it does not meet its Licensed Program Specifications, the Customer must notify IBM while Program Services are available for the program. IBM does not warrant that the functions contained in the program will meet the Customer's requirements or will operate in the combinations which may be selected for use by the Customer, or that the operation of the program will be uninterrupted or error free or that all program defects will be corrected.

THE FOREGOING WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Licensed Program Specifications may be updated from time to time and such updates may constitute a change in specifications.

For Distributed Systems License Option (DSLO) Licenses, warranty service, if any, will be provided only through the Basic License location.

Following the discontinuance of all program services, the program will be distributed on an "As Is" basis without warranty of any kind either express or implied.

General Documentation

The *IBM Series/1 Event Driven Executive Indexed Access Method User's Guide*, SC34-0771 describes how to use Version 2.1 of the Indexed Access Method product.



International Business Machines Corporation
Department 28B, Internal Zip 5414
P.O. Box 1328
Boca Raton, Florida 33429-1328

Any other documentation with respect to this licensed program, including any documentation referenced herein, is provided for reference purposes only and does not extend or modify these specifications.

GC34-0772-01

