

From: [Hampson, Grant \(S&A, Marsfield\)](#)
To: [Waterson, Mark](#); [Hayden, Daniel](#); [Gianni Comoretto](#); [Jourjon, Guillaume](#)
Subject: RE: How will SPS obtain CBF MAC addresses?
Date: 29 November 2021 21:43:12

Hi Mark,

Yes I can confirm Gianni's statement. We agreed that the P4 switch will provide SPS with a MAC address upon the reception of an ARP request. Yes the ICD needs to be updated to reflect this. We are not the owner of the ICD but could suggest some words for the change (and let the SKAO raise the ECP).

Regards,
Grant

From: Waterson, Mark <Mark.Waterson@skao.int>
Sent: Tuesday, 30 November 2021 1:29 AM
To: Hayden, Daniel <Daniel.Hayden@skao.int>; Gianni Comoretto <giovanni.comoretto@inaf.it>; Hampson, Grant (S&A, Marsfield) <Grant.Hampson@csiro.au>
Subject: RE: How will SPS obtain CBF MAC addresses?

This confirms what I recall, that both "sides" are assuming ARP + P4 routing. This differs from the situation at the LFAA CDR so the ICD is probably out of date.

There is no discussion needed – someone needs volunteer to update the ICD and raise an ECP.

However, there remains an open issue: the global scheme for assigning addresses within SKA has never been agreed, because several stakeholders were not represented. Gianni has proposed an scheme for defining the local address space in the attached document, but this is an issue for the software architects and Networks to resolve as there are global implications, and a dependence on security as well as agreement on the level of virtual LANs (VLANs) that are accepted.

I think you would be right in raising this as a gap, independent from the use of ARP to discover the addresses.

From: Hayden, Daniel <Daniel.Hayden@skao.int>
Sent: 29 November 2021 12:53
To: Gianni Comoretto <giovanni.comoretto@inaf.it>; Hampson, Grant <grant.hampson@csiro.au>; Waterson, Mark <Mark.Waterson@skao.int>
Subject: RE: How will SPS obtain CBF MAC addresses?

Hi Gianni, Grant, Mark

Gianni – thanks for this

Grant – can you please confirm if Gianni's interpretation below is correct?

All – it seems we need a discussion on how to propagate IP addresses to SPS and CBF.. do you agree? Are you all free at either or both of 8:30AM UK time next Thursday or Friday to have a quick discussion about this?

Kind regards
Daniel

From: Gianni Comoretto <giovanni.comoretto@inaf.it>
Sent: 25 November 2021 12:12
To: Hayden, Daniel <Daniel.Hayden@skao.int>
Subject: Re: How will SPS obtain CBF MAC addresses?

The MAC address is obtained using ARP. It is only necessary to have the IP address. The IP address will be that of the P4 switch port, as the switch itself then routes the packets to the correct final IP/MAC. (this is what I remember when this issue was raised several months ago, and Grant answered the P4 switch can present a given IP address to the external world.

So:

- Grant should comment if the above interpretation is correct
- Having a general policy for assigning IP addresses in SKA
- deciding how to propagate the IP addresses to SPS and CBF.

Il 25/11/21 12:56, Hayden, Daniel ha scritto:

Hi Grant, Gianni

Please see the email thread below. An ECP is being processed which proposes that the CBF uses ARP to obtain SDP destination MAC addresses. Our question is – do we need the same for SPS to CBF?

Are you both free either or both of 8:30AM UK time next Thursday or Friday to have a quick discussion about this?

Kind regards
Daniel

From: Waterson, Mark <Mark.Waterson@skao.int>
Sent: 25 November 2021 11:51
To: Hayden, Daniel <Daniel.Hayden@skao.int>; Lewis, Peter <Peter.Lewis@skao.int>
Subject: RE: How will SPS obtain CBF MAC addresses?

I think it does use ARP to obtain network destinations but in fact the routing uses the SPEAD packet contents, not MAC addresses. I believe the TOM firmware now includes the ability to deal with ARP as a result of upgrading the transceiver IP block with the move to TPM1.6.

However, this has been discussed already in the context of the P4 switch upgrade ECP and the changes to the SDP interface you mention. I think we need to include Grant Hampson and Gianni Comoretto in any discussion as I would just be repeating their comments (probably incorrectly) anyway.

Please contact them and set up a briefing with us so that we don't waste anyone's

time.
Mark

-----Original Appointment-----

From: Hayden, Daniel <Daniel.Hayden@skao.int>

Sent: 25 November 2021 11:36

To: Waterson, Mark; Lewis, Peter

Subject: How will SPS obtain CBF MAC addresses?

When: 30 November 2021 14:00-14:30 (UTC+00:00) Dublin, Edinburgh, Lisbon, London.

Where: <https://skatelescope.zoom.us/j/8809339063?pwd=TWViajBZS1pOOWZOa1dYWjBCckZXdz09>

Hi Pete, Mark

Could we have a quick discussion about whether SPS will need to use ARP to obtain CBF MAC addresses? An ECP has been raised to propose that CBF uses ARP to obtain SDP destination MAC addresses. Should the same apply to SPS?

<https://skatelescope.zoom.us/j/8809339063?pwd=TWViajBZS1pOOWZOa1dYWjBCckZXdz09>

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