

ARP常见问题：为什么在各自的ARP超时过期后，ARP表中仍然存在一些动态ARP条目？

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简介

本文档介绍动态地址解析协议(ARP)条目老化。

为什么在各自的ARP超时过期后，ARP表中仍然存在一些动态ARP条目？

在Cisco IOS®^软件中，ARP缓存超时默认设置为四小时（240分钟），但可以在接口配置模式下修改。

输入**show interfaces**命令以显示ARP缓存超时：

```
ASR1k#show interfaces gi0/0/2 | include ARP
Encapsulation ARPA, loopback not set
ARP type: ARPA, ARP Timeout 04:00:00
```

ARP条目实际存储在ARP缓存中，即使超时已过。在本示例中，IP地址10.2.2.2的动态ARP条目在ARP缓存中已存在253分钟：

```
ASR1k#show arp
Protocol Address Age (min) Hardware Addr Type Interface
Internet 10.2.2.1 - 30e4.dbb7.7e02 ARPA GigabitEthernet0/0/2
Internet 10.2.2.2 253 0004.c01d.7c1a ARPA GigabitEthernet0/0/2
```

额外时间是创建每个动态ARP条目时添加的抖动。随机抖动会添加到ARP缓存超时，以避免ARP条目同步过期，这可能会触发ARP风暴。抖动应是0秒到30分钟之间的随机数，最大抖动为30分钟。

此过程介绍如何确认抖动是随机的：

1. 输入**show arp IP address detail**命令以检查ARP条目详细信息：

```
ASR1k#show arp 10.2.2.2 detail
ARP entry for 10.2.2.2, link type IP.
```

```
Dynamic, via GigabitEthernet0/0/2, last updated 253 minutes ago.
Encap type is ARPA, hardware address is 0004.c01d.7c1a, 6 bytes long.
ARP subblocks:
* Dynamic ARP Subblock
Entry will be refreshed in 9 minutes and 4 seconds.
It has 2 chances to be refreshed before it is purged.
Entry is complete.
* ARP HA
ARP entry is a new entry and has not been synchronized to standby RP.
* IP ARP Adjacency
Adjacency (for 10.2.2.2 on GigabitEthernet0/0/2) was installed.
Connection ID: 0
```

2. 清除ARP条目，并再次捕获show arp IP address detail命令的输出：

```
ASR1k#clear arp 10.2.2.2
ASR1k#show arp 10.2.2.2 detail
ARP entry for 10.2.2.2, link type IP.
Dynamic, via GigabitEthernet0/0/2, last updated 0 minute ago.
Encap type is ARPA, hardware address is 0004.c01d.7c1a, 6 bytes long.
ARP subblocks:
* Dynamic ARP Subblock
Entry will be refreshed in 261 minutes and 42 seconds.
It has 2 chances to be refreshed before it is purged.
Entry is complete.
注意计时器已重置。
```

3. 重复步骤2，注意结果不同：

```
ASR1k #clear arp 10.2.2.2
ASR1k #show arp 10.2.2.2 det
ARP entry for 10.2.2.2, link type IP.
Dynamic, via GigabitEthernet0/0/2, last updated 0 minute ago.
Encap type is ARPA, hardware address is 0004.c01d.7c1a, 6 bytes long.
ARP subblocks:
* Dynamic ARP Subblock
Entry will be refreshed in 263 minutes and 58 seconds.
It has 2 chances to be refreshed before it is purged.
Entry is complete.
```

相关信息

- [《Cisco IOS IP编址服务命令参考》中的show arp命令](#)
- [技术支持和文档 - Cisco Systems](#)