

ASR 1000 Series - Verifique o uso da memória nos roteadores

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[Introduction](#)

Este documento fornece informações sobre como manter e verificar o tamanho da memória do sistema nos Cisco ASR 1000 Series Aggregation Services Routers (ASR). Este documento aplica-se a todas as versões do Cisco IOS XE Software que suportam os Cisco ASR 1000 Series Aggregation Services Routers.

[Prerequisites](#)

[Requirements](#)

Não existem requisitos específicos para este documento.

[Componentes Utilizados](#)

As informações neste documento são baseadas nestas versões de software e hardware:

- Todos os roteadores de serviços de agregação Cisco ASR 1000 Series, que incluem roteadores 1002, 1004 e 1006.
- Todas as versões do software Cisco IOS XE que suportam os Cisco ASR 1000 Series Aggregation Services Routers.

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

Consulte as [Convenções de Dicas Técnicas da Cisco para obter mais informações sobre convenções de documentos.](#)

Visão geral do uso de memória

O processador de rotas (RP) do Cisco ASR 1000 Series Aggregation Services Router tem RAM dinâmica síncrona (SDRAM), que fornece armazenamento para código, dados e pacotes. O RP oferece escalabilidade de memória de até 4 GB para ASR1000-RP1 e 16 GB para ASR1000-RP2.

Os Cisco ASR 1000 Series Aggregation Services Routers apresentam o software Cisco IOS XE como sua arquitetura de software. Baseado no software Cisco IOS, o software Cisco IOS XE é um sistema operacional modular construído em um kernel Linux no processador de rotas. O daemon IOS (IOSd) é executado como um processo padrão no nível do usuário no Linux e fornece o conjunto de recursos do Cisco IOS, que inclui protocolos de roteamento. Na inicialização, o IOSd recebe acesso a uma quantidade fixa de memória física no RP, geralmente 50% ou 1 GB em sistemas de 2 GB e 2 GB em sistemas de 4 GB. A operação dupla do IOS com chassi de 2/4 RU com 4 GB de memória principal para redundância de software consome 1 GB cada.

Para exibir informações sobre o tamanho da memória, software, hardware e versão da interface da Web, use o comando **show version**.

```
Router#show version
Cisco IOS Software, IOS-XE Software (PPC_LINUX_IOSD-ADVIPSERVICESK9-M),
Version 12.2(33)XNB, RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2008 by Cisco Systems, Inc.
Compiled Fri 05-Sep-08 08:56 by mcpre
```

```
Cisco IOS-XE software, Copyright (c) 1986-2008 by Cisco Systems, Inc.
All rights reserved. Certain components of Cisco IOS-XE software are
licensed under the GNU General Public License ("GPL") Version 2.0. The
software code licensed under GPL Version 2.0 is free software that comes
with ABSOLUTELY NO WARRANTY. You can redistribute and/or modify such
GPL code under the terms of GPL Version 2.0. For more details, see the
documentation or "License Notice" file accompanying the IOS-XE software,
or the applicable URL provided on the flyer accompanying the IOS-XE
software.
```

```
ROM: IOS-XE ROMMON
```

```
ASR1006b uptime is 6 days, 21 hours, 49 minutes
Uptime for this control processor is 6 days, 21 hours, 51 minutes
System returned to ROM by reload at 15:35:57 JST Thu Feb 5 2009
System restarted at 15:40:15 JST Thu Feb 5 2009
System image file is "bootflash:packages.conf"
Last reload reason: Reload command
```

This product contains cryptographic features and is subject to United States and local country laws governing import, export, transfer and use. Delivery of Cisco cryptographic products does not imply third-party authority to import, export, distribute or use encryption. Importers, exporters, distributors and users are responsible for compliance with U.S. and local country laws. By using this product you

agree to comply with applicable laws and regulations. If you are unable to comply with U.S. and local laws, return this product immediately.

A summary of U.S. laws governing Cisco cryptographic products may be found at: <http://www.cisco.com/wwl/export/crypto/tool/stqrg.html>

If you require further assistance please contact us by sending email to export@cisco.com.

cisco ASR1006 (RP1) processor with **1779130K/6147K** bytes of memory.

!--- total memory allocated to IOSd. 16 Gigabit Ethernet interfaces 21 Gigabit Ethernet interfaces 2 Ten Gigabit Ethernet interfaces 32768K bytes of non-volatile configuration memory. **4194304K bytes** of physical memory.

!--- IOS-XE total memory size. 955063K bytes of eUSB flash at bootflash:. 39004543K bytes of SATA hard disk at harddisk:. Configuration register is 0x2102

Verificar uso de memória

Verificar o uso da memória no IOSd

O comando `show processes` exibe informações sobre os processos ativos. Emita `show processes memory` para mostrar a quantidade de memória usada no IOSd.

```
Router#show processes memory
```

```
Processor Pool Total: 1821391588 Used: 218319000 Free: 1603072588  
lsmpi_io Pool Total: 6295088 Used: 6294116 Free: 972
```

PID	TTY	Allocated	Freed	Holding	Getbufs	Retbufs	Process
0	0	174405308	8586260	134742552	811	137870	*Init*
0	0	65688	393404	152	0	0	*Sched*
0	0	21603272	48285960	274932	3	1	*Dead*
0	0	0	0	406304	0	0	*MallocLite*
1	0	431576	0	448716	0	0	Chunk Manager
2	0	236	236	11140	0	0	Load Meter
3	0	2785880	2782996	32092	0	0	Exec
4	0	0	0	17140	0	0	Retransmission o
5	0	34360	0	17140	0	0	IPC ISSU Dispatc
6	0	3336	236	20240	0	0	Check heaps
7	0	32780	32780	17140	45	0	Pool Manager
8	0	236	236	17140	0	0	Timers
9	0	206550924	206496084	71980	9326586	9326586	ARP Input
10	0	24356	24356	17140	111	111	ARP Background
11	0	236	236	17140	0	0	ATM Idle Timer
12	0	0	0	17140	0	0	ATM ASYNC PROC
13	0	0	0	17140	0	0	AAA_SERVER_DEADT
14	0	0	0	29140	0	0	Policy Manager
15	0	59092	692	74972	172	172	Entity MIB API

Verificar o uso da memória no IOS XE

Para ver o uso atual da memória do sistema no Cisco IOS XE, use o comando `show platform software status control-processor brief`.

```
Router#show platform software status control-processor brief
```

```
Load Average
```

Slot	Status	1-Min	5-Min	15-Min
RP0	Healthy	0.20	0.23	0.19
RP1	Healthy	0.19	0.19	0.12

```

ESP0 Healthy  0.65  0.54  0.47
SIP1 Healthy  0.17  0.07  0.01
SIP2 Healthy  0.02  0.06  0.01

```

Memory (kB)

Slot	Status	Total	Used (Pct)	Free (Pct)	Committed (Pct)
RP0	Healthy	3919872	2710788 (65%)	1209084 (29%)	2327484 (56%)
RP1	Healthy	3919872	2377136 (57%)	1542736 (37%)	2320964 (56%)
ESP0	Healthy	2030444	1112344 (53%)	918100 (43%)	3409068 (162%)
SIP1	Healthy	484452	293408 (55%)	191044 (36%)	244180 (46%)
SIP2	Healthy	484452	293408 (55%)	191044 (36%)	244020 (46%)

CPU Utilization

Slot	CPU	User	System	Nice	Idle	IRQ	SIRQ	Iowait
RP0	0	10.91	1.88	0.00	86.67	0.38	0.13	0.00
RP1	0	8.06	1.22	0.00	90.11	0.00	0.03	0.55
ESP0	0	5.78	3.61	0.00	90.51	0.02	0.05	0.00
SIP1	0	4.32	0.45	0.00	95.20	0.00	0.01	0.00
SIP2	0	3.95	0.44	0.00	95.57	0.00	0.01	0.00

Para exibir o uso de memória para cada processo executado no Cisco IOS XE, use o **processo do software da plataforma de monitor {fp|rp} {ativo|standby}**. Depois que a tela for exibida, você poderá digitar "shift + M" para classificar os processos exibidos com o uso de memória.

RES indica a memória física não trocada que um processo usa e *SHR* indica a quantidade de memória compartilhada usada por um processo. *RES + SHR* é a quantidade total de um processo, e *%MEM* indica o compartilhamento atualmente usado de memória física disponível para os processos.

```
Router#monitor platform software process rp active
```

```

top - 05:18:46 up 14 days, 17:33,  0 users,  load average: 0.00, 0.01, 0.00
Tasks: 119 total,  1 running, 118 sleeping,  0 stopped,  0 zombie
Cpu(s):  0.4% us,  0.4% sy,  0.0% ni, 99.1% id,  0.0% wa,  0.0% hi,  0.0% si
Mem:    3714760k total, 1454344k used, 2260416k free,  97952k buffers
Swap:      0k total,    0k used,    0k free,  875376k cached

```

PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
17385	root	20	0	1874m	338m	75m	S	0.2	9.3	65:59.18	ppc_linux_iosd-
18098	root	20	0	71880	59m	6324	S	0.2	1.6	10:48.84	smand
16521	root	20	0	87868	51m	47m	S	0.0	1.4	0:02.80	fman_rp
16903	root	20	0	27788	16m	14m	S	0.0	0.5	15:41.61	imand
15957	root	20	0	24776	9696	6880	S	0.2	0.3	12:49.67	cmdand
17697	root	20	0	19504	6160	4544	S	0.0	0.2	0:00.95	psd
16316	root	20	0	18232	5972	3736	S	0.0	0.2	12:43.32	emd
16732	root	20	0	16184	5556	3900	S	0.4	0.1	21:22.61	hman
17237	root	20	0	15892	5456	3088	S	0.0	0.1	0:00.99	plogd
15166	root	20	0	4056	2396	1248	S	0.0	0.1	0:00.72	pvp.sh
16937	root	9	-11	3992	2308	1232	S	0.0	0.1	0:00.13	pman.sh
15559	root	9	-11	3992	2304	1228	S	0.0	0.1	0:00.13	pman.sh
17978	root	9	-11	3992	2304	1228	S	0.0	0.1	0:00.13	pman.sh

Caso esta mensagem seja exibida quando você emitir o comando **monitor platform software process** no console, você precisará definir um tipo de terminal com o comando **terminal terminal-type** para se adequar a um, como VT100.

```
Router#monitor platform software process rp active
```

```

Terminal type 'network' unsupported for command
Change the terminal type with the 'terminal terminal-type' command.

```

```
Router#terminal terminal-type VT100
```

Verifique o uso da memória no QFP

Para exibir informações sobre o uso de memória do QFP, use o comando **show platform hardware qfp active infrastructure exmem statistics**. O Exmem contém memória IRAM, DRAM, SRAM e BQS relacionada.

```
Router#show platform hardware qfp active infrastructure exmem statistics
QFP exmem statistics
```

```
Type: Name: IRAM, CPP: 0
  Total: 134217728
  InUse: 5372928
  Free: 127926272
  Free protected: 918528
  Free unprotected: 0
  Lowest free water mark: 128844800
  Largest free block: 99505152
Type: Name: DRAM, CPP: 0
  Total: 402653184
  InUse: 124705792
  Free: 275775488
  Free protected: 1041408
  Free unprotected: 1130496
  Lowest free water mark: 275587072
  Largest free block: 273415168
```

Para exibir o uso de memória de cada usuário, adicione opções de usuário, como mostrado.

```
Router#show platform hardware qfp active infrastructure exmem statistics user
```

```
Type: Name: IRAM, CPP: 0

  Allocations  Bytes-Alloc  Bytes-Total  User-Name
-----
  1             115200       115712       CPP_FIA
Type: Name: DRAM, CPP: 0
  Allocations  Bytes-Alloc  Bytes-Total  User-Name
-----
  4             1248         4096         P/I
  22           11567884     11585536     SBC
  9            270600       276480       CEF
  1            1138256     1138688       QM RM
  3             528          3072         CFM
  4            262144       262144       Qm 16
  34           8405116     8436736     ING_EGR_UIDB
  1            655360       655360       ING EGR INPUT CHUNK_Config_0
```

Para exibir o uso de TCAM do QFP, use o comando **show platform hardware qfp active tcam resource-manager usage**.

```
Router#show platform hardware qfp active tcam resource-manager usage
```

```
QFP TCAM Usage Information
```

```
80 Bit Region Information
```

```
-----
```

```
Name : Leaf Region #0
Number of cells per entry : 1
Current 80 bit entries used : 0
Current used cell entries : 0
Current free cell entries : 0
:
```

Total TCAM Cell Usage Information

```
-----
Name : TCAM #0 on CPP #0
Total number of regions : 3
Total tcam used cell entries : 0
Total tcam free cell entries : 131072
Threshold status : below critical limit
```

Informações Relacionadas

- [Solucione problemas de travamentos dos roteadores de serviços de agregação Cisco ASR 1000 Series](#)
- [Página de suporte dos roteadores de serviços de agregação Cisco ASR 1000 Series](#)
- [Suporte Técnico e Documentação - Cisco Systems](#)