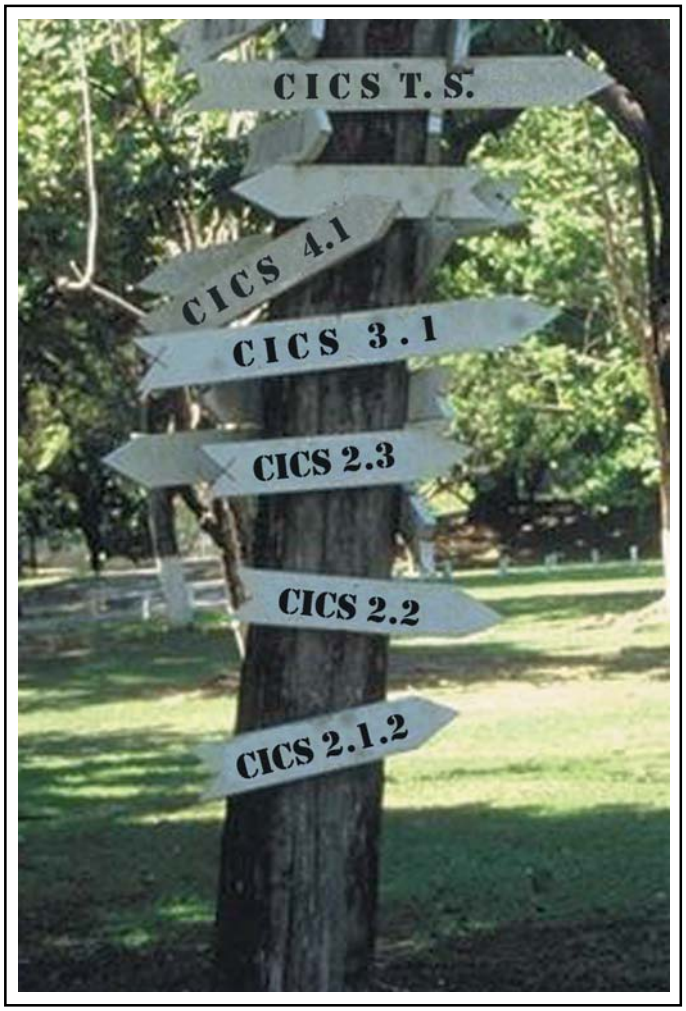

# MACRO LEVEL INTERPRETER
# &
# MACRO LEVEL DETECTOR

*Macro Level Migration Aid*

MacKinney Systems, Inc.

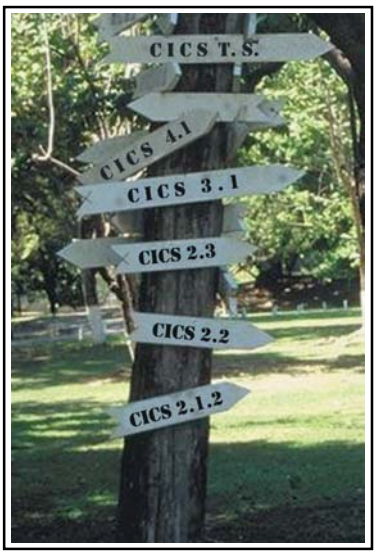



# Is your migration effort pointed in the wrong direction because of legacy macro level code?

**MACRO LEVEL INTERPRETER** & **MACRO LEVEL DETECTOR**

Let
**MACRO LEVEL INTERPRETER**
take you where you need to be!

# MACRO LEVEL INTERPRETER




**W**ith Macro Level Interpreter (MLI) your migration worries are over. No longer do you have to maintain multiple versions of CICS to keep that legacy code running. No more worries about not having the source code. Forget about having to hire extra help for a massive conversion effort.

**M**acro Level Interpreter dynamically translates macro calls to command level code allowing you a seamless conversion to CICS Version 3 or above and all of this without any coding.

**M**acro level Interpreter protects your investment in production legacy applications by allowing you to move them to current versions of CICS with minimal effort. And for those applications that are scheduled to be replaced or phased out, skip the conversion effort and save valuable programmer resources by letting MLI translate them automatically for you for as long as required.

**M**acro level Interpreter can be used in conjunction with Macro Level Detector, a software product which analyzes your CICS applications and tells you exactly which programs contain macro calls and which macros are used.

**MLI**
***Included Features:***

- **No migration necessary - save costly programming hours**
- **Automatically translates your macro level applications to command level without the need for the original source code**
- **Eliminates the need for maintaining multiple and unsupported versions of CICS**
- **Supports Assembler, COBOL and PL/1languages**
- **Supports command level applications using the restricted 'EXEC CICS ADDRESS CSA' command in CICS/ESA version 3 or above**
- **Direct-Link function acts as a fast path Link to programs reducing CPU usage for frequently used programs.**
- **Supports vendor applications written with CICS macrocode. Among those supported are:**
  **LIFE70™**
  **PMS ™**
  **CICS/DMS ™ V1.4 or prior**
  **TAPS ™**
  **KEYMASTER™**
  **4GL™**

**MLI**
***Optional Features:***

- **Optional 31-bit feature allows applications whether MACRO or COMMAND level to execute above the 16 megabyte line (some customers use MLI strictly for this feature).**
- **Optional macro feature, MLIMAC, allows users to totally eliminate the need for CICS 2.1.2 software by providing compile libraries for Assembler, COBOL and PL/1languages.**

# MLI Frequently Asked Questions


## With MLI do you have to make any application modifications or changes?

No. MLI installs as an application to CICS and intercepts macro calls and ADDRESS command calls (including ADDRESS CSA) automatically at program run time. No modification to any program source or load module is required.

## Does MLI support CICS/ESA storage protect feature?

Yes. MLI fully supports Storage Protection in CICS/ESA 3.3 and above with no CPU overhead!

## Does MLI support Dynamic Attach?

Yes. Whether referring to DFHKC TYPE=ATTACH or to the Dynamic Attachment of the STUB for macro level programs, the answer is yes. The stub attachment mechanism automatically recognizes mixed mode programs and pure command level programs to avoid double stub conditions and attaches a stub only to macro level programs.

## What is the Stub size?

MLI stubs are necessary only for pure macro level programs and are 40 bytes for assembler programs and 72 bytes for COBOL programs. For PL/1 programs, the existing CICS stub is reused.

## Does MLI support mixed mode programs?

Yes. MLI supports programs that have a mixture of macro and command level code.

## *Does MLI support standard DFH calls?*

Yes. The keyword is standard. DFHWTO, DFHOC, etc... system calls are supported as well as most CTYPE LOCATE and BROWSE calls.

## *How does MLI stand up to high volume usage and does MLI create CPU overhead?*

MLI has a number of performance options that can be customized by the user. One option is the DIRECT LINK feature which can improve performance to the point where CPU consumption will be less with MLI and CICS/ESA than it was without MLI and CICS 2.1.2!

## *Does MLI co-exist with debugging tools?*

Yes. MLI fully supports MacKinney Systems' TRACK, XPEDITER TM from Compuware and INTERTEST TM from CA.

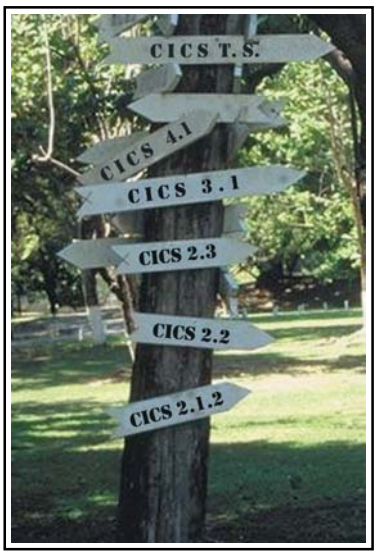
## *Does MLI support ISAM compatibility or unblocked files under CICS/ESA?*

Yes. With CICS/ESA 4.1 unblocked files are no longer supported. However, MLI provides a user friendly menu where the user can code the DDNAME of files that need to be defined as unblocked.

***Optimize Performance***


**CPU Consumption**

Use the DIRECT LINK option to gain important performance improvements for macro or command level applications. Applications calling frequently used programs by LINK or XCTL may see dramatic reductions in CPU consumption when this option is used.




# MACRO LEVEL
# 31-bit option

## M31 option
***Benefits:***

- **Run most 24-bit applications above the 16 megabyte line.**
- **Supports Assembler, COBOL and PL/1 programs and BMS maps.**

The 31-bit option (M31) is available as a separately priced optional feature to MLI customers wanting to gain the inherent performance improvements of running applications above the line.

The 31-bit option (M31) offers the possibility to run 24-bit macro and command level applications above the 16 megabyte line. M31 supports Assembler, COBOL and PL/1 programs and BMS maps. Some customers use MLI strictly for this feature.

# M31 Frequently Asked Questions

## *Can VS/COBOL programs that were compiled without the RESIDENT option be run above the line with M31?*

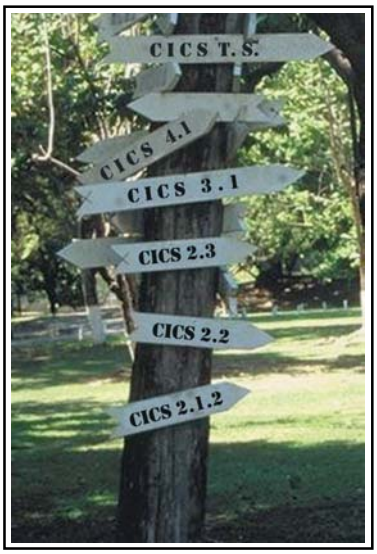
Yes. VS/COBOL programs that were compiled with or without the RESIDENT option can be run above the line with M31.

## *Can all 24-bit Assembler programs run above the line with the M31 option?*

No. If a program uses the high order byte of an address for other purposes, then that program can not run above the line. This includes programs that use the facility control indicator (FCI) bit in the TCA.

## *Can VS/COBOL programs containing restricted verbs such as INSPECT or STRING be run above the line?*

Not safely. Programs containing restricted verbs have the same limitations running below the line as they do running above the line. See the documentation on restricted OS/VS COBOL language statements in the CICS Application Programming Guide for more information.




# MACRO LEVEL DETECTOR

### MLD *Benefits:*

- **Easy analysis of application code without the need for source code.**
- **Save many hours of application programmer time.**
- **Provide detailed information on every macro call, quickly and simply.**
- **Easily define the scope of your conversion effort.**

### MLD

- **Optional Macro Level Detector audits your applications and determines exactly which programs must be translated by MLI.**

**M**acro Level Detector helps you to clearly understand the extent of the CICS macro level code in your applications. The simple installation and operation of Macro level Detector provides detailed analysis of specified CICS application code to remove the guesswork from CICS macro level to command level conversions.

**W**hy use valuable programming resources to get an incomplete picture? Without the need for source code, Macro Level Detector can identify exactly which programs have macro calls, which macros are used and where they are located. Having the ability to thoroughly audit your applications will ensure that there are no surprises in your macro level to command level conversion. Macro Level Detector is a standard CICS application. The reports generated by Macro Level Detector clearly detail macro calls by program, macro type, or program type thus removing any guess work from your conversion. Macro Level Detector can be used in conjunction with Macro Level Interpreter, a software product which dynamically transaltes macro calls. Macro Level Interpreter provides an integrated cost-effective method of converting macro level CICS applications to command level CICS with minimal effort and resource.

# MLD Frequently Asked Questions

## *Why consider MLD?*

In many cases the original source code for legacy applications is either unavailable or does not match the current operating programs. This means that either multiple versions of CICS must be maintained or conversion must be performed on a trial and error basis. Macro Level Detector will define exactly which programs must be converted and which can run unmodified, under CICS V3 and above, in command mode. This will enable customers to confidently convert applications in an ordered and timely fashion to CICS V3 or above without concern.

## *How easy is MLD to install?*

Macro Level Detector is simple to install and use. Installation can occur while CICS is active with no shutdowns required. Simply load the Macro Level Detector library onto your system and define the required transactions, programs and mapsets to CICS. Macro Level Detector can then be started via a transaction.

## *What CICS releases does MLD support?*

Macro Level Detector supports MVS/ESA and CICS versions 1.7, 2.1.2, 3.2.1, 3.3.0, 4.1, 5.1, 5.2 and VSE CICS versions 2.2, 2.3 and TS. Macro Level Detector has been written to be CICS release independent.

## FREE 30-DAY TRIAL

*Contact your nearest distributor for a FREE 30-day trial of*
**MACRO LEVEL INTERPRETER**
or
**MACRO LEVEL DETECTOR**

## OPERATING SYSTEMS

*Requirements:*
MVS - CICS 2.1 or above
VSE - CICS Transaction Server
Call for details

## PRICES

*depends on CPU group size ranging from Group 10 through Group 80*

**MACRO LEVEL INTERPRETER**

*MLI optional features*

**MLI 31-Bit Option**

**MLIMAC ™ COBOL**

**MLIMAC ™ ASSEMBLER**

**MLIMAC ™ PL/1**

**MACRO LEVEL DETECTOR**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