

Re: If_bridge behaving as HUB

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- *From:* Jon Otterholm <jon.otterholm@xxxxxxxxxxxxxxxxxxxxxxxx>
 - *Date:* Tue, 17 Oct 2006 09:06:26 +0200
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Andrew Thompson wrote:

On Mon, Oct 16, 2006 at 12:15:13PM +0200, Jon Otterholm wrote:

Hi.

I have a bridge setup with a number of vlan IF's as members. After a while traffic destined for one member IF are sent to all member IF's.

From man if_bridge:

A bridge works like a hub, forwarding traffic from one interface to another. Multicast and broadcast packets are always forwarded to all interfaces that are part of the bridge. For unicast traffic, the bridge learns which MAC addresses are associated with which interfaces and will forward the traffic selectively.

Has anyone else got this problem? How do I debug this?

You should run 'ifconfig bridge0 addr' to print out the forwarding table, check if the mac address is listed on the correct port.

cheers,
Andrew

They are listed on the correct port but when I read man if_bridge I get confused:

From man if_bridge:

discover interface

Mark an interface as a ``discovering" interface. When the bridge has no address cache entry (either dynamic or static) for the destination address of a packet, the bridge will forward the

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packet to all member interfaces marked as ``discovering".

This

is the default for all interfaces added to a bridge.

Is if my router doesn't know where to send the traffic all IF's with discover enabled gets the traffic?

–discover interface

Clear the ``discovering" attribute on a member interface. For packets without the ``discovering" attribute, the only packets forwarded on the interface are broadcast or multicast packets and packets for which the destination address is known to be on the interface's segment.

If I set this on customer IF's it almost works.

learn interface

Mark an interface as a ``learning" interface. When a packet arrives on such an interface, the source address of the packet is entered into the address cache as being a destination address on the interface's segment. This is the default for all interfaces added to a bridge.

–learn interface

Clear the ``learning" attribute on a member interface.

As I understand this: I would be able to set "–discover" and "learn" on all member IF's and everything would work. Unicast traffic with non known destination would not travel to wrong IF's and the bridge fdb would be updated with new customer mac's. This is almost the case – but sometimes customer's connection fails because the bridge fdb doesn't get updated.

It seems that when a customer connects (ie starts his computer) with no active DHCP–lease and the client sends out a DHCPREQUEST (broadcast) it works like a charm until the bridge fdb entry expires. This could be solved by setting timeout to 0 – but then I would get a polluted fdb. For most customers it works all the time but for some it stops working when the fdb entry expires.

I would like to know how the "learn"–function works and why it doesn't work with unicast traffic.

/Jon

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