

# MARS

## Merlon Auto Reload System

Most application databases include key-sequenced objects on which records are added and deleted on a regular basis. Over time, this can degrade database organization, impacting access times and increasing the performance overhead of using those objects. Disk space, allocated for deleted records, can also become unavailable.

Manual methods addressing this increase the risk of human error and can adversely affect system performance, since in-depth analysis and reload of those objects has a relatively high performance cost. These activities require operations and support staff that could be better deployed to other tasks.



### The MARS Solution

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The Merlon Automated Reload System (MARS) provides a mechanism for monitoring and correcting database degradation. MARS continuously monitors the health of key-sequenced database objects using advanced data sampling techniques and reloads those objects when appropriate.

Upon detecting that a file is disorganized, MARS will reload it without operator intervention and with minimum system overhead. MARS can be configured to ensure that critical database files are reloaded in the correct order for the application.

### Improve Efficiency, Reduce Costs

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MARS is easy to install and configure, so users can immediately take advantage of improved online application response times, increased batch processing throughout, reduced system overhead and reduced human intervention.

### Reload Objects Automatically

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MARS performs a health check on key-sequenced database objects. It detects four conditions that may indicate that an object needs to be reloaded, MARS then schedules a reload for that object.

- ▶ The number of index levels is too high
- ▶ There is too much slack space

- ▶ The data blocks in the file are disordered
- ▶ Previous SQL table maintenance has left unused space

### Filter Database Objects

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The database objects that MARS is to review, and possibly reload, can be filtered by their attributes so that MARS only accesses the objects as desired by the user.

### Track Activity History

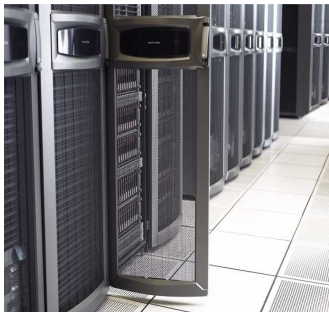
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The MARS server maintains a log of the activities performed, which can be viewed through the MARS client program, providing both an immediate view of MARS processing as well as the ability to review past events.

### “Panic Button” Control

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As file reloading can be a resource-intensive task, all MARS-initiated processing can be suspended with a single command from the MARS client program, then resumed with another single command.



## Advanced Technology

MARS is a client/server application. The server runs on an HP NonStop system as a NonStop process pair. It monitors files and reloads them as required. The client runs on a PC under Microsoft® Windows®, which is used to configure MARS and to get status information about its operation.

MARS is configured to operate within a daily processing window. During this window, it analyzes selected key-sequenced files. If a file matches any of the following criteria, it is scheduled for reload.

- The number of index levels exceeds a defined limit
- The percentage of data blocks that are stored out of order exceeds a defined threshold
- The level of slack space exceeds a defined percentage
- The SQL free space flag is set

MARS uses an advanced algorithm that estimates the slack and disorder within a file without the need to read all the data in the file. This eliminates the overhead associated with other analysis techniques.

File reloads are performed using the standard online reload server (ORSERV) that comes as part of the NonStop operating system. MARS has a built-in scheduler that controls the number of reloads that can run concurrently and the CPUs that are used for reloads. The user has complete control over the parameters used to control reload operations.

If a reload has not completed at the end of the day's processing window, it will automatically be suspended, then resumed at the start of the next day's window.

**Merlon Software Corporation**  
258 Adelaide Street East, Suite 404  
Toronto, Ontario  
M5A 1N1

1-888-4MERLON  
416- 504-8727  
[sales@merlon.com](mailto:sales@merlon.com)  
[www.merlon.com](http://www.merlon.com)

*MARS is developed and supported by Merlon Software Corporation*

- ▶ Allows users to schedule file selection and reload activities to take place only during specified periods during the day, and these periods may be set differently for weekdays and weekends
- ▶ Allows files to be examined for possible reloads at configurable intervals
- ▶ Enables files to be examined to be identified by name, size, type (Enscribe/SQL), whether they are TMF protected, and owner
- ▶ Enables users to prioritize reloads to ensure that critical files are reloaded first
- ▶ Allows users to restrict MARS-initiated reloads, as well as the process priority, to a limited number of simultaneous reloads and to a subset of CPUs
- ▶ Saves MARS activities in an audit log that users may view in real time or browse
- ▶ Facilitates the addition of manual reload requests to MARS to take advantage of the product's scheduling and process control features
- ▶ Performs its work with no intervention; however, the user retains control of both file analysis and possibly resource-intensive reloads
- ▶ Allows users to limit MARS processing, including reloads, to be performed only during a specified time period and to limit the number of simultaneous online reloads
- ▶ Enables users to allocate a subset of system CPUs on which online reloads may take place
- ▶ Promotes prioritization of database objects so more critical objects will be reloaded first
- ▶ Allows users to control and monitor the progress of reloads initiated by MARS, as well as those queued for reloading
- ▶ Operates on any HP NonStop™ server running HO NonStop OS version d30 or later, client runs on Microsoft® Windows® 2000/XP/Vista

features  
at a glance