SOC: AM6421 resource management for ICSSG1

Note - We are working with Am6421. we have kept resources MAIN_0_R5_1 R5F

MAIN_0_R5_1 R5F means subsystem 0 core 0 - Present

MAIN_0_R5_3 R5F means subsystem 0 core 1 – Not Present in Am6421

MAIN_1_R5_1 R5F means subsystem 1 core 0 - Present

MAIN_1_R5_3 R5F means subsystem 1 core 1 – Not Present in Am6421

https://software-dl.ti.com/mcu-plus-

sdk/esd/AM64X/latest/exports/docs/api guide am64x/RESOURCE ALLOCATION GUIDE.ht ml

AM6421 Resource changes

Resources	A53_2	MAIN_0_R5_1	MAIN_0_R5_3	MAIN_1_R5_1	MAIN_1_R5_3	M4_0	ALL
Packet DMA							
Free Tx channels	4	3	2	4	2	1	0
Free Rx channels	4	3	2	4	2	1	0
CPSW Tx channels	8	6 8 6 8					0
CPSW Rx channel	1	40 4	8 0	100			0
SA2UL Tx channel0							0
SA2UL Tx channel1	1						0
SA2UL Rx channel0							0
SA2UL Rx channel1							0
SA2UL Rx channel2	1		8 0	HCC - 2			0
SA2UL Rx channel3	1						0
ICSSG0 Tx channels	8	51 - 52 15 - 53	(d) (d)				0
ICSSG0 Rx channel	4	0 0	0	100			0
ICSSG1 Tx channels		8					0
ICSSG1 Rx channel		4					0

Free rings for Tx channel	4	3	2	4	2	1	
Free rings for Rx channel	4	3	2	4	2	1	
Free flows for Rx channels	4	3	2	4	2	1	
Rings for CPSW Tx channel	64		5	8 S	6 S		
Rings for CPSW Rx channel	16			7 3	(i) (i)	\$ 15	
CPSW Rx flows	16						
Rings for SA2UL Tx channel0							
Rings for SA2UL Tx channel1	8						
Rings for SA2UL Rx channel0						- C	
SA2UL Rx channel0 flows					0 0	8 10	
Rings for SA2UL Rx channel1					0 9 9 8	10 93 10 13	
SA2UL Rx channel1 flows			5		8 8 8 8		
Rings for SA2UL Rx channel2	8				6 0	\$ 7.5	
SA2UL Rx channel2 flows	8						
Rings for SA2UL Rx channel3	8						
SA2UL Rx channel3 flows	8						
Rings for ICSSG0 Tx channel	8						
Rings for ICSSG0 Rx channel	64				0 8		
ICSSG0 Rx flows	64			6 S	(0) (1) (4) (5)	16 S	
Rings for ICSSG1 Tx channel		8			8 8 6 8		
Rings for ICSSG1 Rx channel		64		7 73	0 0	\$ 15	
ICSSG1 Rx flows		64					

Yaml file creation steps

1. RESASG_SUBTYPE_PKTDMA_RING_ICSSG_1_TX_CHAN = 0x0795 = 1941 MAIN_0_R5_0 = 35 MAIN_0_R5_1 = 36

Corresponding Entry in Yaml

```
960
961
962
                     start_resource: 104
963
                     num_resource: 8
964
                     type: 1941
                     host_id: 35
965
966
                     reserved: 0
967
968
                     start_resource: 104
969
                     num_resource: 8
970
                     type: 1941
                     host_id: 36
971
972
                     reserved: 0
973
```

2. RESASG_SUBTYPE_PKTDMA_RING_ICSSG_1_RX_CHAN = 0x079D = 1949 MAIN_0_R5_0 = 35

 $MAIN_0_R5_1 = 36$

```
Meld diff
```

```
resource = 04,
.type = RESASG_UTYPE (AM64X_DEV_DMASS0_PKTDMA_0,
.start_resource = 224,
.num_resource = 64,
.type = RESASG_UTYPE (AM64X_DEV_DMASS0_PKTDMA_0,
.RESASG_SUBTYPE_PKTDMA_RING_ICSSG_1_RX_CHAN)

.host_id = HOST_ID_MAIN_0_RS_0,
.start_resource = 64,
.type = RESASG_UTYPE (AM64X_DEV_DMASS0_PKTDMA_0,
.start_resource = 10,
.host_id = HOST_ID_MAIN_0_RS_1,
.start_resource = 0,
.host_id = HOST_ID_MAIN_0_RS_1,
.start_resource = 10,
.host_id = HOST_ID_MAIN_0_RS_1,
.start_resource = 10,
.host_id = HOST_ID_MAIN_0_RS_1,
.host_id = HOST_ID_MAIN_0_RS_1,
.type = RESASG_UTYPE (AM64X_DEV_DMASS0_PKTDMA_0,
.host_id = HOST_ID_MAIN_0_RS_1,
.type = RESASG_UTYPE (AM64X_DEV_DMASS0_PKTDMA_0,
.host_id = HOST_ID_MAIN_0_RS_1,
.host_id = HOST_ID_MAIN_0_RS_1,
.type = RESASG_UTYPE (AM64X_DEV_DMASS0_PKTDMA_0,
.host_id = HOST_ID_MAIN_0_RS_1,
.host_id = HOST_ID_MAIN_0_RS_1,
.type = RESASG_UTYPE (AM64X_DEV_DMASS0_PKTDMA_0,
.host_id = HOST_ID_MAIN_0_RS_1,
.host_id = HOST_ID_MAIN_0_RS_1,
.type = RESASG_UTYPE (AM64X_DEV_DMASS0_PKTDMA_0,
.type = RESASG_UTYPE (AM64X_DEV_DMASS0_PKTDMA_
```

Corresponding Entry in Yaml

```
1065
1066
                     start_resource: 224
1067
                     num_resource: 64
1068
                     type: 1949
1069
                     host_id: 35
1070
                     reserved: 0
1071
1072
                     start_resource: 224
1073
1074
                     num_resource: 64
                     type: 1949
1075
1076
                     host_id: 36
1077
                     reserved: 0
1078
```

3. RESASG_SUBTYPE_PKTDMA_ICSSG_1_TX_CHAN = 0x07A8 = 1960 MAIN 0 R5 0 = 35

```
MAIN 0 R5 1 = 36
```

```
Meld diff
```

Corresponding Entry in Yaml

```
1157
                              start_resource: 34
   1158
                              num_resource: 8
   1159
                              type: 1960
                              host_id: 35
   1160
   1161
                              reserved: 0
   1162
   1163
   1164
                              start_resource: 34
   1165
                              num_resource: 8
   1166
                              type: 1960
   1167
                              host id: 36
                              reserved: 0
   1168
   1169
   1170
4. RESASG SUBTYPE PKTDMA ICSSG 1 RX CHAN = 0x07B7 = 1975
   MAIN 0 R5 0 = 35
   MAIN 0 R5 1 = 36
   Meld diff
    acket DMA ICSSG1 Rx channel */
                                                    .type = RESASG_UTYPE (AM64X_DEV_DMASS0_PKTDMA_0,
RESASG_SUBTYPE_PKTDMA_ICSSG_1_RX_CHAN),
.host_id = HOST_ID_MAIN_0_R5_0,
      .start_resource = 25,
    .start_resource = 25,
                                                    acket DMA ICSSG1 Rx flows */
                                                    .host_id = HOST_ID_MAIN_0_R5_1,
      .start resource = 112,
   Corresponding Entry in Yaml
   1352
   1353
                               start_resource: 25
   1354
                               num_resource: 4
                               type: 1975
   1355
                               host_id: 35
   1356
                               reserved: 0
   1357
   1358
   1359
                               start_resource: 25
   1360
   1361
                               num_resource: 4
   1362
                               type: 1975
                               host_id: 36
   1363
   1364
                               reserved: 0
   1365
5. RESASG SUBTYPE PKTDMA FLOW ICSSG 1 RX CHAN= 0x07B8 = 1976
   MAIN 0 R5 0 = 35
   MAIN 0 R5 1 = 36
   Meld diff
                                                    .num resource = 64.
    ket DMA ICSSG1 Rx flows */
                                                   .start resource = 112.
     .num_resource = 64,
.type = RESASG_UTYPE (AM64X_DEV_DMASS0_PKTDMA_0,
    RESASG_SUBTYPE_PKTDMA_FLOW_ICSSG_1_RX_CHAN),
.host_id = HOST_ID_A53_2,
                                                    .start_resource = 112,
                                                   ket DMA Ring accelerator error event */
    .start_resource = 0,
```

1156

1366	-	
1367		start_resource: 112
1368		num_resource: 64
1369		type: 1976
1370		host_id: 35
1371		reserved: 0
1372		
1373	-	
1374		start_resource: 112
1375		<pre>num_resource: 64</pre>
1376		type: 1976
1377		host_id: 36
1378		reserved: 0
1379		