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commit [b0c202a8dc63008205a5d546559736507a9aae66](#) (patch)
tree [f8dbdc77edb70b53063937525877466a3ec18140](#)
parent [668de67d41107c14999a06ebe5af5699087bbf99](#) (diff)
download [linux-b0c202a8dc63008205a5d546559736507a9aae66.tar.gz](#)

diff options

context:

3 ▼

space:

include ▼

mode:

unified ▼

nfc: st-nci: Fix use after free bug in ndlc_remove due to race condition

[Upstream commit 5000fe6c27827a61d8250a7e4a1d26c3298ef4f6]

This bug influences both `st_nci_i2c_remove` and `st_nci_spi_remove`.
Take `st_nci_i2c_remove` as an example.

In `st_nci_i2c_probe`, it called `ndlc_probe` and bound `&ndlc->sm_work`
with `llt_ndlc_sm_work`.

When it calls `ndlc_recv` or timeout handler, it will finally call
`schedule_work` to start the work.

When we call `st_nci_i2c_remove` to remove the driver, there
may be a sequence as follows:

Fix it by finishing the work before cleanup in `ndlc_remove`

CPU0	CPU1
	llt_ndlc_sm_work
st_nci_i2c_remove	
ndlc_remove	
st_nci_remove	
nci_free_device	
kfree(ndev)	
//free ndlc->ndev	
	llt_ndlc_rcv_queue
	nci_recv_frame
	//use ndlc->ndev

Fixes: 35630df68d60 ("NFC: st21nfc: Add driver for STMicroelectronics ST21NFCB NFC chip")

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Link: <https://lore.kernel.org/r/20230312160837.2040857-1-zyytlz.wz@163.com>

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Diffstat

-rw-r--r-- [drivers/nfc/st-nci/ndlc.c](#) 6

1 files changed, 4 insertions, 2 deletions

```
diff --git a/drivers/nfc/st-nci/ndlc.c b/drivers/nfc/st-nci/ndlc.c
index 5d74c674368a54..8ccf5a86ad1bb3 100644
--- a/drivers/nfc/st-nci/ndlc.c
+++ b/drivers/nfc/st-nci/ndlc.c
@@ -286,13 +286,15 @@ EXPORT_SYMBOL(ndlc_probe);

void ndlc_remove(struct llt_ndlc *ndlc)
{
-     st_nci_remove(ndlc->ndev);
-
-     /* cancel timers */
-     del_timer_sync(&ndlc->t1_timer);
-     del_timer_sync(&ndlc->t2_timer);
-     ndlc->t2_active = false;
-     ndlc->t1_active = false;
+     /* cancel work */
+     cancel_work_sync(&ndlc->sm_work);
+
+     st_nci_remove(ndlc->ndev);
+
+     skb_queue_purge(&ndlc->rcv_q);
+     skb_queue_purge(&ndlc->send_q);
}
```