M21 External Utilities & Programs

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Chapter 1. Overview

This document describes the utilities and programs that are supplied with the M21 system. Some of the programs described are those that run when the M21 system is started, whilst the utilities consist of those external shell scripts and programs that are used for tasks such as database verification and backup. Most of the utility programs are called by means of shell scripts, which are just a convenient front end to the program itself. The UNIX user's command interpreter is called a shell, and a shell script is a file that contains commands that are executed when the file name is entered as a command. A shell environment variable is like other programming language variables in that it is used to store information. The shell variable **PATH** is used by the shell to search directories for a command to be executed.

All programs located in the *adbin* subdirectory of where the M21 system was installed are considered administrative in nature. When an administrative user logs in, their UNIX profile should be set up to include the *adbin* directory in their **PATH** shell variable. All M users should have their profile set up to include the *bin* subdirectory of where the M21 system was installed in their **PATH** shell variable. Programs located in the *prog* subdirectory of where the M21 system was installed should not be directly executed, they should only be called by another program or shell script after validating various things. Therefore the *prog* subdirectory should not be in any user's **PATH** shell variable.

Chapter 2. dbbkrs

DATABASE BACKUP and RESTORE This program is used to backup or restore the M21 database. It can do *FULL* concurrent, *INCREMENTAL* and *JOURNAL* backup and restore. A database name must be supplied using the **-d** option. This program is normally called using shell scripts to perform a backup or restore operation.

Table 2-1. dbbkrs

LOCATION:	bin
SEE ALSO:	dbbkup, dbrstr, dbtt

Chapter 3. dbbkup

DATABASE BACKUP This is a shell script front end to *dbbkrs* . It will take the default database name from the **DBNAME** shell environment variable and call *dbbkrs* with the correct parameters set to perform a backup. The type of backup must be supplied as a parameter.

Table 3-1. dbbkup

LOCATION:	adbin
SEE ALSO:	dbbkrs, dbrstr, dbtt

Chapter 4. dbinit

DATABASE INITIALIZATION This program is used to create database volumes, before image log files, and journal files. It can also add volumes and journal files and expand before image log files, volumes and journal files.

Table 4-1. dbinit

LOCATION:	bin
SEE ALSO:	dbuci, m21uci

Chapter 5. dbrstr

DATABASE RESTORE This is a shell script front end to *dbbkrs* . It will take the default database name from the **DBNAME** shell environment variable and call *dbbkrs* with the correct parameters set to perform a restore. The type of restore must be supplied as a parameter.

Table 5-1. dbrstr

LOCATION:	adbin
SEE ALSO:	dbbkrs, dbbkup, dbtt

Chapter 6. dbtt

DATABASE TAPE TEST This is a shell script front end to *dbbkrs* . It will take the default database name from the **DBNAME** shell environment variable and call *dbbkrs* with the correct parameters set to test reading a backup tape as if it was doing a restore. The type of restore must be supplied as a parameter.

Table 6-1. dbtt

LOCATION:	adbin
SEE ALSO:	dbbkrs, dbbkup, dbrstr

Chapter 7. dbuci

DATABASE UCI UTILITY This program is used to add, change and delete UCIs. A database name must be supplied using the **-d** option.

Table 7-1. dbuci

LOCATION:	bin
SEE ALSO:	dbinit, m21uci

Chapter 8. dbverify

DATABASE VERIFICATION This program is used to check database integrity. It will check for pointer problems in M(UMPS) globals and routines and look for orphan blocks. It can be run for a single UCI or for the whole database. A database name must be supplied using the **-d** option.

Table 8-1. dbverify

LOCATION:	bin
SEE ALSO:	m21verify

Chapter 9. m21

M(UMPS) SYTEM ENVIRONMENT This is a shell script front end to *mpmse* . It will take the default database name from the **DBNAME** shell environment variable and call *mpmse* in programmer mode invoking the M(UMPS) programmer shell utility.

Table 9-1. m21

LOCATION:	bin
SEE ALSO:	mpmse, m21app, m21progl

Chapter 10. m21app

M(UMPS) SYTEM ENVIRONMENT This is a shell script front end to *mpmse* . It will take the default database name from the **DBNAME** shell environment variable and call *mpmse* in application mode invoking the M(UMPS) programmer shell utility.

Table 10-1. m21app

LOCATION:	bin
SEE ALSO:	mpmse, m21, m21prog

Chapter 11. m21info

M21 INFORMATION UTILITY This is a shell script front end to *mpinfo* . It will take the default database name from the **DBNAME** shell environment variable and call *mpinfo* .

Table 11-1. m21info

LOCATION:	adbin
SEE ALSO:	mpinfo

Chapter 12. m21install

M21 INSTALL UTILITY This is a shell script front end to *mpmse* . It will take the default database name from the **DBNAME** shell environment variable and call *mpmse* with options **-INSTALL** and **-iminstall.mumps** . This will install the M(UMPS) utility routines into the MGR UCI in the M database.

Table 12-1. m21install

LOCATION:	adbin
SEE ALSO:	m21up, m21ipl

Chapter 13. m21ipl

M(UMPS) SYTEM ENVIRONMENT INITIAL PROGRAM LOAD UTILITY This is a shell script front end to *mpmse* . It will take the default database name from the **DBNAME** shell environment variable and call *mpmse* with the options **-IPL** and -**MANAGER** options. This will perform all of the system start up task when bring up the M21 system and should be run after *m21up* has completed.

Table 13-1. m21ipl

LOCATION:	adbin
SEE ALSO:	m21install, m21up

Chapter 14. m21look

M21 LOG FILE UTILITY This is a shell script front end to the UNIX *tail* and *pg* commands. It will take the default database name from the **DBNAME** shell environment variable and determine the current log file and then interactively display it.

Table 14-1. m21look

LOCATION:	bin

Chapter 15. m21prog

M(UMPS) SYTEM ENVIRONMENT This is a shell script front end to *mpmse* . It will take the default database name from the **DBNAME** shell environment variable and call *mpmse* in programmer mode invoking the M(UMPS) programmer shell utility. If an option of **-notie** is specified then the M(UMPS) programmer shell is not invoked.

Table 15-1. m21prog

LOCATION:	bin
SEE ALSO:	mpmse, m21, m21app

Chapter 16. m21sar

M21 SYSTEM ACTIVITY REPORT UTILITY This is a shell script front end to *mpsar* . It will take the default database name from the **DBNAME** shell environment variable and then call *mpsar* .

Table 16-1. m21sar

LOCATION:	bin
SEE ALSO:	mpsar

Chapter 17. m21status

M21 STATUS UTILITY This is a shell script program used to get the current status of the M21 system.

Table 17-1. m21status

LOCATION:	bin

Chapter 18. m21uci

M21 UCI UTILITY This is a shell script front end to *dbuci* . It will take the default database name from the **DBNAME** shell environment variable and then call *dbuci* .

Table 18-1. m21uci

LOCATION:	bin
SEE ALSO:	dbuci

Chapter 19. m21up

M21 STARTUP UTILITY This is a shell script front end to *mpctl* . It will take the default database name from the **DBNAME** shell environment variable and then call *mpctl* with the correct parameters. After starting *mpctl* it calls *m21look* to watch the log file for the start up to be finished.

Table 19-1. m21up

LOCATION:	adbin
SEE ALSO:	mpctl, m21look

Chapter 20. m21verify

DATABASE VERIFICATION UTILITY This is a shell script front end to *dbverify* . It will take the default database name from the **DBNAME** shell environment variable and then call *dbverify* .

Table 20-1. m21verify

LOCATION:	bin
SEE ALSO:	dbverify

Chapter 21. licence

Used to enter the licence parameters for the M21 software. The information to enter will be supplied when a licence is purchased.

Table 21-1. licence

LOCATION:	bin

Chapter 22. jnlaudit

JOURNAL BACKUP FREQUENCY AUDIT This shell script is used to check the M21 log files to determine how often journal backups are being done. The program will give warnings if journal data is being overwritten and make recommendation for the backup frequency.

Table 22-1. jnlaudit

LOCATION:	adbin

Chapter 23. jnldump

JOURNAL FILE DUMP This program is used to print the contents of the after image journal file. It is possible to select the starting and ending block number and type of data to dump by means of parameters. A database name must be supplied using the **-d** option.

Table 23-1. jnldump

LOCATION:	bin
SEE ALSO:	mpinfo, m21info

Chapter 24. mpbil

BEFORE IMAGE LOGGING PROCESS This program is part of the running M21 system and carries out the task of logging the before image states to the BIL file. When a disk block is modified for the first time since a quiesce (quiet point) it will be written to the before image log file prior to modification. This program is started by *mpctl* at start up time. The loss of this process will cause M21 to shut down.

Table 24-1. mpbil

LOCATION:	prog
SEE ALSO:	mpctl

Chapter 25. mpctl

MASTER CONTROL PROCESS This program is part of the running M21 system and is the main program that starts all the other running programs that make up the M21 system. The loss of this process will have serious effects upon the running M21 system, and will include the time stopping from updating and no new background jobs being started. M21 will not shutdown normally if this process is not running.

Table 25-1. mpctl

LOCATION:	prog
SEE ALSO:	mpbil, mpdsk, mpjnl, mpmse, mprequestsrv, mpsocketsrv, mpswd, mpzap

Chapter 26. mpdsk

DISK WRITER PROCESS This program is part of the running M21 system and is the only process that can write to the database volumes. Each volume will have at least 1, but can have as many as 3 *mpdsk* processes dependent on configuration parameters. When a disk buffer in shared memory is marked as modified then it will be written to the correct volume by the *mpdsk* process assigned to that volume. This program is started by *mpctl* at start up time. The loss of this process will cause M21 to shut down.

Table 26-1. mpdsk

LOCATION:	prog
SEE ALSO:	mpctl

Chapter 27. mpinfo

INFORMATION UTILITY This program is used to display information about an active M21 system. It can display things such as the status of disk buffers, jobs, general locks, etc. It can also clear ports and kill running M(UMPS) jobs. A database name must be supplied using the **-d** option.

Table 27-1. mpinfo

LOCATION:	bin
SEE ALSO:	jnldump, mpsar, m21sar, m21info

Chapter 28. mpjnl

JOURNAL WRITER PROCESS This program is part of the running M21 system and is the process that writes the after image journal log files. This program is started by *mpctl* at start up time. The loss of this process will cause M21 to shut down.

Table 28-1. mpjnl

LOCATION:	prog
SEE ALSO:	mpctl

Chapter 29. mpmse

M(UMPS) SYTEM ENVIRONMENT This program is part of the running M21 system and is the M(UMPS) system and interpreter. Each user who logs onto the M21 system will be running an *mpmse* process as will each background job. This process is not normally called direct, but via shell scripts which supply the necessary parameters. A database name must be supplied using the **-d** option.

Table 29-1. mpmse

LOCATION:	bin
SEE ALSO:	m21, m21app, m21prog, m21ipl

Chapter 30. mprequestsrv

CROSS-SYSTEM REQUEST SERVER PROCESS This program is part of the running M21 system and is the process that is used to communicate with other M21 systems using TCP/IP networking. It is also used to communicate with other M(UMPS) systems using the DDP protocol. This program is started by *mpctl* at start up time if the use of cross-system networking is configured. The loss of this process will cause networking between M21 systems to stop working.

Table 30-1. mprequestsrv

LOCATION:	prog
SEE ALSO:	mpctl

Chapter 31. mpsar

M(UMPS) SYSTEM ACTIVITY REPORT UTILITY This program is used to display the number of logical reads and writes, physical reads and writes, lock operations, commands and functions, etc. Normally the data is retrieved from the shared memory, but it can also be obtained from a file. A database name must be supplied using the **-d** option.

Table 31-1. mpsar

LOCATION:	bin
SEE ALSO:	m21sar

Chapter 32. mpsocketsrv

SOCKET PASSING SERVER PROCESS This program is part of the running M21 system and is the process that is used to pass open sockets between M(UMPS) processes by means of the **ATTACH** and **DETACH** parameters to the **USE** command for a socket device. This program is started by *mpctl* at start up time. The loss of this process will cause the passing of sockets between M processes to stop working.

Table 32-1. mpsocketsrv

LOCATION:	prog
SEE ALSO:	mpctl

Chapter 33. mpswd

SYSTEM WATCH DOG PROCESS This program is part of the running M21 system and is the process, which wakes up at set intervals and does checks on the status of the M21 system. It also updates the ports information within the M(UMPS) environment from the *database.ports* configuration file. This program is started by *mpctl* at start up time. The loss of this process will cause M21 to shut down.

Table 33-1. mpswd

LOCATION:	prog
SEE ALSO:	mpctl

Chapter 34. mpzap

KILL A JOB This program is called by *mpctl* when an error trying to kill an M job occurs. It will try to release any resources that the job may have left locked.

Table 34-1. mpzap

LOCATION:	prog
SEE ALSO:	mpctl

Chapter 35. runbackup

RUN DATABASE BACKUP This is a shell script front end to *dbbkrs* . It is put into the UNIX crontab to run the database backup in unattended mode.

Table 35-1. runbackup

LOCATION:	bin
SEE ALSO:	dbbkrs