

RIC SUBSCRIPTION DELETE REQUIRED

Capgemini Engineering

AGENDA

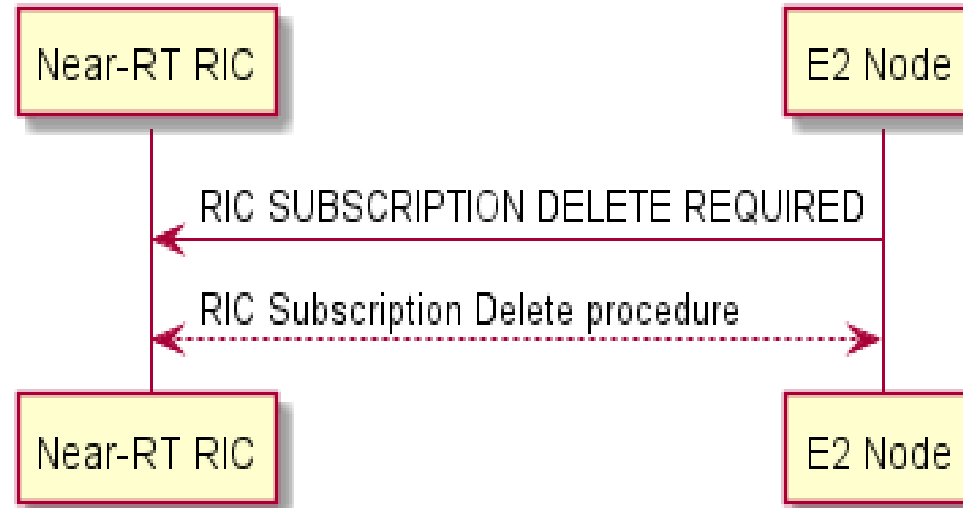


- Present E2AP: RIC Subscription delete required procedure design
- Discuss impact of Near RT RIC component modules
- Discuss workflow of E2AP: RIC Subscription delete required procedure
- Overview of Capgemini Engineer Near RT RIC Solution
- Demonstration with sample xApp and E2 Simulator



PROCEDURE DESCRIPTION

ORAN.WG3.E2AP-02.xx.xx defines RIC deletion required procedure which enables E2 Node to request deletion of the existing RIC Subscriptions in the E2 Node previously created for the Near-RT RIC.



| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|----------|--------------------------------|-----------------------|-----------------------|-------------|----------------------|
| Message Type | M | | 9.2.3 | | YES | reject |
| List of RIC Subscriptions To Be Removed | | 1.. <maxofRICreque stID> | | | EACH | ignore |
| >RIC Request ID | M | | 9.2.7 | | - | - |
| >RAN Function ID | M | | 9.2.8 | | - | - |
| >Cause | M | | 9.2.1 | | - | - |

Near RT RIC releases necessary resources related to that RIC Subscription and initiate the RIC Subscription Delete procedure toward the E2 Node.

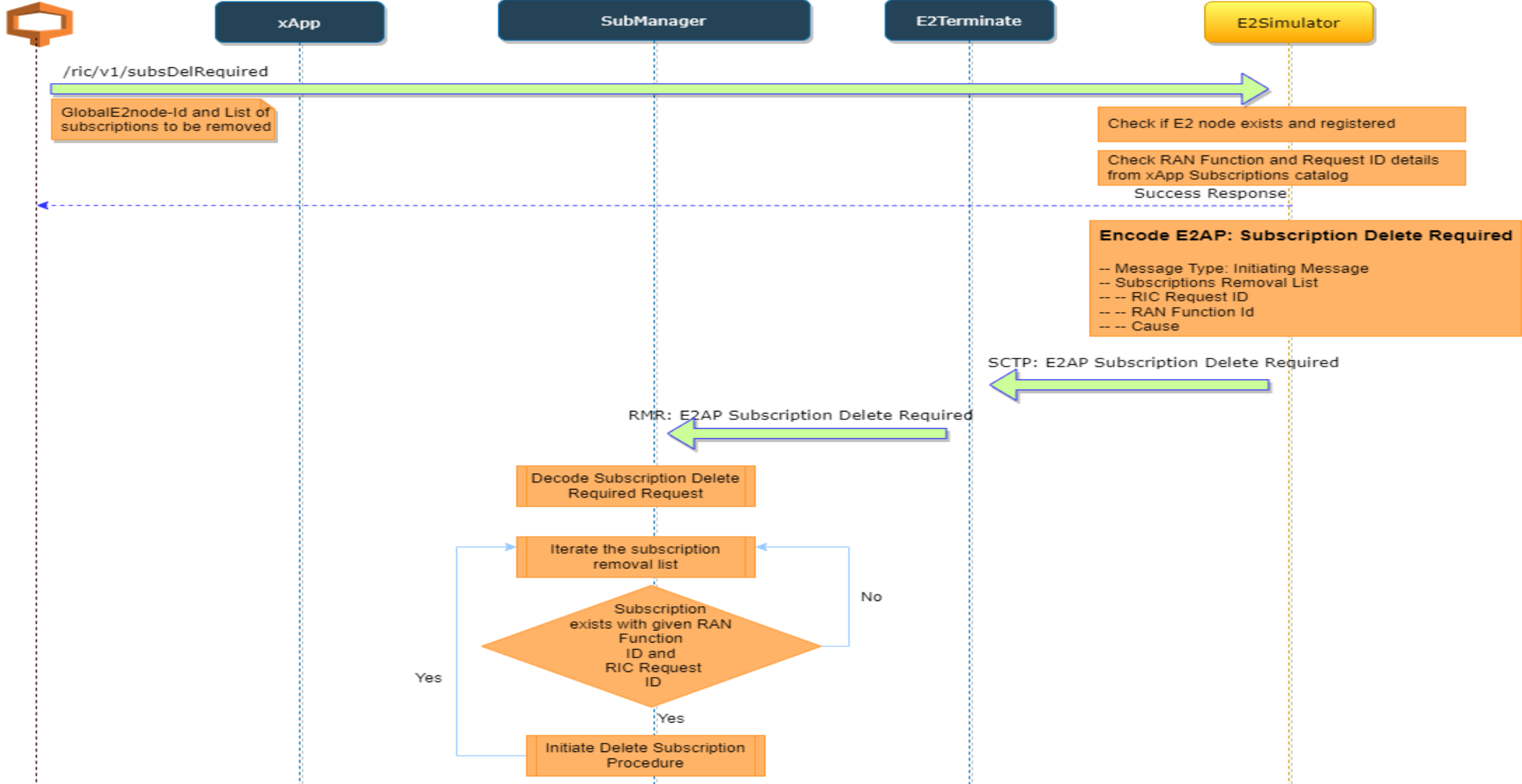
MODULE IMPACTS



The implementation is aligned with O-RAN.WG3.E2AP-v02.03. It involves changes across multiple platform modules/libraries

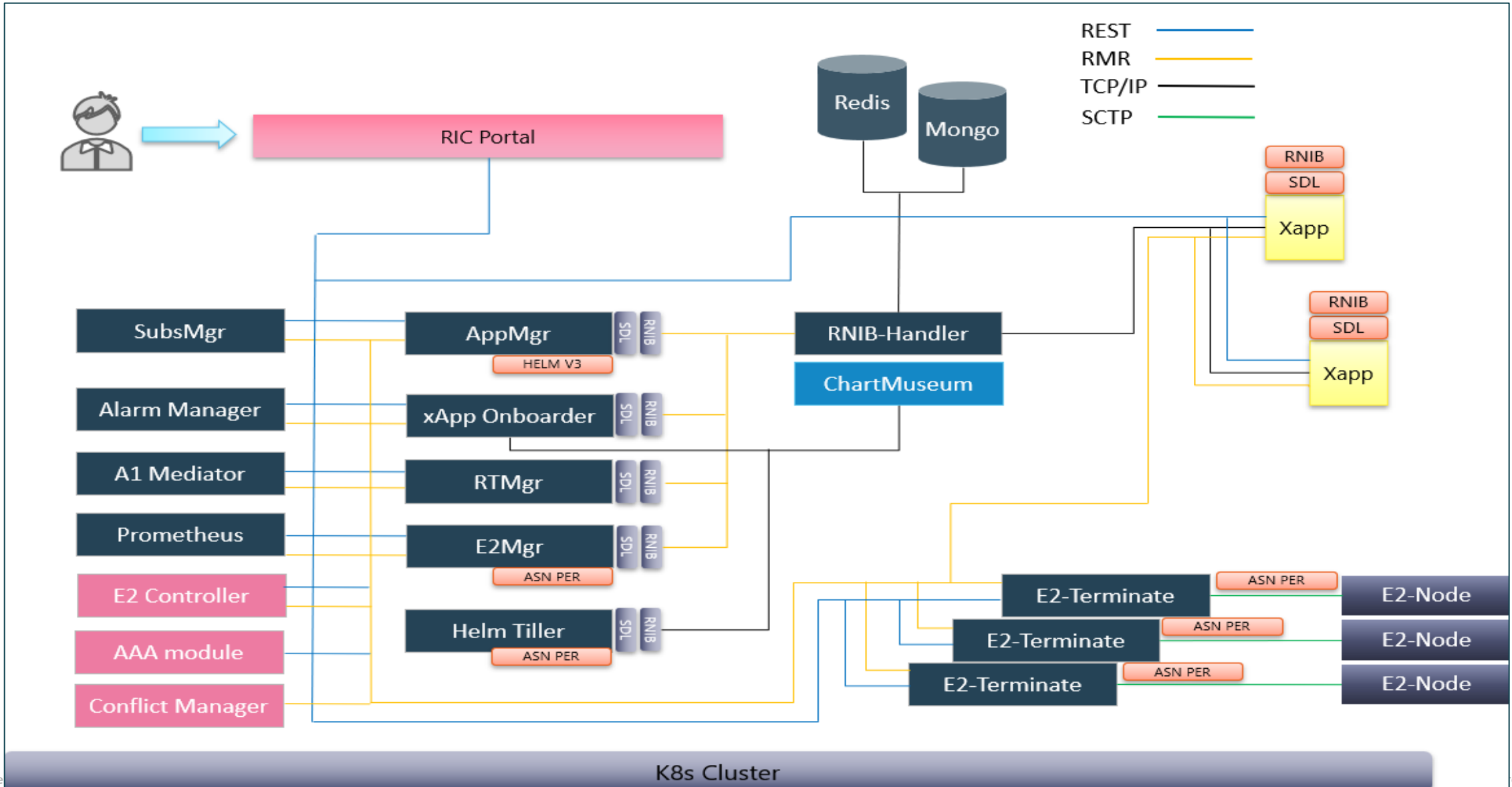
| Module | Changes Summary |
|----------------------|--|
| RMR | Defined Message Type : RIC_SUB_DEL_REQUIRED: 12023 |
| Xapp-frame | Defined constant to access Message Type RIC_SUB_DEL_REQUIRED defined in RMR |
| Ric-dep | Updated Route Manager Helm Package to define static route entry for RIC_SUB_DEL_REQUIRED { 'messagetype': 'RIC_SUB_DEL_REQUIRED', 'senderendpoint': '', 'subscriptionid': -1, 'endpoint': 'SUBMAN', 'meid': ""}, |
| E2 Termination | Enhanced this module to handle RIC Subscription Delete Required Procedure received from E2 Node via SCTP and forward the request to Subscription Manager via RMR Defined counters for RIC Subscription Delete Required |
| Subscription Manager | <ul style="list-style-type: none">Enhanced this module for receiving RIC_SUB_DEL_REQUIRED via rmr.Implemented C and GO structures and defined the handling for unpacking the RIC_SUB_DEL_REQUIRED request.Process the request to validate if the subscriptions in the request are valid by comparing the data with the platform subscriptions and invoke delete subscription request for all the valid subscriptions present in the request. |

WORKFLOW





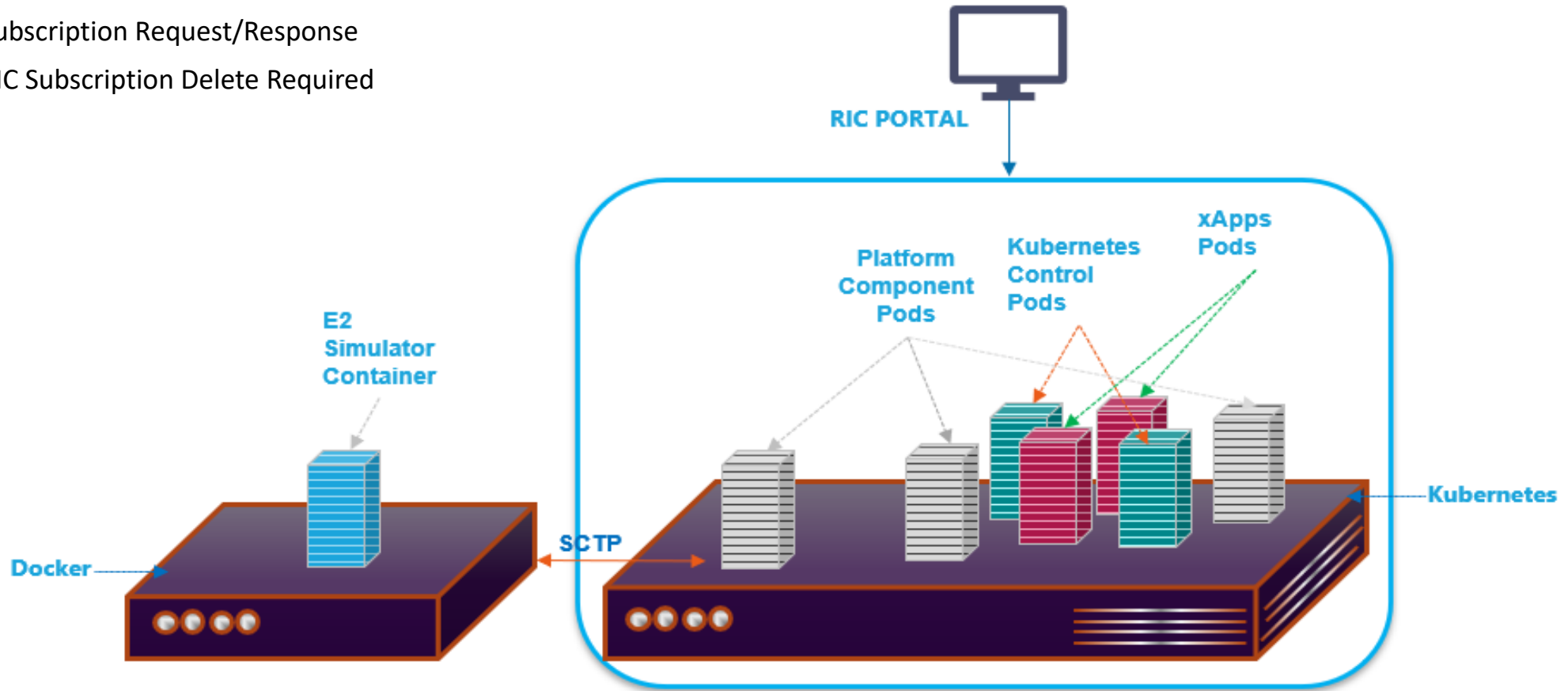
Capgemini Near-RT RIC Overall Design





DEMO SETUP

- Capgemini xApp on-boarding/deploy on Capgemini's Near RT RIC
- E2 Interfacing with Capgemini E2 Simulator
 - E2 Setup Request/Response
 - Subscription Request/Response
 - RIC Subscription Delete Required



CODE REVIEW



| | |
|---|--|
| Thoralf Czichy | Patchset 1 Jan 20 ^ |
| <p>I am fine if this part is not implemented. The E2 arch spec O-RAN.WG3.RICARCH shows this step (sending "E2 Subscription Delete Query" and waiting for a reply) as optional, but if we do it we also have to wait for the reply (with some timer) and handle it correctly.</p> <p>As the spec leaves the possibility that a valid RIC implementation does not sent "E2 Subscription Delete Query" - and just deletes the subscriptions, I think, it would be good to have a config parameter for the sub mgr that defines whether to send these "E2 Subscription Delete Query" messages to xApps or whether to just delete the subscriptions for which the E2 node send a "delete required".</p> <p>But as mentioned above, I think, an implementation is already good if it just deletes the subscriptions without further xApp involvement (other than the post-fact notification that the subscription has been successfully removed).</p> | |
| Gunja Rastogi | Ack Thanks for your feedback. We will update the code ... Patchset 1 v |
| Thoralf Czichy | Patchset 1 Jan 26 ^ |
| <p>The code related to "Delete _required_" - which right now seems to consist only of the TODO comment - is ok to delete. I don't see this capability as a high value-add or at least it does not seem to justify the effort. I also doubt that there will be many xApps that actually do anything else than say "ok, pls. proceed to remove".</p> | |
| Gunja Rastogi | Patchset 1 Feb 13 ^ |
| <p>Removed the xApp involvement for this procedure. Please review the changes</p> | |