

最佳实践设置ICM MD缓冲限额

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本文描述您如何在Cisco智能联络管理(ICM) /IP联系中心(IPCC)企业环境里能估量消息发送服务(MD)缓冲分配注册为了满足所有您的需要。本文也提供更新和维护附注。

Note: 因为更改了，本文不适用于ICM 7.0内存管理设备。

[Prerequisites](#)

[Requirements](#)

Cisco 建议您了解以下主题：

- Cisco ICM/IPCC企业

[Components Used](#)

本文档中的信息基于以下软件和硬件版本：

- Cisco ICM Enterprise版本4.6.2、5.x和6.x
- Cisco IPCC Enterprise版本4.6.2、5.x和6.x

The information in this document was created from the devices in a specific lab environment.All of

the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Conventions

Refer to [Cisco Technical Tips Conventions](#) for more information on document conventions.

留言缓冲

一个MDS进程运行Cisco ICM路由器和外围网关(PG)的在每一侧。节点管理器(NM)进程开始MDS进程。MDS进程为客户端提供一个消息交换功能在其系统的边。MDS进程接受客户端传送的信息，并且提供消息到相关目的地。MDS进程使用External Message Transport (EMT)连接与每个客户端连通，在所有节点允许客户端驻留。

在正常系统操作时，MD客户端读和进程消息，当消息到达。异常的事件，例如，进程再同步，能造成一个或更多客户端暂停在一个不确定的周期。在这样周期，消息继续到达客户端。在这样次，消息进入客户端的消息队列。当客户端恢复快速地读取输入消息，在平均值，客户端进程消息比时消息到达。所以，输入队列最终收缩到零。

MDS进程实现一缓冲管理方案。当消息在队列时，总缓冲编号增加。当客户端读取消息时，消息离开队列和缓冲区编号减退。队列大小是90%在缓冲池的可用的缓冲区。您能配置的一个高水位标记，指定最大缓冲区数定量排队消息。如果加入队列的消息造成缓冲区超出高的水位标记水平，MDS进程宣称故障并且终止。

MDS进程维护信息缓冲器池。有池的三大小，即，小，中等和大。这些池适应消息的多种大小。大缓冲区是足够大的存一个最大大小消息。系统从进程全局内存当必要时分配信息缓冲器。当缓冲区不再是必要的，系统版本回到进程全局内存的缓冲区。

缓冲区注册

MDS进程

对于MDS进程，这是最大分配的缓冲区注册的定位路径在Cisco ICM版本4.6.2：

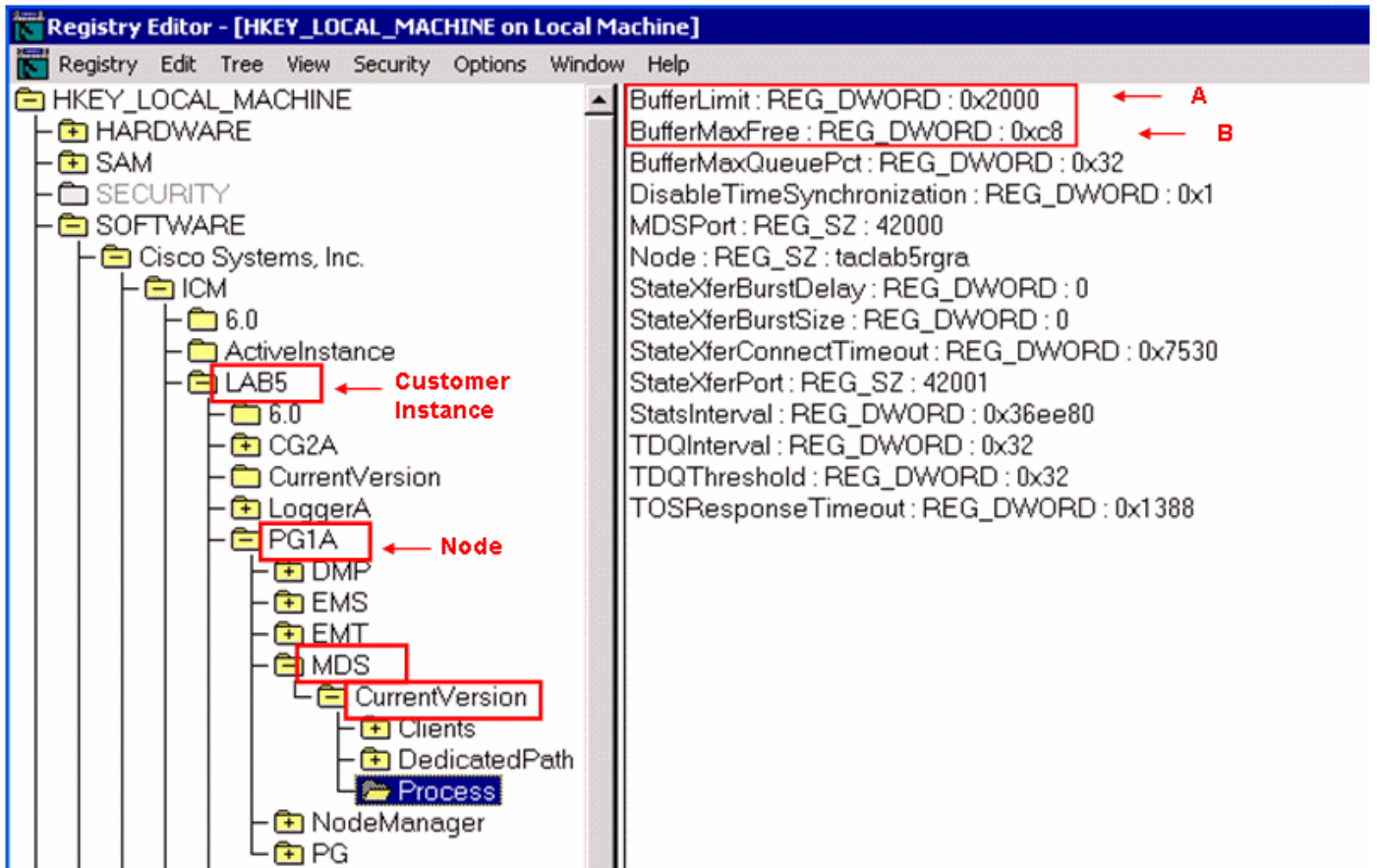
```
HKEY_LOCAL_MACHINE\SOFTWARE\GelTel\ICR\CurrentVersion\Process
```

这是最大分配的缓冲区注册的定位路径在Cisco ICM版本5.x和6.x：

```
HKEY_LOCAL_MACHINE\SOFTWARE\Cisco Systems, Inc.\<cust_inst>\<Node>\MDS\  
CurrentVersion\Process
```

例如，[图1](#)显示BufferLimit的MDS进程的注册密钥和BufferMaxFree在Cisco ICM/IPCC版本5.x和6.x的PG1A。

图1 – BufferLimit和BufferMaxFree的MDS进程注册



MD客户端进程

对于MD客户端，这是最大分配的缓冲区注册的定位路径在Cisco ICM版本4.6.2：

```
HKEY_LOCAL_MACHINE\SOFTWARE\GelTel\ICR\

```

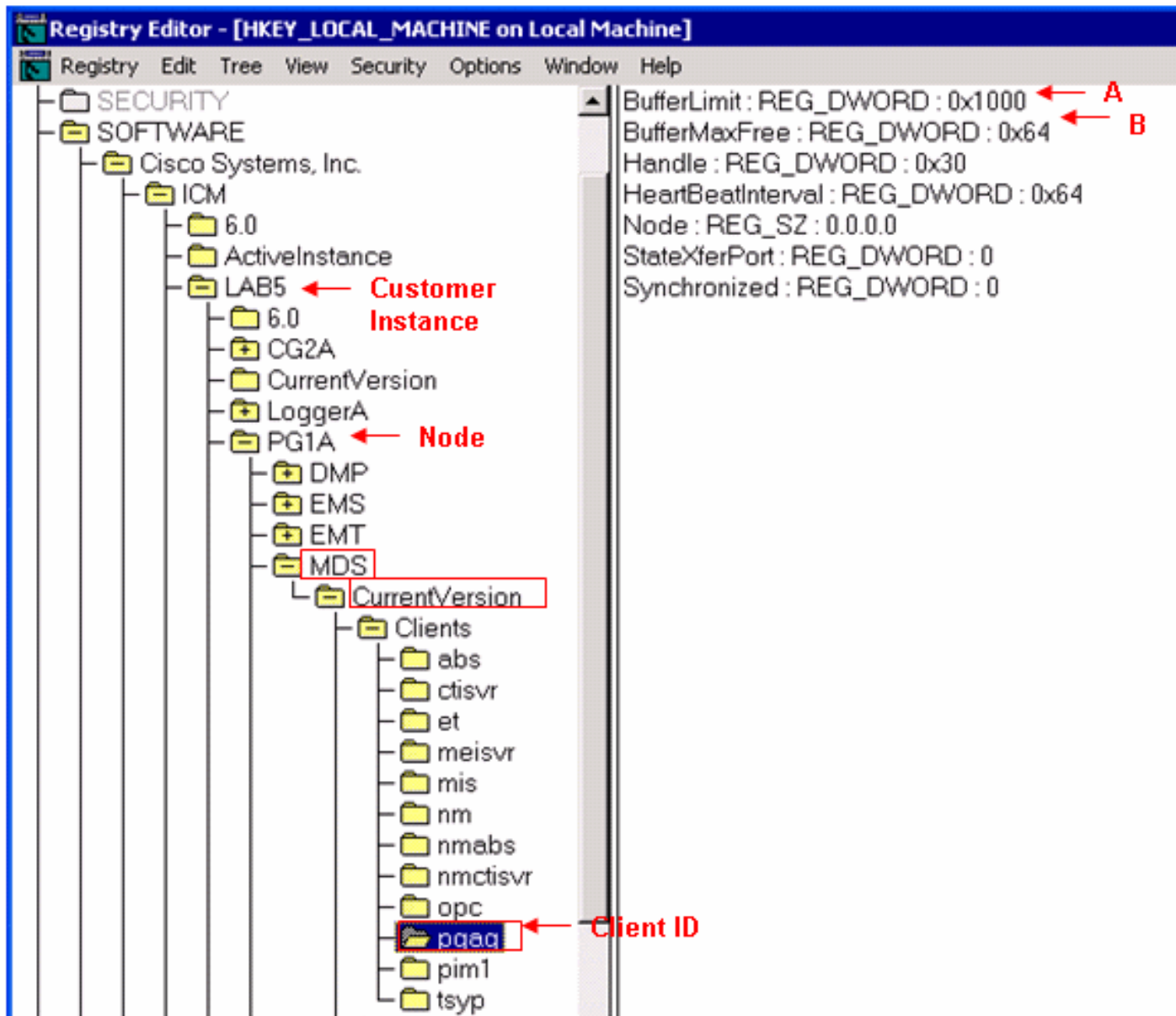
这是最大分配的缓冲区注册的定位路径在Cisco ICM版本5.x和6.x：

```
HKEY_LOCAL_MACHINE\SOFTWARE\Cisco Systems, Inc.\ICR\

```

例如，图2显示BufferLimit的pgag进程的注册密钥和BufferMaxFree在Cisco ICM/IPCC版本5.x和6.x的PG1A。

图2 – MD BufferLimit和BufferMaxFree的客户端进程注册



检索测量统计数据

您能以/bin参数使用dumplog命令为了获得缓冲统计数据。为了得到足够的数，您必须采集至少两小时的价值数据显示统计数据。在一高数据流周期，为了了解统计数据，您需要至少一个星期数据。这是示例dumplog命令该您能发出收集两小时MD数据：

```
C:\icm\lab60\ra\logfiles>dumplog mds /bin /hr 2
```

这是部分输出的dumplog命令：

```
Events from September 20, 2005:
11:51:06 ra-mds MDS Process is reporting periodic overall metering statistics.

*** Buffer Pool Statistics ***
Current / High / Max Allocated Buffers = 374 / 397 / 65536
Current / High / Max Freelist (Small) = 344 / 345 / 400
Current / High / Max Freelist (Medium) = 10 / 10 / 10
```

Current / High / Max Freelist (Large) = 5 / 5 / 5
Buffer Allocs Small / Medium / Large / Total = 18938158 / 1043172 / 4749 /
19986079
Allocs from Freelist Small / Medium / Large / Total = 18937799 / 1042064 /
4742 / 19984605
Buffer Frees Small / Medium / Large / Total = 22322177 / 1060637 / 5161 /
23387975
Frees to Freelist Small / Medium / Large / Total = 18938143 / 1042074 /
4747 / 19984964
Dups = 3401911

***** Synchronizer Statistics *****

Total messages ordered = 4292869
MDS duplicates = 308
DMP duplicates = 0
Local low priority input msgs / bytes = 1119811 / 107490676
Current input queue msgs / bytes = 0 / 0
Highest input queue msgs / bytes = 12 / 3136
Local high priority input msgs / bytes = 848853 / 24508284
Current input queue msgs / bytes = 0 / 0
Highest input queue msgs / bytes = 2 / 148
Local medium priority input msgs / bytes = 61373 / 3017131
Current input queue msgs / bytes = 0 / 0
Highest input queue msgs / bytes = 7 / 11480
Remote low priority input msgs / bytes = 131595 / 9598544
Current input queue msgs / bytes = 0 / 0
Highest input queue msgs / bytes = 15 / 2472
Remote high priority input msgs / bytes = 6236914 / 65565092
Current input queue msgs / bytes = 0 / 0
Highest input queue msgs / bytes = 8 / 228
Remote medium priority input msgs / bytes = 318 / 52698
Current input queue msgs / bytes = 0 / 0
Highest input queue msgs / bytes = 3 / 7476
Remote low priority output msgs / bytes = 1118701 / 107385640
Current output queue msgs / bytes = 0 / 0
Highest output queue msgs / bytes = 8 / 3136
Remote high priority output msgs / bytes = 4301262 / 93354648
Current output queue msgs / bytes = 0 / 0
Highest output queue msgs / bytes = 7 / 204
Remote medium priority output msgs / bytes = 61289 / 3012988
Current output queue msgs / bytes = 0 / 0
Highest output queue msgs / bytes = 5 / 7476
Current local low priority ordering queue msgs / bytes = 0 / 0
Highest msgs / bytes = 16 / 3168
Current local high priority ordering queue msgs / bytes = 0 / 0
Highest msgs / bytes = 0 / 0
Current local medium priority ordering queue msgs / bytes = 0 / 0
Highest msgs / bytes = 7 / 11524
Current remote low priority ordering queue msgs / bytes = 0 / 0
Highest msgs / bytes = 0 / 0
Current remote high priority ordering queue msgs / bytes = 0 / 0
Highest msgs / bytes = 0 / 0
Current remote medium priority ordering queue msgs / bytes = 0 / 0
Highest msgs / bytes = 0 / 0
Current low priority timed delivery queue msgs / bytes = 0 / 0
Highest msgs / bytes = 336 / 32736
Current high priority timed delivery queue msgs / bytes = 0 / 0
Highest msgs / bytes = 0 / 0
Current medium priority timed delivery queue msgs / bytes = 0 / 0
Highest msgs / bytes = 32 / 24416
Clock rate fast / slow / normal = 0 / 0 / 0
Output waits / notifies = 2641679 / 2642109

***** State Transfer Statistics *****

```
Attempts / Successful completions = 11 / 11
Bytes received / transmitted = 383710 / 1185727
```

11:51:06 ra-mds MDS Process is reporting periodic per-client summary meters.

```
*** Client 128 Statistics ***
Connects / Disconnects = 0 / 0
Messages / Bytes received from client = 0 / 0
Messages / Bytes sent to client = 0 / 0
Current output queue msgs / bytes = 0 / 0
  Highest msgs / bytes = 0 / 0
```

..
..

11:51:06 ra-mds MDS Process is reporting periodic per-client summary meters.

```
*** Client 70 Statistics ***
Connects / Disconnects = 0 / 0
Messages / Bytes received from client = 0 / 0
Messages / Bytes sent to client = 0 / 0
Current output queue msgs / bytes = 0 / 0
  Highest msgs / bytes = 0 / 0
```

..
..

水位标记

统计数据的第一部分表示缓冲分配的水印。

图3 –缓冲池统计数据

```
*** Buffer Pool Statistics ***
Current / High / Max Allocated Buffers = 374 / 397 / 65536
Current / High / Max Freelist (Small) = 344 / 345 / 400
Current / High / Max Freelist (Medium) = 10 / 10 / 10
Current / High / Max Freelist (Large) = 5 / 5 / 5
Buffer Allocs Small / Medium / Large / Total = 18938158 / 1043172 / 4749 / 19986079
  Allocs from Freelist Small / Medium / Large / Total = 18937799 / 1042064 / 4742 / 19984605
Buffer Frees Small / Medium / Large / Total = 22322177 / 1060637 / 5161 / 23387975
  Frees to Freelist Small / Medium / Large / Total = 18938143 / 1042074 / 4747 / 19984964
Dups = 3401911
```

这是含义，并且一些的范围叫做此报告用途：

- **最大分配的缓冲区**表示缓冲区数在使用中(请参阅桃红色矩形在表3)。
- **最大Freelist (小)**在表3表示缓冲区在使用中，从小的Freelist分配(参见绿色的矩形)。
- **最大Freelist (媒体)**在表3表示缓冲区在使用中，从媒体Freelist分配(参见蓝色矩形)。
- **最大Freelist (大)**在表3表示缓冲区在使用中，从大Freelist分配(参见黑色矩形)。

在最后小时，此报告提交缓冲分配的图片。请使用此报告在一两星期期间验证最大分配的缓冲区注册是否是足够为消息目的地。两个MD缓冲需求是：

- MDS进程
- 对于MD客户端

对于ICM版本4.6.2，这是最大分配的缓冲区注册的定位路径：

Events from September 20, 2005:

11:51:06 ra-mds MDS Process is reporting periodic overall metering statistics.

*** Buffer Pool Statistics ***

Current / High / Max Allocated Buffers = 374 / 397 / 65536
Current / High / Max Freelist (Small) = 344 / 345 / 400
Current / High / Max Freelist (Medium) = 10 / 10 / 10
Current / High / Max Freelist (Large) = 5 / 5 / 5
Buffer Allocs Small / Medium / Large / Total = 18938158 / 1043172 / 4749 /
19986079
Allocs from Freelist Small / Medium / Large / Total = 18937799 / 1042064 /
4742 / 19984605
Buffer Frees Small / Medium / Large / Total = 22322177 / 1060637 / 5161 /
23387975
Frees to Freelist Small / Medium / Large / Total = 18938143 / 1042074 /
4747 / 19984964
Dups = 3401911

*** Synchronizer Statistics ***

Total messages ordered = 4292869
MDS duplicates = 308
DMP duplicates = 0
Local low priority input msgs / bytes = 1119811 / 107490676
Current input queue msgs / bytes = 0 / 0
Highest input queue msgs / bytes = 12 / 3136
Local high priority input msgs / bytes = 848853 / 24508284
Current input queue msgs / bytes = 0 / 0
Highest input queue msgs / bytes = 2 / 148
Local medium priority input msgs / bytes = 61373 / 3017131
Current input queue msgs / bytes = 0 / 0
Highest input queue msgs / bytes = 7 / 11480
Remote low priority input msgs / bytes = 131595 / 9598544
Current input queue msgs / bytes = 0 / 0
Highest input queue msgs / bytes = 15 / 2472
Remote high priority input msgs / bytes = 6236914 / 65565092
Current input queue msgs / bytes = 0 / 0
Highest input queue msgs / bytes = 8 / 228
Remote medium priority input msgs / bytes = 318 / 52698
Current input queue msgs / bytes = 0 / 0
Highest input queue msgs / bytes = 3 / 7476
Remote low priority output msgs / bytes = 1118701 / 107385640
Current output queue msgs / bytes = 0 / 0
Highest output queue msgs / bytes = 8 / 3136
Remote high priority output msgs / bytes = 4301262 / 93354648
Current output queue msgs / bytes = 0 / 0
Highest output queue msgs / bytes = 7 / 204
Remote medium priority output msgs / bytes = 61289 / 3012988
Current output queue msgs / bytes = 0 / 0
Highest output queue msgs / bytes = 5 / 7476
Current local low priority ordering queue msgs / bytes = 0 / 0
Highest msgs / bytes = 16 / 3168
Current local high priority ordering queue msgs / bytes = 0 / 0
Highest msgs / bytes = 0 / 0
Current local medium priority ordering queue msgs / bytes = 0 / 0
Highest msgs / bytes = 7 / 11524
Current remote low priority ordering queue msgs / bytes = 0 / 0
Highest msgs / bytes = 0 / 0
Current remote high priority ordering queue msgs / bytes = 0 / 0
Highest msgs / bytes = 0 / 0
Current remote medium priority ordering queue msgs / bytes = 0 / 0
Highest msgs / bytes = 0 / 0
Current low priority timed delivery queue msgs / bytes = 0 / 0

```
Highest msgs / bytes = 336 / 32736
Current high priority timed delivery queue msgs / bytes = 0 / 0
Highest msgs / bytes = 0 / 0
Current medium priority timed delivery queue msgs / bytes = 0 / 0
Highest msgs / bytes = 32 / 24416
Clock rate fast / slow / normal = 0 / 0 / 0
Output waits / notifies = 2641679 / 2642109
```

***** State Transfer Statistics *****

```
Attempts / Successful completions = 11 / 11
Bytes received / transmitted = 383710 / 1185727
```

11:51:06 ra-mds MDS Process is reporting periodic per-client summary meters.

***** Client 128 Statistics *****

```
Connects / Disconnects = 0 / 0
Messages / Bytes received from client = 0 / 0
Messages / Bytes sent to client = 0 / 0
Current output queue msgs / bytes = 0 / 0
Highest msgs / bytes = 0 / 0
```

..
..

11:51:06 ra-mds MDS Process is reporting periodic per-client summary meters.

***** Client 70 Statistics *****

```
Connects / Disconnects = 0 / 0
Messages / Bytes received from client = 0 / 0
Messages / Bytes sent to client = 0 / 0
Current output queue msgs / bytes = 0 / 0
Highest msgs / bytes = 0 / 0
```

..
..

这是键：

- **BufferLimit**定义了最大分配的缓冲区(请参阅箭头A在[图1](#)和[表2](#))。
- **BufferMaxFree**表示最大数量分配的freelist (请参阅箭头B在[图1](#)和[表2](#))。

在测量统计数据的重要信息是高分配的缓冲区的值(请参见[图3](#))。目标是保持在65%和75%的值最大分配的缓冲区范围。在被采样的周期，对于任何时候，如果编号高于75%获得，您必须加倍在BufferLimit的值。

Note: 值总是功率的两。

[缓冲分配错误信息](#)

当缓冲池是空的时，进程退出。日志文件显示此消息：

Events from September 20, 2005:

11:51:06 ra-mds MDS Process is reporting periodic overall metering statistics.

***** Buffer Pool Statistics *****

```
Current / High / Max Allocated Buffers = 374 / 397 / 65536
Current / High / Max Freelist (Small) = 344 / 345 / 400
```


Current / High / Max Freelist (Medium) = 10 / 10 / 10
Current / High / Max Freelist (Large) = 5 / 5 / 5
Buffer Allocs Small / Medium / Large / Total = 18938158 / 1043172 / 4749 /
19986079
Allocs from Freelist Small / Medium / Large / Total = 18937799 / 1042064 /
4742 / 19984605
Buffer Frees Small / Medium / Large / Total = 22322177 / 1060637 / 5161 /
23387975
Frees to Freelist Small / Medium / Large / Total = 18938143 / 1042074 /
4747 / 19984964
Dups = 3401911

*** Synchronizer Statistics ***

Total messages ordered = 4292869
MDS duplicates = 308
DMP duplicates = 0
Local low priority input msgs / bytes = 1119811 / 107490676
Current input queue msgs / bytes = 0 / 0
Highest input queue msgs / bytes = 12 / 3136
Local high priority input msgs / bytes = 848853 / 24508284
Current input queue msgs / bytes = 0 / 0
Highest input queue msgs / bytes = 2 / 148
Local medium priority input msgs / bytes = 61373 / 3017131
Current input queue msgs / bytes = 0 / 0
Highest input queue msgs / bytes = 7 / 11480
Remote low priority input msgs / bytes = 131595 / 9598544
Current input queue msgs / bytes = 0 / 0
Highest input queue msgs / bytes = 15 / 2472
Remote high priority input msgs / bytes = 6236914 / 65565092
Current input queue msgs / bytes = 0 / 0
Highest input queue msgs / bytes = 8 / 228
Remote medium priority input msgs / bytes = 318 / 52698
Current input queue msgs / bytes = 0 / 0
Highest input queue msgs / bytes = 3 / 7476
Remote low priority output msgs / bytes = 1118701 / 107385640
Current output queue msgs / bytes = 0 / 0
Highest output queue msgs / bytes = 8 / 3136
Remote high priority output msgs / bytes = 4301262 / 93354648
Current output queue msgs / bytes = 0 / 0
Highest output queue msgs / bytes = 7 / 204
Remote medium priority output msgs / bytes = 61289 / 3012988
Current output queue msgs / bytes = 0 / 0
Highest output queue msgs / bytes = 5 / 7476
Current local low priority ordering queue msgs / bytes = 0 / 0
Highest msgs / bytes = 16 / 3168
Current local high priority ordering queue msgs / bytes = 0 / 0
Highest msgs / bytes = 0 / 0
Current local medium priority ordering queue msgs / bytes = 0 / 0
Highest msgs / bytes = 7 / 11524
Current remote low priority ordering queue msgs / bytes = 0 / 0
Highest msgs / bytes = 0 / 0
Current remote high priority ordering queue msgs / bytes = 0 / 0
Highest msgs / bytes = 0 / 0
Current remote medium priority ordering queue msgs / bytes = 0 / 0
Highest msgs / bytes = 0 / 0
Current low priority timed delivery queue msgs / bytes = 0 / 0
Highest msgs / bytes = 336 / 32736
Current high priority timed delivery queue msgs / bytes = 0 / 0
Highest msgs / bytes = 0 / 0
Current medium priority timed delivery queue msgs / bytes = 0 / 0
Highest msgs / bytes = 32 / 24416
Clock rate fast / slow / normal = 0 / 0 / 0
Output waits / notifies = 2641679 / 2642109

```
*** State Transfer Statistics ***
Attempts / Successful completions = 11 / 11
Bytes received / transmitted = 383710 / 1185727
```

11:51:06 ra-mds MDS Process is reporting periodic per-client summary meters.

```
*** Client 128 Statistics ***
Connects / Disconnects = 0 / 0
Messages / Bytes received from client = 0 / 0
Messages / Bytes sent to client = 0 / 0
Current output queue msgs / bytes = 0 / 0
  Highest msgs / bytes = 0 / 0
```

..
..

11:51:06 ra-mds MDS Process is reporting periodic per-client summary meters.

```
*** Client 70 Statistics ***
Connects / Disconnects = 0 / 0
Messages / Bytes received from client = 0 / 0
Messages / Bytes sent to client = 0 / 0
Current output queue msgs / bytes = 0 / 0
  Highest msgs / bytes = 0 / 0
```

..
..

Note: xxxx表示缓冲区数。例如，1024，2048，4096等等。

请使用Dumplog程序查看日志文件。

[缓冲池用尽：案例1](#)

此日志提供用尽了缓冲区MD lgr进程的示例(请参阅箭头A在[表4](#))。

图4 – MD LGR进程Dumplog

Dumplog of MDS process on Logger

```
06:26:36 la-lgr Trace: Thread[142]: Start Config Transaction 2000004868
06:26:39 la-lgr Trace: 1020 messages queued for output to MDS Process.
06:26:39 la-lgr Fail: Buffer Pool Exhausted (1024 buffers allocated).
06:26:57 la-lgr Initializing Event Management System (EMS) Library.
06:26:57 la-lgr Trace: EMS Server pipe
profi\LoggerA\lgrEMSPipe enabled for profi\LoggerA\lgr
```

↑
A

扩展当前BufferLimit为了解决问题。然而，您必须然后监控进程保证错误不复发。

[缓冲池用尽：案例2](#)

有时，错误信息出现，但是扩展当前BufferLimit不解决问题。此错误信息是症状。例如，一系列的日志在MD process stop前被保存。这些日志提供与在MD客户端中分配缓冲区数的一个报告。通常，此编号是足够为了您能缩小在与缓冲分配不关连的客户端的一些问题。

图5 – MDS进程Dumplog

```

14:12:39 pg1A-mds Trace: 0 messages queued for output to client ctisvr.
14:12:39 pg1A-mds Trace: 0 messages queued for output to client nm.
14:12:39 pg1A-mds Trace: 0 messages queued for output to client nmctisvr.
14:12:39 pg1A-mds Trace: 4085 messages queued for output to client opc. ← A
14:12:39 pg1A-mds Trace: 0 messages queued for output to client pgag.
14:12:39 pg1A-mds Trace: 0 messages queued for output to client piml.
14:12:40 pg1A-mds Trace: 0 messages queued for output to client tsyp.
14:12:40 pg1A-mds Trace: 0 low priority messages queued for output to peer Synchronizer.
14:12:40 pg1A-mds Trace: 0 high priority messages queued for output to peer Synchronizer.
14:12:40 pg1A-mds Trace: 0 medium priority messages queued for output to peer Synchronizer.
14:12:40 pg1A-mds Trace: 0 low priority messages on Synchronizer local input queue.
14:12:40 pg1A-mds Trace: 0 high priority messages on Synchronizer local input queue.
14:12:40 pg1A-mds Trace: 0 medium priority messages on Synchronizer local input queue.
14:12:40 pg1A-mds Trace: 0 low priority messages on Synchronizer peer input queue.
14:12:40 pg1A-mds Trace: 0 high priority messages on Synchronizer peer input queue.
14:12:40 pg1A-mds Trace: 0 medium priority messages on Synchronizer peer input queue.
14:12:40 pg1A-mds Trace: 0 low priority messages on Synchronizer local order queue.
14:12:40 pg1A-mds Trace: 0 high priority messages on Synchronizer local order queue.
14:12:40 pg1A-mds Trace: 0 medium priority messages on Synchronizer local order queue.
14:12:40 pg1A-mds Trace: 0 low priority messages on Synchronizer peer order queue.
14:12:40 pg1A-mds Trace: 0 high priority messages on Synchronizer peer order queue.
14:12:40 pg1A-mds Trace: 0 medium priority messages on Synchronizer peer order queue.
14:12:40 pg1A-mds Trace: 0 low priority messages on Synchronizer timed delivery queue.
14:12:40 pg1A-mds Trace: 0 high priority messages on Synchronizer timed delivery queue.
14:12:40 pg1A-mds Trace: 0 medium priority messages on Synchronizer timed delivery queue.
14:12:40 pg1A-mds Fail: Buffer Pool Exhausted (4096 buffers allocated). ← B
14:12:40 pg1A-mds Fail: Buffer Pool Exhausted (4096 buffers allocated).

```

示例在表5表明有为开放外围控制器(OPC)进程排队的4085个消息，并且不安排缓冲区分配其他客户端。此示例显示出，OPC进程是问题的原因，而不是最大缓冲分配大小。

更新附注

偶然地，当您执行升级或做对系统时的重大更改，缓冲池达到限制。例如，当您添加外围设备时，缓冲池能达到限制。为了防止此问题，请增加缓冲池限额。

在您执行从4.6.2的升级到5.0或6.0前，Cisco推荐您加倍BufferLimit和BufferMaxFree设置(请参见图1)。当您升级从5.0到6.0时您不需要加倍BufferLimit设置，如果加倍了设置，当您升级了从4.6.2到5.0。如果不是肯定的您是否增加了设置在早先升级期间的BufferLimit，请检查概述的缓冲区利用率统计数据[检索测量统计数据](#)确定是否必须增加缓冲区。

Note: 内存副产品不是关心，因为(除了那些在自由列表)没有预先分配BufferLimit指定的缓冲区。另外，缓冲区最终发布给系统堆。然而，一非常大BufferLimit (与可用系统RAM)比较能屏蔽基础通信拥塞和减速整个系统。在某些状况下，一个更好的解决方案将主张进程，因为BufferLimit被到达和取决于系统的容错设计发生故障给出可能的资源限制。

维护附注

在正常系统维护期间，您能监控一些BufferLimit统计数据在升级以后或。您必须查看这些统计数据前面和在您之后添加附加容量或组件到系统。MDS进程周期地记录缓冲池统计数据。如果一个特定的缓冲区的高价值是接近MAX，请加倍该特定BufferLimit设置。

Related Information

- [Technical Support & Documentation - Cisco Systems](#)