
Subject: Re: [BRIDGE] Unaligned access on IA64 when comparing ethernet addresses

Posted by [Stephen Hemminger](#) on Tue, 17 Apr 2007 20:37:23 GMT

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The previous patch relied on the bridge id being aligned by the compiler (which happens as a side effect). So please use this instead.

compare_ether_addr() implicitly requires that the addresses passed are 2-bytes aligned in memory.

This is not true for br_stp_change_bridge_id() and br_stp_recalculate_bridge_id() in which one of the addresses is unsigned char *, and thus may not be 2-bytes aligned.

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--- linux-2.6.orig/net/bridge/br_stp_if.c 2007-04-16

20:03:04.000000000 -0700 +++ linux-2.6/net/bridge/br_stp_if.c

2007-04-17 13:25:52.000000000 -0700 @@ -126,23 +126,22 @@

/* called under bridge lock */

void br_stp_change_bridge_id(struct net_bridge *br, const unsigned char *addr) {

- unsigned char oldaddr[6];

+ bridge_id old_id;

struct net_bridge_port *p;

int wasroot;

wasroot = br_is_root_bridge(br);

- memcpy(oldaddr, br->bridge_id.addr, ETH_ALEN);

+ old_id = br->bridge_id;

memcpy(br->bridge_id.addr, addr, ETH_ALEN);

memcpy(br->dev->dev_addr, addr, ETH_ALEN);

list_for_each_entry(p, &br->port_list, list) {

- if (!compare_ether_addr(p->designated_bridge.addr, oldaddr))

+ if (!compare_ether_addr(p->designated_bridge.addr, old_id.addr)) memcpy(p->designated_bridge.addr, addr, ETH_ALEN);

- if (!compare_ether_addr(p->designated_root.addr,

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oldaddr))
+ if (!compare_ether_addr(p->designated_root.addr,
old_id.addr)) memcpy(p->designated_root.addr, addr, ETH_ALEN);
-
}

br_configuration_update(br);
@@ -151,19 +150,17 @@
br_become_root_bridge(br);
}

-static const unsigned char br_mac_zero[6];
-
/* called under bridge lock */
void br_stp_recalculate_bridge_id(struct net_bridge *br)
{
- const unsigned char *addr = br_mac_zero;
+ static const bridge_id id_zero;
+ const unsigned char *addr = id_zero.addr;
  struct net_bridge_port *p;

  list_for_each_entry(p, &br->port_list, list) {
- if (addr == br_mac_zero ||
+ if (addr == id_zero.addr ||
    memcmp(p->dev->dev_addr, addr, ETH_ALEN) < 0)
    addr = p->dev->dev_addr;
-
  }

  if (compare_ether_addr(br->bridge_id.addr, addr))
--- linux-2.6.orig/net/bridge/br_private.h 2007-04-17
13:26:48.000000000 -0700 +++ linux-2.6/net/bridge/br_private.h
2007-04-17 13:30:29.000000000 -0700 @@ -36,7 +36,7 @@
{
  unsigned char prio[2];
  unsigned char addr[6];
-};
+} __attribute__((aligned(8)));

struct mac_addr
{

```
