RTL9607C
SINGLE-CHIP PON

Port Translation Application Note
(CONFIDENTIAL: Development Partners Only)

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REVISION HISTORY

Revision	Release Date	Summary
1.0.0	2017/05/31	First Release

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1. Overview

The port number and port mask parameter in RTK API is using chip physical port number, but the mapping for physical port maybe different for current chip and next generation.

Example:
Physical port mapping for chip version A might be shown as the following figure 1

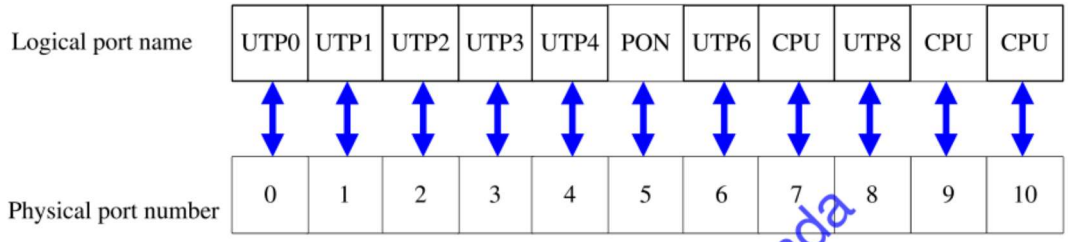

Figure 1. port mapping of chip version A

Physical port mapping for chip version B might be shown as the following figure 2

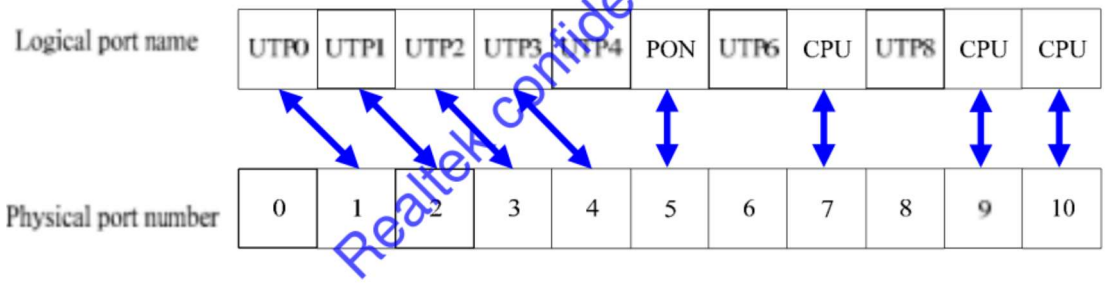

Figure 2. port mapping of chip version B

If programmer using physical port number in software database, while changing chip to new version the software code need do some modification. If software using logical port number in software database and call RTK port translate API before calling RTK API when chip version changed the S/W code will compatible for new chip.

For forward compatible RTK API provides RTK port translation API for logical port and physical port translate.

2. API

2.1. Sample code

int32
rtk_switch_phyPortId_get(

rtk_switch_port_name_t portName, int32 *pPortId)

Get physical port id from logical port name

int32

rtk_switch_logicalPort_get(

int32 portId, rtk_switch_port_name_t *pPortName)

Get logical port name from physical port id

The logical port name would be:

```
typedef enum rtk_switch_port_name_e
{
    RTK_PORT_UTP0 = 0,
    RTK_PORT_UTP1,
    RTK_PORT_UTP2,
    RTK_PORT_UTP3,
    RTK_PORT_UTP4,
    RTK_PORT_UTP5,
    RTK_PORT_UTP6,
    RTK_PORT_UTP7,
    RTK_PORT_UTP8,
    RTK_PORT_UTP9,
    RTK_PORT_UTP10,
    RTK_PORT_UTP11 = 63,
    RTK_PORT_PON = 128,
    RTK_PORT_FIBER = 256,
    RTK_PORT_EXT0 = 512,
    RTK_PORT_EXT1 = 1024,
    RTK_PORT_EXT2 = 2048,
#if defined(CONFIG_SDK_RTL9607C)
```

```
    RTK_PORT_CPU2 = 32704,
    RTK_PORT_CPU1 = 32736,
    RTK_PORT_CPU0 = 32768,
    RTK_PORT_CPU  = 32768,
#else
    RTK_PORT_CPU = 32768,
#endif
    RTK_PORT_NAME_END
} rtk_switch_port_name_t;
```

Example:

```
/* set UTP port 0 port based priorty to 0*/

uint32 phyPortNum;

rtk_switch_phyPortId_get(RTK_PORT_UTP0, &phyPortNum);
rtk_qos_portPri_set(phyPortNum, 0);
```


int32

rtk_switch_port2PortMask_set(rtk_portmask_t *pPortMask, rtk_switch_port_name_t portName)

int32

rtk_switch_portIdInMask_check(rtk_portmask_t *pPortMask, rtk_switch_port_name_t portName)

int32

rtk_switch_port2PortMask_clear(rtk_portmask_t *pPortMask, rtk_switch_port_name_t portName)

User could use this API for port mask operation.

Example:

```
/* assign member port Vlan 100
tag port member : UTP0, PON port
untag port member : UTP0 port
*/
rtk_portmask_t tagMember;
rtk_portmask_t untagMember;
/*clear port mask*/
```

```
RTK_PORTMASK_RESET(tagMember);
RTK_PORTMASK_RESET(untagMember);
/*add UTP0, PON to tagMember */
rtk_switch_port2PortMask_set(&tagMember, RTK_PORT_UTP0);
rtk_switch_port2PortMask_set(&tagMember, RTK_PORT_PON);

/*add UTP0 to untagMember */
rtk_switch_port2PortMask_set(&untagMember, RTK_PORT_UTP0);

/*set membet to Vlan 100*/
rtk_vlan_port_set(100, &tagMember, &untagMember)
```

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