

CONTROL-M Troubleshooting Guide

Server/Agent architecture

May 2002

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1. 1. Problems with starting CONTROL-M

1. 1.1. shctm shows nothing, shut and start-ctm doesn't help. Why?

You have the wrong ps binary. Run
which ps
and check if you get
/usr/bin/ps

2. 1.2. Why is start-ctm stuck?

CONTROL-M maintains a list of all running processes in the **ctm/pid** directory. This list is accessed by the **shctm** command. At times, when the **ctm/pid** directory gets filled the start-ctm gets stuck.

To remove it, perform the following:

```
ls | xargs rm
```

3. 1.3. Why when I started CONTROL-M, did the error message “Check kernel configuration terminated UNSUCCESSFULLY” appear?

The reconfigure has not been run yet.

Solution: Run reconfig.<platform>. For example, on the Solaris platform, type reconfig.Solaris as the root user.

4. 1.4. MSGSEG is not configured correctly, what does it mean?

Customer can be running FD2790 OK with MSGSEG 1K.

When upgrading to FD3549, they get:

Kernel Parameter : MSGSEG is not configured correctly -
Should be : 8192 instead of : 1024

It is not critical to change this immediately.

This value is critical only for high volume customers.

5. 1.5. Why Can't I start CONTROL-M?

If the following messages are displayed in the log of the NS process

NS Unable to start Services

1017 17:41:23 NS: udp_open: bind error (Address already in use)

1017 17:41:23 NS: COMM_UDP_LISTEN_CHN_cl::open. COMMERR. Failed to open udp_comm

1017 17:41:23 NS: SRVC_MNG_cl:start_services failed to open INET listen channel

1017 17:41:23 NS: PORT: 7005 HOST: aristo

1017 17:41:23 NS: NS start services failed. Exiting...

Solution:

Check whether the port is being used by typing -

```
netstat -an | grep #####
```

where ##### is the number you are checking for. If this command results in a line of output, the port 7005 is in use by other application.

6. 1.6. CONTROL-M is up, but seems to be stuck, why?

The prflags may be corrupted due to lack of disk space.

For each Control-M process, there is a file in ~controlm/ctm/prflag. These files, which contain parameters for the processes, are read and written frequently. If there are disk space problems, these files are corrupted.

Solution: Run

```
shut-ctm  
init_prflag  
start-ctm
```

7. 1.7. CONTROL-M is stuck, what else can I do?

Try to identify which process has been stuck.

In the ctmlog each message has a process label, e.g.: TR, SL, etc.

Search for a gap around the time of the problem for a specific process.

In the available patches on top of current FD, try to locate fixed bugs corresponding to this process.

Apply this patch.

8. 1.8. HOW CAN I RESET PROCESS'S COUNTER, SO CONTROL-M WOULDN'T SHUT DOWN AFTER 50 RETRIES TO RAISE A PROCESS?

The value set to “**Maximum Retries**” in ctmsh-> System Parameters indicates the maximum number of times for the SU process to raise failing processes. Each process has a counter ‘**RETRYNO**’, located in <Control-M/Server home dir>/ctm/prflag, this counter is added by one with every process fail.

The counter is not reset unless shutting-starting Control-M. To reset the counter while Control-M is up use ecaprflag utility, for instance:

“ecaprflag -ACTION UPDATE -PROCNAME <process name> -RETRYNO 0”.

9. 1.9. WHY CAN'T I START NT CONTROL-M/AGENT?

It is a known bug in 2.2.4. which occurs when the Agent is installed without a Server on the same machine:

BMPM006796 - winnt\system32\psapi.dll required to start control-M agent service.

If the customer has Control-M/Server installed on another computer, he can copy this file and place it on the Agent machine under Winnt\System32\.

psapi.dll will be included in the next Agent release(6.0.0.).

2. 2. Problems with General Daily

1. 2.1. Why isn't the AJF being refreshed?

Sometimes Control-M cannot clean the log during the General Daily.

Solution:

- a. Extend the temporary database size (ctm_tempdb_extend)
- b. Run a cyclic job that cleans the log every few hours. Refer to the manual for the command for deletion:

```
ctmlog delete ....
```

If this doesn't work, it means that it cannot be removed in one chunk.

In order to remove in chunks, try the following:

For Sybase:

```
sql
```

```
set rowcount 10000
```

```
delete from CMR_IOALOG where ODATE < "20010101"
```

```
go
```


For Oracle:

sql

```
SQL> delete CMR_IOALOG where ODATE='20010101' and rownum<10000;
```

In this example we keep entries newer than Jan. 1st, 2001.

Run this delete command until 0 rows are affected.

In order to see how many rows are in CMR_IOALOG run

```
ctmdbContext | grep CMR_IOALOG
```

```
/* (sql  
select count(*) from CMR_IOALOG  
go */
```

More than 10000 may indicate a problem.

In some cases log is too full to even make the delete command. In that case you should truncate the whole table. See chapter 10.20.

2. 2.2. CMR_JOBINF contains too many entries. Why?

CMR_AJF is the table that contains the Active Job File, which is the Net displayed in ECS GUI. For each Job, in the ECS GUI you see a little green, red, yellow, etc. rectangle, depending on its status.

When you click on such a Job to see its Sysout, a list is displayed. From this list you can choose the particular Sysout you're interested.

A Job may have more than 1 Sysout, if it's Cyclic, or if it has been Rerun.

This information is kept in CMR_JOBINF.

You can see how many entries (the size) of each table using the sql query

```
select count(*) from CMR_AJF  
and  
select count(*) from CMR_JOBINF
```

Under normal conditions, if you divide those two numbers, the result is the average of Sysout files per Job.

Also under normal conditions, Jobs are removed from the AJF as the New Day runs.

Whenever a Job is removed from CMR_AJF, its corresponding entries are also removed from CMR_JOBINF.

This is done by a trigger.

Please check that ~/ctm/sql/CREATE_DB_INDEX.SQL contains such a trigger: create trigger TRIG_CMR_AJF on CMR_AJF for delete as

...

```
delete CMR_JOBINF from CMR_JOBINF, deleted
  where CMR_JOBINF.ORDERNO=deleted.ORDERNO
```

...

If the trigger fails, this entry stays in CMR_JOBINF forever, unless manually removed.

If you have many Cyclic Jobs, with very short Intervals, the table CMR_JOBINF will be very big.

If such Jobs are not removed from the AJF during New Day, due to their MAXWAIT parameter, CMR_JOBINF keeps growing, containing data that will rarely be used.

The Sysout Files themselves are removed according to the parameter "Maximum Days to Retain Sysout Files". So if a Job stays in the AJF more days than this parameter, the user will be able to get full list of the sysout produced, but he will be able to get only the Sysout files that are not older then the value of the "Maximum Days to Retain Sysout Files " parameter.

During New Day, after cleaning CMR_AJF, CMR_JOBINF is scanned in order to send New Day messages to the Agents. In old versions, this may take about 1/2 an hour.

If none of the above helps, user can manually delete from CMR_JOBINF based on STARTRUN or ENDRUN, which are in format YYYYMMDDHHMMSS.

For example, the sql query

```
select count(*) from CMR_JOBINF where STARTRUN < "20021008000000"
```

will give you the number of entries corresponding to Jobs whose Start Run is earlier than Oct 8th.

Compare this to the total

```
select count(*) from CMR_JOBINF
```

If you don't need these, delete them with

```
delete from CMR_JOBINF where STARTRUN < "20021008000000"
```

3. 2.3. CMR_JOBINF refers to "garbage agents". Why?

If you try to run a Job, and mistyped the Agent, the NS consider this as a "real" agent which is currently unavailable. The NS will check if this "agent" becomes available again.

This effects performance very badly.

Look at the NS log. Look for lines containing "host name error".

In proclog directory, run the following command:

```
cat NS* | grep "host name error" | awk '{print $8}' | sort | uniq > garbage_agents
```

Look at file garbage_agents. Use "vi" and not "cat" to see the typing errors.

There's an entry corresponding to it in CMR_JOBINF, and therefore every New Day, Control-M will refer to it.

Run

```
sql
```

```
select distinct NODEID from CMR_JOBINF
```

```
go
```

You will see the list of all Agents considered as active.

Remove from CMR_JOBINF any reference to such "garbage" Agent.

Using ctm_menu, disable any garbage Agent.

Remove from ~controlm/ctm/data tree any file or line in a file that refers to these Agents.

Recycle NS.

4. 2.4. No jobs were ordered in the new day process and I received the following line in the GD_LOG (CD process):

Can't allocate space for object 'temp worktable' in database 'tempdb' because the 'system' segment is full.

- a. Use ctm_tempdb_extend to extend the size of your tempdb segment.
- b. If that does not work, perform a manual checkpoint of the database.

-

5. 2.5. Why did the General Daily fail to order jobs?

Check:

- a. Does the **User Daily** field in the Scheduling Table contain the value SYSTEM (in uppercase letters)?
- b. Run CTMRPLN (utility) for this job and calendar combination to see if the job should have been ordered by the general daily.
- c. ECS and Control-M tables are not synchronized. In order to check contents, type
sql
select JOBNAME from CMS_JOBDEF where SCHEDTAB="<TABLE NAME>"
go

If it appears that jobs are missing, then perform a table upload from ECS.

6. 2.6. Why did user daily fail – “user environment” error

There are two possible reasons known to cause the problem as described. The first, less likely scenario is that the directory /tmp is full - please check to make sure that there is room on the temporary disk.

The second (and much more likely) scenario is that the user id which is being used to execute the jobs is running Bourne shell or the like (.sh) which calls the .profile script in the login directory, in addition to the system's profile script found in /etc/profile. Please review these scripts (and if necessary, send them to us) and look for commands like

```
` tset -s -Q`  
stty erase "^H" kill "^U" intr "^C" eof "^D"  
stty hupcl ixon ixoff  
tabs
```

These commands, and others that modify the terminal settings create problems when the script is called by CONTROL-M when running a job under that userid. The solution is to place them in an if statement which evaluates whether or not the user account is being used in an interactive fashion. Encapsulate these types of calls in the .profile and /etc/profile scripts as follows:

```

tty -s                ! Check if this is interactive
if [ $? -eq 0]; then  ! Only if it is interactive, then execute the commands
    eval ` tset -s -Q `
    stty erase "^H" kill "^U" intr "^C" eof "^D"
    stty hupcl ixon ixoff
    tabs
fi

```

This should take care of the problem

"JOB FAILED TO EXECUTE DUE TO USER ENVIRONMENT"

7. 2.7. Why did General Daily or CTMUDLY stuck ("hanging") in 2.2.4 Maint (FD3295)

This happens when a table wasn't successfully uploaded to the Control-M and it is locked. The GD or UD are trying to read from the same table and since it is locked a deadlock occur and the CTM hangs. Those table are written to the \$CONTROLM/tmp

The workaround is to look in this directory prior to new day and delete from there all the files that have names of tables.

8. 2.8. Many deadlocks occur, why?

Run:

```

sql
select * from CMR_ECSMSG
go

```

If you don't receive:

```
0, 'TEST', 'TEST'
```

This means there's no serialization. In that case you need to run

```

sql
INSERT INTO CMR_ECSMSG VALUES (0, 'TEST', 'TEST')
go

```

No need to recycle Control-M.

Without this record, there's no serialization, therefore deadlocks.

9. 2.9. New Day didn't run, why?

Solution: Run 'init_prflag' .

Check if this problem is followed with the error message “non-numeric procid” in the Control-M log files.

For example :

SU.19265:0415 13:02:52 SU: OS_SPV_check: non-numeric procid

If yes, it means that there is a corruption in the 'prflag' files. Probably because of insufficient disk space in the host of the Control-M.

The solution is to use that utility 'init_prflag' that will reset the values on the 'prflag' files.

10. 2.10. How can I check if CMR_AJF has been cleaned properly?

Run the following script

```
#!/bin/sh
yesterday=`ctmstvar 0 '%%$CALCDATE %%$ODATE -1' | awk
'{print $1}'`
SQL << EOF
select count(*) from CMR_AJF where STATE='8' and
STATUS='Y' and ODATE='$yesterday'
go
quit
EOF
```

11. 2.11. Why did General Daily fail to clean AJF jobs?

12.

The General Daily failed to clean AJF jobs because the ODATE field of one job (or more) in the AJF is invalid.

The ODATE value of a job is invalid in two situations:

- **BMPM007999:** A DOFORCEJOB action of one job, forced another job with invalid ODATE (order date) value: 2002ODAT
- **BMPM007665:** Jobs ordered due to CTM_GROUP_ADJUST_DUMMY parameter, are ordered as dummy jobs without ODATE

Solution:

A) First, resolve the current situation:

Find out which job (or jobs) has the invalid ODATE:

Run from the Control-M/Server account:

(The following SQL commands are for Oracle Database Server. If you are using Sybase, use 'substring' instead of 'substr' command).

```
select odate,orderno from cmr_ajf
where substr(odate,1,4) > '9999' or substr(odate,1,4) < '0000';
```

```
select odate,orderno from cmr_ajf
where substr(odate,5,2) > '12' or substr(odate,5,2) < '00';
```

```
select odate,orderno from cmr_ajf
where substr(odate,7,2) > '31' or substr(odate,7,2) < '00';
```

13.

The records that are returned by these queries are of jobs with invalid ODATE value.

To resolve this: either delete the job from CMR_AJF or correct its ODATE value:

To delete the job, run:

```
delete from CMR_AJF
where ORDERNO=<order number of the problematic job>;
```

To correct the ODATE value, run:

```
update CMR_AJF set ODATE='<YYYYMMDD>'
where ORDERNO=<order number of the problematic job>;
```

14.

Since you either corrected the ODATE value of the job or removed the job from the AJF, during the Next New Day the Control-M should successfully clean the AJF.

B) Next, activate a trigger that will correct the ODATE value when ever a wrong ODATE value is inserted in the database.

Trigger for Oracle:

Trigger for Sybase:

To activate the trigger:

Copy 'trig.sql' to the Control-M/Server account

And run:

Oracle:

```
sqlplus $CONTROLM_USER/<dbo password>@<connect-string> @<path>Trig.sql
```

Sybase:

```
isql -U$CONTROLM_USER -P<dbo password> -i<path>Trigger.sql
```

15. 2.12. Why General Daily takes too long on HP ?

16.

Several reasons can be the cause of that.

One of them is a problem to open and lock files under ~HOME/ctm/tmp directory.

For every table that is ordered during New Day a tmp file should be opened and locked under ctm/tmp dir.

When we have a large amount of tables to order it can exceed the maximum number of file locks on this HP machine.

After 6 attempts to open and lock this file with a sleep of 5 seconds between attempts, it fails and the following message appears in the CD log:

“0116 08:17:50 CD: Could not create or lock the file ./tmp/PREPAGO_P”

The reason is:

Too many open files are locked. More then the limited value.

Solution:

Increase the number of 'nflocks' on this HP machine.

To check the value of nflocks use the command 'kmtune' or view the /stand/system file

3. 3. Issues with ENTERPRISE/CS and Ports

1. 3.1. I have Two CONTROL-M Servers connected to the same ENTERPRISE/CS do I need to change the port numbers in ENTERPRISE/CS and CONTROL-M?

No, an address in TCP is a pair of: hostname and port number. Since each CONTROL-M installation is on a different machine, you can use the default values unless other applications are using the default CONTROL-M port numbers.

2. 3.2. How do I force a Download to ENTERPRISE/CS?

Solution: In ctm_menu, -> Troubleshooting 16-> Force Download

3. 3.3. What is the status of the CONTROL-M port?

Run the command

```
netstat -a | grep <port>
```

In addition you can check ypcat services or /etc/services if these port numbers are used by other applications.

4. 3.4. Why did a Table Upload fail with a timeout?

Check if there is a job in the scheduling table which has an autoedit parameter with a length of more than 80 characters.

Solution: Split the Auto-Edit parameter into 2 parameters

5. 3.5. What should I check if the CONTROL-M machine isn't connected to the Enterprise/CS machine?

- a. The CONTROL-M machine may have more than one interface file. It is possible that CONTROL-M is listening to the hostname card while the ENTERPRISE/CS is trying to connect to a different interface card. You need to change the parameter: Local TCP/IP Host Interface Name (ctmsys, communication parameter).
- b. There may be a lack of message queue availability. Type
`ipcs -qa`
to determine if there is an offending application allocating Message Queues. If this is the case, you can remove the allocation with
`ipcrm -q <MSQID>`

Also, check that the kernel parameter 'msgtql' is set to 512 per CONTROL-M installation in addition to what any other application needs.

- c. Check if the ENTERPRISE/CS gateway is running.
- d. Check if you restarted the ENTERPRISE/CS gateway after defining the Data Center.
- e. Check if the CONTROL-M Data Center enabled in the ENTERPRISE/CS DC Definition.
- f. Check if the CONTROL-M and ENTERPRISE/CS have the same port defined for communication.

6. 3.6. Why did the ENTERPRISE/CS gateway crash?

This problem may occur if the customer did not configure the kernel as specified in the CONTROL-M installation procedure.

Another reason is BMPM007330, which appears mostly in Control-M/Server FD3636:

Under certain circumstances, the Control-M finishes downloading and begins to send db-updates to the ECS, before receiving 'download confirmation' from the ECS. As a result of this, the ECS gateway receives a wrong sequence number, and closes the connection with the Control-M/Server.

ECS disconnects during download, with the following message:

====> ERROR: Update from Data Center <data center name> received with wrong update sequence number, received = 0, should be = 1, communication stopped

You need the CD log file in debug level 4, in order to verify that BMPM007330 is the cause for the ECS/Control-M disconnection during download:

a) Open the CD log file in any editor (such as vi). We recommend to number the lines.

b) Find the following sting in the CD log file:

<Dnnnnnnnnn00000101M01GATEWAY T0RA>

D = means that it is a Download Information.

GATEWAY T0RA = received Download Request from ECS

<nnnnnnnnn> is the instance number (seen also in the Gateway Trace)

Mark its location.

c) Find the following sting in the CD log file:

<Dnnnnnnnnn00000201M01GATEWAY L0C >

D = means that it is a Download Information.

GATEWAY L0C = received Download Confirmation from ECS

<nnnnnnnnn> is the instance number (seen also in the Gateway Trace). The instance number in the 'download confirmation' message should be the same as the instance number of the 'download request' message.

Mark its location.

d) The bug is that between the 'Download Request' and the 'Download Confirmation', the Control-M sends DB-Updates. DB-Update information begins with the letter **U**.

For example:

buf_ptr='U23675451100000101MWSWSUSERIDT

RQ20010731082804000000

01LEGATO-CLF_BE2_P 0050+'

Check if the Control-M sent DB-Update between the time that it received the 'Download Request' until the time it received 'Download confirmation'.

If the Control-M sends DB-Update before receiving 'Download Confirmation' from the ECS, the error message in the ECS gateway trace ("Update from Data Center <data center name> received with wrong update sequence number") appears after receiving the first DB-Update.

7. 3.7. Why statistics are not correctly shown in the ECS?

Calculation of statistics can be done with Jobname or Memname. This is determined by the Operational Parameter Statistics Mode.

When it is set to Memname the statistics is no shown right.

Change Statistics Mode to Jobname, recycle Control-M, run ctmjsa again, and now view Statistics from ECS GUI.

8.

9. 3.8. NT Server disconnects from ECS after New Day, why?

After the New Day starts, ECS/Control-M communication disconnects and it keeps in disconnect mode till the customer re-start the ECS gateway process.

This NT Server problem of ECS disconnecting has been assigned to two bugs that have been fixed in FD3255: BMPM005291, BMPM005551.

10. 3.9. Controlm Alpha VMS disconnects from ECS, why?

Also the trace of CTMCO has the error: unknown priority object. Why?

Check if the customer is using ECS500.

If he does then on the first page of the release notes it is clearly stated:

"For ENTERPRISE/CS Version 5.0.0, the following configuration parameter must be set in the ENTERPRISE/CS defaults file /appl/ecs/resource/Defaults.rsc:

namevalue * keep_alive_option 0"

11. 3.10. How can I check communication between 2 machines?

Use the 2 Control-M utilities ctmser and ctmcli.

For example we want to check if hosts wind and rain can communicate using port 4238.

You must have a Control-M installed on each. The port should be an unused port.

On wind run

ctmser wind 4238

On rain run

cmcli wind 4238'

12. 3.11. WHAT TO CHECK WHEN TABLE UPLOAD FAILS WITH MSG 'CTM5301E0042SERVER INTERNAL ERROR TYPE from accept_sch'

1. Check if there are any special characters in any of the jobs definitions in the uploaded table.
2. Verify there is no too long shout messages in the jobs definitions (more than 66 characters).
3. Do not use quotes in quantitative resources or conditions names also.

4. `select LASTISN from CMR_LASTNO where TABLENAME = 'CMS_JOBDEF'`
`go`

`select max(JOBNO) from CMS_JOBDEF`
`go`

The number from the first SELECT statement should be bigger than the second number. If it is NOT:

`update CMR_LASTNO set LASTISN = <number from sql 2 + 1> where TABLENAME = 'CMS_JOBDEF'`
`go`

5. Run `ctmdbcheck` to check database space availability and database consistency.

If this generates an error about tempdb being too small:
Run the utility `ctm_tempdb_extend`.

If this generates an error about the log being too small:
Run the utility `ctm_logdb_extend`.

If this generates an error about the database being too full (more than 90%):
Run the utility `ctm_db_extend`.

13. 3.12. CO keeps on creating a new CS process and terminating it

The following behavior was found in FD4500 operating with Oracle database server:

The SU requested from the CO to change state into Running. The CD did not change its state, each time it was requested to do so by the SU. After exceeding a certain time limit, the SU terminated the CD process.

In the SU log file:

```
0505 06:29:03 SU: CTMSU: waiting for process(CD) for 'R' state
0505 06:29:03 SU: Terminating process 'CD'
0505 06:29:03 SU: OS_SPV_kill: killing procid 75822
```

In the CD log file:

```
0505 06:27:22 CD: CD_DBU_handle: DB_DBUL_open: selecting dbupdate
from "
0505 06:29:03 CD: CD_DBU_handle: ** OS_PROC_sig_handler (15)
called **
0505 06:29:03 CD: CD_DBU_handle: >>> PROCESS CD EXITING WITH
STATUS 1 <<<
```

In addition to this, we saw the following two behaviors:

1) The CO kept on creating a new CS process and afterwards terminating it.
In CO log file:

```
0505 09:07:11 CO: CO-E-cd_srvc_p_cleanup:Server not found. (srvc:U
000000000)
0505 09:07:11 CO: OS_SPV_run_params: fork OK, pid = 11378
0505 09:07:11 CO: No db_upd servise found. close. rc=1 ptr=0
0505 09:07:13 CO: ce_ipc.c:315-cd_srvr_try_delete():sent exit to
pname:CS,pid:11378,ipc hdl: to srvr:0, from srvr:0
```

2) Large amount of data accumulated in CMR_DBLOG table (about 60,000 records).

Solution:

- 1) Shut down the Control-M/Server and ECS.
- 2) Truncate CMR_DBLOG table:
sql
truncate CMR_DBLOG;
- 3) Start the Control-M/Server
- 4) Run 'force download':
ctm_menu => troubleshooting => Force Download

14. 3.13. Download fails due to wrong sequence number that is received.

Description: The following message appears in the gateway log and download fails

15.

ERROR: receive_exist: wrong sequence number 1391 received, should be 1124==> ERROR: Ending Download with ERROR

CD should send to CO sequential sequence numbers, but instead there is a gap, when GTW receives the wrong sequence number the download fails.

The reason is that during download RT message queue gets full and messages sent from CD to CO are not queued. As a result non sequential sequence number is sent to gateway and download fails.

Workaround:

- Set the RT queue size to a value greater then the default which is 1000 in the config.dat file.

CTM_MAX_IPC_Q_SZ 10000

4. 4. Password problems

-

1. 4.1. How do I see and change the database passwords?

To change the database passwords of DBO and sa user, use the utilities:

dba-passwd and **ctm-passwd**.

Usage is as following:

ctm-passwd <new_password>

e.g.

ctm-passwd my_password

dba-passwd <old_password> <new_password>

e.g.

dba-passwd password newpass

-

5. 5. Problems with job submission and execution

1. 5.1. Why are jobs failing to be submitted?

It is possible that there are interactive commands in the startup script that is being executed, and as a result the script failed to be submitted. There are four files to check, including the user's .cshrc or .profile, and the /etc/.cshrc and /etc/.profile scripts.

Solution: Change the offending script so that it does not require an interactive response or run the job under a different userid (if it is a user script and not the general one).

2. 5.2. Why did the job end NOT OK?

a. Check the job sysout.

b. Is there a syntax error in the .cshrc or .profile of the owner?

Check by typing: su - <owner> and seeing if there are any error messages on the screen.

c. Check if the job runs correctly when submitted from the owner's shell environment as specified in the ENTERPRISE/CS Job Processing definition in the owner field.

d. Check if CONTROL-M failed to submit all jobs, or only a single job. If there is a failure in all jobs, this is probably indicative of a larger problem in CONTROL-M.

e. Run Log in ENTERPRISE/CS.

f. Is the owner of the job defined on the destination platform?

Check by typing

```
grep <username> /etc/passwd or ypcat passwd | grep <username>
```

to see if the user is defined.

(See also 5.16)

g. Does the script have correct execute permissions?

`ls -l <Mem Lib>/<Mem Name>`

h. Is the owner allowed to run the script?

`ls -l <Mem Lib>/<Mem Name>`

i. Did the script actually fail? This is indicated by the exit code *not* being zero.

j. Is there a DO RERUN or a DO_NOTOK in the ENTERPRISE/CS?

k. Does the owner of the job have interactive settings in his startup files (as in 5.2.)? Are there any in the script itself?

l. Does CONTROL-M run with the system parameter Full Security set to Y? You can run `ctmsys` and checking if the Full Security option is set.

m. Is there an Auto-Edit variable used in the Job Processing definition in ENTERPRISE/CS? Is there a syntax error in the use of this variable?

n. Is there a message in the job SYSOUTS in the form –

```
/tmp/CM_SCRIPT.<prcess id>: syntax error at line <line number>:  
`$CTM_RSVD' unexpected
```

If so, add `-x` to the job script and rerun the job.

o. Is the `/tmp` file system full? You can check this by typing `df /tmp`, and looking at the Avail or Free columns

p. Did you try to run an executable instead of a script? CONTROL-M can only run shell scripts; an executable must be run by a call from the shell script

q. If you got the message: FAIL TO SUBMIT JOB on the CONTROL-M log and the output of `SL_LOG` at debug level 4 is: `OS_SUBMIT_job: write..., retry 2` The problem is that the Queue Manager is not running or the queue manager port (7770) is in use.

r. Is the `/tmp` is mounted as a swap file? You can tell by typing

`df /tmp`

If the output of the command is:

Filesystem	kbytes	used	avail	capacity	Mounted on
swap	xxx	xxxx	xxxx	xxxx	/tmp

then this problem can be solved by changing the following parameter:

~controlm/ctm/data/os_prm_file: OS_PRM_LOCK_NM <ctm_path/ctmlock

s. Check if the agent has permission to read and write the ecf and sysout files.

t. If the sysout of the job only shows a statistics line, check the startup script of the owner of the job. It probably has an online session command like read or stty.

u. If a job has defined more than 33 autoedit variables, the job ends with a NOTOK status because there is a limit of 32 parameters that can be passed to the agent.

3. 5.3. Why does the AUTO EDIT not work correctly when using a space?

In certain releases Control-M adds double quotes. These will cancel out the quotes that you may have entered, leading to only the first word in the string will being accepted.

Solution: Don't use double quotes.

-

4. 5.4. How Can CONTROL-M Run an Interactive Job?

CONTROL-M can submit only background processes. However, if the user is running on an X environment, he can invoke the script by running `xterm -e` command. Make sure that the `DISPLAY` variable is set correctly.

Example:

file one:

```
#!/usr/bin/csh
echo "Enter input: "
read answer
echo "Your input: " $answer
```

file two:

```
#!/usr/bin/csh
setenv DISPLAY 173.15.131.106:0.0
xterm -e one
```

5. 5.5. Why does Max Rerun not work for cyclic jobs?

It only works with the `DO RERUN` option.

6. 5.6. Why does A job remain running forever in ENTERPRISE/CS and CONTROL-M?

This may happen when there are interactive commands in the script. Look for interactive commands in the script, the .profile or .cshrc of the owner (like read).

Solution: Remove these problematic commands.

To verify that this has solved the problem, type

```
su - owner -c script_name
```

7. 5.7. What kind of environment is set when a job is submitted?

When CONTROL-M submits a job, the environment is read as follows: according to the shell type in /etc/passwd the following files are executed:

If the shell type is csh - .cshrc is executed.

If the shell type is ksh,sh,bsh - .profile is executed.
These files are read regardless of the shell type.

The .login file is never executed. If the first line of the script is #!/bin/csh the .cshrc is read twice: once by the AGENT (su - owner) shell and once since the first line is #!/bin/csh.

To avoid this problem it is recommended that the first line should be #!/bin/csh -f.

8. 5.8. Why do jobs remain running forever when the owner of the job is defined as using ksh (there is no problem for other shells)?
(This problem occurs on IRIX machine only)

The problem is that messages are written to the console of the IRIX machine

Solution: Disable the option of writing to /dev/console. Modify is /etc/syslof.conf and comment out the line

```
*.err;kern.debug;auth.notice;user none    /dev/console
```

9. 5.9. Why does a Job on Windows NT exit with the exit status of 1?

Solution: Add the sample program _exit in the end of the script.

10. 5.10. How do I remove a Control Resource from database?

Solution: First, identify the resource on both tables

```
sql
select * from CMR_CTLTAB
go
select * from CMR_CTLUSE
go
```

In order to delete

```
delete from CMR_CTLTAB where CONTROL = "<control name>"
go
delete from CMR_CTLUSE where CONTROL = "<control name>"
go
```

11. 5.11. How do I remove a Quantitative Resource from database?

Solution: For example, In order to check current status of the Quant. Res. "XYZ", enter

```
sql
select * from CMR_QRTAB where QRESNAME="XYZ"
select * from CMR_QRUSE where QRESNAME="XYZ"
go
```

You'll see which jobs have how many units. In order to see its status, run

```
select JOBNAME,CRITICAL,STATE from CMR_AJF where
ORDERNO=<order no>
```

In order to clean, run

```
update CMR_QRTAB set RSRVNO=0 where QRESNAME="XYZ"
update CMR_QRTAB set QRUSED=0 where QRESNAME="XYZ"
delete from CMR_QRUSE where QRESNAME="XYZ"
go
```

And in order to check the results, run again

```
select * from CMR_QRTAB where QRESNAME="XYZ"
select * from CMR_QRUSE where QRESNAME="XYZ"
go
```

12. 5.12. How to set Control-M date back to the machine's date ?

Solution: Run
reset_gd

13. 5.13. Why do I get "no such file/directory" when executing a job and the directory exists on NT platform?

This happens when the user which requested the job has no permissions to view the specified file / directory

This can be checked by: marking the file/directory -> clicking the right mouse button -> properties -> security -> permissions

14. 5.14. Why does it take so long between one Job to the other?

Solution: Minimize Time From definitions, remove nonexisting Agents.

The time it takes to the SL to perform one pass over all the jobs depends on whether access to the Database is required or not.

For example, access to the Database is required if job is waiting for Time Window, or Next for Cyclic, but not if job is waiting for Condition, or Resource.

If there's no need to access the Database, the SL pass time is negligible, the number of jobs does not really matter.

In this case, the time between Job1 and Job2, which depends on it, is $SL+TR+SL$, which can be reduced to 15 secs.

The Sleep time should not be lower than 5 secs, otherwise the SL will consume all the CPU on the machine.

Access to the Database takes about 10 - 50 milisecs per job. For 10,000 jobs, this amounts to few minutes.

Since the only queries to the Database are for Time considerations, user should try to minimize the amount of these.

For example if

Job1 -> Job2 -> Job3 -> Job4 -> Job5

is implemented with In - Out Conditions, and also all jobs have the same From Time, this is redundant.

The question is: How many jobs contain Time considerations in their definition, and are these indeed necessary?

Post Process also usually requires access to the Database. But generally the SL would be doing Post Process only for a few jobs.

Another problem that affects badly the performance, is nonexistent Agents. These can be seen in the NS debug level 4 log.

For each nonexistent Agent:

1. Delete from CMR_RUNINF.
2. Disable in ctm_menu.
3. Remove from ~/ctm/data/AG*/*

15. 5.15. The job owner fails to run the script, why?

A user can be defined globally on the **Yellow Pages** or locally on one machine. When a user is defined globally, it has the same **UID** on all machines and you can grep it by the command:

```
ypcat passwd | grep yoavn
```

where 'yoavn' is the username.

If it's not defined globally, it is defined locally on the machine in /etc/passwd:

```
grep yoavn /etc/passwd
```

If the user yoavn is defined locally on both machines, it probably has **DIFFERENT** UID's on each machine.

That means that even though it has the same name it is a **DIFFERENT** user.

Example:

User1:

Machine: HP-UX snow

uid=26010(controlm) gid=313(controlm)

```
> cd ~yoavn
```

```
> cat > id___ // create a file
```

```
gggggg //
```

```
> ls -la id*
```

```
-rw-r--r-- 1 controlm controlm 16 Apr 17 14:52 id___
```

```
> chmod 700 id___ // disallow permissions for others
```

```
> ls -la id*
```

```
-rwx----- 1 controlm controlm 16 Apr 17 14:52 id___
```

User2:

Machine: SunOS wind 5.7

uid=600011(controlm) gid=101(controlm) // different UID !!!

```
> cd ~yoavn
```

```
> cat id___
```

```
cat: cannot open id___ // even though it has the same username he is not allowed to
```

> // access because the users are distinguished by their
UID's.

When the Agent runs a job, it takes the job owner name and runs it as the user with this name **on the Agent**.

That can explain why a script written by a certain user would not run when you define the owner of the job as the “same” owner, and only when you give permissions to 'other' (e.g. 755) – it runs.

Solution: You can do one of the 2 following things. Consult the System Administrator before you do that:

1. Define this user globally.
2. Change the **UID** manually in **/etc/passwd** in one of the machines so it would be the same as the other machine.

After that, you will also have to use **chown** for all the files created by the old user, so the new UID will be updated from the **/etc/passwd**.

16. 5.16. How is the Next Time of a Cyclic Job calculated?

There are 2 modes for Cyclic Job Next Time calculation: START and END.

The default is START. In this mode, the Next Time is calculated from the scheduled Start Time of current run.

The purpose is to avoid accumulation of delays.

For example, if a Cyclic Job is scheduled to run each round hour, and current run started at 10:02 (instead of at 10:00), Next Time will be 11:00.

As a result, if Control-M is down or job is held, all missed runs will be executed.

Mode END is the same as in FD3295. Next Time is calculated from the End Time of current run.

Fix:

FD3810, fixing BMPM006442 should be installed over FD3549.

The desired mode is set in **~controlm/ctm/data/config.dat**.

The following line should be added:

CYCLIC_INTERVAL_FROM E

or

CYCLIC_INTERVAL_FROM S

17. 5.17. How can I see why a job fails ?

Solution: Usually the answer is in the sysout.

Otherwise run this job as the Agent does it.

The following steps enable you to run the Job as the Agent does it:

1. Set CTM_PRM_DONT_DELETE to YES in agconfig.dat
2. Set DEBUG_LEVEL to 4 in agconfig.dat.
3. Submit the job as usual.
4. A new file /tmp/ctm/CM_SH... has been created in Agent's machine. This is a temporary copy of the original script.
5. A new Agent log has been created in ~ctmagent/ctm/proclog
6. Search for the string "execv" in this Agent log.

You'll see lines similar to

```
0612 18:12:22 AGC: execv[0] (/bin/su)
0612 18:12:22 AGC: execv[1] (-)
0612 18:12:22 AGC: execv[2] (ctm603n)
0612 18:12:22 AGC: execv[3] (-c)
0612 18:12:22 AGC: execv[4] ( /bin/sh -
x /tmp/ctm/CMD.612 >&!
/home1/ctm600na/ctm/sysout/CMD.LOG_0000h0_00001)
```

7. Login as Agent account at Agent's machine

8. Run a similar command to

```
script job.output
/bin/su - <Job Owner> -c /tmp/ctm/CM_SH....
exit
```

where you use the execv arguments, the temporary copy of the original script, and you do not omit the redirection. Use the same file in the same directory, after copying the original.

9. The answer is in file job.output.

- 10 Reset flags CTM_PRM_DONT_DELETE to NO and Set DEBUG_LEVEL to 0.

18. 5.18. I change the Odate in ECS GUI, but it does not affect the Job

Refer to the ECS manual, Ch. 7, Job Processing Definitions, Ordering/Forcing Jobs.

Odate: Date to use in AutoEdit variables, conditions, etc.
It has nothing to do with when the job will run.
Refer to the ECS manual, Ch. 2, CONTROL-M Concepts, for Job submission criteria.

19. 5.19. I get error message 5301 msg = Arg list too long, why?

This message means that the length of the Job definition is too long. This could happen for example when you upload a table containing this Job.
In ctm600 (FD3501) this problem has been fixed: WMPM005548 - The maximum length for job definition records was increased from 6K to 32K.

20. 5.20. Syntax errors in Job. Why?

agconfig.dat must have the following lines

CTM_PRM_SH_FLAGS -x

CTM_PRM_KSH_FLAGS -x

These flags are mandatory.

Many syntax errors occur if they are not set.

If in the sysout, the 1st line is

#!/bin/sh -v

this indicates that they are not set.

21. 5.21. What is the maximum length for the logical name parameter in shout destination table?

1-66 characters, spaces allowed.

If the logical name length is longer than 66 characters the SL process might crash down.

22. 5.22. Do we support perl scripts?

Control-M does not run PERL scripts. It runs sh, csh and ksh scripts in UNIX, and .bat, .cmd, on NT. Sysout analysis is performed on those types.

In NT, the OS handles extensions, so one can put as the MEMNAME a file of a different type, and if the PATH is set properly, the file will be executed with the corresponding application. For example, a .pl file with the perl.exe application.

So it appears as if perl is supported on NT, but actually it's not. One can run perl scripts, but there will be no Sysout analysis.

To summarize:

You can run Perl on NT. One has to make sure that the path of the perl.exe is defined for the Agent's service.

Otherwise, this is the full correct syntax of running perl script as a command on NT -

c:\perl\bin\perl.exe c:\<pathname where perlscript is>

You can run Perl on UNIX. You cannot put as MEMNAME the perl script itself.

The customer can run the perl script as a command but there will be no on statement support.

He can wrap the perl script in another script and then run as a job, but sysout analysis will take the whole perl output as one line.

23. 5.23. What is the purpose of defining -Dorerun for a Cyclic Job?

There is no point in defining a Cyclic Job with -Dorerun.

The -Dorerun parameter will be active only if the parameter -maxrerun is defined. In case that -maxrerun isn't defined, the job will not rerun cause the default value of maxrerun is 0 (not to rerun).

Control-M is designed that -maxrerun parameter cannot be defined with the -cyclic, that means that the only way that the user can use -cyclic & -dorerun is without the -maxrerun parameter, and as I mentioned above the -dorerun without -maxrerun has no meaning.

24. 5.24. Why does shout to mail with Server address type, come from root?

It might be a case of typing error.

If in CMS_SHDEST table the logical name is the first string of an e-mail address, and in the job definition that name is typed incorrectly (Upper case/Lower case or error type), since logical name is the first string from an e-mail address, the shout is succeeded to be sent (probably also because the machine is configured to complete the e-mail address by it's first string), but on the other end since the logical name was not found in CMS_SHDEST table it is performed by the Agent as a default therefore sent by root.

25. 5.25. Why cyclic job with until and from time does not continue after midnight ?

The problem is when a cyclic job has a time window, and New Day falls in between the Start Time and the End Time of the cyclic job.

For example: the From time is 0900 and Until Time is 2300. The new day is 1315. When such instance, a new session of the job starts at 1315 and the job runs correctly until 2300. At this moment the Next Time is set for 2315. When reaching 0900 the SL comes to submit the job but current time is sooner then Next Time (no date reference in 2.2.4) so the job is not submitted until New Day.

If the New Day time is out of the time window, in this case 0700, then a new session of the job would begin every day before the problematic point and the job would have run correctly.

The bypass for this issue is to split the job. One job would run from 'From Time' to 'New Day' and the second job from 'New Day' to 'Until Time'. Both of them are going to be reset at New Day.

26. 5.26. \$0 is expanded to script full path in awk commands. How can I avoid it?

Enclose it in brackets, for example:

```
#!/usr/bin/ksh -x
echo $0
echo $CTM0
ls /h/sergio/jobs | nawk -v var=test '{if(length($(0))>10) print $(0)}'
```

Both \$0 and \$CTM0 in the echo command are expanded to the full path of the script, but the \$(0) inside the nawk command is kept.

6. 6. Problems with Installation

1. 6.1. Why when I reinstalled CONTROL-M did the installation fail with the message "DB-LIBRARY error: Login incorrect."?

The installation failed because a previous Sybase SQL Server was running.

Solution: Locate the process ID of Sybase SQL server by typing
shserver
on the node where the Sybase server exists.

Kill the dataserver process (kill <pid>).

2. 6.2. Why did the installation on RS/6000 machine fail with the following messages?

-
Could not load program <controlm>/sybase/bin/dataserver
Symbol kaio_rdwr in /usr/lib/libc.a is undefined
Symbol iosuspend in /usr/lib/libc.a is undefined
Symbol acancel in /usr/lib/libc.a is undefined
Symbol listio in /usr/lib/libc.a is undefined
Could not load library libc.a[aio.o]

Solution: The user did not install asynchronous Disk /IO as specified in the installation guide.

3. 6.3. Why did I get the message “/tmp/new_db: permission denied” during installation?

This problem occurred since there is no write permission on the /tmp directory.

Solution: Run the following command (as root):
chmod 777 /tmp

4. 6.4. What do I need to do if the host name of CONTROL-M is changed?

Solution: Change it in the file ~controlm/sybase/interfaces

For the following platforms, please consult with support: Solaris, Pyramid, Sequent, NCR, as you will need to change the configuration parameter for the local TCP/IP Host Interface Name to the new host of the machine.

5. 6.5. How do I update IP addresses in Solaris interfaces file?

Solution: Decode the hexadecimal notation and replace with new values

In Solaris the IP address is coded in hexadecimal notation in the interfaces file. It can be converted the new IP address in this hex format. Replace the corresponding 8 digits in the interfaces file, in all its occurrences.

The corresponding line is something like

```
console tli tcp /dev/tcp \x00021ecbc0a86e720000000000000000
```

The ip address and port are encrypted in hex

ignore x0002

1ecb = 7883

c0 = 192

a8 = 168

6e = 110

72 = 114

ignore 0000000000000000

Corresponds to ip address with port 192.168.110.114.7883

6. 6.6. When the install/custom script was executed, all of the permissions on the system changed to ownership of 'root' , why?

Solution: Because the owner of the home directory of Control-M is 'root'. Change the owner of the home directory of Control-M to 'controlm'.

If the home directory of Control-M is owned by root, then installation is done under root account, in root home directory. This affects the whole file system.

7. 6.7. How to check the services configurations?

Some helpful Yellow Pages queries

```
> ypcat hosts | grep hds
```

```
> 172.16.110.210 hds
```

```
> ypcat passwd | grep sergio
```

```
> sergio:girb9c/E.CPQQ:126:318:Sergio Lantzman:/h/sergio:/bin/tcsh
```

```
> ypcat services | grep ctmagent
```

```
> ctmagent 7006/udp # ControlM
```

8. 6.1. Why couldn't I modify the Server Platform Boot Procedure

9. The instructions in the manual are incorrect.

Solution:

For CONTROL-M/Server for Digital UNIX follow this:

The release notes of FD3283, page 25, have inaccurate instructions for the startup/shutdown procedure of controlm.

The manual says

```
cp /home/controlm/install/rc.controlm/etc/rc.config.d
```

but the target directory should be either /etc/inittab or /sbin/rc*.d

For CONTROL-M/Server for HP-UX follow this:

copy the /home/<controlm user>/install/rc.HP-UX-10 file to /sbin/init.d/ directory.

E.g.

```
cp /home/controlm/install/rc.HP-UX-10 /sbin/init.d/controlmboot
```

Change the CONTROLM_USER and CONTROLM_DIR parameters values in the copied file.

```
E.g.  
#!/sbin/sh  
CONTROLM_USER=controlm  
CONTROLM_DIR=/home/controlm  
.  
.
```

Create a symbolic link to /sbin/rc2.d/ .

```
E.g.  
ln -s /sbin/init.d/controlmboot /sbin/rc2.d/S900ctm
```

Then reboot the machine.

10. 6.2. Why do I get during installation a CT-LIBRARY error?

During installation you get the following message:

```
+-----+  
|  CONTROL-M/Server Database Installation  |  
+-----+  
  
Working...  
  
Building new Sybase Master...please wait  
Restarting Server ...  
Building CONTROL-M database ...  
  
Starting Database Services ...  
  Sybase database server already running  
CT-LIBRARY error:  
  ct_connect(): network packet layer: internal net library error: Net-Lib  
protocol driver call to connect two endpoints failed  
  
Startup Modifications ...  
  
CONTROL-M/Server initialization completed successfully
```

This message appears when there are several Sybase data servers and backup servers up, used by other applications or Control-M installations.

The kernel cannot allocate enough resources for this new Sybase to run.

Solution:

Reconfigure kernel accordingly or close other applications that use Sybase.

11. 6.3. In install/custom, I get " expr: syntax error", why?

Solution: Remove duplicate entries from system files.

For example, the file /usr/sbin/sysdef may contain two lines for MSGTQL. grep commands in our scripts do not expect more than 1 line for each parameter.

12. 6.4. Installation fails, what else to check?

Make sure installation is done in csh and not any other shell, such as ksh or sh.

13. 6.5. I want to re-install Controlm/Server on NT and Sybase is used by ECS. What do I do?

When you have ECS installation on the same machine that uses the same Sybase, you should backup the ECS before you re-install the Controlm. Follow the coming steps one by one:

1. Backup of ECS data:

Run the following command:

```
cd <ecs_user_homedir>\gtwecs  
starter runpause.bat util -U <ecs_username> -P <ecs_password> -S  
<db_server_name> -export -type all -file <filename>
```

Save the file in a safe place.

In the same directory, run the following command:

```
serverutil EXPORT ALL <filename>
```

Save the file in a safe place.

2. Uninstall ECS.

3. Backup CTM database:

Use the utility ctm_backup_bcp.

4. Uninstall CTM-Server.

If you don't have an uninstall option you will have to manually uninstall:

a. Run the command :

```
SC query bufsize= 4096 state= all | find "SYB"
```

This will produce with all the Sybase services.

b. Delete all the above services using:

SC delete <service name>

c. Go inside the Registry Editor and look for SYBASE with the following search:

Edit -> find -> SYB

Delete all the found entries.

d. Delete the following items from the registry tree

\HKEY_LOCAL_MACHINE\SYSTEM\CURRENTCONTROLSET\control\session manager\environment\DSLISEN

\HKEY_LOCAL_MACHINE\SYSTEM\CURRENTCONTROLSET\control\session manager\environment\DSQUERY

\HKEY_LOCAL_MACHINE\SYSTEM\CURRENTCONTROLSET\control\session manager\environment\SYBASE

e. Delete the entire CTMSRV directory including its sub-directories.

f. Reboot.

** If during deletion the system will not allow to delete - do not pay attention and move to the next item.

5. Install new installation of CONTROL-M/Server.

Make sure CTM and Sybase work fine.

6. Restore CTM database:

Use the utility ctm_restore_bcp.

Make sure database restored and works fine.

7. Install ECS with existing database.

Verify ECS works.

Verify db exist:

Under isql prompt run sp_helpdb and see ecs500 exists.

9. Restore ECS data:

Run the following command:

cd <ecs_user_homedir>\gtwecs

starter runpause.bat util -U <ecs_username> -P <ecs_password> -S

<db_server_name> -import -type all -file <filename>

Use the filename you saved before.

In the same directory, run the following command:

serverutil IMPORT ALL <filename>

Use the filename you saved before

14. 6.6. How do I uninstall Controlm manually?

If you don't have an uninstall option you will have to manually uninstall. See explanation on 6.12 number 4.

15. 6.7. CD_INST fails with: tar: Archive - EOF not on block boundary. Why?

Probably, the block option in the tar command fails.

Run CD_INST with -x and keep the trace in script. For example

```
script CD_INST.trace
sh -x /cdrom/CD_INST
exit
```

Locate in CD_INST.trace the install/load command. For example

```
install/load -pFD3549 -sCD -c/d/home1/ctm.releases/CD_FD3549
```

In the file install/load, after the 1st line, add

```
set -x
```

Run the install/load and see the tar command that fails. For example

```
+ dd if=/d/home1/ctm.releases/CD_FD3549/FD3549/SOLARIS ibs=10k
+ zcat
+ tar xbf 20 -
```

For example, the corresponding line in install/load is

```
(${RSH} ${Host} dd if=$tape ibs=10k $CONV | zcat | tar tvfb - 20 |
grep "exe_$machine") >/dev/null 2>&1
```

Change

```
tar xbf 20 -
```

to

```
tar xf -
```

If this does not work, get a new CD.

16. 6.8. How do I trace the installation process?

Run the CD_INST script in verbose mode with the prefix "sh -x" and the full path, for example:

```
script <log file>
sh -x /p/cdrom10/CD_INST
exit
```

You can do the same thing with install/custom.

17. 6.9. What if the problem is in another script, called by the installation process ?

The best is to run the scripts in verbose mode, which is with -x.
For example:

```
sh -x install/custom
```

The disadvantage with this method is that if this script calls another script, the -x flag is not passed.

Therefore one should insert this flag directly into the file, right after the first line, which is something like

```
#!/usr/bin/sh
one has to add
set -x
```

But how do you know which scripts are called? There are tens of scripts in directories ~controlm/install and ~controlm/ctm/scripts.

One solution is to insert "set -x" to all of them.

Another solution is to run the same test many times, and each time to track down the called script. This is like a debugging loop where each time you narrow the occurrence of the problem.

The final result we expect is either an sh command causing an error which is explicitly viewed, or a call to some executable that fails.

18. 6.10. Is it possible to install Control-M Server or Agent without using the classic installation with the CDROM?

There is a way but we never tested it. The user can copy the contents of the CD to his disk and install from there.

19. 6.11. Installation failed with the message: “Unable to install sql server “, what should I check?

Check for errors in the Sybase error_log. (In case that it doesn't exist in sybase/data directory, check in /tmp directory).

Search for these error messages:

kdconfig: read error on master disk '/dev/md/rdisk/d7' block 0: Error 0

kernel kdconfig: unable to read primary master device

kernel kiconfig: read of config block failed

kernel kdrdconfig: no config area on master disk '/dev/md/rdisk/d7'

These messages indicate that the config block (first 4 pages of master device) has been over-written. In this case it was because master device was on cylinder 0. You may not use raw partition that contains cylinder 0 which contains the bad block list and other disk data. Utilize different partition than one containing cylinder 0.

20. 6.12. After installation/upgrade on AIX platform I get the error message “0509-027 Member shr2.o is not found or file is not an archive. “, why?

On AIX platform, after installation or upgrading to new version, if you get the following error messages:

0509-027 Member shr2.o is not found or file is not an archive.

0509-022 Cannot load library libC.a[shr2.o].

0509-026 System error: A file or directory in the path name does not exist.

It means that the Run Time Environment of the AIX machine is not updated. System library libC.a should contain the two shared objects shr2.o and shr3.o.

To check it you can run :

```
lspp -i | grep rte | grep -i xlc
```

You should get:

xlC.msg.en_US.rte 3.6.6.0

xlC.rte 3.6.6.0

5648-A8101

xlC.rte

xlC.rte should be 3.6.x.x. if it is not the case please address System Administrator to update the run time environment.

21. 6.13. How can I see the maintenance level on my AIX machine?

For example, on AIX 4.3.3 run

```
instfix -i | grep 4330
```

```
All filesets for 4330-01_AIX_ML were found.  
All filesets for 4330-02_AIX_ML were found.  
All filesets for 4330-03_AIX_ML were found.  
All filesets for 4330-04_AIX_ML were found.  
All filesets for 4330-05_AIX_ML were found.  
All filesets for 4330-06_AIX_ML were found.
```

22. 6.14. Can I transfer the database from 224 to 600?

Assume you have a working 224 installation on oasis.

You did a new 603 installation on falcon.

How to transfer the database:

1. Create a bcp backup on oasis

```
shut-ctm  
ctm_backup_bcp
```

The result is a file per table in oasis:~/ctm/bcp_backup

2. Create a backup on falcon for the 2 tables CMS_SYSPRM and CMS_CMNPRM

```
shut-ctm  
dunblodora -U$CONTROLM_USER -Ppassword -S$ORACLE_SID -  
TCMS_SYSPRM  
dunblodora -U$CONTROLM_USER -Ppassword -S$ORACLE_SID -  
TCMS_CMNPRM
```

The result is 2 files per table in falcon's current directory, one for data, and one for log.

3. Transfer data files from oasis to falcon

Create a new directory in falcon.

Remote copy the bcp files from oasis to falcon.

The result is a bcp file per table in falcon:~/ctm/bcp_backup

4. Rename each file with a .dat suffix.

Run the following script

```
#!/bin/csh
foreach i (CM*)
    mv $i $i.dat
end
```

5. Create a header file for Oracle format

Create a new file called “header” in falcon:~/ctm/bcp_backup.

Insert following lines

```
VERSION = 610
DELIMITER = \t
EOL = \n
```

6. Add a header to each bcp file

Add “header” file to the beginning of each CM* file.

Run the following script.

```
#!/bin/csh
foreach i (CM*)
    cat header $i >| tmp
    mv tmp $i
end
```

7. Copy 224610_chg.sql script to falcon

224610_chg.sql

8. Run 224610_chg.sql script using

```
sql
start 224610_chg.sql
quit
```

9. Drop indexes in falcon

```
chmod +x ~/ctm/sql/DROP_INDEXES.SQL
~/ctm/sql/DROP_INDEXES.SQL
```

10. Create my_dbloadora script on falcon

```
dbloadora \
-U$CONTROLM_USER \
-Ppassword \
```

```

-R \
-S$ORACLE_SID \
-I$HOME/ctm/tmp \
-p$HOME/ctm/bcp_backup \
-G224_to_610 \
-V610

```

11. Update my_dbloadora with the correct values

-P : the password,

-I : the path for the log file

-p : the path for the bcp files

12. Run my_dbloadora script

13. Recreate the indexes on falcon

```

cd ~ctm/sql
sql
start CREATE_DB_INDEX.SQL

```

14. Run migration utilities

```

ctm_micond
ctmmigrt -ACTION UPDATE -SCHEDTAB "*" -JOBNAME "*"

```

Please refer to installation guide. Read step 4 in ch. 4.

15. Restore tables CMS_SYSPRM and CMS_CMNPRM

```

dbloadora -U$CONTROLM_USER -Ppassword -R -S$ORACLE_SID -
TCMS_SYSPRM
dbloadora -U$CONTROLM_USER -Ppassword -R -S$ORACLE_SID -
TCMS_CMNPRM

```

23. 6.15. Installing Control-M/Agent version 600 using SMS.

Background:

Make sure that the user name that was defined for running the agent's service is a local admin user on the machine you install Control-M\Agent and on the machine you create the SMS package.

Installation:

Creating the Agent SMS package:

1. Add the Agent service user to the local administration group on the SMS server host and to the target host.
2. Create an SMS package with a pdf outcome (e.g. ctm_sms.pfd) under D:\CTM_SMS dir.

This package should install the Agent on the SMS host with all the input parameters required. Please make sure that the Agent service user is a local admin on the SMS host and that the installation was successful. Before creating this package make sure all previous Agent installations on the SMS host has been removed. After creating this package use the SMS script editor and append the following line: "set variable RESTART to"

Distribute the package via SMS Admin console:

1. Use "create package from definition wizard"
2. Select ctm_sms.pfd
3. Select "always obtain files from source directory"
4. Select "local drive on site server"
5. Select "Browse" and choose CTM_SMS directory.
6. Select Package -> Programs -> Automated installation. Under general tab set the following parameters:
Run = hidden
After Running = No Action Required
7. Select Package -> Programs -> Automated installation. Under environment tab set the following parameter:
Program can run = whether or not user logged on

Advertising the SMS package:

Select :

Package = ctm_sms

Program = Automated installation

More information about SMS remote installation is available at the following link:
<http://www.microsoft.com/smsserver/default.asp>

1. 7.1. Where is the Sysout file located?

- The SYSOUT of the job is located in the directory `~ctmagent/ctm/sysout` .

2. 7.2. How is a Sysout file named?

The SYSOUT file is named as `<memname>.<order_no>.<rerun_no>` and the `order_no` is in base 36

-

3. 7.3. Why does the view of a job's Sysout make it look as if the job is run by set -x?

CONTROL-M does not run the original script of the user because it is needed for the Statement Code Analysis. In reality CONTROL-M creates a script in `/tmp` directory which is submitted by the QM process.

-

4. 7.4. How can I view the sysout before my job ends?

The output of the job is accumulated in the sysout file as the job runs. The user can view this file directly. The sysout is not available through our menus, ECS or `ctmpsm`, until the job ends.

-

5. 7.5. Why did the “View JCL” command fail with message 5323?

Either the ENTERPRISE/CS user does not exist on MPM platform or the ENTERPRISE/CS user is not allowed to view the script.

Solution: Check that the ENTERPRISE/CS user is defined on the CONTROL-M Agent platform. The script should have Read/Write permissions for the ENTERPRISE/CS user.

In order for the action "View/Edit JCL/Script" to succeed they should be possible on the UNIX level.

In order to verify this, login to the Agent's machine as the ECS user.

If this fails this means that the ECS user is not defined in the Agent's machine.

Then try to access the file MEMLIB/MEMNAME, with "vi".

If this fails this means that this user cannot access this file.

If both succeed, check the security definitions.

If all this succeeds, we need CS log in order to see the problem.

6. 7.6. Why isn't Sysout analysis working on OS/2?

- Check the Administrator Guide of the Agent for “Basic Guidelines”.
(add trace a in the first line of the script).

7. 7.7. How can I define sysout handling parameter greater then 44 characters?

Currently the sysout handling parameter (where the sysout is copied/moved) is limited to 44 characters.

To bypass this limit an AutoEdit can be define as the following:

%%A= FULL_PATH (FULL_PATH to the new location of the sysout file).

In the sysout handling:

Parm %%A/Sysout_file_name

8. 7.8. AutoEdit is not resolved correctly, why?

-

1. If you use Do AutoEdit, notice this:
from the ECS UG:

- Unless it is assigned a value in the AutoEdit Assignment parameter, an AutoEdit variable which is assigned a value in a Do AutoEdit parameter does not have any value during the first submission of the job.(5-34)
- Do AutoEdit Allows the user to specify AutoEdit statements that will be performed in addition to those specified for AutoEdit Assignment in the event that a job is rerun. (6-1)

Conclusion: the Do AutoEdit is designed to be resolved only from the 2nd run time. Therefore the Do Sysout will not resolve the Variable calculated in the Do AutoEdit.

It's not important if you use JOBID or any other variable. Even if you don't use any variable at all, it will fail to calculate it for the Do Sysout. For example, the following will fail:

```
ctmcreate -tasktype command -cmdline "echo hello" -jobname 15_cngrname -on  
"*" "*" -doautoedit "%%newvar" "/h/yoavn/SYSOUT/" -dosysout COPY  
%%newvar
```

There is a simple workaround for that. You don't have to use any Do AutoEdit, just put everything in the Do Sysout. For example:

```
ctmcreate -tasktype command -cmdline "echo hello" -jobname 10_cngrname -on  
"*" "*" -dosysout COPY /h/yoavn/SYSOUT/%%JOBID._%%ODATE
```

9. 7.9. Copy Sysout fails, why?

The Sysout is created under the Job Owner, with Job Owner's user, group and umask (permissions).

Before the Copy Sysout, it is stripped from Control-M keywords, into a temporary file.

This file is created under root, with root's user, group and umask.

Then the cp UNIX command itself is executed under the Job Owner's user and group.

Therefore if the Job Owner cannot access root's files for copy, the Copy Sysout fails

Bypass: root's umask or group should be such that Job Owner can access its files for copy.

10. 7.10. Unable to see Sysout, why?

Check in the file /usr/include/stdio.h the value of P_tmpdir.

It should be ~controlm/ctm/tmp

If TMPDIR is defined in the user's environment, it overrides the parameter which is passed to the system routine tempnam().

So also set

TMPDIR=~controlm/ctm/tmp

Please recommend that customer set this variable in .cshrc

11. 7.11. Is it possible to get statistical information about job with status NOTOK?

Because the job was ended NOTOK the job contains only log and sysout (if exist) information.

You can use the 'ctmlog' utility to view log information for the job:

ctmlog LISTJOB <job name> <from data> <from time> <until date> <until time>

Sysout information can be retrieve from the CONTROL-M database using SQL commands.

For example: in order to get statistics according to server time on a specific job - 'submitted at', 'ended at' you can create a file 'test' as follow:

```
select ORDERNO, MESSAGE from CMR_IOALOG where JOBNAME = "<job
name>" and ( MESSAGE LIKE "%SUBMITTED%" or MESSAGE LIKE
"%ENDED_AT%") order by ORDERNO
go
quit
```

Then use the SQL command of the CONTROL-M/Server as follow:

SQL -i test

8. 8. Problems with CONTROL-M Utilities

1. 8.1. Why does one need to run the console utility for ctmdbbck?

On some platforms (HP-UX, AIX), when invoking the utility ctmdbbck, one receives the following message:

"Start up the console program to continue using the tape device"

In this case the user should run the console utility located in \$SYBASE/bin/console. If the console utility is not run, the ctmdbbck utility will hang.

2. 8.2. Why when I run ctmsys in HP-UX platform do I get empty fields?

There might be a problem that the HP-UX is using short file system names. To fix it run convert_fs

3. 8.3. Why did 'ctmudly' fail with the error message: Time out limit exceeded?

During download, Control-M cannot update the database, therefore ctmudly cannot run at that time, and is timed out after 30 minutes, which is the default.

If it is reasonable that your General Daily process takes more than 30 minutes then you can increase CTM_SLP_SUSPEND (default 30) in ~controlm/ctm/data/config.dat.

If this file does not exist, you can create it.

4. 8.4. What is the prf utility?

This utility displays the internal status of all CONTROL-M processes. The column PROC_STATE indicates the internal status of each CONTROL-M process.

Valid entries in this column are as follows:

R - A process is **running**.

T- A process is **terminated**.

S - A process is **suspended**.

CO states only:

P - Prepare for general daily

G - After the GD process, the CO state is changed to G (**New data running**)

D - When a **download** is executed, the CO state is changed to D

After the synchronization phase is complete, all the processes should be in 'R' state.

5. 8.5. What is the shctm utility?

This command prints a list of all active CONTROL-M processes

The lines with **p_ctmcs** processes *only* appear when there is communication with ENTERPRISE/CS.

6. 8.6. File Watcher: When the file is updated, is it detected it by ctmfw ?

No. We can detect when it reaches a certain size. This is explained in the manual.

7. 8.7. Utility works under one user but not under other user?

Refer to the CONTROL-M/Server Administrator Guide, Ch. 2, Accessing Utilities From Other UNIX Users.

Make sure all the required definitions are set.

8. 8.8. Shout to user sometimes works and sometimes doesn't, what could be the reason?

When user logs in or out to a machine a file named utmp (or utmpx, depend on the OS version) is updated. The terminal (tty) is written with relation to this specific user on the current host's utmp file.

To see this type "who -m":

```
> id
uid=118(ctm224) gid=20(users) groups=319(dba)
> who -m
yoavn pts/6 Feb 11 10:27
>
```

Some point about this:

1. Even if set user was performed (“su - <other_user>”) or you have logged in to a different host on the same terminal – you will still get a shout on this terminal because it is still written in the utmp file of the previous host.
2. If a user is not the first one who opened the current terminal on the current host, he will not get a shout for this terminal, because this terminal is related in the utmp file to the first user who opened the terminal in this host. (See in the above example: user is ctm224, but tty is of user yoavn).
3. The terminal, like all other files in Unix, has permissions. Therefore shouts can fail if the user who made the shout did not have write permissions to it. You can check this by running “who -T” and looking at the sign. The “+” means terminal is writable by others.
e.g.
Other way to check it, is by looking at the file permission (e.g. “ls -l /dev/pts/6”).
4. Two possible users can shout. If the **Address Type** in the **Shout Destination Table** is **Agent** – user who shouts will be **root** and then shout will succeed always. If the **Address Type** is **Server**, for each terminal of the shouted user, shout will succeed only if the Server user has write permissions on the terminal.
5. Enabling the terminal to be writable by others will be with the Unix command “mesg”. e.g.:

```
> ls -l /dev/pts/8
crw----- 1 yoavn  controlm 27,  8 Feb 05 19:24 /dev/pts/8
```

Making tty writable by others:

```
> mesg y
> ls -l /dev/pts/8
crw--w--w- 1 yoavn  controlm 27,  8 Feb 05 19:24 /dev/pts/8
```

6. In spite of the above written, there is still a problem in **Solaris** and **OSF** platforms **only**: **BMPM007117** - Shout to User when Address Type is **S** will fail if User to be shouted is different than controlm Server User. See details in Bug description in Vantive.

Bypass: A good and simple bypass for this would be having the controlm User be included in Group "tty" for Solaris or Group "terminal" for OSF (can use secondary Group).

Do it by editing the /etc/group file.

9. 9. Issues with the Agent

1. 9.1. How does the Agent work?

-
- 1. The inetd process fork itself as p_ctmag.
- 2. The p_ctmag process copies the job script to /tmp/ctm directory, with the format: CM_SH.<process_id>
- 3. After copy, the p_ctmag process creates the ecf (Exit Code File) file.
- 4. The p_ctmag process records the job status into the ecf file and sends the information back to the server.
- 5. The p_ctmag process executes the copied script in /tmp/ctm.
- 6. The p_ctmag process records the completion status in the ecf file.
- 7. The p_ctmag process exits.

2. 9.2. How do I check communication between Server and Agent?

-
From the Agent run:

ag_diag_comm

From the Server run:

ctm_diag_comm <Agent host name>

Compare the results. Specially check the following:

- 1. Server-to-Agent Port Number is the same on both outputs
- 2. Agent -to-Server Port Number is the same on both outputs
- 3. Server-Agent Comm. Protocol is the same on both outputs
- 4. Unix ping to Agent Platform, ctm_ping to agent, and Unix Ping to Server Platform all Succeeded
- 5. Service "<agent service>" is Active
- 6. Server Host Name, in ag_diag_comm output, is correct.

If all these checks are OK, set the NS and the Agent in level 4 and send us the logs.

3. 9.3. Why does a job being run on an agent take a long time to complete?

- When a job has completed, it sends its exit status to the CONTROL-M/Server. A problem can occur if the Agent fails to send this message to the CONTROL-M/Server.

That can happen if, for example, the parameter for Agent-to-Server port number is not set correctly on the Agent platform.

After Polling Interval time seconds (default: 900) the CONTROL-M Server initiates a request to the Agent regarding all its active Jobs and should get back the real state of the Jobs.

You can diagnose communication problems between the Server and an Agent platform by performing the following:

- a. From the CONTROL-M/Server account run `ctm_menu`
Troubleshooting (8) -> Communication Diagnostic Report (14)
- b. From the CONTROL-M/Agent account run `ag_menu`:
2 - Communication Diagnostic Report

4. 9.4. How to specify the ports?

1. Server to Agent port

The Server to Agent port is defined when you define the service on the Agent machine.

When you install the Agent, you specify the service, and the Server to Agent port is extracted from the service definition and assigned automatically.

On the Server side, you specify the Server to Agent port in option 4:

4 - Parameters for Communicating with Specific Agent Platforms

1. Agent to Server port

The Agent to Server port is unique. The Server listens only to one port, and he knows from which Agent it comes.

The only problem that can occur, is if you have 2 Agents on the same machine connected to the same Server.

In this case, this machine should have 2 hostnames, one for each Agent.

5. 9.5. Why does the agent use many port numbers?

Agent uses the well known port (7006) for receiving new requests only. It does not send replies with this port. The Agent opens the next available free port for every request and communicates using this port with the CONTROL-M/Server. The CONTROL-M/Server recognizes the fact that the agent replied with a different port and thereby continues the communication session with the new port. When the Agent needs to initiate a request it also first opens a free port allocated by the system and sends the request to the Server port (7006).

6. 9.6. How can you tell if the agent for a particular job is available from ENTERPRISE/CS?

While there is a continuous connection between CONTROL-M and ENTERPRISE/CS, the communication between CONTROL-M/Server and CONTROL-M/Agent is not constant.

CONTROL-M/Server is doing the following:

1. It sends a TRACK_ALL message for each agent that has running jobs every 'Polling Interval' (the default is 15 minutes).
2. There is no indication that an agent becomes unavailable unless there was a request to that agent.

While the agent waits for its time window it does not check if the agent is available. This will be checked only when the job will be submitted.

7. 9.7. What can I do if my agents become unavailable sometimes?

Solution: Run ctm_menu:

(5) Parameter Customization -> (4) Parameter Customization for Specific Agent Platform:

Communication Timeout (default 120)

Maximum Retries (default 12)

Increase the timeout parameters for the agent platforms

See also “**9.13** Communication between Server and Agent is broken from time to time, why?”.

-

8. 9.8. Communication parameters are correct but agent is still unavailable, why?

Solution: Errors in /etc/services, /etc/inetd.conf. ‘inetd’ not listening to Agent’s port.

The inetd is a UNIX daemon. When the Server sends a message to the Agent port, it "wakes up" the Agent, which then receives the message.

Check that /etc/services and /etc/inetd.conf have the correct definitions. The entries are unique (no duplicates), and the names are consistent and typed correctly (no non-ASCII characters).

Check Server-to-Agent port with netstat on Agent's machine. It should be in ‘listen’ state by the inetd. If not, refresh the inetd.

-

-

9. 9.9. After I reboot the AIX machine where my agent is installed, the CONTROL-M/Agent becomes unavailable. Why?

I can see this when running ag_menu from the CONTROL-M/Agent, where the output displays the line

Service <ctmagent> is not active.

The problem is that the inetd process does not listen to the ctmagent service.

Solution: This is a problem of the AIX operating system

a. Add the following line to the system file /etc/rc.nfs
refresh -s ‘inetd’

or

b. Restart inetd after reboot of the system by killing the inetd process and restarting it again.

Example:

```
ps -ef | grep inetd
kill -9 <PID>
/etc/inetd
```

-

10. 9.10. At a certain moment, all Agents become unavailable. Why?

- The problem: /etc/services and /etc/inetd.conf files show that there are Agents on the hosts, but no Agents are really installed.

1. Run 'netstat -an' on the CTM Server machine.
2. Check if there are several connections from the CTM Server to a few host machines.
3. Identify these IP.
4. Check if Agents are installed in the directories as specified in the /etc/inetd.conf files.

11. 9.11. Windows NT Agent is different from UNIX Agent, why?

CONTROL-M Agent for Windows NT -
How to access a network drive with a CONTROL-M job.

=====

Problem description:

When running the CONTROL-M Agent for Windows NT as a service, there might be a problem with accessing network drives.

NOTE1: This problem can easily be bypassed by using the CONTROL-M Agent in its GUI mode instead of its service mode.

NOTE2: The limitations described hereafter are of the Windows NT Operating System and of its Services and not the application problems.

Background:

A service is a Windows NT program that is executed in a specific security context. You can specify the security context by:

Click Start -> Settings -> Control Panel

Double click 'Services'

Double click 'CONTROL-M Agent'

You get a menu with 'Log On As' title.

Inside that menu, you can choose the 'System Account' (default) or 'This Account'.

If a service runs in the security context of the 'System Account', it have Full Control over the local machine, but can't access any network drive.

On the other hand, if a service runs in the security context of a user account (This Account), the service will have the user control abilities, and will be able to access network drives.

Solution

If you wish that CONTROL-M Agent for Windows NT will run as a service, and jobs to access network drives, you must activate the service in a security context of a user on the domain.

The path to a network drive must be provided in a UNC (Universal Naming Convention) format, e.g. 'NT-TLV55\\DriveD' and not 'k:\'.

If you prefer using a letter shortcut for the remote drive, you must specify it in your script, that will look like:

```
net use /DELETE k:
```

```
net use k: \\NT-TLV55\\DriveD
```

```
dir k:
```

When using the Windows NT Services there are some limitations that should be considered. These limitations are Windows NT Services limitations and not limitations that the application have.

1. If you want the Service to interact with the desktop, you must log on the service as 'system account', (and not any other user).
2. If you log the Service on as 'system account' you have administrator privileges on the local machine, but have no access to any remote drive.
3. If you log the Service as a specific account, you have access to the network but can not interact with the desktop.
4. It is important to understand that when logging on to a specific user, you do not get his environment, just his security context.

Summary and bypass:

If customer wish to run scripts that reside on a remote network drive, but, still, run jobs that interact with the desktop.

The only bypass I can come up with is that the customer will use UNC paths to the scripts.

For example:

```
'ctmcreate -tasktype command -cmdline \\nt11\temp\job.bat -nodegrp nt-150'
```

Where nt11 is the machine name, and temp is the directory shared name.

If he wish to use memlib and memname, he will have to create a local script that will issue the remote command.

For example:

```
'ctmcreate -tasktype job -memlib "d:\\ctm" -memname "mem.bat" -nodegrp nt-150'
```

And where in mem.bat you have '\\nt11\temp\job.bat'

-

12. 9.12. NT Agent job fails with error message: “TR5111 - JOB FAILED TO EXECUTE DUE TO FORK FAILURE”, why?

Any service that creates processes cannot run more than 8 processes at the same time.

Solution: In the HKEY_LOCAL_MACHINE, in the subkey
\\System\\CurrentControlSet\\Control\\SessionManager\\SubSystems\\Windows
SharedSection should be
SharedSection=1024,3072,512
instead of just
SharedSection=1024,3072

-

13. 9.13. Communication between Server and Agent is broken from time to time, why?

1. There are not enough processes on the Agent machine. The connection succeeds but the send fails because the Agent does not come up or it crashes instantly. This could be because there are too many processes per user.

Solution: Increase number of processes per user or reduce the number of jobs submitted simultaneously.

2. The limit of file descriptors is too low. You usually get the error messages 5222 and 5220.

Solution: Increase the limit of file descriptors.

You can see what is the limit by typing:

limit

or:

ulimit -n

in ksh.

Try to increase it by adding the line:

limit descriptors 2048

or:

in the Server, in ~controlm/.cshrc after the last line. If it is not accepted, you can try 1024 instead.

In the Agent in /etc/rc2.d/S72inetsvc add the line

limit descriptors 2048

or:

ulimit -n 2048

in ksh.

3. The inetd daemon does not handle well multiple simultaneous requests for a certain service (the Agent service in our case).

Solution: Change the parameter in the /etc/inetd.conf of the Agent service in the Agent machine from **wait** to **nowait**. [In the 600 release this is already fixed]

14. 9.14. How do I find the version in NT Agent?

In the registry (type regedit in the Start->Run menu) look in:

HKEY_LOCAL_MACHINE -> SOFTWARE -> New Dimension Software Ltd. ->
CONTROL-M/Agent -> SYSPRM

in the "Product FD" field.

15. 9.15. How do I use ctmcpt in NT Agent?

ctmcpt in NT is used control users on the Agent machine.

If you define **Logon As User** at the Agent GUI, only registered users will be able to run jobs.

To do that first stop the agent service and then from the Agent GUI Select **Customize -> Windows NT Specific Configuration** from the menu and mark **Logon As User**.

The syntax of ctmcpt is explained in the Agent Admin Guide. Notice that for a new user you should put “” instead of the old password.

In a **Logon As User** state, if a job is run with a -owner parameter, the job will run only if the user was defined by ctmcpt before. If the owner field was not filled, the Agent will treat the owner of the job as the user logged on at the Agent machine.

16. 9.16. How do I change password for user that I forgot his old password in NT Agent?

First delete the user from the registry, in:

HKEY_LOCAL_MACHINE -> SOFTWARE -> New Dimension Software Ltd -> CONTROL-M/Agent -> Password

Then, define a new user by ctmcpt utility (see the Agent Admin Guide).

17. 9.17. What should I do if the control-m server is not authorized to run jobs on the NT Agent?

First find out if the server hostname is defined correctly in the registry:

HKEY_LOCAL_MACHINE -> SOFTWARE -> New Dimension Software Ltd -> CONTROL-M/Agent -> SYSPRM

If the server hostname is not defined correctly do the following:

Turn on the Agent NT in a graphical user interface (GUI) mode.

1. Stop the agent service
2. Start the Agent from the start menu
3. Choose the “customize” menu
 - 3.1 Then choose Authorized control-m servers
4. Change the hostname

18. 9.18. How to connect several Agents on the same machine to a single Server?

In order to install several Agents on the same machine, all connected to the same Server, do the following:

0. Follow the manual instruction regarding service definition. The service name should be unique.
1. In file /etc/hosts, or in Yellow Pages hosts, create aliases for the hostname, e.g.:
172.16.1.99 apolo apolo1 apolo2 apolo3
2. In ctm_menu assign a different port for each agent using the above names, e.g.:
ctm_menu
5 - Parameter Customization
4 - Parameters for Communicating with Specific Agent Platforms
enter node ID of Agent Platform: apolo1
4) Server-to-Agent Port Number: 7508
3. In the Job definition refer to Node Id apolo1, apolo2,...

19. 9.19. Server to Agent Communication, how to check it with lsof?

On the Server machine run

```
lsof -i tcp:7005 -P
```

where 7005 is the Agent-to-Server Port Number

The result should be similar to

```
p_ctmns 20552 ctm224 4u inet 0x6194c3a0 0t0 TCP *:7005  
(LISTEN)
```

indicating that the NS is listening on this port.

On the Agent machine run

```
lsof -i tcp:7006 -P
```

where 7006 is the Server-to-Agent Port Number

The result should be similar to

```
inetd 116 root 50u inet 0x607c1ab0 0t0 TCP *:7006  
(LISTEN)
```

indicating that the inetd is listening on this port.

20. 9.20. Questions about Agent availability?

1. When an agent platform is declared unavailable by Control-M and the agent platform restores how long will it be before the agent status returns to available?

Default is 90 seconds, by the 'Retry Interval (Unavailable)' parameter in the ctm_menu.

2. How long does the server maintain unavailable status before it is changed to disabled?

Forever. It can be changed to disabled only manually.

3. Is the disabled status displayed in the ECS window, the Alerts window and via ctm_menu?

Disabling the Agent will turn Job to Red (even if submitted).

Will show in the Alerts window.

Yes you can check it via ctm_menu (only).

4. Will the status automatically revert to available when the agent platform becomes back on line or does it require manual intervention?

When Agent is disabled, you need to make it available manually ('Change Agent Platform Status to Available' in ctm_menu).

21. 9.21. Who is running user requests (view sysout) on the NT agent?

1. First of all - the user (phansen) that installed the Agent doesn't have to be logged in to the Agent machine for the service to run. He only has to be administrator on this machine to make the installation work.

2. Second - any user can be logged in to the Agent machine and the service will run - the service runs under the NT security context of the current logged in user (the service will have the same user rights as the user currently logged in).

3. Assuming there is no security issue on the CTM/Server, so all users are allowed to view sysout - and assuming that user other then phansen is currently logged in to the Agent -

The service on the Agent will try to process the request - if the current logged in user has the appropriate user rights it will succeed otherwise it will fail - moreover , if phansen doesn't have sufficient user rights it will also fail (although this user originally installed the Agent).

4. To make this even more complicated - all the above is correct if the service is running as system account. In case the service is running as this account - he will

have the same user rights as the account defined - regardless of who is currently logged in to the Agent.

22. 9.22. Can I have 2 different IP addresses with the same hostname?

Host names must be unique per IP address.

You should not have 2 host names with the same IP address.

Run

`netstat -i`

in order to see all interface cards on the machine.

23. 9.23. Can I connect Server and Agent through firewall?

Customizing CONTROL-M/Agent :

If a firewall separates the CONTROL-M/Agent from the CONTROL-M/Server it connects to, the Server-to-Agent port should be defined as accept on the CONTROL-M/Agent machine firewall to allow communication coming from the CONTROL-M/Server hostname.

Please note that this port should be also opened for communication coming from the backup CONTROL-M/Server to ensure smooth failover.

Customizing CONTROL-M/Server :

If a firewall separates the CONTROL-M/Server from CONTROL-M/Agent(s) it connects to, the Agent-to-Server port(s) should be defined as accept on the CONTROL-M/Server machine firewall to allow communication coming from the CONTROL-M/Agent(s) hostname(s).

Please note that when using node groups this process should be repeated for each node included in the group.

It is true, ping will fail but, it is only for ag_diag_comm.

Refer to <http://cww.bmc.com/> -> Products -> Production Management -> Scheduling -> CONTROL-M® for Distributed Systems -> Articles/White Papers -> Implementing CONTROL-M and Enterprise Controlstation Across Firewalls by Avi Avital technical update - 24-Dec-2000 - PDF

24. 9.24. Job on NT Agent fails with "AdjustTokenPrivileges". Why?

A job that does a shutdown from the DOS fails.

The shutdown utility from the command line works fine, so the problem is in the privileges of CTMAG process which tries to run shutdown utility. Generally, CTMAG GUI process will run under the security mode of the user who activates it (the logged on user). If you use -owner parameter while running the "shutdown" job then the CTMAG will try to run a job under security mode of the "owner" user. In order to successfully shut down the computer user has to have certain privileges. If you will give to the user under whose security mode the CTMAG runs the same

rights as the user who is able to run shutdown utility successfully happens to have then the job will run ok.

Refer to Microsoft article:

"AdjustTokenPrivileges Enable Failed" Error Message with Shutdown.exe

The information in this article applies to:

Microsoft Windows NT Server versions 4.0, 4.0 SP4, 4.0 SP5
Microsoft Windows NT Workstation versions 4.0, 4.0 SP4, 4.0 SP5
Microsoft Windows 2000 Advanced Server
Microsoft Windows 2000 Professional
Microsoft Windows 2000 Server

SYMPTOMS

If you run the Shutdown.exe program from either the Microsoft Windows NT 4.0 Resource Kit or the Microsoft Windows 2000 Resource Kit with an additional message that includes eight characters (or a multiple of eight characters), the program does not work and the following error message is displayed:

AdjustTokenPrivileges enable failed

RESOLUTION

To work around this issue, do not use a message that contains eight characters or has a multiple of eight characters. Instead, you could use a command similar to:

```
shutdown.exe /L /R /T:20 "xxxxxxxx9" /Y  
-or-  
shutdown.exe /L /R /T:20 "xxxxxxxx8 xxxxxx17" /Y
```

STATUS

Microsoft has confirmed this to be a problem in the Microsoft products listed at the beginning of this article.

MORE INFORMATION

The following commands also display the behavior described in the "Symptoms" section:

```
shutdown.exe /L /R /T:20 "xxxxxxx8" /Y
```

```
shutdown.exe /L /R /T:20 "xxxxxxx8 xxxxx16" /Y
```

25. 9.25. How does Control-M/Agent for Windows NT handle Critical Errors?

From the Agent manual, installation step no. 8:

Further explanation:

Critical error means an Application Error or Dr. Watson Error message that comes from the NT OS (in a Text Box).

The idea is to choose between 2 ways which the Agent could handle such errors that running a Job can cause.

The first way is like a "silence mode" (=unattended) - the Text Box will not be shown, only the Windows NT Event log will record it, and as explained Job will end NOTOK. This option should be chosen when you know your production does not generate critical errors, and/or when you have no human operator on the Agent machine.

In the second way (the default), the human operator will be prompted for the OS critical errors (as it normally does). That means that when a critical error Text Box is raised by the Job operation, the Job will remain in Status Executing until the operator will close this text Box ("user response"). After his confirmation the Job will end NOTOK. This behavior is the same as if you run a Job with cmdline like "D:\winnt\notepad" - the Job will remain Executing until you close the notepad.

26. 9.26. Job remains in status "Submitted OK"

SYMPTOMS:

In CONTROL-M/Server 6.0.0 working with CONTROL-M/Agent 2.2.4 jobs remains in status "Submitted OK" in the server

RESOLUTION

Check the configuration of the CONTROL-M/Agent in the Server, the "Communication Protocol Version" parameter should be 01. (the default is 03)

27. 9.27. How does Control-M/Server select an agent from a 'nodeid' and when jobs become unavailable?

When Control-M/Server submits a job to a nodegroup - if all the nodegroups are not available control-M/Server will try to submit the job to one of the agents until one of them will become available. Control-M/Server will try to submit the job to the first agent in the nodegroup and when timed out it will continue to the next one. This algorithm will continue until one of the agents become available. The situation in this case is the same as situation as if one of the job's resources is missing so the job will not timed out and become unavailable. In this case bad nodeid's that are not working will cause delays.

If the job was submitted to one of the agents and then the agent becomes unavailable Control-M/Server will try to connect the agent again for 'maximum retries' each time until the agent will 'time-out' (all according to the agents parameters as defined in Control-M/Server). Then the agent an all the jobs that were submitted to the agent will become unavailable.

28. 9.28. My Server machine has many hostnames. How to choose the correct one for the Agent?

Control-M/Server runs on a machine with several hostnames. Use OS_PRM_HOSTNAME to tell the Server by which hostname to identify itself when connecting to the Agent.

29. 9.29. Explain the Server Agent intervals.

The behavior is controlled by the following parameters:

Polling Interval - default 15 minutes

Retry Interval - default 1.5 minutes

Check Interval (Available) - default 2 hrs.

Please read about these in the Adm. Guide.

Under normal circumstances, when a Job is submitted, the Server uses the Server-to-Agent port to send the data to the Agent. As the Agent confirms the reception of this data, this connection is closed, and any update regarding the status of the Job is done by the Agent, using the Agent-to-Server port.

Since these updates from the Agent maybe sometimes lost, we have the Track All. The Track All uses the Server-to-Agent port.

The Polling Interval is the Track All interval. For each Agent that has a Job running, Control-M checks the status of the Job. By default, this happens every 15 minutes.

If an Agent goes to Unavailable status for some reason, and there is a Job running on this Agent, then every 1.5 minutes, the Server will try to ping the Agent. This is the Retry Interval. If there are no Jobs running on this Agent, the Server will ping this Agent every 2 hrs. This is the 3rd parameter, Check Interval (Available), which is not documented.

10. 10. Database Problems and Issues

1. 10.1. Is Sybase SQL Server Up?

This can be determined by typing

Sybver on unix 2.2.4

Dbversion on NT 2.2.5 all 2.2.5 and 6.0.0

If the Server is up, you will see something like:

```
SQL Server/11.0.3.2/P/HP9000-800/HP-UX 10.0/SWR 7569 Rollup/OPT/Mon Nov 3 21:36:39
PST 1997
```

If this does not occur, meaning that the Server is not up then:

If you are using a dedicated SQL Server:

Try to start the Sybase SQL Server by typing

start-sybase on unix 2.2.4
start-db on NT 2.2.4

Check to see if Sybase has started by trying to connect to the SQL server by typing

Isql -Usa -Ppassword

If you can not connect, meaning that Sybase has not started up:

Examine the errorlog (\$SYBASE/data/error_log) for error messages.

Check the interfaces file exists (\$SYBASE/interfaces) and has the right hostname and ports.

Check that the Sybase ports are not in use by another application by typing

netstat -an | grep <port numbers>

Check if the file .controlm exists in Control-M home directory. If it does not, than it needs to be recreated (using ctmcpt) or it can be copied from another data center, if you are using default values.

Has the database password been changed lately? If so, see section **4.1**.

If the customer is using an existing SQL server:

Check if the existing SQL server is up

Check the interface file (\$SYBASE/interfaces) points to the right host name and ports.

Check if the file .controlm exists in Control-M home directory. If it doesn't then it has to be recreated (using ctmcpt) or copied from another data center (assuming the customer did not change values)

If Sybase is accessible

Check if database is O.K. by typing
Ctmdbcheck

If this generates an error about tempdb being too small then