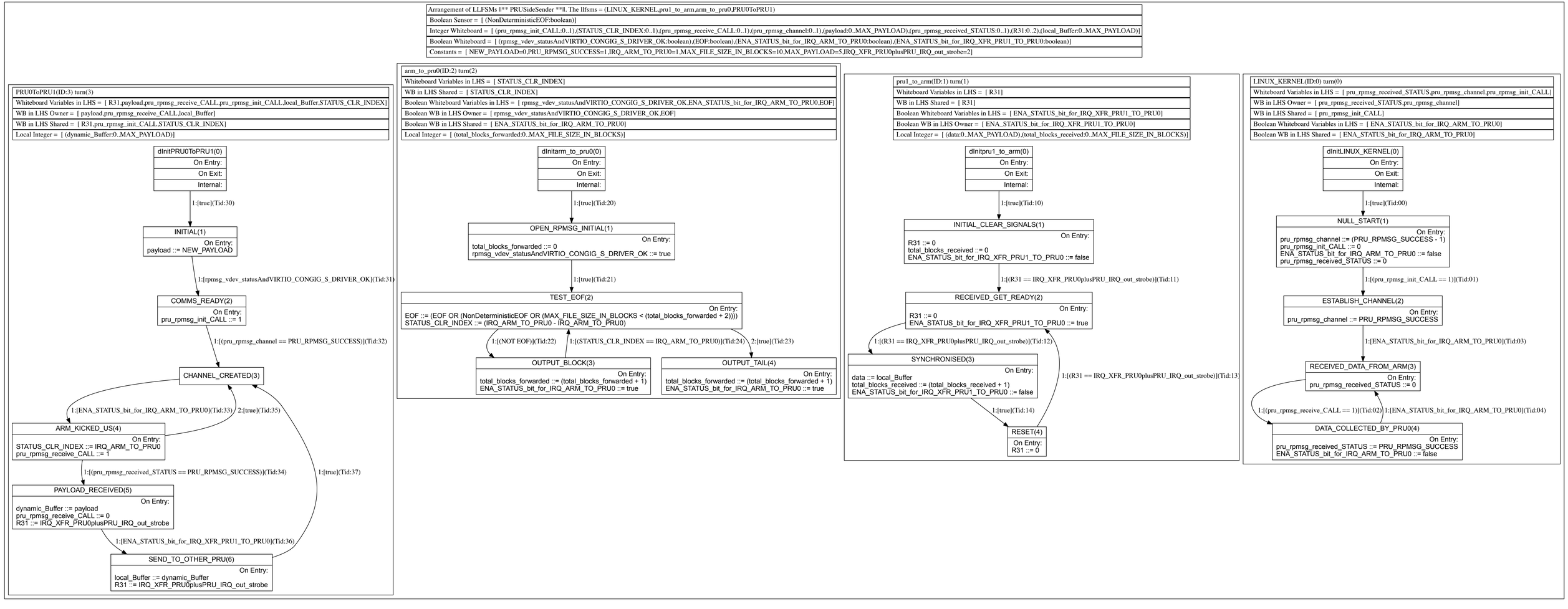
Arrangement of LLFSMs ll** PRUSideSender **ll, The llfsms = (LINUX_KERNEL,pru1_to_arm,arm_to_pru0,PRU0ToPRU1)
Boolean Sensor = [(NonDeterministicEOF:boolean)]
Integer Whiteboard = [(pru_rpmsg_init_CALL:0..1),(STATUS_CLR_INDEX:0..1),(pru_rpmsg_receive_CALL:0..1),(pru_rpmsg_channel:0..1),(payload:0..MAX_PAYLOAD),(pru_rpmsg_received_STATUS:0..1),(R31:0..2),(local_Buffer:0..MAX_PAYLOAD)]
Boolean Whiteboard = [(rpmsg_vdev_statusAndVIRTIO_CONGIG_S_DRIVER_OK:boolean),(EOF:boolean),(ENA_STATUS_bit_for_IRQ_ARM_TO_PRU0:boolean),(ENA_STATUS_bit_for_IRQ_XFR_PRU1_TO_PRU0:boolean)]
Constants = [NEW_PAYLOAD=0,PRU_RPMSG_SUCCESS=1,IRQ_ARM_TO_PRU0=1,MAX_FILE_SIZE_IN_BLOCKS=10,MAX_PAYLOAD=5,IRQ_XFR_PRU0plusPRU_IRQ_out_strobe=2]
PRU0ToPRU1(ID:3) turn(3)
Whiteboard Variables in LHS = [R31,payload,pru_rpmsg_receive_CALL,pru_rpmsg_init_CALL,local_Buffer,STATUS_CLR_INDEX]
WB in LHS Owner = [payload,pru_rpmsg_receive_CALL,local_Buffer]
WB in LHS Shared = [R31,pru_rpmsg_init_CALL,STATUS_CLR_INDEX]
Local Integer = [(dynamic_Buffer:0..MAX_PAYLOAD)]
dInitPRU0ToPRU1(0)
On Entry:
On Exit:
Internal:
1:[true](Tid:30)
INITIAL(1)
On Entry:
payload ::= NEW_PAYLOAD
1:[rpmsg_vdev_statusAndVIRTIO_CONGIG_S_DRIVER_OK](Tid:31)
COMMS_READY(2)
On Entry:
pru_rpmsg_init_CALL ::= 1
1:[(pru_rpmsg_channel == PRU_RPMSG_SUCCESS)](Tid:32)
CHANNEL_CREATED(3)
1:[ENA_STATUS_bit_for_IRQ_ARM_TO_PRU0](Tid:33)
2:[true](Tid:35)
ARM_KICKED_US(4)
On Entry:
STATUS_CLR_INDEX ::= IRQ_ARM_TO_PRU0
pru_rpmsg_receive_CALL ::= 1
1:[(pru_rpmsg_received_STATUS == PRU_RPMSG_SUCCESS)](Tid:34)
PAYLOAD_RECEIVED(5)
On Entry:
dynamic_Buffer ::= payload
pru_rpmsg_receive_CALL ::= 0
R31 ::= IRQ_XFR_PRU0plusPRU_IRQ_out_strobe
1:[ENA_STATUS_bit_for_IRQ_XFR_PRU1_TO_PRU0](Tid:36)
SEND_TO_OTHER_PRU(6)
On Entry:
local_Buffer ::= dynamic_Buffer
R31 ::= IRQ_XFR_PRU0plusPRU_IRQ_out_strobe
1:[true](Tid:37)
arm_to_pru0(ID:2) turn(2)
Whiteboard Variables in LHS = [STATUS_CLR_INDEX]
WB in LHS Shared = [STATUS_CLR_INDEX]
Boolean Whiteboard Variables in LHS = [rpmsg_vdev_statusAndVIRTIO_CONGIG_S_DRIVER_OK,ENA_STATUS_bit_for_IRQ_ARM_TO_PRU0,EOF]
Boolean WB in LHS Owner = [rpmsg_vdev_statusAndVIRTIO_CONGIG_S_DRIVER_OK,EOF]
Boolean WB in LHS Shared = [ENA_STATUS_bit_for_IRQ_ARM_TO_PRU0]
Local Integer = [(total_blocks_forwarded:0..MAX_FILE_SIZE_IN_BLOCKS)]
dInitarm_to_pru0(0)
On Entry:
On Exit:
Internal:
1:[true](Tid:20)
OPEN_RPMSG_INITIAL(1)
On Entry:
total_blocks_forwarded ::= 0
rpmsg_vdev_statusAndVIRTIO_CONGIG_S_DRIVER_OK ::= true
1:[true](Tid:21)
TEST_EOF(2)
On Entry:
EOF ::= (EOF OR (NonDeterministicEOF OR (MAX_FILE_SIZE_IN_BLOCKS < (total_blocks_forwarded + 2))))
STATUS_CLR_INDEX ::= (IRQ_ARM_TO_PRU0 - IRQ_ARM_TO_PRU0)
1:[(NOT EOF)](Tid:22)
1:[(STATUS_CLR_INDEX == IRQ_ARM_TO_PRU0)](Tid:24)
2:[true](Tid:23)
OUTPUT_BLOCK(3)
On Entry:
total_blocks_forwarded ::= (total_blocks_forwarded + 1)
ENA_STATUS_bit_for_IRQ_ARM_TO_PRU0 ::= true
OUTPUT_TAIL(4)
On Entry:
total_blocks_forwarded ::= (total_blocks_forwarded + 1)
ENA_STATUS_bit_for_IRQ_ARM_TO_PRU0 ::= true
pru1_to_arm(ID:1) turn(1)
Whiteboard Variables in LHS = [R31]
WB in LHS Shared = [R31]
Boolean Whiteboard Variables in LHS = [ENA_STATUS_bit_for_IRQ_XFR_PRU1_TO_PRU0]
Boolean WB in LHS Owner = [ENA_STATUS_bit_for_IRQ_XFR_PRU1_TO_PRU0]
Local Integer = [(data:0..MAX_PAYLOAD),(total_blocks_received:0..MAX_FILE_SIZE_IN_BLOCKS)]
dInitpru1_to_arm(0)
On Entry:
On Exit:
Internal:
1:[true](Tid:10)
INITIAL_CLEAR_SIGNALS(1)
On Entry:
R31 ::= 0
total_blocks_received ::= 0
ENA_STATUS_bit_for_IRQ_XFR_PRU1_TO_PRU0 ::= false
1:[(R31 == IRQ_XFR_PRU0plusPRU_IRQ_out_strobe)](Tid:11)
RECEIVED_GET_READY(2)
On Entry:
R31 ::= 0
ENA_STATUS_bit_for_IRQ_XFR_PRU1_TO_PRU0 ::= true
1:[(R31 == IRQ_XFR_PRU0plusPRU_IRQ_out_strobe)](Tid:12)
SYNCHRONISED(3)
On Entry:
data ::= local_Buffer
total_blocks_received ::= (total_blocks_received + 1)
ENA_STATUS_bit_for_IRQ_XFR_PRU1_TO_PRU0 ::= false
1:[true](Tid:14)
RESET(4)
On Entry:
R31 ::= 0
1:[(R31 == IRQ_XFR_PRU0plusPRU_IRQ_out_strobe)](Tid:13)
LINUX_KERNEL(ID:0) turn(0)
Whiteboard Variables in LHS = [pru_rpmsg_received_STATUS,pru_rpmsg_channel,pru_rpmsg_init_CALL]
WB in LHS Owner = [pru_rpmsg_received_STATUS,pru_rpmsg_channel]
WB in LHS Shared = [pru_rpmsg_init_CALL]
Boolean Whiteboard Variables in LHS = [ENA_STATUS_bit_for_IRQ_ARM_TO_PRU0]
Boolean WB in LHS Shared = [ENA_STATUS_bit_for_IRQ_ARM_TO_PRU0]
dInitLINUX_KERNEL(0)
On Entry:
On Exit:
Internal:
1:[true](Tid:00)
NULL_START(1)
On Entry:
pru_rpmsg_channel ::= (PRU_RPMSG_SUCCESS - 1)
pru_rpmsg_init_CALL ::= 0
ENA_STATUS_bit_for_IRQ_ARM_TO_PRU0 ::= false
pru_rpmsg_received_STATUS ::= 0
1:[(pru_rpmsg_init_CALL == 1)](Tid:01)
ESTABLISH_CHANNEL(2)
On Entry:
pru_rpmsg_channel ::= PRU_RPMSG_SUCCESS
1:[ENA_STATUS_bit_for_IRQ_ARM_TO_PRU0](Tid:03)
RECEIVED_DATA_FROM_ARM(3)
On Entry:
pru_rpmsg_received_STATUS ::= 0
1:[(pru_rpmsg_receive_CALL == 1)](Tid:02)
1:[ENA_STATUS_bit_for_IRQ_ARM_TO_PRU0](Tid:04)
DATA_COLLECTED_BY_PRU0(4)
On Entry:
pru_rpmsg_received_STATUS ::= PRU_RPMSG_SUCCESS
ENA_STATUS_bit_for_IRQ_ARM_TO_PRU0 ::= false