

# 2022 Q1 (Jan, Feb, Mar)

- [2022 03 30](#)
- [2022 03 23](#)
- [2022 03 16](#)
- [2022 03 09](#)
- [2022 03 02](#)
- [2022 02 23](#)
- [2022 02 16](#)
- [2022 02 09](#)
- [2022 02 02](#)
- [2022 01 26](#)
- [2022 01 19](#)
- [2022 01 12](#)
- [2022 01 05](#)

## 2022 03 30

Recording: [2022-03-30](#)

### Agenda

1. Call for Scribe (minutes owner): [MASAFUMI MASUDA](#)
2. Roll Call & Quorum Check

Company	Contact Name	Attendance	Alternate Contact	Attendance
<a href="#">AT&amp;T</a>	Jack Murray Co-Chair	x	David Kinsey	
<a href="#">China Mobile</a>	Jinri Huang Co-Chair	x	James Li	
<a href="#">Deutsche Telekom</a>	David Streibl		Ondej Hudousek	
<a href="#">Ericsson</a>	John-Paul Lane	x	John Keeneyx	
<a href="#">NTT DOCOMO</a>	Masafumi Masuda	x	Anil Umesh	
<a href="#">Nokia</a>	Arunkumar Halebid		Thoralf Czichy	x
<a href="#">Orange</a>	William Diego	x	Vincent Danno	
<a href="#">Radisys</a>	Ganesh Shenbagaraman		Manasi Padhy	
<a href="#">TIM</a>	Andrea Buldorini	x	Scarpina Salvatore	
<a href="#">Wind River</a>	Bin Yang		Jackie Huang	x
<a href="#">Viavi Solutions</a>	Ultan Kelly	x	Kexuan Sun	

\*Quorum: 50% or more of total TOC voting members unless excluded due to attendance.

3. Review and Agree to Minutes of Previous Meeting
  - a. **Decision:** Minutes for TOC meeting approval: proposed by [MASAFUMI MASUDA](#) seconded by [Andrea Buldorini](#). The motion is approved.
4. Review of Today's Agenda
5. Release Votes and Approval
6. Copyright update
  - a. Is SCCL discussion progressing in O-RAN Alliance? Does the Alliance have plans to publish code-like specifications under SCCL anytime soon? Need to follow up with O-RAN legal team and O-RAN EC to determine current status of SCCL.
    - i. This is currently stalled and we are waiting on updates from O-RAN legal team.
7. O-RAN-related business (marketing, WG interaction, TSC/EC update etc.)
  - a. F2F Meeting
    - i. Jinri: EC has decided to make the June F2F Meeting virtual and the October one physical.
    - ii. Jack: Where is the October one?
    - iii. Jinri: It has not been decided yet.
    - iv. Jack: We need to be prepared for the June one. We have some items as part of the F Release and planning for the G Release.
  - b. TOC Nomination
    - i. **Action Point:** Jinri to get reaffirmation from TSC for the 6 seats including Samsung as of April 6.
  - c. Plugfest
    - i. Jinri: There are 2 plugfests this year. It will be great if we can have regular updates on the preparation work.
    - ii. Jack: I don't see Tracy today. We will talk about it next week.
8. Old business and Status of Open Actions
  - a. "F" Release:
    - i. **Action Point:** PTLs to add a line showing code coverage stats for F release by March 30.

- b. OSC labs
  - i. James Li: We are trying to do some testing on the O-Cloud already set up in the New Jersey lab.
  - ii. Thoralf: Did you send an email on this topic?
  - iii. James Li: Yes(<https://lists.o-ran-sc.org/g/discuss/message/492>).
  - iv. David Kinsey: We are trying to address network issues.
  - v. Jack: Let's keep working. Anything else?
  - vi. James Li: The Taiwan lab is active in lab setup. IEEE will have the international symposium.
- c. 5G Super Blueprint status - tabled for D and E, will be re-evaluated for F release.
  - i. Tag this activity for G release.
- 9. Standing Agenda Items (Brief Status of Ongoing Activities)
  - a. Release Manager [Trishan de Lanerolle /Release Planning](#): Weekly TOC Scheduling
    - i. Trishan has moved on. Need to work with LF to secure a replacement.
  - b. Requirements Software Architecture Committee
    - i. Updates
    - ii. OTF Workshop
      - 1. OTF Workshop will be held on the April 7.
    - iii. "G" Release
      - 1. David Kinsey: We haven't been pushing G Release. We are trying to make sure we get a firm foundation.
      - 2. Jack: How do we track our support of MVP?
      - 3. David Kinsey: Rittwik and I do coordinate, but do not measure. We will work to see how we measure.
  - c. Report out from PTL: Stand-Up & Report Out on Blockers
    - i. [James Li](#) Integration and Testing (INT)
    - ii. [Mahesh Jethanandani](#) Service Management and Orchestration (SMO)
      - 1. Jack: Do you have updates on how you are doing with code coverage and software testing?
      - 2. Mahesh: We have the capability of code testing that's been committed.
      - 3. Jack: I'd like you to add a section that documents what percentage coverage.
    - iii. [John Keeney](#) Non-Real Time RIC (RAN Intelligent Controller) (NONRTRIC)
      - 1. John Keeney: The code coverage is excellent. I'm trying to figure out what should be shown here.
      - 2. Jack: If people have an idea how we can improve, I'm happy to discuss it.
    - iv. [SUNIL SINGH](#) RIC Applications (RICAPP)
      - 1. Jack: There is a number of xApps, so we are focusing on the active ones getting the most attention. If you can update the page, that would be great.
      - 2. Sunil: Sure.
    - v. [Thoralf Czichy](#) RIC Platform (RIC)
      - 1. Jack: You can create a line in the table that conveys code coverage percentage or other useful information.
      - 2. Thoralf: I can put the link to what we discussed in the project.
    - vi. (TBD) O-RAN Centralized Unit (OCU)
    - vii. [user-30c9d](#) O-RAN Distributed Unit High (ODUHIG)
      - 1. Ankit: There is a challenge. I'll discuss in the team.
      - 2. Jack: Let's make progress.
    - viii. [Luis Farias](#) O-RAN Distributed Unit Low (ODULOW)
    - ix. [Martin Skorupski](#) Operations and Maintenance (OAM)
      - 1. Martin: I need to add lists and links. The code coverage is about 60%.
    - x. [Alex Stancu](#) Simulations (SIM)
      - 1. Martin: Alex has a little trouble with setting up. He will contact LF.
    - xi. [Jackie Huang](#) Infrastructure (INF)
      - 1. Jackie: This is a downstream project. The code coverage relies on the upstream community.
      - 2. Jack: You need to put some information here.
    - xii. [weichen ni](#) Documentation (DOC)
    - xiii. (TBD) O-RAN Radio Unit (ORU)
- 10. New Agenda Items (New Business): New Items Submitted (+speaker) & Open Call to TOC For Additional Items
- 11. Planning for Next Meeting
- 12. Any Other Business (AOB)
- 13. Meeting Summary (resolutions, new action items, etc.)

## 2022 03 23

Recording: [2022-03-23](#)

### Agenda

1. Call for Scribe (minutes owner): [MASAFUMI MASUDA](#)
2. Roll Call & Quorum Check

Company	Contact Name	Attendance	Alternate Contact	Attendance
<a href="#">AT&amp;T</a>	Jack Murray Co-Chair	x	David Kinsey	
<a href="#">China Mobile</a>	Jinri Huang Co-Chair	x	James Li	
<a href="#">Deutsche Telekom</a>	David Streibl	x	Ondej Hudousek	

Ericsson	John-Paul Lane	x	John Keeneyx	
NTT DOCOMO	Masafumi Masuda	x	Anil Umesh	
Nokia	Arunkumar Halebid		Thoralf Czichy	x
Orange	William Diego		Vincent Danno	
Radisys	Ganesh Shenbagaraman	x	Manasi Padhy	
TIM	Andrea Buldorini	x	Scarpina Salvatore	
Wind River	Bin Yang	x	Jackie Huang	
Viavi Solutions	Ultan Kelly	x	Kexuan Sun	

\*Quorum: 50% or more of total TOC voting members unless excluded due to attendance.

3. Review and Agree to Minutes of Previous Meeting

- a. **Decision:** Minutes for TOC meeting approval: proposed by [MASAFUMI MASUDA](#) seconded by [Thoralf Czichy](#) . The motion is approved.

4. Review of Today's Agenda

5. Release Votes and Approval

6. Copyright update

- a. Is SCCL discussion progressing in O-RAN Alliance? Does the Alliance have plans to publish code-like specifications under SCCL anytime soon? Need to follow up with O-RAN legal team and O-RAN EC to determine current status of SCCL.

- i. This is currently stalled and we are waiting on updates from O-RAN legal team.

7. O-RAN-related business (marketing, WG interaction, TSC/EC update etc.)

- a. June F2F Meeting

- i. Jinri: There was no conclusion in the TSC meeting last Friday. Probably there will be a decision this week.

- b. TOC Nomination

- i. **Action Point:** Jinri to get reaffirmation from TSC for the 6 seats including Samsung as of April 6.

8. Old business and Status of Open Actions

- a. "F" Release:

- i. **Action Point:** PTLs to add a line showing code coverage stats for F release by March 30.

- ii. Jack: Is there any progress for the initial Dev cycle?

- iii. David Kinsey: We have been trying to get OCU.

- iv. Jack: Who is the point person?

- v. David Kinsey: There is no real development team. Ankit from Radisys, Jakie from WInd River and myself are trying to figure out where the parts are.

- vi. Ankit: YANG model file needs to be filled by a person from O-Cloud.

- vii. Bin: I'm following this activity as a O-Cloud provider.

- viii. Jack: David, can you kick off an email? We also need to improve documentations on the lab.

- ix. David Kinsey: We are trying to collect a good set of documentation repeatable across the different labs. We have to work with our documentation PTL.

- x. Jack: You can work with James as a key contributor.

- b. OSC labs

- i. Jack: There is some progress on the clock issue at the New Jersey Lab.

- ii. Jack: Please encourage your companies to participate the spring plugfest.

- c. 5G Super Blueprint status - tabled for D and E, will be re-evaluated for F release.

- i. Tag this activity for G release.

9. Standing Agenda Items (Brief Status of Ongoing Activities)

- a. Release Manager [Trishan de Lanerolle /Release Planning](#): Weekly TOC Scheduling

- i. Trishan has moved on. Need to work with LF to secure a replacement.

- b. Requirements Software Architecture Committee

- i. Updates

- ii. OTF Workshop

- 1. David Kinsey: My recommendation is to push the OTF Workshop for a week.

- 2. Jack: Let's push it for 2 weeks and take the time to get it working, tested and documented.

- 3. Jinri: Will it be recorded?

- 4. David: Yes. We will do that on the April 7.

- 5. Jinri: I recommend you to announce this event.

- iii. Security

- 1. Jack: Robert, do you have any follow-up questions?

- 2. Robert Webb: My questions are answered well.

- 3. Jack: This is something that we want to make continuous improvement.

- iv. "G" Release

- 1. Jack: They start gathering things for the G Release. The F2F meeting is an opportunity to interact with key activities. Our biggest challenge is our limited integration and test team size.

- 2. Jack: What's the next piece after the OCU?

- 3. David Kinsey: It would be trying to get the SMO and the Near-RT RIC pieces.

- c. Report out from PTL: Stand-Up & Report Out on Blockers

- i. [James Li](#) Integration and Testing (INT)

- ii. [Mahesh Jethanandani](#) Service Management and Orchestration (SMO)

- iii. [John Keeney](#) Non-Real Time RIC (RAN Intelligent Controller) (NONRTIC)

- iv. [SUNIL SINGH](#) RIC Applications (RICAPP)

- v. [Thoralf Czichy](#) RIC Platform (RIC)

- vi. (TBD) O-RAN Centralized Unit (OCU)

- vii. [user-30c9d](#) O-RAN Distributed Unit High (ODUHIGH)

- viii. [Luis Farias](#) O-RAN Distributed Unit Low (ODULOW)
- ix. [Martin Skorupski](#) Operations and Maintenance (OAM)
- x. [Alex Stancu](#) Simulations (SIM)
- xi. [Jackie Huang](#) Infrastructure (INF)
- xii. [weichen ni](#) Documentation (DOC)
- xiii. (TBD) O-RAN Radio Unit (ORU)
- 10. New Agenda Items (New Business): New Items Submitted (+speaker) & Open Call to TOC For Additional Items
- 11. Planning for Next Meeting
- 12. Any Other Business (AOB)
- 13. Meeting Summary (resolutions, new action items, etc.)

## 2022 03 16

Recording: [2022-03-16](#)

### Agenda

1. Call for Scribe (minutes owner): [MASAFUMI MASUDA](#)
2. Roll Call & Quorum Check

Company	Contact Name	Attendance	Alternate Contact	Attendance
<a href="#">AT&amp;T</a>	Jack Murray Co-Chair	x	David Kinsey	
<a href="#">China Mobile</a>	Jinri Huang Co-Chair	x	James Li	
<a href="#">Deutsche Telekom</a>	David Streibl	x	Ondej Hudousek	
<a href="#">Ericsson</a>	John-Paul Lane	x	John Keeneyx	
<a href="#">NTT DOCOMO</a>	Masafumi Masuda	x	Anil Umesh	
<a href="#">Nokia</a>	Arunkumar Halebid	x	Thoralf Czichy	
<a href="#">Orange</a>	William Diego		Vincent Danno	
<a href="#">Radisys</a>	Ganesh Shenbagaraman		Manasi Padhy	
<a href="#">TIM</a>	Andrea Buldorini	x	Scarpina Salvatore	
<a href="#">Wind River</a>	Bin Yang	x	Jackie Huang	
<a href="#">Viavi Solutions</a>	Ultan Kelly		Kexuan Sun	x

\*Quorum: 50% or more of total TOC voting members unless excluded due to attendance.

3. Review and Agree to Minutes of Previous Meeting
  - a. **Decision:** Minutes for TOC meeting approval: proposed by [MASAFUMI MASUDA](#) seconded by [John Paul Lane](#) . The motion is approved.
4. Review of Today's Agenda
  - a. TOC Renewal
    - i. Jack: Every year in March we renew the participants in the TOC 6 open positions.
  - b. Security Requirement
    - i. Robert: I want to understand security requirements and aspects around the software community.
5. Release Votes and Approval
6. Copyright update
  - a. Is SCCL discussion progressing in O-RAN Alliance? Does the Alliance have plans to publish code-like specifications under SCCL anytime soon? Need to follow up with O-RAN legal team and O-RAN EC to determine current status of SCCL.
    - i. This is currently stalled and we are waiting on updates from O-RAN legal team.
7. O-RAN-related business (marketing, WG interaction, TSC/EC update etc.)
  - a. O-RAN ALLIANCE Funding
    - i. **Action Point:** There is some O-RAN Alliance funding available for a one-time investment in improving our activity. If anyone has suggestions on how to improve / accelerate the work that we are doing, please bring your suggestions and ideas forward and we will discuss at the next TOC meeting.
  - b. F2F Meeting
    - i. Jinri: June F2F meeting has not been decided. TSC will discuss this Friday.
  - c. TOC Nomination
    - i. Jack: We recently filled our 12th position and approved with Samsung, correct?
    - ii. Jinri: Yes, is has been approved and reflected in the Board report.
    - iii. Jack: We need re-approval from TSC for the 6 seats as of April 6.
    - iv. Jinri: I can do that.
    - v. **Action Point:** Jinri to get re-approval from TSC for the 6 seats including Samsung as of April 6.
8. Old business and Status of Open Actions
  - a. Charter Update
  - b. Document Modification and Creation
  - c. "F" Release:

- i. **Action Point:** PTLs to add a line showing code coverage stats for F release.
  - d. OSC labs
    - i. Jinri: O-RAN ALLIANCE recently began the call for participation for the spring plugfest.
  - e. 5G Super Blueprint status - tabled for D and E, will be re-evaluated for F release.
    - i. Tag this activity for G release.
- 9. Standing Agenda Items (Brief Status of Ongoing Activities)
  - a. Release Manager [Trishan de Lanerolle](#) /Release Planning: Weekly TOC Scheduling
    - i. Trishan has moved on. Need to work with LF to secure a replacement.
  - b. Requirements Software Architecture Committee
    - i. Updates
      - 1. Rittwik: Yesterday we talked about the PTP thing and the Taiwan OSC Lab. With regard to the OCU deployment, Yang model file is being sent to all the labs.
      - 2. Jack: We don't have an open-source OCU. In the interim, we will use a test fixture that we get a binary from Radisys.
    - ii. OTF Workshop
      - 1. James: OTF workshop was pushed back for 2 weeks. We want to have all the projects understand how it works.
    - iii. Security
      - 1. Jack: All the active projects have completed the security badging. We have talked about security requirements in the RSAC committee.
      - 2. Rittwik: There are risk and threat analysis. If they come up with a concrete recommendation out of that in July train, then maybe we can implement some of that.
      - 3. Jinri: Do we have a regular communication channel with SFG?
      - 4. Rittwik: We join some of the SFG meetings.
      - 5. Jack: It's everyone's responsibility to bring these topics forward.
      - 6. Robert: There might be some opportunities to drive some security requirements in the RSAC.
    - iv. "G" Release
      - 1. Jack: The next F2F is the opportunity to highlight things for "G" Release.
  - c. Report out from PTL: Stand-Up & Report Out on Blockers
    - i. [James Li](#) Integration and Testing (INT)
      - 1. James: We talked about the POWDER testbed. It's a good resource.
      - 2. Tracy: The question is that is it reasonable or possible to commingle what they are doing now with acting as OSC Lab.
      - 3. Jack: We focused those labs on the bigger plugfests and other activities. It's the community to decide to leverage that.
    - ii. [Mahesh Jethanandani](#) Service Management and Orchestration (SMO)
    - iii. [John Keeney](#) Non-Real Time RIC (RAN Intelligent Controller) (NONRTRIC)
    - iv. [SUNIL SINGH](#) RIC Applications (RICAPP)
    - v. [Thoralf Czichy](#) RIC Platform (RIC)
    - vi. (TBD) O-RAN Centralized Unit (OCU)
    - vii. [user-30c9d](#) O-RAN Distributed Unit High (ODUHIGH)
    - viii. [Luis Farias](#) O-RAN Distributed Unit Low (ODULOW)
    - ix. [Martin Skorupski](#) Operations and Maintenance (OAM)
    - x. [Alex Stancu](#) Simulations (SIM)
    - xi. [Jackie Huang](#) Infrastructure (INF)
    - xii. [weichen ni](#) Documentation (DOC)
    - xiii. (TBD) O-RAN Radio Unit (ORU)
- 10. New Agenda Items (New Business): New Items Submitted (+speaker) & Open Call to TOC For Additional Items
- 11. Planning for Next Meeting
- 12. Any Other Business (AOB)
- 13. Meeting Summary (resolutions, new action items, etc.)

2022 03 09

Recording: [2022-03-09](#)

#### Agenda

- 1. Call for Scribe (minutes owner): [MASAFUMI MASUDA](#)
- 2. Roll Call & Quorum Check

Company	Contact Name	Attendance	Alternate Contact	Attendance
<a href="#">AT&amp;T</a>	Jack Murray Co-Chair	x	David Kinsey	
<a href="#">China Mobile</a>	Jinri Huang Co-Chair		James Li	x
<a href="#">Deutsche Telekom</a>	David Streibl	x	Ondej Hudousek	
<a href="#">Ericsson</a>	John-Paul Lane	x	John Keeney	
<a href="#">NTT DOCOMO</a>	Masafumi Masuda	x	Anil Umesh	
<a href="#">Nokia</a>	Arunkumar Halebid	x	Thoralf Czichy	
<a href="#">Orange</a>	William Diego		Vincent Danno	
<a href="#">Radisys</a>	Ganesh Shenbagaraman	x	Manasi Padhy	
<a href="#">TIM</a>	Andrea Buldorini	x	Scarpina Salvatore	
<a href="#">Wind River</a>	Bin Yang	x	Jackie Huang	
<a href="#">Viavi Solutions</a>	Ultan Kelly	x	Kexuan Sun	

\*Quorum: 50% or more of total TOC voting members unless excluded due to attendance.

3. Review and Agree to Minutes of Previous Meeting

- a. **Decision:** Minutes for TOC meeting approval: proposed by [MASAFUMI MASUDA](#) seconded by [John Paul Lane](#). The motion is approved.

4. Review of Today's Agenda

- a. Daylight saving time handling

i. All agreed to shift the meeting time one hour earlier starting the Mar-16 meeting being aligned with the US daylight saving time.

5. Release Votes and Approval

- a. AAL project

i. Request is to create a new repo under the O-DU Low project. Contribution is from Intel. Different license (BSD) needed for this repo.

1. Need to approve the creation of the repo in O-DU Low project.
2. Need to approve use of BSD license for contributions to the new repo.
3. Need to approve a committer for the repo - proposal is Niall Power (Intel).

ii. A written proposal was requested to describe the proposal and also questions have been sent to Intel. It would be good to get clarification on these issues before taking a vote.

iii. Response to request for further information is still outstanding. This issue will remain tabled.

iv. Niall presented the WG6 AAL repo details and his answers to Thoralf's questions.

1. Jack: Is that part of ODU LOW project?
2. Niall: That makes sense.
3. John-Paul: Do we need to make an exception for the BSD license?
4. Jack: TOC can approve a different open source license.

5. **Decision:** Request to create a new repo using the BSD-3 license under the ODU LOW project is proposed by [niall.power@intel.com](mailto:niall.power@intel.com) seconded by [user-2057e](#). Ten of 11 voting members (more than two-thirds defined in the charter) are for the proposal. The motion is approved.

- b. SMO project

i. Mahesh: I sent a request to change the name of a repo under the SMO (<https://lists.o-ran-sc.org/g/toc/message/666>).

ii. Jack: When we created the Near-RT RIC, we separated out a project for xApps. What should we do for rApps?

iii. Thoralf: One of the key criteria was the license issues.

iv. John-Paul: We would consider keeping the rApp in the same project as the Non-RT RIC and if we saw a need to split them later, then we could create a separate project.

v. Jack: We don't need an answer for the topic today. We need to have periodical discussions on those items. I'll return to Mahesh's request.

vi. **Decision:** Request to change the name of smo/app to smo/pkg is proposed by [Mahesh Jethanandani](#) seconded by [John Paul Lane](#). The motion is approved.

6. Copyright update

1. Is SCCL discussion progressing in O-RAN Alliance? Does the Alliance have plans to publish code-like specifications under SCCL anytime soon? Need to follow up with O-RAN legal team and O-RAN EC to determine current status of SCCL.

1. This is currently stalled and we are waiting on updates from O-RAN legal team.

1. John-Paul: It is unlikely to see SCCL license being published before the March train cut off.

2. Jack: I'll raise the question to see if we can get an answer from Jinri in next week's call.

7. O-RAN-related business (marketing, WG interaction, TSC/EC update etc.)

1. **Action Point:** There is some O-RAN Alliance funding available for a one-time investment in improving our activity. If anyone has suggestions on how to improve / accelerate the work that we are doing, please bring your suggestions and ideas forward and we will discuss at the next TOC meeting.

2. TOC nomination

1. Avinash: I want to check the status of the TOC nomination. I will send a reminder email.

2. Jack: To follow the process, I'm going to look for a confirmation that the company wants to continue in the existing role for another year. We have no new requests.

3. Jack: Would Ericsson like to continue to participate for the next year?

4. John-Paul: Yes.

5. Jack: Nokia?

6. Arunkumar: Yes.

7. Jack: Radisys?

8. Ganesh: Yes.

9. Jack: Wind River?

10. Bin: Yes.

11. Jack: Viavi?

12. Ultan: Yes.

13. Jack: And obviously Samsung.

14. Jack: I will try to get clarification on Samsung's request from Jinri next week.

3. RSAC activities

1. MVP SMO project

1. Rittwik: There was a call yesterday about the MVP release package. It will be nice if OSC can do some validations.

2. Jack: The question is how we can track those requirements and work through the process including implementation.

3. Rittwik: We can do that.

2. O-CU deployment

1. Rittwik: Bin is trying to sync up with Radisys on the O-CU deployment on the O-Cloud.

8. Old business and Status of Open Actions

- a. "F" Release:

i. **Action Point:** PTLs to add a line showing code coverage stats for F release.

- b. OSC labs

i. **Action Point:** Mahesh to attach a video of SMO testing to the link for the project.

- c. 5G Super Blueprint status - tabled for D and E, will be re-evaluated for F release.

i. Tag this activity for G release.

9. Standing Agenda Items (Brief Status of Ongoing Activities)

- a. Release Manager [Trishan de Lanerolle](#) /Release Planning: Weekly TOC Scheduling

- i. Trishan has moved on. Need to work with LF to secure a replacement.
- b. Requirements Software Architecture Committee
  - i. David: We had a request out for an OTF workshop. I have an OTF resource for the next RSAC call on March 10th. The goal is to have an actual test use case. We need somebody from RIC platform.
  - ii. James: I can be the person.
- c. OSC lab
  - a. Report out from PTL: Stand-Up & Report Out on Blockers
    - i. [James Li](#) Integration and Testing (INT)
    - ii. [Mahesh Jethanandani](#) Service Management and Orchestration (SMO)
    - iii. [John Keeney](#) Non-Real Time RIC (RAN Intelligent Controller) (NONRTRIC)
    - iv. [SUNIL SINGH](#) RIC Applications (RICAPP)
    - v. [Thoralf Czichy](#) RIC Platform (RIC)
    - vi. (TBD) O-RAN Centralized Unit (OCU)
    - vii. [user-30c9d](#) O-RAN Distributed Unit High (ODUHIGH)
    - viii. [Luis Farias](#) O-RAN Distributed Unit Low (ODULOW)
    - ix. [Martin Skorupski](#) Operations and Maintenance (OAM)
    - x. [Alex Stancu](#) Simulations (SIM)
    - xi. [Jackie Huang](#) Infrastructure (INF)
    - xii. [weichen ni](#) Documentation (DOC)
    - xiii. (TBD) O-RAN Radio Unit (ORU)
- 10. New Agenda Items (New Business): New Items Submitted (+speaker) & Open Call to TOC For Additional Items
- 11. Planning for Next Meeting
- 12. Any Other Business (AOB)
- 13. Meeting Summary (resolutions, new action items, etc.)

## 2022 03 02

Recording: [2022-03-2](#)

### Agenda

1. Call for Scribe (minutes owner): [MASAFUMI MASUDA](#)
2. Roll Call & Quorum Check

Company	Contact Name	Attendance	Alternate Contact	Attendance
<a href="#">AT&amp;T</a>	Jack Murray Co-Chair	x	David Kinsey	
<a href="#">China Mobile</a>	Jinri Huang Co-Chair		James Li	x
<a href="#">Deutsche Telekom</a>	David Streibl		Ondej Hudousek	
<a href="#">Ericsson</a>	John-Paul Lane	x	John Keeney	
<a href="#">NTT DOCOMO</a>	Masafumi Masuda	x	Anil Umesh	
<a href="#">Nokia</a>	Arunkumar Halebid	x	Thoralf Czichy	
<a href="#">Orange</a>	William Diego		Vincent Danno	
<a href="#">Radisys</a>	Ganesh Shenbagaraman		Manasi Padhy	
<a href="#">TIM</a>	Andrea Buldorini	x	Scarpina Salvatore	
<a href="#">Wind River</a>	Bin Yang	x	Jackie Huang	
<a href="#">Viavi Solutions</a>	Ultan Kelly	x	Kexuan Sun	

\*Quorum: 50% or more of total TOC voting members unless excluded due to attendance.

3. Review and Agree to Minutes of Previous Meeting
  - a. **Decision:** Minutes for TOC meeting approval: proposed by [John Paul Lane](#) seconded by [James Li](#) . The motion is approved.
4. Review of Today's Agenda
  - a. John-Paul: Access to TOC Zoom account. Trishan made an update which would see Jack's email replaced with an alias. This would allow others to access the TOC Zoom account. Jack needs to take action to accept this change.
  - b. Jack: Day-light saving time to be reminded next week.
  - c. Sunil: Request to create a new repo for KPIMON-GO xApp (<https://lists.o-ran-sc.org/g/toc/message/660>).
5. Release Votes and Approval
  - a. RICAPP repo
    - i. **Decision:** Request to create a new repo for KPIMON-GO xApp is proposed by [SUNIL SINGH](#) seconded by [James Li](#) The motion is approved.
  - b. AAL project
    - i. Request is to create a new repo under the O-DU Low project. Contribution is from Intel. Different license (BSD) needed for this repo.
      1. Need to approve the creation of the repo in O-DU Low project.
      2. Need to approve use of BSD license for contributions to the new repo.
      3. Need to approve a committer for the repo - proposal is Niall Power (Intel).



- ii. A written proposal was requested to describe the proposal and also questions have been sent to Intel. It would be good to get clarification on these issues before taking a vote.
    - iii. Response to request for further information is still outstanding. This issue will remain tabled.
  - c. LF representative
    - i. A representative from the LF to replace Trishan is being identified.
- 6. Copyright update
  - 1. Is SCCL discussion progressing in O-RAN Alliance? Does the Alliance have plans to publish code-like specifications under SCCL anytime soon? Need to follow up with O-RAN legal team and O-RAN EC to determine current status of SCCL.
    - 1. This is currently stalled and we are waiting on updates from O-RAN legal team.
- 7. O-RAN-related business (marketing, WG interaction, TSC/EC update etc.
  - 1. O-RAN virtual face-to-face meetings report
    - 1. Rittwik: There were some security meetings providing security requirements. It is a good way to participate for F Release planning. There is also a security report from a private company in Germany.
    - 2. Jack: The issue is what we focus on as a team. We need some structures and plans.
    - 3. Rittwik: We should follow the MVP track.
    - 4. Jack: The problem is sometimes the specifications are just high level concepts.
    - 5. Rittwik: They are trying to create a principle that stage-3 specifications should be in MVP releases.
  - 2. **Action Point:** There is some O-RAN Alliance funding available for a one-time investment in improving our activity. If anyone has suggestions on how to improve / accelerate the work that we are doing, please bring your suggestions and ideas forward and we will discuss at the next TOC meeting.
- 8. Old business and Status of Open Actions
  - a. "F" Release:
    - i. **Action Point:** PTLs to add a line showing code coverage stats for F release.
  - b. OSC labs
    - i. Jack: We are still struggling with the equipment delivery timing.
    - ii. Mahesh: Just to update, SMO is up and running in the New Jersey lab being tested with other components.
    - iii. Jack: Great news. Can we do a recording and attach it to the link for the SMO project?
    - iv. Mahesh: We can.
    - v. **Action Point:** Mahesh to attach a video of SMO testing to the link for the project.
  - c. 5G Super Blueprint status - tabled for D and E, will be re-evaluated for F release.
    - i. Tag this activity for G release.
- 9. Standing Agenda Items (Brief Status of Ongoing Activities)
  - a. Release Manager [Trishan de Lanerolle /Release Planning](#): Weekly TOC Scheduling
    - i. Trishan has moved on. Need to work with LF to secure a replacement.
  - b. Requirements Software Architecture Committee
    - i. Rittwik: We are tracking the O-Cloud project development. Another one is the security one in the Taiwan lab. We are picking MVP items for G Release.
    - ii. Jack: TOC members and participants need to be involved and speak up what is important to you and your company. Testing is also important. How are we doing with OCU?
    - iii. Ankit: I'll discuss with Ganesh tomorrow. Is synchronization done between O-RU and O-DU in any of the labs?
    - iv. David: It's still in progress.
    - v. David: We had a request out for an OTF workshop. I have an OTF resource for the next RSAC call on March 10th. The goal is to have an actual test use case. We need somebody from RIC platform.
    - vi. James: I can be the person.
  - c. OSC lab
    - a. Report out from PTL: Stand-Up & Report Out on Blockers
      - i. Jack:
      - ii. [James Li](#) Integration and Testing (INT)
      - iii. [Mahesh Jethanandani](#) Service Management and Orchestration (SMO)
      - iv. [John Keeney](#) Non-Real Time RIC (RAN Intelligent Controller) (NONRTRIC)
      - v. [SUNIL SINGH](#) RIC Applications (RICAPP)
      - vi. [Thoralf Czichy](#) RIC Platform (RIC)
      - vii. (TBD) O-RAN Centralized Unit (OCU)
      - viii. [user-30c9d](#) O-RAN Distributed Unit High (ODUHIGH)
      - ix. [Luis Farias](#) O-RAN Distributed Unit Low (ODULOW)
      - x. [Martin Skorupski](#) Operations and Maintenance (OAM)
      - xi. [Alex Stancu](#) Simulations (SIM)
      - xii. [Jackie Huang](#) Infrastructure (INF)
      - xiii. [weichen ni](#) Documentation (DOC)
      - xiv. (TBD) O-RAN Radio Unit (ORU)
- 10. New Agenda Items (New Business): New Items Submitted (+speaker) & Open Call to TOC For Additional Items
- 11. Planning for Next Meeting
- 12. Any Other Business (AOB)
- 13. Meeting Summary (resolutions, new action items, etc.)

2022 02 23

Recording: [2022-02-23](#)

#### Agenda

- 1. Call for Scribe (minutes owner): [John Paul Lane](#)
- 2. Roll Call & Quorum Check



Company	Contact Name	Attendance	Alternate Contact	Attendance
AT&T	Jack Murray Co-Chair	x	David Kinsey	
China Mobile	Jinri Huang Co-Chair	x	James Li	
Deutsche Telekom	David Streibl	x	Ondej Hudousek	
Ericsson	John-Paul Lane	x	John Keeney	
NTT DOCOMO	Masafumi Masuda	x	Anil Umesh	
Nokia	Arunkumar Halebid	x	Thoralf Czichy	
Orange	William Diego	x	Vincent Danno	
Radisys	Ganesh Shenbagaraman		Manasi Padhy	x
TIM	Andrea Buldorini		Scarpina Salvatore	x
Wind River	Bin Yang	x	Jackie Huang	
Viavi Solutions	Ultan Kelly	x	Kexuan Sun	

\*Quorum: 50% or more of total TOC voting members unless excluded due to attendance.

3. Review and Agree to Minutes of Previous Meeting

- a. **Decision:** Minutes for TOC meeting approval: proposed by [John Paul Lane](#) seconded by [Jinri Huang](#) The motion is approved.

4. Review of Today's Agenda

- a. Request from WG6 to support stage 3 AAL FEC profile. Request is to create a new repo under the O-DU Low project. Contribution is from Intel. Different license (BSD) needed for this repo. Need to approve the creation of the repo, in addition to the use of BSD license and also approve a committer - Niall Power (Intel).
- b. John-Paul: Access to TOC Zoom account. Trishan made an update which would see Jack's email replaced with an alias. This would allow others to access the TOC Zoom account. Jack needs to take action to accept this change.
- c. Jinri: Intel made a proposal to replace Zhimin as the O-DU Low PTL. I will include [Luis Farias](#) (Intel) as O-DU Low PTL in my OSC presentation to the O-RAN board.

5. Release Votes and Approval

a. AAL project

- i. Request is to create a new repo under the O-DU Low project. Contribution is from Intel. Different license (BSD) needed for this repo.
1. Need to approve the creation of the repo in O-DU Low project.
  2. Need to approve use of BSD license for contributions to the new repo.
  3. Need to approve a committer for the repo - proposal is Niall Power (Intel).
- ii. A written proposal was requested to describe the proposal and also questions have been sent to Intel. It would be good to get clarification on these issues before taking a vote.
- iii. Response to request for further information is still outstanding. This issue will remain tabled.

6. Copyright update

1. Is SCCL discussion progressing in O-RAN Alliance? Does the Alliance have plans to publish code-like specifications under SCCL anytime soon? Need to follow up with O-RAN legal team and O-RAN EC to determine current status of SCCL.
1. This is currently stalled and we are waiting on updates from O-RAN legal team.

7. O-RAN-related business (marketing, WG interaction, TSC/EC update etc.

1. Aiming to get formal approval for Viavi Solutions' membership of OSC TOC at the O-RAN TOC meeting on Friday 18th February.
2. **Action Point:** There is some O-RAN Alliance funding available for a one-time investment in improving our activity. If anyone has suggestions on how to improve / accelerate the work that we are doing, please bring your suggestions and ideas forward and we will discuss at the next TOC meeting.

8. Old business and Status of Open Actions

a. "F" Release:

- i. **Action Point:** PTLs to add a line showing code coverage stats for F release.
- b. OSC labs
- c. 5G Super Blueprint status - tabled for D and E, will be re-evaluated for F release.
- i. Tag this activity for G release.

9. Standing Agenda Items (Brief Status of Ongoing Activities)

- a. Release Manager [Trishan de Lanerolle](#) /[Release Planning](#): Weekly TOC Scheduling

- i. Trishan has moved on. Need to work with LF to secure a replacement.

b. Requirements Software Architecture Committee

c. OSC lab

a. Report out from PTL: Stand-Up & Report Out on Blockers

- i. [James Li](#) Integration and Testing (INT)
- ii. [Mahesh Jethanandani](#) Service Management and Orchestration (SMO)
- iii. [John Keeney](#) Non-Real Time RIC (RAN Intelligent Controller) (NONRT RIC)
- iv. [SUNIL SINGH](#) RIC Applications (RICAPP)

1. Jack: What is planned in F release?
2. Sunil: We plan to enhance existing xApps. We will add support for the latest E2 version. This has a dependency on the Near RT RIC delivering support. We will also investigate OTF support for xApps. Network slicing enhancements for Anomaly Detection xApp. We will take over support for KPIMON xApp and may need a new repo for this.
3. Jack: One of the goals of RICAPP project is to make it easier for different teams to develop xApps. Do we have any feedback from the teams on progress towards this goal?

4. Sunil: Started with Traffic Steering, now moving to Network Slicing.
5. Ultan: From the OTIC lab in Utah, the feedback we received is that it is difficult to install the OSC Near RT RIC.
6. Jack: This relates to the Near RT RIC platform rather than the xApps themselves.
7. Ultan: Correct.
8. Tracy: They were experimenting with Near RT RICs from different sources in the labs.
9. James: Yes, the North America OTIC has profiles for installation of different Near RT RIC implementations.
10. Ultan: Viavi is working with the lab in Taiwan. We can ask them for their assessment on installation effort and feedback to OSC.
11. Jack: Great. We should always be looking to improve. Hopefully, as SMO evolves its LCM support the overall installation process will be improved.

v. [Thoralf Czichy](#) RIC Platform (RIC)

1. Jack: What is being planned for F release?
2. Thoralf: Firstly, I will reach out to Ultan to understand more about the Near RT RIC platform installation issues observed in labs?
3. Ultan: Sure. I believe interoperability issues were the main observations.
4. Thoralf: For F release, Near RT RIC platform needs improvements in scripting and Helm charts for installation and deployment. There are videos which explain the procedure. We will work on A1 mediator which is Python based - we are investigating migration to Golang. There is a change in E2 AP version from v1 to v2. Samsung is also working on this. Feature parity is straightforward but new features from E2 AP need more investigation. The O-DU must adapt to the E2 version if they want to use the Near RT RIC platform. Planned updates to xApp subscription support for Python and C++ frameworks. There are Jira links for the F release content in the Near RT RIC platform wiki pages.
5. Jack: Are the Jira links in the release section of the wiki?
6. Thoralf: Not yet, they are currently in the project wiki.
7. Jack: Each of the PTLs are invited to update the release wiki with their F release plans so we can get a clearer picture on the overall OSC F release plans. As work progresses the release wiki should be updated accordingly. This gives some overview on overall OSC progress. Remember that older releases of OSC are still being supported.

vii. (TBD) O-RAN Centralized Unit (OCU)

1. Jack: No code project but we have a test fixture from Radisys which is important for other components around it. The plan is that some of the new interfaces will be included in this test fixture.
2. Manasi: O-CU binary with O1 interface compliance will be available by end of February but I will confirm.
3. Jack: This will allow other components to test towards the binary.
4. Mahesh: <inaudible> Will O-CU binary with O1 support be available in OSC lab?
5. Jack: The agreement is to put it in NJ lab and also discussing installation in Taiwan lab too.
6. Manasi: We delivered to Taiwan last week. No need for agreement to deliver to OSC labs but we would need an agreement to deliver to labs outside.

viii. [user-30c9d](#) O-RAN Distributed Unit High (ODUHIGH)

1. Jack: Where are we with O-DU?
2. Manasi: O-DU (High) we have 2 features for F release. Support for commercial UE or UE simulator over the air. We need OSC lab up to install and test L2 over the air. We have made some scheduler enhancement which also needs to be validated in the OSC lab. Also we are investigating paging and power saving feature in F release. Inter DU handover (within the same CU) is also being investigated. This may spillover to G though. Update of E2 v2 in O-DU has been completed. Need to verify with Near RT RIC platform when it is available.
3. James: Can I get the O-CU binary too? Maybe we can talk offline?
4. Manasi: Yes, we can talk offline about the CA lab - we may need a signed agreement.
5. Jack: On the journey towards a working O-DU in open source, where do you think we are along the path?
6. Manasi: We have delivered most of the basic and required idle and mobility features so far. In terms of functionality we are close to 3GPP Rel 15 level of support. However, in terms of hardening and other non-functional requirements we see some challenges. We have a plan to test O-DU high in Radisys lab with O-CU and O-RU. Functionality-wise, I think we are on track. Maturity-wise, we need to work on hardening and other similar tasks. We are aligned with WG8 AD specifications and in future we will align with WG5 CU plane. This will allow interoperability with other O-RAN compliant vendors.

viii. [Luis Farias](#) O-RAN Distributed Unit Low (ODULOW)

1. Jack: O-DU low is mainly a test fixture wrapped in some open source contributions.

ix. [Martin Skorupski](#) Operations and Maintenance (OAM)

1. Jack: What is planned for F release?
2. Martin: We are reviewing the July train specs. Updates from WG10, WG4, WG5 and WG6 are planned. So, we will update OAM support accordingly. RSAC has made a request to update O2 support. Some more work is needed on this so we can expose O2 to 3wards Non-RT RIC for rApps. We will continue working on testing and integrating with the labs. This will allow us to showcase the use cases from previous releases working with the updated OAM.

x. [Alex Stancu](#) Simulations (SIM)

1. Jack: What are the main updates being planned for F release?
2. Alex: we are creating a new Topology service which exposes a simulated topology. Need to investigate simulator support for O2 updates. Also, OTF integration is being investigated. For the E2 simulator we need to synch with Viavi offline.
3. Ultan: Yes, let's chat offline

xi. [Jackie Huang](#) Infrastructure (INF)

1. Jack: Can you give us a view of the F release plans?
2. Jackie: We plan to include some K8S plugins for INF. We will also investigate adding new deployment scenarios - distributed cloud and also support for OpenStack. Currently we only support AIO simplex, AIO duplex, AOI duplex with extra worker nodes. For O2 interface plans in F release, Bin has a clearer view.

3. Bin: Our focus is to integrate O2 support into SMO which will then allow SMO to support O-Cloud. We will use O-CU as a proof point for being able to deploy a NF using O2. There are a number of options under investigation here - OpenStack Tacker & ONAP for example. We would also like to work on deploying Near RT RIC on O-Cloud and this depends on E2 version support which the Near RT RIC platform team is planning.
4. Jack: You talked about a number of different options there. Please ensure you are talking with RSAC about these. We could also push this to the O-RAN community to take a poll of where the interest is. This is an option you may wish to consider in terms of understanding which activities you should prioritise.
- xii. [weichen ni](#) Documentation (DOC)
- xiii. (TBD) O-RAN Radio Unit (ORU)
10. New Agenda Items (New Business): New Items Submitted (+speaker) & Open Call to TOC For Additional Items
11. Planning for Next Meeting
12. Any Other Business (AOB)
13. Meeting Summary (resolutions, new action items, etc.)

## 2022 02 16

Recording: [2022-02-16](#)

### Agenda

1. Call for Scribe (minutes owner): [John Paul Lane](#)
2. Roll Call & Quorum Check

Company	Contact Name	Attendance	Alternate Contact	Attendance
<a href="#">AT&amp;T</a>	Jack Murray Co-Chair	x	David Kinsey	
<a href="#">China Mobile</a>	Jinri Huang Co-Chair	x	James Li	
<a href="#">Deutsche Telekom</a>	David Streibl		Ondej Hudousek	
<a href="#">Ericsson</a>	John-Paul Lane	x	John Keeney	
<a href="#">NTT DOCOMO</a>	Masafumi Masuda	x	Anil Umesh	
<a href="#">Nokia</a>	Arun Kumar Halebid		Thoralf Czichy	x
<a href="#">Orange</a>	William Diego	x	Vincent Danno	
<a href="#">Radisys</a>	Ganesh Shenbagaraman		Manasi Padhy	x
<a href="#">TIM</a>	Andrea Buldorini	x	Scarpina Salvatore	
<a href="#">Wind River</a>	Bin Yang	x	Jackie Huang	

\*Quorum: 50% or more of total TOC voting members unless excluded due to attendance.

3. Review and Agree to Minutes of Previous Meeting
  - a. **Decision:** Minutes for TOC meeting approval: proposed by [John Paul Lane](#) seconded by [Jinri Huang](#) The motion is approved.
4. Review of Today's Agenda
  - a. Request from WG6 to support stage 3 AAL FEC profile. Request is to create a new repo under the O-DU Low project. Contribution is from Intel. Different license (BSD) needed for this repo. Need to approve the creation of the repo, in addition to the use of BSD license and also approve a committer - Niall Power (Intel).
  - b. John-Paul: Support from Linux Foundation to access the Zoom Recordings of the TOC meetings. This is part of a more general question about LF support for OSC since Trishan moved to a new company.
  - c. Ultan: Viavi would like to discuss their application to join the TOC.
5. Release Votes and Approval
  - a. AAL project
    - i. Request is to create a new repo under the O-DU Low project. Contribution is from Intel. Different license (BSD) needed for this repo.
      1. Need to approve the creation of the repo in O-DU Low project.
      2. Need to approve use of BSD license for contributions to the new repo.
      3. Need to approve a committer for the repo - proposal is Niall Power (Intel).
    - ii. A written proposal was requested to describe the proposal and also questions have been sent to Intel. It would be good to get clarification on these issues before taking a vote.
    - iii. Jack: Response to request for further information is still outstanding. This issue will remain tabled.
6. Copyright update
  1. Is SCCL discussion progressing in O-RAN Alliance? Does the Alliance have plans to publish code-like specifications under SCCL anytime soon? Need to follow up with O-RAN legal team and O-RAN EC to determine current status of SCCL.
    1. Jack: This is currently stalled and we are waiting on updates from O-RAN legal team.
    2. Thoralf: There is no updates on how to structure the OSC repos?
    3. Jack: We need to figure out how to advance this. We need to check on the status of the CLA.
    4. Thoralf: Can you send a reminder?
    5. Jack: Yes, I will take that.
7. O-RAN-related business (marketing, WG interaction, TSC/EC update etc.
  1. Jinri: There is no specific O-RAN business to report this week. The O-RAN Alliance vFTF is ongoing. I am preparing the TSC report for the board meeting to be held at the end of the month. I received comments and will update in time for this Friday's TSC meeting.
  2. Jack: This is a good point to discuss the Viavi request. Can you provide some background here?
  3. Jinri: Last year, Viavi expressed interest in TOC membership and this has been raised again.

4. Thoralf: There is someone from Viavi on the call, correct?
  5. Ultan: We applied last year for membership of the TOC. We have been working with OSC for 2 years. We are predominantly a tool vendor. For OSC we have provided the Near RT RIC tester. Our application got
  6. Jack: We currently have 2 available slots for open members. We have criteria for contributors to meet to qualify for a TOC slot. Then, it is brought up to the O-RAN TSC for vote. None of the votes to date have been contentious beyond meeting the contribution criteria. It has been recognized that Viavi has made significant contributions across OSC, from code, lab to integration / test scenarios. There was an oversight in the process to include Viavi as a TOC member. We also have in process a request from Samsung to join the TOC. Will take a poll next week to determine if current members wish to remain on the TOC. This typically takes place March / April each year. This is the process which is included in the OSC Charter - it can be accessed from the O-RAN Alliance website.
  7. Avinash: Thanks for clarifying the process. We have provided some information and we have requested some feedback. When is the deadline to provide input to the next TSC vote?
  8. Jinri: There is a TSC meeting this Friday. If you can provide before Friday 18th February that would be good.
  9. Avinash: Understood.
  10. Jack: The key vote for applying for TOC membership is the TSC one.
  11. Jinri: For Viavi, the TSC vote took place last year. I think we can add Viavi to the TOC membership list.
  12. Jack: Agreed. The TSC vote has already been approved. Who will be Viavi's primary contact in TOC?
  13. Ultan: I am primary contact. Kexuan Sun is the alternate.
  14. Thoralf: Does Viavi have any plans in terms of source code contributions in addition to your current activities?
  15. Ultan: We are a tool provider but we are open to suggestions on other possible contributions. For example, we are working with the OSC lab in Taiwan on xApp and rApp test scripting support.
  16. Jack: Any updates from vF2F?
  17. **Action Point:** There is some O-RAN Alliance funding available for a one-time investment in improving our activity. If anyone has suggestions on how to improve / accelerate the work that we are doing, please bring your suggestions and ideas forward and we will discuss at the next TOC meeting.
8. Old business and Status of Open Actions
- a. "E" Maintenance release
    - i. We should consider "E" maintenance release closed and move forward to focusing on F Release.
    - ii. Jack: Remove the reference to E release.
  - b. "F" Release:
    - i. Jack: Does anyone have any updates they want to raise?
    - ii. Rittwik: We are working with Bin from Wind River to install and stand up the O-Cloud in Jersey lab. From a requirements standpoint, that has been closed out.
    - iii. Rittwik: We presented SMO plans at O-RAN Alliance MVP-C session in the vF2F. There were questions about how SMO and OAM projects interrelate and also on how OSC provides feedback on any gaps in the specification(s) to the Alliance?
    - iv. Jack: How did that question get answered?
    - v. Rittwik: The SMO and OAM projects work hand in hand. We drive OSC alignment via use cases agreed at RSAC. Do we need to do more in OSC to formalise the process of providing feedback to O-RAN Alliance on specifications?
    - vi. Jack: OSC contributors can go to the O-RAN Alliance WGs and raise issues / discuss gaps directly. Alternatively, gaps can be raised within OSC (RSAC and TOC). There are multiple paths but the burden is on participants to move issues forward.
  - c. OSC labs
    - i. Jack: Any updates from Prof Ray in Taiwan?
    - ii. Rittwik: He is very interested in exploring O-RAN security requirements. He seems to have a team of security engineers. I pointed him to the CII badging activity which we have undertaken in OSC.
    - iii. Jack: Has Prof Ray and his team applied as a university to the O-RAN Alliance? If they have, then they can attend the SFG (Security Focus Group) and learn about the work which is ongoing there. We can support him if he is interested in securing university membership of O-RAN Alliance. Additionally, there have been a range of articles written on Open RAN and security in the media. Prof Ray's team might be able to pull together a list of the main security issues from the public domain and raise them to OSC then we could look at these.
    - iv. Ultan: Viavi has been researching this space. It is difficult if we only have access to the published interfaces. Perhaps there is an area of interest for OSC contributors to use open source scanning tools against their contributions?
    - v. Jack: Sounds good. This could perhaps be coordinated through the requirements phase.
  - d. 5G Super Blueprint status - tabled for D and E, will be re-evaluated for F release.
    - i. Tag this activity for G release.
9. Standing Agenda Items (Brief Status of Ongoing Activities)
- a. Release Manager [Trishan de Lanerolle](#) / [Release Planning](#): Weekly TOC Scheduling
    - i. Jack: Trishan has moved on. Need to work with LF to secure a replacement.
  - b. Requirements Software Architecture Committee
  - c. OSC lab
    - i. Jack: Making progress with Nokia on the Fronthaul gateway.
    - ii. James: OTF should be implemented across all projects in F release. Just a reminder to all PTLs that this should be considered in your F planning. Maybe we need some help from OTF team to demonstrate OTF capabilities. Maybe in the future we should identify a purpose for each of the 3 OSC labs e.g. different types of testing etc.
    - iii. Jack: We haven't really talked about software code coverage recently. There are tools and best practices out there which can be used. We assume the PTLs understand this is an expectation of OSC contributors. We need to make a table to capture code coverage from each OSC project, James. Are there any questions from the PTLs?
    - iv. James: We raised this at project meetings and it sounds like we are looking at results from Sonar. This is at a repo level, not at a project level and it may be that not all repos have Sonar support yet.
    - v. Jack: I am trying to make this useful without driving lots of work. It would be good if the PTLs could understand and summarise the code coverage of their projects / contributions. This will allow us to track and make sure that we are not falling behind too far.
  - a. Report out from PTL: Stand-Up & Report Out on Blockers
    - i. [James Li](#) Integration and Testing (INT)
    - ii. [Mahesh Jethanandani](#) Service Management and Orchestration (SMO)
    - iii. [John Keeney](#) Non-Real Time RIC (RAN Intelligent Controller) (NONRT RIC)
    - iv. [SUNIL SINGH](#) RIC Applications (RICAPP)
    - v. [Thoralf Czichy](#) RIC Platform (RIC)
    - vi. (TBD) O-RAN Centralized Unit (OCU)

- vii. [user-30c9d](#) O-RAN Distributed Unit High (ODUHIGH)
- viii. [Zhimin Yuan](#) O-RAN Distributed Unit Low (ODULOW)
- ix. [Martin Skorupski](#) Operations and Maintenance (OAM)
- x. [Alex Stancu](#) Simulations (SIM)
- xi. [Jackie Huang](#) Infrastructure (INF)
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2022 02 09

Recording: [2021-02-09](#)

## Agenda

1. Call for Scribe (minutes owner): [John Paul Lane](#)
2. Roll Call & Quorum Check

Company	Contact Name	Attendance	Alternate Contact	Attendance
<a href="#">AT&amp;T</a>	Jack Murray Co-Chair	x	David Kinsey	
<a href="#">China Mobile</a>	Jinri Huang Co-Chair	x	James Li	
<a href="#">Deutsche Telekom</a>	David Streibl		Ondej Hudousek	
<a href="#">Ericsson</a>	John-Paul Lane	x	John Keeney	
<a href="#">NTT DOCOMO</a>	Masafumi Masuda	x	Anil Umesh	
<a href="#">Nokia</a>	Arunkumar Halebid	x	Thoralf Czichy	
<a href="#">Orange</a>	William Diego	x	Vincent Danno	
<a href="#">Radisys</a>	Ganesh Shenbagaraman		Manasi Padhy	x
<a href="#">TIM</a>	Andrea Buldorini	x	Scarpina Salvatore	
<a href="#">Wind River</a>	Bin Yang	x	Jackie Huang	

\*Quorum: 50% or more of total TOC voting members unless excluded due to attendance.

3. Review and Agree to Minutes of Previous Meeting
  - a. **Decision:** Minutes for TOC meeting approval: proposed by [John Paul Lane](#) seconded by [Bin Yang](#) The motion is approved.
4. Review of Today's Agenda
  - a. Request from WG6 to support stage 3 AAL FEC profile. Request is to create a new repo under the O-DU Low project. Contribution is from Intel. Different license (BSD) needed for this repo. Need to approve the creation of the repo, in addition to the use of BSD license and also approve a committer - Niall Power (Intel).
  - b. Samsung request some time to discuss possibility of becoming a member of TOC.
    - i. Avinash Bhat: We have contributed to OSC for close to 2 years, main focus on Near RT RIC platform (E2 AP) and RICAPP (RICDMS). We are very interested in the intelligence part of the Near RT RIC. We would like to take this forward in F release by contributing to E2 AP and A1 mediator among other enhancements. We would like to be more active over the coming year - one area where we feel there is an OSC gap is AI/ML framework. Framework is defined in WG2 but it requires larger focus. Samsung has 2 full time resources and 5 part time resource for this activity. We would like to become a member of TOC so that we could actively drive this over the coming years.
    - ii. David: How would this become integrated into the environment? Would it be part of SMO?
    - iii. Avinash: A combination of SMO and external components.
    - iv. Jinri: Which other OSC projects do you see being impacted? Non-RT RIC?
    - v. Avinash: It really depends on the use case.
    - vi. Jinri: Are the 2 dedicated resources seen as committers?
    - vii. Avinash: Yes, this would be a least one senior person.
    - viii. Jinri: Would all resource be 'new' to OSC?
    - ix. Avinash: Some resources are existing OSC resource, others can be brought in on an as-needs basis.
    - x. Jack: Thank-you for the initial information. We hold elections for TOC at end of March. Your presentation helps provide background to support your application. We'll continue the discussion over the coming weeks.
    - xi. Jinri: For TOC delegates, does Samsung have thoughts on who they would propose?
    - xii. Avinash: It would be a senior person from Samsung Korea.
    - xiii. Jack: TOC seats are managed by companies whereas OSC contributors are based on the individual developer. We will continue this dialog.
5. Release Votes and Approval
  - a. AAL project
    - i. Request is to create a new repo under the O-DU Low project. Contribution is from Intel. Different license (BSD) needed for this repo.
      1. Need to approve the creation of the repo in O-DU Low project.
      2. Need to approve use of BSD license for contributions to the new repo.
      3. Need to approve a committer for the repo - proposal is Niall Power (Intel).



- ii. A written proposal was requested to describe the proposal and also questions have been sent to Intel. It would be good to get clarification on these issues before taking a vote.
    - iii. Jack: Response to request for further information is still outstanding. This issue will remain tabled.
  - b. Mahesh: Propose to unarchive the smo/o2 repo. This is to support integration of OpenStack Tacker and O2 related adapters into SMO.
    - i. Jinri: Is this contribution under Apache 2.0 license?
    - ii. Mahesh: Yes, I believe it is.
    - iii. Mahesh Jethanandani makes a motion to approve the unarchiving of smo/o2. Jinri Huang seconds. Vote approved.
    - iv. Jack: You need to raise a ticket with Linux Foundation to enable this. Trishan is no longer the point of contact for LF support. Reach out directly to me if you require help contacting LF.
6. Copyright update
- 1. Is SCCL discussion progressing in O-RAN Alliance? Does the Alliance have plans to publish code-like specifications under SCCL anytime soon? Need to follow up with O-RAN legal team and O-RAN EC to determine current status of SCCL.
    - 1. Jack: No updates to report this week.
7. O-RAN-related business (marketing, WG interaction, TSC/EC update etc.
- 1. Jack: The O-RAN Alliance vFTF session for OSC took place this week. Is there anything to report on this?
  - 2. Rittwik: I think it was well received. We gave a recap of E release and plans for F release.
  - 3. Dave: We have an action item to refresh the OSC presentation material to show all OSC projects.
  - 4. Jack: Is there anything else for OSC on the vFTF agenda?
  - 5. Dave: We have App LCM on the agenda on Monday 14th February.
  - 6. Rittwik: In the MVP-C session, JIO mentioned that testing / certification of features is as important as the feature plans. Is there something which OSC could do to support this?
  - 7. Dave: The simulators would need to be updated to support test scenarios.
  - 8. Jack: This is a good discussion about OSC value proposition. There are a number of different models which could be followed e.g. the RedHat model where all their software is available in open source and they offer more verification and support for a subset of their open source offering. Usually, this is part of the post open source community efforts. 'Certification' can be a tricky space to get into as it can be interpreted differently in different jurisdictions. More inclusive testing to demonstrate maturity and compatibility of the components seems like the space we want to be in but this would require more effort from the OSC community. We could look to partner with others if the community thought this would be interesting.
  - 9. Jinri: The OSC blogpost will be raised with the O-RAN EC to determine whether or not it can be released.
  - 10. Jack: Any other O-RAN items which need to be raised now?
  - 11. Jinri: I am preparing the O-RAN TSC report on OSC. I can distribute to the group for review.
  - 12. **Action Point:** There is some O-RAN Alliance funding available for a one-time investment in improving our activity. If anyone has suggestions on how to improve / accelerate the work that we are doing, please bring your suggestions and ideas forward and we will discuss at the next TOC meeting.
8. Old business and Status of Open Actions
- a. "E" Maintenance release
    - i. We should consider "E" maintenance release closed and move forward to focusing on F Release..
  - b. "F" Release:
    - i. Jack: CII badging for SMO is scheduled for Q1. Is there any update on this?
    - ii. Mahesh: We have completed CII badging for SMO in the last week.
    - iii. Mahesh: There was a repo request to unarchive smo/o2. Has this been approved?
    - iv. Jack: I believe there was an outstanding question on this before it could be approved.
    - v. Mahesh: I see a note requesting the unarchiving of smo/o2
  - c. OSC labs
    - i. Mahesh: We have managed to resolve our issues in getting access to the lab.
    - ii. Jack: David, you're still working on the Fronthaul Gateway. You are still waiting for support from Nokia?
    - iii. David: Correct.
    - iv. Jack: Are there any issues you would like to raise today James?
    - v. James: No issues to raise today.
  - d. 5G Super Blueprint status - tabled for D and E, will be re-evaluated for F release.
    - i. Tag this activity for G release.
9. Standing Agenda Items (Brief Status of Ongoing Activities)
- a. Release Manager [Trishan de Lanerolle](#) /Release Planning: Weekly TOC Scheduling
  - b. Requirements Software Architecture Committee
  - c. OSC lab
  - a. Report out from PTL: Stand-Up & Report Out on Blockers
    - i. [James Li](#) Integration and Testing (INT)
    - ii. [Mahesh Jethanandani](#) Service Management and Orchestration (SMO)
      - 1. Jack: Are there any challenges or concerns you would like to raise about SMO for F release?
      - 2. Mahesh: Not at this point. We are still in the planning process but I think we are good for now.
      - 3. Jack: At the end of F release, what sort of functionality will SMO be able to demonstrate?
      - 4. Mahesh: Tacker should enable the instantiation of VNFs in the O-Cloud.
      - 5. Jack: Which component would you focus on deploying first?
      - 6. Dave: We are doing 'Hello World' rApp and xApp in F release. In terms of Network Function we will focus on O-CU as it is in binary form.
      - 7. Jack: We will need a Near RT RIC for xApps.
      - 8. Dave: Correct.
      - 9. Jack: Deploying O-CU binary into O-Cloud will need support from [user-30c9d](#)
      - 10. Manasi: The plan is to deliver O1 support for O-CU by end of February.
    - iii. [John Keeney](#) Non-Real Time RIC (RAN Intelligent Controller) (NONRT RIC)
      - 1. Jack: What do you see as the main focus areas for F release?
      - 2. John: Our theme for F release is to continue developing support for pre-specification R1 interface.
        - a. Will investigate service independent parts e.g. service registration, rApp registration, service exposure.
        - b. We will also expand our scope to start investigating data management and exposure i.e. how to expose data to rApps.
        - c. We will continue to support A1 policy evolution.

- d. LCM of rApps will continue for both microservice based rApps and rApps which consist of more than microservices.
- e. Re-use capabilities of common App onboarding for rApps.
- f. End to end use case for PM data being activated and collected.
- 3. Jack: You are also separating out some of the repos.
- 4. John: Yes, this is ongoing.
- 5. Jack: Where do we easily monitor and track the status of these activities? This is not just specific to the Non-RT RIC project. How do we easily track the status of OSC projects at a specific moment in time?
- 6. John: Each project has its JIRA board and the PTLs need to ensure that their EPICs make sense. RSAC is another forum where the status can be tracked.
- 7. Jack: Often it is useful to have a high level view of the various projects' status. Now that OSC components are becoming more integrated and interoperable, how do we create this view? This is something to discuss in the near future.
- iv. [SUNIL SINGH](#) RIC Applications (RICAPP)
- v. [Thoralf Czichy](#) RIC Platform (RIC)
- vi. (TBD) O-RAN Centralized Unit (OCU)
- vii. [user-30c9d](#) O-RAN Distributed Unit High (ODUHIGH)
- viii. [Zhimin Yuan](#) O-RAN Distributed Unit Low (ODULOW)
- ix. [Martin Skorupski](#) Operations and Maintenance (OAM)
- x. [Alex Stancu](#) Simulations (SIM)
- xi. [Jackie Huang](#) Infrastructure (INF)
- xii. [weichen ni](#) Documentation (DOC)
- xiii. (TBD) O-RAN Radio Unit (ORU)
- 10. New Agenda Items (New Business): New Items Submitted (+speaker) & Open Call to TOC For Additional Items
- 11. Planning for Next Meeting
- 12. Any Other Business (AOB)
- 13. Meeting Summary (resolutions, new action items, etc.)

## 2022 02 02

Recording: [2022-02-02](#)

### Agenda

1. Call for Scribe (minutes owner): [John Paul Lane](#)
2. Roll Call & Quorum Check

Company	Contact Name	Attendance	Alternate Contact	Attendance
<a href="#">AT&amp;T</a>	Jack Murray Co-Chair	x	David Kinsey	
<a href="#">China Mobile</a>	Jinri Huang Co-Chair		James Li	x
<a href="#">Deutsche Telekom</a>	David Streibl	x	Ondej Hudousek	
<a href="#">Ericsson</a>	John-Paul Lane	x	John Keeney	
<a href="#">NTT DOCOMO</a>	Masafumi Masuda	x	Anil Umesh	
<a href="#">Nokia</a>	Arunkumar Halebid	x	Thoralf Czichy	
<a href="#">Orange</a>	William Diego	x	Vincent Danno	
<a href="#">Radisys</a>	Ganesh Shenbagaraman	x	Manasi Padhy	
<a href="#">TIM</a>	Andrea Buldorini		Scarpina Salvatore	x
<a href="#">Wind River</a>	Bin Yang		Jackie Huang	

\*Quorum: 50% or more of total TOC voting members unless excluded due to attendance.

3. Review and Agree to Minutes of Previous Meeting
  - a. **Decision:** Minutes for TOC meeting approval: proposed by [James Li](#) seconded by [John Paul Lane](#) The motion is approved.
4. Review of Today's Agenda
  - a. Arunkumar Halebid replaces Juha Oravainen as Nokia representative to the TOC.
  - b. Request from WG6 to support stage 3 AAL FEC profile. Request is to create a new repo under the O-DU Low project. Contribution is from Intel. Different license (BSD) needed for this repo. Need to approve the creation of the repo, in addition to the use of BSD license and also approve a committer - Niall Power (Intel).
  - c. Restructure the Non-RT RIC repos. John Keeney sent out email answering the questions from last week. Vote was taken at 2022-01-26 meeting and the proposed changes were approved.
5. Release Votes and Approval
  - a. AAL project
    - i. Jack: Request is to create a new repo under the O-DU Low project. Contribution is from Intel. Different license (BSD) needed for this repo.
      1. Need to approve the creation of the repo in O-DU Low project.
      2. Need to approve use of BSD license for contributions to the new repo.
      3. Need to approve a committer for the repo - proposal is Niall Power (Intel).
    - ii. Thoralf: A written proposal was requested during week's TOC meeting and also questions have been sent to Jack and Intel. It would be good to get clarification on these issues before taking a vote.



- iii. Jack: If Intel joins today's meeting we will come back to this. If not, we will raise at next week's TOC meeting.
- 6. Copyright update
  - 1. Thoralf: Is SCCL discussion progressing in O-RAN Alliance? Does the Alliance have plans to publish code-like specifications under SCCL anytime soon?
  - 2. Jack: I have not seen a lot of activities of late. Other issues took priority at the end of last year. Waiting on final draft of the SCCL text and the new CLA. There are some meetings coming up - will raise it with the O-RAN legal team there to progress this.
  - 3. Thoralf: Is this issue also with the O-RAN Alliance EC?
  - 4. Jack will talk with Jinri to try to progress.
- 7. O-RAN-related business (marketing, WG interaction, TSC/EC update etc.)
  - 1. Rittwik: RSAC has an outline of the OSC presentation at the upcoming vF2F - [link](#) - scheduled for February 8th at 8am EST.
  - 2. **Action Point:** There is some O-RAN Alliance funding available for a one-time investment in improving our activity. If anyone has suggestions on how to improve / accelerate the work that we are doing, please bring your suggestions and ideas forward and we will discuss at the next TOC meeting.
  - 3. Jack: PR for E Release has been published.
- 8. Old business and Status of Open Actions
  - a. "F" Release timeline has been included on the TOC Wiki.
  - b. "E" Maintenance release
    - i. Manasi: O-DU High is ready for "E" maintenance release. The code has been branched, Docker images have been built and uploaded, documentation is complete.
    - ii. Jack: I think there were a couple of other minor updates. We should consider "E" maintenance release closed and move forward to focusing on F Release..
  - c. OSC labs
    - i. Jack: Is there any update on the Integration and Test activity at this point?
    - ii. James: Matti made an introduction to David Johnson from University of Utah. He offered access to the POWDER (Platform for Open Wireless Data-driven Experimental Research) test lab which has been used in the O-RAN Plugfests in recent years. They have a profile which can be used to install OSC component software in order to run test cases against it. I would like to investigate this a little more to see how (if?) it might be of benefit to OSC community.
    - iii. Jack: Yes, the team should decide on the most effective way to get things done.
    - iv. James: David's supervisor enquired about the possibility of securing funding from OSC.
    - v. Jack: In order to discuss funding we need to understand the nature of the agreement and what OSC is getting in return. Today, we don't really spend money on our current lab setups from O-RAN. It is mostly volunteer based from the team, with the exception of LF. If anyone would like to bring forward a proposal then they can present to TOC.
    - vi. Jack: Is there anything on Prof Ray's lab?
    - vii. Rittwik: Not yet. I'll follow up with him.
    - viii. Ganesh: We are working on the paperwork to include O-CU in Prof Ray's lab. This is ongoing.
  - d. 5G Super Blueprint status - tabled for D and E, will be re-evaluated for F release.
    - i. Jack: Should we remove or move to G release?
    - ii. Rittwik: We should move to G.
    - iii. David: Agree. We will be better able to deploy in Super Blueprint in G release.
    - iv. Jack: Tag this activity for G release.
  - e. "F" Release:
    - i. Jack: Where are we up to with F release planning?
    - ii. David: We are just wrapping up planning process for F release. Two main themes are around O-Cloud emergence and automated testing. We aim to use SMO to onboard network elements in the G release.
    - iii. Jack: Have you covered this with all PTLs?
    - iv. David: We got feedback from some PTLs but we need to get sign off from PTLs on the automated testing activity.
    - v. Jack: Will software tooling for code coverage also be included in scope of F release?
    - vi. David: You could have those tests run in OTF. Not a focus for this round. Our main priority is to reduce release testing from 4 weeks to something closer to 2 weeks.
    - vii. Jack: Each PTL has their own activities in addition to the RSAC requirements. Need to capture these activities in the overall release plan too. We will review with PTLs in the coming weeks to make sure all activities are captured.
    - viii. Jack: Any progress on SMO security badging?
    - ix. Mahesh: This is being included in "F" release planning for SMO. Current target is to deliver in the first sprint.
    - x. Jack: What is current plan for SMO functionality in "F" Release?
    - xi. Mahesh: There is a meeting tomorrow to review SMO functional scope for "F" Release. We hope to have an update for next week's TOC meeting.
    - xii. Jack: O-CU binary was working to integrate O-RAN interfaces last year. How can this help us for the upcoming OSC release(s)?
    - xiii. Manasi: For O1, the O-CU binary should be ready by end of February. Need to confirm. For E2 AP, there is a Q2 deadline for O-CU.
    - xiv. Jack: Does E2 for O-CU align with the versions supported by other OSC components?
    - xv. Thoralf: Near RT RIC is working to implement E2 AP 2.0 by end of February / beginning March.
    - xvi. Manasi: Need to confirm which version of the E2 AP spec is being implemented by O-CU binary. For O-DU High the plan is to support E2 AP 2.0. Need to confirm which versions of other E2 specifications will be supported.
    - xvii. Jack: We should work towards securing O-CU binary interoperability with other OSC components by end of Q1. Need to make the system work together.
    - xviii. David: RSAC has plans for testing O2 with simulators, however each project can also choose to implement test stubs which better suit their own test cases.
    - xix. Jack: Message to all the team - please consider how the components should work together. Keep a "system" view.
    - xx. David: Need to start closing some of the interface "gaps" in the various components.
    - xxi. Martin: API freeze is April 1st, it would be nice to have a picture of where the interface gaps are before then. That way, we would still have time to include some new requirements in "F" release, if needed.
    - xxii. Jack: Can we get a table together showing the OCS components and their level of interface support?
    - xxiii. David: I can start something and ask the PTLs to review / add to it.
    - xxiv. Tracy: Need to dig a little deeper on POWDER (Platform for Open Wireless Data-driven Experimental Research).
    - xxv. Jack: Please reach out to James to discuss options for the community.
    - xxvi. Tracy: Will kick off an email discussion.
- 9. Standing Agenda Items (Brief Status of Ongoing Activities)
  - a. Release Manager [Trishan de Lanerolle /Release Planning](#): Weekly TOC Scheduling
  - b. Requirements Software Architecture Committee

- c. OSC lab
- a. Report out from PTL: Stand-Up & Report Out on Blockers
  - i. [James Li](#) Integration and Testing (INT)
  - ii. [Mahesh Jethanandani](#) Service Management and Orchestration (SMO)
  - iii. [John Keeney](#) Non-Real Time RIC (RAN Intelligent Controller) (NONRTRIC)
  - iv. [SUNIL SINGH](#) RIC Applications (RICAPP)
  - v. [Thoralf Czichy](#) RIC Platform (RIC)
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2022 01 26

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#### Agenda

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<a href="#">Orange</a>	William Diego		Vincent Danno	
<a href="#">Radisys</a>	Ganesh Shenbagaraman		Manasi Padhy	X
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<a href="#">Wind River</a>	Bin Yang	X	Jackie Huang	

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3. Review and Agree to Minutes of Previous Meeting
  - a. **Decision:** Minutes for TOC meeting approval: proposed by ... seconded by ... ~~The motion is approved.~~
4. Review of Today's Agenda
  - a. 1/19/22 [John Murray](#): I received an email from Intel requesting a new repo related to WG6 work and DPDK. Most of the Intel people don't make to the TOC meeting as it's too early for them on the West Coast. The request was for approval for a new repo that would be used to store the DPDK Dev head files that was decided by WG6. The O-RAN AAL specification can then reference this repo and version. From the previous email exchange I was supposed to receive more information from Niall Power or [Luis Farias](#) but I haven't double checked with them.
  - b. [John Paul Lane](#): It would be good to have them clarify on the request. also the licensing model we talked previously might need some changes to the Charter.
  - c. [John Murray](#): If DPDK is principally required by O-DU-low, and the Infrastructure project, I hate to create repos that are just dangling with not associated with any project and, at the same time I hate to create a whole project with for two header files.
  - d. [Trishan de Lanerolle](#): One consideration here is, depending on the ask from WG6 is the keeping it in sync with the upstream DPDK and whether you're keeping it with the its release or the current release when it's deployed with the projects.
  - e. [John Murray](#): Let's park it for the next meeting until we can get a little more information.
  - f. [Jinri Huang](#): Since the topic is on the table for a long time, we need to close it as soon as possible. We can encourage Intel to kick off a discussion on the TOC mailing list, or arrange for a special meeting just for this topic.
  - g. [John Murray](#): I'll respond to them in an email with these feedback.
  - h. [John Paul Lane](#): Is that a correct understanding that this is purely a stage 3 specification WG6 looks to push to DPDK? We don't need to build test cases and test harnesses around it then.
  - i. [John Murray](#): That's my understanding.
  - j. 1/26/22 [Chenxi Yue](#): I failed to join the last TOC call due to a network issue. Want to check on the approval of the new repo request
  - k. [John Keeney](#): I sent an email last week and requesting approval for some new repos as well
  - l. [Trishan de Lanerolle](#): a couple of repos to be archived, and one repo to be removed from the archived tag.
  - m. [John Murray](#): [Trishan de Lanerolle](#) received an email from you that you'll be moving on from this project
  - n. [Trishan de Lanerolle](#): yes, there would be a transition period.

## 5. Release Votes and Approval

- a. 1/26/22 [John Murray](#): let's talk about the repo change request from [John Keeney](#) a bit.
- b. [John Keeney](#): Currently the NonRT RIC project we store most of our functions in a single repo and then we have a fairly complicated set of Jenkins jobs, mainly to release multiple artifacts from the same repo and that's starting to become just too much now and we want to break out those functions into multiple repos so I sent an email to the TOC mailing lists last week with the list of new repos. There's no change in scope, no new features. In the short term it's literally just a reorganization of the existing single repo into multiple repos, there will be a bit of overhead involved like the Jenkins job will need to be regenerated into multiple jobs, documentation will need some changes and will have to update the wiki in a few places as well, but it's not a scope change.
- c. [John Murray](#): how many repos will we end up with?
- d. [John Keeney](#): about 8
- e. [John Murray](#): [Trishan de Lanerolle](#) do you see any issues with making this change from a resource standpoint?
- f. [Trishan de Lanerolle](#): no it shouldn't be.
- g. [Thoralf Czichy](#): do we have a list of one-sentence description of these new repos like what each of them is supposed to contain? I put the approval request email into the chat if anybody wants to read.
- h. [John Keeney](#): Actually requesting 10 repos: rApp – A1-P Healthcheck, rApp – Slice Assurance via O-DU, rApp – O-RU-FH Recovery via O-DU, and 7 platform repos.
- i. [Thoralf Czichy](#): I would still request for each of those repos to have a one or two lines on what they're supposed to contain. Some of the repo names are very descriptive while some of them are very generic.
- j. [John Keeney](#): each of these functions are all described in the existing documentation, but if you want to have it associated with the individual repos, I can do that.
- k. [Thoralf Czichy](#): If you have the existing documentation link readily available now, then I think it's fine.
- l. [John Keeney](#): It won't be a one to one mapping. In the chat you'll see the list of existing functions that we have today. So number one and two are currently in the portal project so we're not referring to those and number three is essentially a prototype function, but each of the ones below would correspond to one of the reports. The test framework actually will remain in the home repo.
- m. [Thoralf Czichy](#): Okay, I think we can go ahead with the approval. Please still provide an overview like which repo is supposed to contain what. Who are the committers for these repos?
- n. [John Keeney](#): exactly the same committers.
- o. [John Murray](#): with [John Keeney](#) and [Jinri Huang](#) second the motion we've approved the request. I assume this will be completed in F release and the new structure can be fully utilized?
- p. [John Keeney](#): absolutely. it just takes a couple of weeks.
- q. [Trishan de Lanerolle](#): you can open a ticket with release engineering team when you're ready to make the transition.
- r. [John Keeney](#): we're already working on the draft versions of the Jenkins job so we may need a little bit of help with that, but our goal is to reduce the overhead on the team as much as possible.
- s. [Trishan de Lanerolle](#): [Martin Skorupski](#) has a request to archive 2 OAM repos, and [Mahesh Jethanandani](#) requests to un-archive a repo so they can work on it.
- t. [Alex Stancu](#): I can speak for [Martin Skorupski](#): The 2 repos contain code for mediators or adapters that should eventually end up embedded in the devices, so there is no plan to enhance, so this is the reason for archiving
- u. [John Murray](#): I don't know that this takes a formal vote, will just let [Trishan de Lanerolle](#) go on and follow through on the request to archive those.
- v. [Trishan de Lanerolle](#): [Mahesh Jethanandani](#) requested to back out of the archive on the smo/o2 repo so they can start working on the interface in F release.
- w. [John Murray](#): my question is how did it end up in archived state? is it by accident?
- x. [Trishan de Lanerolle](#): There was no work on it for over a year. It was abandoned and now they want to re-engage it
- y. [Thoralf Czichy](#): do we have a description what's supposed to go there?
- z. [John Paul Lane](#): So is that part of the Tucker integration that the SMO guys are planning that has some O2 plugins or some specific code?
- aa. [Thoralf Czichy](#): there's one pti/o2 repo
- ab. [Bin Yang](#): that one is the end point for O-cloud.
- ac. [David Kinsey](#): We have several things dealing with SMO and O2 because there's several orchestrators that that we're going to use. SMO has to develop the registration procedure, which is the start of O-cloud discovery. We are expecting almost three of DMSs to emerge out in the next release. One of them is Tacker, another one will be from vmware that's CRD based for xApps and rApps, and one that will be more Kubernetes native DMS implementation.
- ad. [Thoralf Czichy](#): How about we delay the vote until next week, until we have some summary of what's going there.
- ae. [John Murray](#): I'm happy to push it to the next week. Let's move on to the discussion for creating the repo for DPDK.
- af. [niall.power@intel.com](#): it's Niall Power from Intel and I can give a quick update. Basically we have the acceleration abstraction layer within O-RAN working group six and we have a stage one and stage two specification for that focusing on the forward error correction and the interface. It was decided that we would base the Stage Three specification then on the existing DPDK implementation there in the DPDK Community under a bsd license. We didn't want to point directly from the O-RAN AAL stage two specification directly to DPDK and we wanted to maintain a specific version of the DPDK header files that O-RAN wants to use, and so it was discussed about creating a new AAL repo within the OSC that will be under a bsd license the same as DPDK. It would contain the specific version of the DPDK header files that the O-RAN working group six would approve and reference within the stage 2 specification. So the request is to be able to create this new repo under bsd license.
- ag. [John Murray](#): we talked about this a while back but it's been tabled until we got clear update for which this brings forward from working group six as to how they want to proceed. Do you see this being attached and utilized by what components in the overall O-RAN architecture? Is this something that would be part of the infrastructure, or O-DU?
- ah. [niall.power@intel.com](#): it's used already as part of the O-DU-low project. We had briefly discussed internally within Intel whether we'd reuse the same O-DU-low repo, but the DPDK is under BSD license and the existing code is under Apache.
- ai. [John Murray](#): I just wanted to get everyone on the same page. My view is to create a new repo because the license is different, but I would put it under the O-DU-low project so not to create another project overhead.
- aj. [niall.power@intel.com](#): that sounds fine to me.
- ak. [Thoralf Czichy](#): who will be the initial committers?
- al. [niall.power@intel.com](#): Intel will be the initial committers, and we take the version of the header files that will be approved by working group six and contribute those into the repo.
- am. [user-30c9d](#): is there any specific model that you're looking for in the DPDK?
- an. [niall.power@intel.com](#): this would be specific to the local side
- ao. [user-30c9d](#): is there any configuration change on the O-DU-low side and is there any impact to the O-DU-high to adjust for pari wise testing?
- ap. [niall.power@intel.com](#): I don't believe there is. So that the AAL interface we're talking about is the acceleration abstraction layer from the O-DU-low to the hardware accelerator the FPGA or ASIC that will accelerate the encoding and decoding operation.

- aq. [Matti Hiltunen](#): so in that case going forward we need to test a hardware accelerator?
- ar. [niall.power@intel.com](#): The validation scope is a little different as there's no requirement from O-RAN to use hardware acceleration. You can still have a pure software based O-DU-low and O-DU-high, so that's a separate question I guess for validation. When you're using the hardware accelerator, obviously, then yes. The working group six is specifying the interface for that hardware accelerator to use to O-DU-low.
- as. [user-30c9d](#): From what I understood from [Luis Farias](#), that we would be getting the latest binary 21 03 by February, does it come along with the binary package?
- at. [niall.power@intel.com](#): I think we need to just separate the two of them. So this AAL repo is purely from O-RAN working group six and it will just be the DPDK header files. The O-DU-low or the FLEX RAN 21 03 is a separate contribution, and it's not going to be dependent on this new repo, but it will be aligned with the O-RAN working groups six specification and will use those APIs.
- au. [John Paul Lane](#): So just to confirm that the repo you're proposing for these two header files is purely to publish Stage three of the specification. We're not going to or there's no requirement to build test or integrate those header files, as part of this repo. it's purely publication activity.
- av. [niall.power@intel.com](#): correct.
- aw. [John Paul Lane](#): Is there any issues with the timing of when these Stage Three specifications are published? OSC has two releases a year June and December. If these Stage Three specs be formally published outside of those two deadlines, are there any requirements on how we actually release those header files included in the repo?
- ax. [niall.power@intel.com](#): I guess the only requirement from working group six was that we could actually raise a change request to our stage 2 specifications and that change requests all we want to do is to be able to reference to the header files within the OSC repo. So I'm not sure if it needs to be included in an OSC release. I understand there are other repos that are used on the SCCL license for similar kind of stage 3 type specifications. Are they included in releases, or is there any presets for us to follow?
- ay. [John Murray](#): It has to do with branching and archiving and and tracking.
- az. [niall.power@intel.com](#): You bring up a good point. If we raise a change request to the stage 2 specification, we need to be able to reference a specific branch or a tag within the repo.
- ba. [John Murray](#): That's the way the process works -- there's really four releases 2 maintenance to 2 major. So the most is a three or four month window if you just missed it.
- bb. [Thoralf Czichy](#): I still have one question was it formally approved by working group six as well as the procedure?
- bc. [niall.power@intel.com](#): I believe so. The procedure that we discussed was that if there's any major architectural changes or anything like that the changes would be done as a CR to the existing Stage one or stage two specification within the origin working group six discussions. and then change requests or a pull request could be made against the repo against those header files to update those to align with the specification.
- bd. [Juha Oravainen](#): what's the status of the "exception clause" with the BSD license? It's been a while and we lost the topic.
- be. [Trishan de Lanerolle](#): Yes, we could do an exception on the license. I have an open item currently with our team just to clarify on the language for the resolution.
- bf. [Thoralf Czichy](#): do we have a contribution license agreement for this as well?
- bg. [Trishan de Lanerolle](#): I'll need to get clarity on that.
- bh. [John Murray](#): If we do we'll put one in place. O-RAN is a Linux foundation project so we follow the Linux foundation procedures.
- bi. [John Paul Lane](#): Is the exception clause to the technical charter or is it a separate document that the Linux foundation administers?
- bj. [Trishan de Lanerolle](#): It'll be in the license file on the code and then also as an exception in the technical charter on the license side
- bk. [John Murray](#): We'll just need an email from [niall.power@intel.com](#) about the committers' names, the name of the repo, and a description. You can send it to the TOC mail list.
- bl. [Trishan de Lanerolle](#): And in addition, I would ask that the justification for using the ultimate license (BSD).
- bm. [Thoralf Czichy](#): And I would also ask Niall if you could refer to any kind of discussions on meeting minutes from working group six on this topic so we know that it has been properly handled there.
- bn. [John Murray](#): I'll close this discussion for today and table it till next week
- bo. [Thoralf Czichy](#): we should aim for vote next week.
6. AAL project
- Action point:** Trishan to check if your have to sign a new agreement for the repo if TOC decides on BSD license use. Refer to minutes of previous meeting(s) for details.
    - Update on 11/17/21 : [Trishan de Lanerolle](#) we can put an exception clause for introduce a new license (BSD), this will be done in coordination with WG6.
  - Action point:** Jack to present the write up about the AAL project to have a vote.
    - This was put on the table on 2021-07-07 meeting
    - Jack: There is discussion ongoing in WG6 and we're still waiting for some aspects that discussion to be resolved. Some clarifications were made but until we get more information we leave this table for now
    - No update on 12/01/21.
    - No update on 12/08/21.
    - No update on 12/15/21.
7. Copyright update
- 12/01/21:
    - Jirni: What is the status of defining the process for moving eg. YANG files under SCCL license. There was also question if OSC charter needs update to reflect SCCL.
    - Jack: I am working on writing the process description but it needs further work on streamlining of the process and automation. Only O-RAN SCP charter controlled by O-RAN will need update and there is ongoing discussion with legal team.
  - 12/08/21:
    - Jack: Progress on CLA was made. Ongoing work on the processes.
  - 1/19/22:
    - [John Murray](#): [Trishan de Lanerolle](#), did Stefan ever send you the CLA?
    - [Trishan de Lanerolle](#): no yet.
    - [John Murray](#): I think that's one of the things that's holding us up. I'll try to reach out to Stefan and and others to get this back moving and see if we can get this resolved here. There's a couple moving pieces here that would have to get resolved, but nothing new right now.
8. O-RAN-related business (marketing, WG interaction, TSC/EC update etc.)
- 12/01/21:
    - Jirni: There will be no physical O-RAN F2F meeting in Feb 21. If it happens as virtual meeting is not decided yet.
    - Jirni: Most of the new specs targeting November train are under review of O-RAN TSC.
    - Jirni: There is to be confirmed plan to have 2 PRs. First one will be about plug-fest. Second one that will include OSC release E and other 2021 achievements is now planned for Jan 22.
    - Jack: **Last TOC meeting of 2021 will happen on 15th Dec and then we will resume on 5th Jan.**



2. 12/08/21:
    1. PR for release E:
      1. **Action point:** Jinri asks PTLs to provide quote and highlight of 2-3 new features or improvements in their project.
      2. Tracy: This year's joined O-RAN/TIP Plugfest used release E software. PR message should be aligned. [Link](#) to release D PR message.
      3. Please contact Jinri if your company is interested in providing quote. There is process to balance the quotes and include quotes from one company in every other PR instead of consecutively.
  - c. 12/15/21
    - i. Rittwik and David Kinsey will sync with Jinri about release overview
    - ii. Our PR is likely to be published together in O-RAN Alliance 2021 summary and possibly other pieces.
  - d. 1/5/22:
    - i. PR release for E: people should be working with Jinri on that. Per Jinri's email sent before the TOC meeting: "I got the input from SMO, near-RT RIC platform, INF, O-DU-HIGH, and SIM. For those PTLs (xAPP, NRT RIC, O-CU-LOW) who have not sent me the content, please do this ASAP."
  - e. 1/12/22:
    - i. PR release for E: [Jinri Huang](#) has the draft and will send to the mailing list. There wasn't enough time at the last week's EC meeting to discuss the PR. In addition to the PR, will write a blog based on the input from PTLs with rich content. This is not so urgent so [Jinri Huang](#) will have this by the next meeting.
    - ii. [Jinri Huang](#): received quote request from LF, HCL, Highstreet and Windriver.
    - iii. [Thoralf Czichy](#): will forward to you again. It was sent a couple weeks ago.
  - f. 1/19/22:
    - i. [Jinri Huang](#): The E release PR was sent to EC for discussion but no conclusion yet. There was one question from Hank regarding the quote that I just send [John Murray](#) an email on Monday. For the blog posts I haven't received any input from O-DU-low and OAM projects.
    - ii. [Martin Skorupski](#): I sent in December but it doesn't pop up in the discussion.
    - iii. [John Murray](#): anything on the virtual face to face that we need to be planning for?
    - iv. [user-59b16](#): I think we need one hour. It can start on Feb 8th after the Chinese New Year holiday or the 9th it could be okay.
    - v. [John Murray](#): It's great to have time where we tell them what we think. What's the process to see if anyone there has input for us?
    - vi. [David Kinsey](#): Like the MVPC?
    - vii. [user-59b16](#): The MVP provides guidance to features on projects that are coming up, but also I think, when we draft the F release and the G release requirements, we hear from people who are attending different working groups -- essentially that's our intake. We don't do things just because we want to do it, we do it because things are coming up in the MVP and things are also getting surfaced in different working groups. Timely topics that may be getting in as pre standard, and then we work it in the pre standard mode and by the time we finished the job here, the standard is already there in first draft version. I think it kind of happens implicitly. But sometimes it's directly back, like the CRD discussion that we're going on right now.
    - viii. [John Murray](#): I just want to make sure that the invite is open enough to the broader community so someone has something they can bring it to us, not just show up and hear what we have to say.
    - ix. [Tracy Van Brakle](#): Just one thing to add: the MVP committee is now moving closer to a more formalized release management to manage multiple releases out, I think it goes out to two years. I don't know if this group has seen around release 002 yet. Would this be of interest to the group?
    - x. [user-59b16](#): We should socialize.
    - xi. [Tracy Van Brakle](#): I know this is going to be discussed in more than one session during the upcoming virtual face to face. OSC said we need more rigorous release management and we recognize that many of the features functionality that operators want traverse multiple releases. The link to (draft) O-RAN multi-release roadmap can be found [here](#).
    - xii. [John Murray](#): I think it's important that eventually each of the projects we need to track to the specification releases, so that when people use a particular release of software they know what capabilities are included in that. For example, the older E2 specification to the new one, and it was not backward compatible so it needs to be documented clearly. We'll have to continue to work on and update our processes as it is important to make sure we communicate clearly where each of the project software is relative to the specifications that are published.
  - g. 1/26/22:
    - i. [John Murray](#): Jinri had to go over to the EC meeting, but he posted in the chat that the released PR is already on the wire available from O-RAN website, and we have a slot in the O-RAN virtual face to face on February 8 for the F release discussion.
    - ii. [Mahesh Jethanandani](#): I can again put it in voting on the email list. It's the contribution from DoCoMo for Tacker.
    - iii. [Juha Oravainen](#): There is some internal changes in Nokia side and I am having a new assignment, so we will change our TOC representative starting from first of February and he can introduce himself next week.
    - iv. [Trishan de Lanerolle](#): Moving on from Linux Foundation around 2/7.
9. Old business and Status of Open Action
- a. "E" Release timeline / maintenance release:
    - i. [James Li](#) sent out an email to TOC mailing list regarding E release status before new year. Near-RT RIC, NonRTRIC, O-DU-High, OAM, RICAPP and Simulation projects have their docker image list published. SMO is working on the image list, and an IT ticket [IT-23440](#) was created. In RICAPP, the bouncer and RC xApps have problem with Jenkins jobs and therefore the final docker image is not ready. Documentations are pretty much done. **Action point:** [James Li](#) sends an email to [Mahesh Jethanandani](#) and CC to [Trishan de Lanerolle](#), [John Murray](#) and [Jinri Huang](#) regarding the issue.
    - ii. [user-30c9d](#): are ready for the maintenance release but are waiting for other projects.
    - iii. [John Murray](#): let's carry that conversation into next week and get input from others and see if there's any other.
    - iv. 1/12/22 [John Murray](#): by now all the branches should be in place, and there should be at least some introductory documentation for people to know where to find the release software
      1. [James Li](#): yes, under each project there's a link pointing to the published docker image list, as well as how to get the source code.
      2. **Action Point:** [James Li](#) to update the "O-RAN Software Community" page about the delivery of the E release.
      3. [John Murray](#) looks like the only thing in the maintenance release is the O-DU-high. [user-30c9d](#) to update the section to indicate what's available in the maintenance release.
    - v. 1/19/22:
      1. [John Murray](#): [user-30c9d](#) Did you completed the updated code that would be part of the maintenance release?
      2. [user-30c9d](#): yes, we did update the maintenance release on the daily spaces.
      3. [John Murray](#): [James Li](#) is there anything else to do as part of updating the documentation or anything to make sure people know that there is an incremental maintenance release for the E release?

4. **James Li**: I can refer to the past ones so maybe just update the corresponding release page. When is the deadline for the maintenance release?
  5. **John Murray**: It's the end of January. I don't think anyone else had said they had anything to add to the maintenance release at this time. So we'll just update that there's an incremental update in the O-DU-high and will turn our focus then to the F release unless anyone has any other thing they would like to raise at this time.
  6. **John Keeney**: I just want to comment on the maintenance release: to verify the O-DU-high with SMO, we can extend the rApp that we have for the slice assurance use case. And we already have one that works towards the ONAP connector with simulator. I imagine some change will be needed so we will try to get it working for the maintenance release if we can. It's most integration challenge rather than code challenge. Maybe as a stretch for the maintenance release if we can get it done. Otherwise it goes into the F release.
  7. **John Murray**: will it be a new branch?
  8. **John Keeney**: no, it's just a version number change.
  9. **John Murray**: **James Lim** make sure everything has the right version number.
- b. OSC lab in Taiwan (Prof Ray's lab):
- i. 11/24/21 : **user-30c9d** initial configurations (TDD specs) is ongoing.
  - ii. 1/12/22:
    1. **David Kinsey**: we have the IXR in place but is working with Nokia to configure it. Once the grandmaster clock is connected and the link path established between O-DU and O-RU, and SMO and O-RU, there would be pairwise testing with the O-DU and the O-RU, once that proves out then we can see if we it's able to do a full attach to the core through the entire stack.
    2. **John Murray**: when will this be done?
    3. **David Kinsey**: try to establish it during the maintenance release timeframe.
    4. **user-30c9d**: I have a question about how the grandmaster is connected and configured?
    5. **David Kinsey**: It's connected to the IXR and it's just that we don't have the configuration that the IXR to use that clock and provide the S plane to both the O-RU and O-DU. Internally AT&T uses the IXR for such capacity so we know there can be the O-DU to O-RU connectivity through an IXR device.
    6. **James Li**: Prof. Ray's student is drafting a paper about the 3 OSC labs and invited **David Kinsey** and me to provide status on each of our labs.
  - iii. 1/19/22:
    1. **John Murray**: **David Kinsey** what's the status on the lab?
    2. **David Kinsey**: we are still waiting for feedback from Nokia on the configuration of the IXR.
    3. **John Murray**: who's working with Nokia?
    4. **David Kinsey**: I reached out to Ramsay and Ramsay was going to get with experts on this. Rich is also in the loop.
    5. **John Murray**: it's been a long time and we need to bring it to a close.
    6. **Tracy Van Brakle**: Who's acting as scribe make sure to add the link to the notes. Because this has been initiated because of suggestions and requests from this group. So we absolutely want strong feedback. Because the notion is that the release management isn't going to be exactly the way it happens in other Linux foundation networking projects, but we consider specifications and, in some cases pre specifications as requirements and then we'd look to this group to help figure out how to phase the delivery across how many releases it might take.
    7. **John Murray**: Good point there. I think this is a topic that somebody needs to spend a little more time thinking about and working on. Is there someone from the TOC who's willing to spend a little extra time working on this topic so that we can document how we want to do this with the process?
    8. **Tracy Van Brakle**: Are you looking for a TOC voting Member? Hopefully someone will raise his hand and I'd be happy to help connect the dots. **user-59b16**, since you're already a frequent participant with MVP Committee, maybe you could help complete feedback loop.
    9. **user-59b16**: yes, we can bring it up to the MVP Committee.
    10. **John Murray**: thank you both for stepping up.
- c. 5G Super Blueprint status - tabled for D and E, will be re-evaluated for F release.
- i. 11/10/21: **Tracy Van Brakle** 5G super blueprint is already taking advantage of the OSC initiated developments in ONAP (but not just ONAP). Jack: There are new functionalities that are needed that we need to make sure that gets into the roadmap.
  - ii. 1/5/22: **user-59b16** RSAC didn't discuss on the Super Blueprint yet.
  - iii. 1/12/22: **David Kinsey** I haven't received any request regarding the F release on the Super Blueprint.
- d. "F" Release:
- i. 10/27/21: Rittwik: will focus on O-Cloud usecase in F release, as well as the continuation of network slicing use case. Will reach out to PTLs to check if any more use cases. And might divide use cases between Taiwan lab and New Jersey lab.
  - ii. 11/03/21: Jack: please reach Rittwik and David to get early information into the planning process of F release.
  - iii. 12/15/21: Planning discussion
    1. There are multiple smaller contributions planned for F release.
    2. NTT Docomo proposes to leverage Tacker OpenStack as upstream project for O2 implementation in SMO project but there is also WindRiver contribution on O2 so alignment will be needed in F release planning.
    3. Testing of Slicing E2E should be one of the goals of OSC Lab in release F to validate work done in E.
  - iv. 1/5/22: **user-59b16** planning discussions:
    1. **David Kinsey** is trying to harness the OTF to do a lot of integration testing
    2. O-DU-high will carry over some work items left over from E
    3. NonRT-RIC: rApp onboarding and deployment
    4. NTT Docomo proposed on the Tacker
    5. Infrastructure project: we want to try to bring up the infrastructure in simplex/duplex/duplex+ modes
    6. Network slicing basic use case did not finish right, so we want to finish that upon the lab progress – once we finish the lab getting all installed we want to finish that up.
    7. RICAPP project: the RC xApp is just using a basic handoff right now we want to see if we can extend that to slice level management
    8. **user-30c9d**: I just uploaded the final approved F release plan
    9. **John Murray**: I'd like to have some kind of table or something that represents what's working and not working. So this would allow each of the labs and other places who want to set up the system know what's able to do.
    10. **Bin Yang**: want to share our vision on the INF project: install the INF platform as O-Cloud and start integration of the O2 service to support the lifecycle management with SMO, and also want to see how other components, such as the RIC works on O-Cloud
    11. **Mahesh Jethanandani**: I also want to highlight the SMO integration, such as the one with O-DU-high which is still in working progress

12. **user-59b16**: we can go after project by project to see some of them can register with SMO and then be brought up by SMO via the Helm chart.
13. **Manoop Talasila**: can have a few binary with O1 compliance available by end of February, and will check and update at next TOC meeting about the E2 interface.
14. **user-59b16**: E2AP v2.0 is not backward compatible. Some of the information on what spec version is being adopted is in the documentation page on a per project basis.
15. **user-59b16**: One thought: a lot of operators are asking for integration of NW and the RIC, also the enrichment information that is coming from outside of the RAN
- v. 1/12/22: **David Kinsey**: One focus in F release is for the SMO to be able to use the O-Cloud to deploy our products, but it's more of a Hello World type of example of deployment in F and it's really going to be like the G release where we're doing it for everything. In F the O-Cloud out of the INF project is more on the O2 interface and the pre-spec for the DMS.
  1. **user-59b16**: Wind River has some sample implementation.
  2. **David Kinsey**: In F release there are 2 flavors of pre-sepc DMS: one on Kubernetes and one on the ETSI.
  3. **user-59b16**: the coordination is important, and the SMO project needs to take the lead on such activities.
  4. **Mahesh Jethanandani**: we haven't received any request from Wind River about containerized solution. In the F release the plan is to bring in the O2 interface, instantiate and upgrade as Jack mentioned.
  5. **David Kinsey**: didn't have enough quorum from the end of the last year to make the RSAC call until this week. Wind River is deviating into the INF project but the SMO needs to integrate it to simplify the lab so we can get the SMO to launch through the lab, rather than to handle lab request for any resource change.
  6. **John Murray**: we need to push for it in F so we don't need to do it all in G. Need to pull in the life cycle management piece in F.
  7. **David Kinsey**: We have some contributions from VMWare on APP deployments; Tacker from DoCoMo for ETSI based deployments and Wind River, which is a bare Kubernetes deployment in parallel to the specifications. It's just like when we were doing A1 at the same time as they were developing that spec. This will help drive those specifications in O-RAN.
  8. **John Murray**: we want to make sure that we're including support for cluster management, because the DUs are pushed out, towards the edge.
  9. **David Kinsey**: : : going to start off with simplex where they can start with a vm initially rather than waiting for physical server. After that it's duplex so a 2 server cluster and then it's duplex Plus, which is a 3+ server cluster. Once we have those three, we will start looking at harvesting some of the resources we're using and can add them to the duplex plus cluster with cluster management possibly.
  10. **user-59b16**: in my experience, the single node orchestration has become much more relevant, where the master and the worker nodes are physically situated at the south side. Lots of operators are realizing it just from a footprint standpoint, because sometimes the fan out scope is quite large so operators are moving towards single orchestration.
  11. **John Murray**: there's still work going on for the slicing?
  12. **David Kinsey**: The last time I did it on that front hall gateway for us to finish up the first round of slicing I think there are more slicing considerations in the O-DU for the F release as well.
- vi. 1/19/22:
  1. **user-59b16**: We've documented it in our RSAC meetings page. We discussed it last night again, all the different projects, with the exception of Simulator, NearRT RIC, and RICAPP projects, and that's what we will read out on February 8. A lot of the focus is on the SMO project, O1, O2. So maybe **Thoralf Czichy** and **Alex Stancu** just reach out to us to say what exactly is happening for you in F release.
  2. **Thoralf Czichy**: The RSAC meeting minutes page only show 1/13 meeting.
  3. **user-59b16**: There was one last night I don't think we updated it yet so we'll do that. If you look at the 13th it gives you a good idea of the various projects and what's happening, the interactions with O-Cloud etc.
  4. **Thoralf Czichy**: I will send you the list as we discussed yesterday at the bi-weekly project meeting.
  5. **SUNIL SINGH**: I will send you the list too.
  6. **user-59b16**: I've been hearing there's effort that may get kick started in O-RAN with regards to use case validation. They want to specify to the extent of how much a use case has been validated. Take traffic steering, for example, you cannot validate all the knobs the inputs and outputs of the of the traffic steering use case but, to a certain extent they want to come up with the test specification from a use case viewpoint, not from a protocol compliance viewpoint. For the RICAPP project and NonRT RIC project as we work on these use cases, maybe we can have a table or something documented that look for traffic steering we've done that might actually help explain to people to what extent are these use cases validated. And if you want to take to the next step, then you have to get into large scale simulations embedded with the RAN controllers.
  7. **John Murray**: Right in some cases we're a little more focused on components and component interoperability, then the large scale systems. One of the things is trying to find out how best to have a subset of what they're doing line up with what applies to us. The other thing is that all the use cases shouldn't be only around O-RAN functionality, there should be some enabler use cases. Maybe we can talk about how to leverage some of the open interfaces as part of a use case validation and that's kind of like validate the peer to peer interoperability. Particularly we can look at the O1, O2, E2, and R1 interfaces that if they have some use cases around. If we validated them and other people who were building commercial products to those same interfaces, this is a subset of validation use cases that could be used to help drive that interoperability capability.
  8. **Tracy Van Brakle**: I think that this around multi year roadmap attempts to address is use case validation across multiple O-RAN trains and OSC releases potentially. If you look at the draft roadmap you'll see phase 1/2/3. Without use case validation Phase 1/2/3 are not meaningful (in other words, must be clear about what is in Phase 2 that is not in Phase 1, and so on). OTICs may be appropriate testbeds for some of this use case validation. This is one reason for example why we're having TIFG voted almost unanimously to have not one, but two plug fests specifically for use case validation in conjunction with O-RAN trains and OSC releases.
- e. Access to the lab, raised by **Mahesh Jethanandani**
  - i. Mahesh: SMO and ODU high have different access levels to the lab and VMs.
  - ii. **John Murray**: Please send me the e-mail with details and I will help with the access to the lab. Access to the VMs is more dependent on each project but we can work on that.
  - iii. 1/12/22:
    1. **John Murray**: **Mahesh Jethanandani** have you worked out all the issues to access the lab?
    2. **Mahesh Jethanandani**: yes both issues with VPN and VM access are still there. To work with **David Kinsey** to resolve the issue.
  - iv. 1/19/22:



1. [Mahesh Jethanandani](#): For the lab access, I think we had sent it out a couple of months ago, but I don't know David if you still have that information.
2. [John Murray](#): you can at least take that offline this week and try to get that resolved.
10. Standing Agenda Items (Brief Status of Ongoing Activities)
  - a. Release Manager [Trishan de Lanerolle](#) /Release Planning: Weekly TOC Scheduling
    - i. 1/12/22: [Trishan de Lanerolle](#): CLAs on hold as it still doesn't have the language. budget approved so can close on the 2022 budget.
    - ii. [John Murray](#): getting the schedule up for the upcoming releases so at least we have something to track towards the release at the end of June.
    - iii. [David Kinsey](#): make sure we can have a read out of the pipeline for F release by virtual face to face in February.
    - iv. [John Murray](#): [James Li](#) do you have anything as part of integration tests that we want to start highlighting at this point in the process? Typically this may include some of the tooling, software testing coverage levels, etc. on each of the projects, that we want the teams to make progress on, we should highlight them.
    - v. [James Li](#): can start to share with what the RIC platform and RICAPP projects currently have, and may need input from other PTLs.
    - vi. [John Murray](#): Start to build a table and pick some from one or more mature projects to fill in the table. Get up to date on it and see where we're at and how we can advance them.
    - vii. [John Murray](#): All is good except SMO at 96% in CII badging.
    - viii. [Mahesh Jethanandani](#): One item, the dynamic code coverage, may take some time.
  - b. Requirements Software Architecture Committee
  - c. OSC lab
    - i. Update on 11/24/21 [user-59b16](#) :
      1. Lab is now: running, all equipments are there, cables have been delivered last week. Next week, if we can get all PTP running, then the work can continue.
      2. For the Slicing UCs we need some of this preliminary work, but december seems to be short.
      3. O2 pre-spec implementation is available ([James Li](#)), tests could be scheduled on december - E release. [Bin Yang](#) want ed a server that he can stand up in the OC lab to do this O2 validation. [Jackie Huang](#) An email was send with hardware requirements.
      4. [James Li](#) is documented on the wiki that's going on with the New Jersey lab, the Taiwan lab and also I think CMCC want to send that set up a lab in the West Coast.
    - ii. Update on 12/01/21:
      1. E2E slicing use-case cannot be executed fully but we are progressing. Should be functional in F release.
  - a. Report out from PTL: Stand-Up & Report Out on Blockers
    - i. [James Li](#) Integration and Testing (INT)
    - ii. [Mahesh Jethanandani](#) Service Management and Orchestration (SMO)
    - iii. [John Keeney](#) Non-Real Time RIC (RAN Intelligent Controller) (NONRTRIC)
    - iv. [SUNIL SINGH](#) RIC Applications (RICAPP)
    - v. [Thoralf Czichy](#) RIC Platform (RIC)
    - vi. (TBD) O-RAN Centralized Unit (OCU)
    - vii. [user-30c9d](#) O-RAN Distributed Unit High (ODUHIGH)
    - viii. [Zhimin Yuan](#) O-RAN Distributed Unit Low (ODULOW)
    - ix. [Martin Skorupski](#) Operations and Maintenance (OAM)
    - x. [Alex Stancu](#) Simulations (SIM)
    - xi. [Jackie Huang](#) Infrastructure (INF)
    - xii. [weichen ni](#) Documentation (DOC)
    - xiii. (TBD) O-RAN Radio Unit (ORU)
11. New Agenda Items (New Business): New Items Submitted (+speaker) & Open Call to TOC For Additional Items
  - a. TOC vote on O-RAN SC software release E. see point 9.a for details
12. Planning for Next Meeting
13. Any Other Business (AOB)
14. Meeting Summary (resolutions, new action items, etc.)

## 2022 01 19

Recording: [recording](#)

### Agenda

1. Call for Scribe (minutes owner): [James Li](#)
2. Roll Call & Quorum Check

Company	Contact Name	Attendance	Alternate Contact	Attendance
<a href="#">AT&amp;T</a>	Jack Murray Co-Chair	X	David Kinsey	
<a href="#">China Mobile</a>	Jinri Huang Co-Chair	X	James Li	
<a href="#">Deutsche Telekom</a>	David Streibl	X	Ondej Hudousek	
<a href="#">Ericsson</a>	John-Paul Lane	X	John Keeney	
<a href="#">NTT DOCOMO</a>	Masafumi Masuda	X	Anil Umesh	
<a href="#">Nokia</a>	Juha Oravainen	X	Thoralf Czichy	
<a href="#">Orange</a>	William Diego	X	Vincent Danno	

Radisys	Ganesh Shenbagaraman	X	Manasi Padhy	
TIM	Andrea Buldorini	X	Scarpina Salvatore	
Wind River	Bin Yang	X	Jackie Huang	

\*Quorum: 50% or more of total TOC voting members unless excluded due to attendance.

3. Review and Agree to Minutes of Previous Meeting

- a. **Decision:** Minutes for TOC meeting approval: proposed by [James Li](#) seconded by [Jinri Huang](#) The motion is approved.

4. Review of Today's Agenda

- a. 1/19/22 [John Murray](#): I received an email from Intel requesting a new repo related to WG6 work and DPDK. Most of the Intel people don't make to the TOC meeting as it's too early for them on the West Coast. The request was for approval for a new repo that would be used to store the DPDK Dev head files that was decided by WG6. The O-RAN AAL specification can then reference this repo and version. From the previous email exchange I was supposed to receive more information from Niall Power or [Luis Farias](#) but I haven't double checked with them.
- b. [John Paul Lane](#): It would be good to have them clarify on the request. also the licensing model we talked previously might need some changes to the Charter.
- c. [John Murray](#): If DPDK is principally required by O-DU-low, and the Infrastructure project, I hate to create repos that are just dangling with not associated with any project and, at the same time I hate to create a whole project with for two header files.
- d. [Trishan de Lanerolle](#): One consideration here is, depending on the ask from WG6 is the keeping it in sync with the upstream DPDK and whether you're keeping it with the its release or the current release when it's deployed with the projects.
- e. [John Murray](#): Let's park it for the next meeting until we can get a little more information.
- f. [Jinri Huang](#): Since the topic is on the table for a long time, we need to close it as soon as possible. We can encourage Intel to kick off a discussion on the TOC mailing list, or arrange for a special meeting just for this topic.
- g. [John Murray](#): I'll respond to them in an email with these feedback.
- h. [John Paul Lane](#): Is that a correct understanding that this is purely a stage 3 specification WG6 looks to push to DPDK? We don't need to build test cases and test harnesses around it then.
- i. [John Murray](#): That's my understanding.

5. Release Votes and Approval

6. AAL project

- a. **Action point:** Trishan to check if you have to sign a new agreement for the repo if TOC decides on BSD license use. Refer to minutes of previous meeting(s) for details.
- i. Update on 11/17/21: [Trishan de Lanerolle](#) we can put an exception clause for introduce a new license (BSD), this will be done in coordination with WG6.
- b. **Action point:** Jack to present the write up about the AAL project to have a vote.
- i. This was put on the table on 2021-07-07 meeting
- ii. Jack: There is discussion ongoing in WG6 and we're still waiting for some aspects that discussion to be resolved. Some clarifications were made but until we get more information we leave this table for now
- iii. No update on 12/01/21.
- iv. No update on 12/08/21.
- v. No update on 12/15/21.

7. Copyright update

1. 12/01/21:
1. Jinri: What is the status of defining the process for moving eg. YANG files under SCCL license. There was also question if OSC charter needs update to reflect SCCL.
2. Jack: I am working on writing the process description but it needs further work on streamlining of the process and automation. Only O-RAN SCP charter controlled by O-RAN will need update and there is ongoing discussion with legal team.
2. 12/08/21:
1. Jack: Progress on CLA was made. Ongoing work on the processes.
3. 1/19/22:
1. [John Murray](#): [Trishan de Lanerolle](#), did Stefan ever send you the CLA?
2. [Trishan de Lanerolle](#): no yet.
3. [John Murray](#): I think that's one of the things that's holding us up. I'll try to reach out to Stefan and and others to get this back moving and see if we can get this resolved here. There's a couple moving pieces here that would have to get resolved, but nothing new right now.

8. O-RAN-related business (marketing, WG interaction, TSC/EC update etc.)

1. 12/01/21:
1. Jinri: There will be no physical O-RAN F2F meeting in Feb 21. If it happens as virtual meeting is not decided yet.
2. Jinri: Most of the new specs targeting November train are under review of O-RAN TSC.
3. Jinri: There is to be confirmed plan to have 2 PRs. First one will be about plug-fest. Second one that will include OSC release E and other 2021 achievements is now planned for Jan 22.
4. Jack: **Last TOC meeting of 2021 will happen on 15th Dec and then we will resume on 5th Jan.**
2. 12/08/21:
1. PR for release E:
1. **Action point:** Jinri asks PTLs to provide quote and highlight of 2-3 new features or improvements in their project.
2. Tracy: This year's joined O-RAN/TIP Plugfest used release E software. PR message should be aligned. [Link](#) to release D PR message.
3. Please contact Jinri if your company is interested in providing quote. There is process to balance the quotes and include quotes from one company in every other PR instead of consecutively.
- c. 12/15/21
- i. Rittwik and David Kinsey will sync with Jinri about release overview
- ii. Our PR is likely to be published together in O-RAN Alliance 2021 summary and possibly other pieces.
- d. 1/5/22:
- i. PR release for E: people should be working with Jinri on that. Per Jinri's email sent before the TOC meeting: "I got the input from SMO, near-RT RIC platform, INF, O-DU-HIGH, and SIM. For those PTLs (xAPP, NRT RIC, O-CU-LOW) who have not sent me the content, please do this ASAP."
- e. 1/12/22:

- i. PR release for E: [Jinri Huang](#) has the draft and will send to the mailing list. There wasn't enough time at the last week's EC meeting to discuss the PR. In addition to the PR, will write a blog based on the input from PTLs with rich content. This is not so urgent so [Jinri Huang](#) will have this by the next meeting.
  - ii. [Jinri Huang](#): received quote request from LF, HCL, Highstreet and Windriver.
  - iii. [Thoralf Czichy](#): will forward to you again. It was sent a couple weeks ago.
- f. 1/19/22:
- i. [Jinri Huang](#): The E release PR was sent to EC for discussion but no conclusion yet. There was one question from Hank regarding the quote that I just send [John Murray](#) an email on Monday. For the blog posts I haven't received any input from O-DU-low and OAM projects.
  - ii. [Martin Skorupski](#): I sent in December but it doesn't pop up in the discussion.
  - iii. [John Murray](#): anything on the virtual face to face that we need to be planning for?
  - iv. [user-59b16](#): I think we need one hour. It can start on Feb 8th after the Chinese New Year holiday or the 9th it could be okay.
  - v. [John Murray](#): It's great to have time where we tell them what we think. What's the process to see if anyone there has input for us?
  - vi. [David Kinsey](#): Like the MVPC?
  - vii. [user-59b16](#): The MVP provides guidance to features on projects that are coming up, but also I think, when we draft the F release and the G release requirements, we hear from people who are attending different working groups -- essentially that's our intake. We don't do things just because we want to do it, we do it because things are coming up in the MVP and things are also getting surfaced in different working groups. Timely topics that may be getting in as pre standard, and then we work it in the pre standard mode and by the time we finished the job here, the standard is already there in first draft version. I think it kind of happens implicitly. But sometimes it's directly back, like the CRD discussion that we're going on right now.
  - viii. [John Murray](#): I just want to make sure that the invite is open enough to the broader community so someone has something they can bring it to us, not just show up and hear what we have to say.
  - ix. [Tracy Van Brakle](#): Just one thing to add: the MVP committee is now moving closer to a more formalized release management to manage multiple releases out, I think it goes out to two years. I don't know if this group has seen around release 002 yet. Would this be of interest to the group?
  - x. [user-59b16](#): We should socialize.
  - xi. [Tracy Van Brakle](#): I know this is going to be discussed in more than one session during the upcoming virtual face to face. OSC said we need more rigorous release management and we recognize that many of the features functionality that operators want traverse multiple releases. The link to (draft) O-RAN multi-release roadmap can be found [here](#).
  - xii. [John Murray](#): I think it's important that eventually each of the projects we need to track to the specification releases, so that when people use a particular release of software they know what capabilities are included in that. For example, the older E2 specification to the new one, and it was not backward compatible so it needs to be documented clearly. We'll have to continue to work on and update our processes as it is important to make sure we communicate clearly where each of the project software is relative to the specifications that are published.
9. Old business and Status of Open Action

a. "E" Release timeline / maintenance release:

- i. [James Li](#) sent out an email to TOC mailing list regarding E release status before new year. Near-RT RIC, NonRTRIC, O-DU-High, OAM, RICAPP and Simulation projects have their docker image list published. SMO is working on the image list, and an IT ticket [IT-23440](#) was created. In RICAPP, the bouncer and RC xApps have problem with Jenkins jobs and therefore the final docker image is not ready. Documentations are pretty much done. **Action point:** [James Li](#) sends an email to [Mahesh Jethanandan](#) and CC to [Trishan de Lanerolle](#), [John Murray](#) and [Jinri Huang](#) regarding the issue.
  - ii. [user-30c9d](#): are ready for the maintenance release but are waiting for other projects.
  - iii. [John Murray](#): let's carry that conversation into next week and get input from others and see if there's any other.
  - iv. 1/12/22 [John Murray](#): by now all the branches should be in place, and there should be at least some introductory documentation for people to know where to find the release software
    - 1. [James Li](#): yes, under each project there's a link pointing to the published docker image list, as well as how to get the source code.
    - 2. **Action Point:** [James Li](#) to update the "O-RAN Software Community" page about the delivery of the E release.
    - 3. [John Murray](#) looks like the only thing in the maintenance release is the O-DU-high. [user-30c9d](#) to update the section to indicate what's available in the maintenance release.
- v. 1/19/22:
- 1. [John Murray](#): [user-30c9d](#) Did you completed the updated code that would be part of the maintenance release?
  - 2. [user-30c9d](#): yes, we did update the maintenance release on the daily spaces.
  - 3. [John Murray](#): [James Li](#) is there anything else to do as part of updating the documentation or anything to make sure people know that there is an incremental maintenance release for the E release?
  - 4. [James Li](#): I can refer to the past ones so maybe just update the corresponding release page. When is the deadline for the maintenance release?
  - 5. [John Murray](#): It's the end of January. I don't think anyone else had said they had anything to add to the maintenance release at this time. So we'll just update that there's an incremental update in the O-DU-high and will turn our focus then to the F release unless anyone has any other thing they would like to raise at this time.
  - 6. [John Keeney](#): I just want to comment on the maintenance release: to verify the O-DU-high with SMO, we can extend the rApp that we have for the slice assurance use case. And we already have one that works towards the ONAP connector with simulator. I imagine some change will be needed so we will try to get it working for the maintenance release if we can. It's most integration challenge rather than code challenge. Maybe as a stretch for the maintenance release if we can get it done. Otherwise it goes into the F release.
  - 7. [John Murray](#): will it be a new branch?
  - 8. [John Keeney](#): no, it's just a version number change.
  - 9. [John Murray](#): [James Li](#) make sure everything has the right version number.
- b. OSC lab in Taiwan (Prof Ray's lab):
- i. 11/24/21 : [user-30c9d](#) initial configurations (TDD specs) is ongoing.
  - ii. 1/12/22:
    - 1. [David Kinsey](#): we have the IXR in place but is working with Nokia to configure it. Once the grandmaster clock is connected and the link path established between O-DU and O-RU, and SMO and O-RU, there would be pairwise testing with the O-DU and the O-RU, once that proves out then we can see if we it's able to do a full attach to the core through the entire stack.
    - 2. [John Murray](#): when will this be done?
    - 3. [David Kinsey](#): try to establish it during the maintenance release timeframe.
    - 4. [user-30c9d](#): I have a question about how the grandmaster is connected and configured?

5. [David Kinsey](#): It's connected to the IXR and it's just that we don't have the configuration that the IXR to use that clock and provide the S plane to both the O-RU and O-DU. Internally AT&T uses the IXR for such capacity so we know there can be the O-DU to O-RU connectivity through an IXR device.
  6. [James Li](#): Prof. Ray's student is drafting a paper about the 3 OSC labs and invited [David Kinsey](#) and me to provide status on each of our labs.
- iii. 1/19/22:
1. [John Murray](#): [David Kinsey](#) what's the status on the lab?
  2. [David Kinsey](#): we are still waiting for feedback from Nokia on the configuration of the IXR.
  3. [John Murray](#): who's working with Nokia?
  4. [David Kinsey](#): I reached out to Ramsay and Ramsay was going to get with experts on this. Rich is also in the loop.
  5. [John Murray](#): it's been a long time and we need to bring it to a close.
  6. [Tracy Van Brakle](#): Who's acting as scribe make sure to add the [link](#) to the notes. Because this has been initiated because of suggestions and requests from this group. So we absolutely want strong feedback. Because the notion is that the release management isn't going to be exactly the way it happens in other Linux foundation networking projects, but we consider specifications and, in some cases pre specifications as requirements and then we'd look to this group to help figure out how to phase the delivery across how many releases it might take.
  7. [John Murray](#): Good point there. I think this is a topic that somebody needs to spend a little more time thinking about and working on. Is there someone from the TOC who's willing to spend a little extra time working on this topic so that we can document how we want to do this with the process?
  8. [Tracy Van Brakle](#): Are you looking for a TOC voting Member? Hopefully someone will raise his hand and I'd be happy to help connect the dots. [user-59b16](#), since you're already a frequent participant with MVP Committee, maybe you could help complete feedback loop.
  9. [user-59b16](#): yes, we can bring it up to the MVP Committee.
  10. [John Murray](#): thank you both for stepping up.
- c. 5G Super Blueprint status - tabled for D and E, will be re-evaluated for F release.
- i. 11/10/21: [Tracy Van Brakle](#) 5G super blueprint is already taking advantage of the OSC initiated developments in ONAP (but not just ONAP). Jack: There are new functionalities that are needed that we need to make sure that gets into the roadmap.
  - ii. 1/5/22: [user-59b16](#) RSAC didn't discuss on the Super Blueprint yet.
  - iii. 1/12/22: [David Kinsey](#) haven't received any request regarding the F release on the Super Blueprint.
- d. "F" Release:
- i. 10/27/21: Rittwik: will focus on O-Cloud usecase in F release, as well as the continuation of network slicing use case. Will reach out to PTLs to check if any more use cases. And might divide use cases between Taiwan lab and New Jersey lab.
  - ii. 11/03/21: Jack: please reach Rittwik and David to get early information into the planning process of F release.
  - iii. 12/15/21: Planning discussion
    1. There are multiple smaller contributions planned for F release.
    2. NTT Docomo proposes to leverage Tacker OpenStack as upstream project for O2 implementation in SMO project but there is also WindRiver contribution on O2 so alignment will be needed in F release planning.
    3. Testing of Slicing E2E should be one of the goals of OSC Lab in release F to validate work done in E.
- iv. 1/5/22: [user-59b16](#) planning discussions:
1. [David Kinsey](#) is trying to harness the OTF to do a lot of integration testing
  2. O-DU-high will carry over some work items left over from E
  3. NonRT-RIC: rApp onboarding and deployment
  4. NTT Docomo proposed on the Tacker
  5. Infrastructure project: we want to try to bring up the infrastructure in simplex/duplex/duplex+ modes
  6. Network slicing basic use case did not finish right, so we want to finish that upon the lab progress – once we finish the lab getting all installed we want to finish that up.
  7. RICAPP project: the RC xApp is just using a basic handoff right now we want to see if we can extend that to slice level management
  8. [user-30c9d](#): I just uploaded the final approved F release plan
  9. [John Murray](#): I'd like to have some kind of table or something that represents what's working and not working. So this would allow each of the labs and other places who want to set up the system know what's able to do.
  10. [Bin Yang](#): want to share our vision on the INF project: install the INF platform as O-Cloud and start integration of the O2 service to support the lifecycle management with SMO, and also want to see how other components, such as the RIC works on O-Cloud
  11. [Mahesh Jethanandani](#): I also want to highlight the SMO integration, such as the one with O-DU-high which is still in working progress
  12. [user-59b16](#): we can go after project by project to see some of them can register with SMO and then be brought up by SMO via the Helm chart.
  13. [Manoop Talasila](#): can have a few binary with O1 compliance available by end of February, and will check and update at next TOC meeting about the E2 interface.
  14. [user-59b16](#) E2AP v2.0 is not backward compatible. Some of the information on what spec version is being adopted is in the documentation page on a per project basis.
  15. [user-59b16](#) One thought: a lot of operators are asking for integration of NW and the RIC, also the enrichment information that is coming from outside of the RAN
- v. 1/12/22: [David Kinsey](#): One focus in F release is for the SMO to be able to use the O-Cloud to deploy our products, but it's more of a Hello World type of example of deployment in F and it's really going to be like the G release where we're doing it for everything. In F the O-Cloud out of the INF project is more on the O2 interface and the pre-spec for the DMS.
1. [user-59b16](#): Wind River has some sample implementation.
  2. [David Kinsey](#): In F release there are 2 flavors of pre-sepc DMS: one on Kubernetes and one on the ETSI.
  3. [user-59b16](#): the coordination is important, and the SMO project needs to take the lead on such activities.
  4. [Mahesh Jethanandani](#): we haven't received any request from Wind River about containerized solution. In the F release the plan is to bring in the O2 interface, instantiate and upgrade as Jack mentioned.
  5. [David Kinsey](#): didn't have enough quorum from the end of the last year to make the RSAC call until this week. Wind River is deviating into the INF project but the SMO needs to integrate it to simplify the lab so we can get the SMO to launch through the lab, rather than to handle lab request for any resource change.
  6. [John Murray](#): we need to push for it in F so we don't need to do it all in G. Need to pull in the life cycle management piece in F.
  7. [David Kinsey](#): We have some contributions from VMWare on APP deployments; Tacker from DoCoMo for ETSI based deployments and Wind River, which is a bare Kubernetes deployment in parallel to the specifications. It's just like

when we were doing A1 at the same time as they were developing that spec. This will help drive those specifications in O-RAN.

8. [John Murray](#): we want to make sure that we're including support for cluster management, because the DUs are pushed out, towards the edge.
9. [David Kinsey](#) : : : going to start off with simplex where they can start with a vm initially rather than waiting for physical server. After that it's duplex so a 2 server cluster and then it's duplex Plus, which is a 3+ server cluster. Once we have those three, we will start looking at harvesting some of the resources we're using and can add them to the duplex plus cluster with cluster management possibly.
10. [user-59b16](#) : in my experience, the single node orchestration has become much more relevant, where the master and the worker nodes are physically situated at the south side. Lots of operators are realizing it just from a footprint standpoint, because sometimes the fan out scope is quite large so operators are moving towards single orchestration.
11. [John Murray](#) : there's still work going on for the slicing?
12. [David Kinsey](#) : The last time I did it on that front hall gateway for us to finish up the first round of slicing I think there are more slicing considerations in the O-DU for the F release as well.

vi. 1/19/22:

1. [user-59b16](#): We've documented it in our RSAC meetings page. We discussed it last night again, all the different projects, with the exception of Simulator, NearRT RIC, and RICAPP projects, and that's what we will read out on February 8. A lot of the focus is on the SMO project, O1, O2. So maybe [Thoralf Czichy](#) and [Alex Stancu](#) just reach out to us to say what exactly is happening for you in F release.
2. [Thoralf Czichy](#): The RSAC meeting minutes page only show 1/13 meeting.
3. [user-59b16](#): There was one last night I don't think we updated it yet so we'll do that. If you look at the 13th it gives you a good idea of the various projects and what's happening, the interactions with O-Cloud etc.
4. [Thoralf Czichy](#): I will send you the list as we discussed yesterday at the bi-weekly project meeting.
5. [SUNIL SINGH](#): I will send you the list too.
6. [user-59b16](#): I've been hearing there's effort that may get kick started in O-RAN with regards to use case validation. They want to specify to the extent of how much a use case has been validated. Take traffic steering, for example, you cannot validate all the knobs the inputs and outputs of the of the traffic steering use case but, to a certain extent they want to come up with the test specification from a use case viewpoint, not from a protocol compliance viewpoint. For the RICAPP project and NonRT RIC project as we work on these use cases, maybe we can have a table or something documented that look for traffic steering we've done that might actually help explain to people to what extent are these use cases validated. And if you want to take to the next step, then you have to get into large scale simulations embedded with the RAN controllers.
7. [John Murray](#): Right in some cases we're a little more focused on components and component interoperability, then the large scale systems. One of the things is trying to find out how best to have a subset of what they're doing line up with what applies to us. The other thing is that all the use cases shouldn't be only around O-RAN functionality, there should be some enabler use cases. Maybe we can talk about how to leverage some of the open interfaces as part of a use case validation and that's kind of like validate the peer to peer interoperability. Particularly we can look at the O1, O2, E2, and R1 interfaces that if they have some use cases around. If we validated them and other people who were building commercial products to those same interfaces, this is a subset of validation use cases that could be used to help drive that interoperability capability.
8. [Tracy Van Brakle](#): I think that this around multi year roadmap attempts to address is use case validation across multiple O-RAN trains and OSC releases potentially. If you look at the draft roadmap you'll see phase 1/2/3. Without use case validation Phase 1/2/3 are not meaningful (in other words, must be clear about what is in Phase 2 that is not in Phase 1, and so on). OTICs may be appropriate testbeds for some of this use case validation. This is one reason for example why we're having TIFG voted almost unanimously to have not one, but two plug fests specifically for use case validation in conjunction with O-RAN trains and OSC releases.

e. Access to the lab, raised by [Mahesh Jethanandani](#)

i. Mahesh: SMO and ODU high have different access levels to the lab and VMs.

ii. [John Murray](#) : Please send me the e-mail with details and I will help with the access to the lab. Access to the VMs is more dependent on each project but we can work on that.

iii. 1/12/22:

1. [John Murray](#) : [Mahesh Jethanandani](#) have you worked out all the issues to access the lab?

2. [Mahesh Jethanandani](#) : yes both issues with VPN and VM access are still there. To work with [David Kinsey](#) to resolve the issue.

iv. 1/19/22:

1. [Mahesh Jethanandani](#): For the lab access, I think we had sent it out a couple of months ago, but I don't know David if you still have that information.

2. [John Murray](#): you can at least take that offline this week and try to get that resolved.

#### 10. Standing Agenda Items (Brief Status of Ongoing Activities)

a. Release Manager [Trishan de Lanerolle](#) /[Release Planning](#): Weekly TOC Scheduling

i. 1/12/22: [Trishan de Lanerolle](#): CLAs on hold as it still doesn't have the language. budget approved so can close on the 2022 budget.

ii. [John Murray](#): getting the schedule up for the upcoming releases so at least we have something to track towards the release at the end of June.

iii. [David Kinsey](#): make sure we can have a read out of the pipeline for F release by virtual face to face in February.

iv. [John Murray](#): [James Li](#) do you have anything as part of integration tests that we want to start highlighting at this point in the process? Typically this may include some of the tooling, software testing coverage levels, etc. on each of the projects, that we want the teams to make progress on, we should highlight them.

v. [James Li](#): can start to share with what the RIC platform and RICAPP projects currently have, and may need input from other PTLs.

vi. [John Murray](#): Start to build a table and pick some from one or more mature projects to fill in the table. Get up to date on it and see where we're at and how we can advance them.

vii. [John Murray](#): All is good except SMO at 96% in CII badging.

viii. [Mahesh Jethanandani](#): One item, the dynamic code coverage, may take some time.

b. Requirements Software Architecture Committee

c. OSC lab

i. Update on 11/24/21 [user-59b16](#) :

1. Lab is now: running, all equipments are there, cables have been delivered last week. Next week, if we can get all PTP running, then the work can continue.



2. For the Slicing UCs we need some of this preliminary work, but december seems to be short.
3. O2 pre-spec implementation is available ([James Li](#)), tests could be scheduled on december - E release. [Bin Yang](#) wanted a server that he can stand up in the OC lab to do this O2 validation. [Jackie Huang](#) An email was sent with hardware requirements.
4. [James Li](#) is documented on the wiki that's going on with the New Jersey lab, the Taiwan lab and also I think CMCC want to send that set up a lab in the West Coast.
- ii. Update on 12/01/21:
  1. E2E slicing use-case cannot be executed fully but we are progressing. Should be functional in F release.
- a. Report out from PTL: Stand-Up & Report Out on Blockers
  - i. [James Li](#) Integration and Testing (INT)
  - ii. [Mahesh Jethanandani](#) Service Management and Orchestration (SMO)
  - iii. [John Keeney](#) Non-Real Time RIC (RAN Intelligent Controller) (NONRTIC)
  - iv. [SUNIL SINGH](#) RIC Applications (RICAPP)
  - v. [Thoralf Czichy](#) RIC Platform (RIC)
  - vi. (TBD) O-RAN Centralized Unit (OCU)
  - vii. [user-30c9d](#) O-RAN Distributed Unit High (ODUHIGH)
  - viii. [Zhimin Yuan](#) O-RAN Distributed Unit Low (ODULOW)
  - ix. [Martin Skorupski](#) Operations and Maintenance (OAM)
  - x. [Alex Stancu](#) Simulations (SIM)
  - xi. [Jackie Huang](#) Infrastructure (INF)
  - xii. [weichen ni](#) Documentation (DOC)
  - xiii. (TBD) O-RAN Radio Unit (ORU)
11. New Agenda Items (New Business): New Items Submitted (+speaker) & Open Call to TOC For Additional Items
  - a. TOC vote on O-RAN SC software release E. see point 9.a for details
12. Planning for Next Meeting
13. Any Other Business (AOB)
14. Meeting Summary (resolutions, new action items, etc.)

## 2022 01 12

Recording: [recording](#)

### Agenda

1. Call for Scribe (minutes owner): [James Li](#)
2. Roll Call & Quorum Check

Company	Contact Name	Attendance	Alternate Contact	Attendance
<a href="#">AT&amp;T</a>	Jack Murray Co-Chair	X	David Kinsey	
<a href="#">China Mobile</a>	Jinri Huang Co-Chair	X	James Li	
<a href="#">Deutsche Telekom</a>	David Streibl		Ondej Hudousek	
<a href="#">Ericsson</a>	John-Paul Lane	X	John Keeney	
<a href="#">NTT DOCOMO</a>	Masafumi Masuda	X	Anil Umesh	
<a href="#">Nokia</a>	Juha Oravainen		Thoralf Czichy	X
<a href="#">Orange</a>	William Diego	X	Vincent Danno	
<a href="#">Radisys</a>	Ganesh Shenbagaraman		Manasi Padhy	X
<a href="#">TIM</a>	Andrea Buldorini	X	Scarpina Salvatore	
<a href="#">Wind River</a>	Bin Yang	X	Jackie Huang	

\*Quorum: 50% or more of total TOC voting members unless excluded due to attendance.

3. Review and Agree to Minutes of Previous Meeting
  - a. **Decision:** Minutes for TOC meeting approval: proposed by [James Li](#) seconded by ... The motion is approved.
4. Review of Today's Agenda
5. Release Votes and Approval
6. AAL project
  - a. **Action point:** Trishan to check if you have to sign a new agreement for the repo if TOC decides on BSD license use. Refer to minutes of previous meeting(s) for details.
    - i. Update on 11/17/21 : [Trishan de Lanerolle](#) we can put an exception clause for introduce a new license (BSD), this will be done in coordination with WG6.
  - b. **Action point:** Jack to present the write up about the AAL project to have a vote.
    - i. This was put on the table on 2021-07-07 meeting
    - ii. Jack: There is discussion ongoing in WG6 and we're still waiting for some aspects that discussion to be resolved. Some clarifications were made but until we get more information we leave this table for now
    - iii. No update on 12/01/21.
    - iv. No update on 12/08/21.
    - v. No update on 12/15/21.
7. Copyright update

1. 12/01/21:
    1. Jinri: What is the status of defining the process for moving eg. YANG files under SCCL license. There was also question if OSC charter needs update to reflect SCCL.
    2. Jack: I am working on writing the process description but it needs further work on streamlining of the process and automation. Only O-RAN SCP charter controlled by O-RAN will need update and there is ongoing discussion with legal team.
  2. 12/08/21:
    1. Jack: Progress on CLA was made. Ongoing work on the processes.
  8. O-RAN-related business (marketing, WG interaction, TSC/EC update etc.)
    1. 12/01/21:
      1. Jinri: There will be no physical O-RAN F2F meeting in Feb 21. If it happens as virtual meeting is not decided yet.
      2. Jinri: Most of the new specs targeting November train are under review of O-RAN TSC.
      3. Jinri: There is to be confirmed plan to have 2 PRs. First one will be about plug-fest. Second one that will include OSC release E and other 2021 achievements is now planned for Jan 22.
      4. Jack: **Last TOC meeting of 2021 will happen on 15th Dec and then we will resume on 5th Jan.**
    2. 12/08/21:
      1. PR for release E:
        1. **Action point:** Jinri asks PTLs to provide quote and highlight of 2-3 new features or improvements in their project.
        2. Tracy: This year's joined O-RAN/TIP Plugfest used release E software. PR message should be aligned. [Link](#) to release D PR message.
        3. Please contact Jinri if your company is interested in providing quote. There is process to balance the quotes and include quotes from one company in every other PR instead of consecutively.
  - c. 12/15/21
    - i. Rittwik and David Kinsey will sync with Jinri about release overview
    - ii. Our PR is likely to be published together in O-RAN Alliance 2021 summary and possibly other pieces.
  - d. 1/5/22:
    - i. PR release for E: people should be working with Jinri on that. Per Jinri's email sent before the TOC meeting: "I got the input from SMO, near-RT RIC platform, INF, O-DU-HIGH, and SIM. For those PTLs (xAPP, NRT RIC, O-CU-LOW) who have not sent me the content, please do this ASAP. "
  - e. 1/12/22:
    - i. PR release for E: [Jinri Huang](#) has the draft and will send to the mailing list. There wasn't enough time at the last week's EC meeting to discuss the PR. In addition to the PR, will write a blog based on the input from PTLs with rich content. This is not so urgent so [Jinri Huang](#) will have this by the next meeting.
    - ii. [Jinri Huang](#): received quote request from LF, HCL, Highstreet and Windriver.
    - iii. [Thoralf Czichy](#): will forward to you again. It was sent a couple weeks ago.
9. Old business and Status of Open Action
- a. "E" Release timeline / maintenance release:
    - i. [James Li](#) sent out an email to TOC mailing list regarding E release status before new year. Near-RT RIC, NonRTRIC, O-DU-High, OAM, RICAPP and Simulation projects have their docker image list published. SMO is working on the image list, and an IT ticket [IT-23440](#) was created. In RICAPP, the bouncer and RC xApps have problem with Jenkins jobs and therefore the final docker image is not ready. Documentations are pretty much done. **Action point:** [James Li](#) sends an email to [Mahesh Jethanandan](#) and CC to [Trishan de Lanerolle](#), [John Murray](#) and [Jinri Huang](#) regarding the issue.
    - ii. [user-30c9d](#): are ready for the maintenance release but are waiting for other projects.
    - iii. [John Murray](#): let's carry that conversation into next week and get input from others and see if there's any other.
    - iv. 1/12/22 [John Murray](#): by now all the branches should be in place, and there should be at least some introductory documentation for people to know where to find the release software
      1. [James Li](#): yes, under each project there's a link pointing to the published docker image list, as well as how to get the source code.
      2. **Action Point:** [James Li](#) to update the "O-RAN Software Community" page about the delivery of the E release.
      3. [John Murray](#) looks like the only thing in the maintenance release is the O-DU-high. [user-30c9d](#) to update the section to indicate what's available in the maintenance release.
  - b. OSC lab in Taiwan (Prof Ray's lab):
    - i. 11/24/21: [user-30c9d](#) initial configurations (TDD specs) is ongoing.
    - ii. 1/12/22:
      1. [David Kinsey](#): we have the IXR in place but is working with Nokia to configure it. Once the grandmaster clock is connected and the link path established between O-DU and O-RU, and SMO and O-RU, there would be pairwise testing with the O-DU and the O-RU, once that proves out then we can see if we it's able to do a full attach to the core through the entire stack.
      2. [John Murray](#): when will this be done?
      3. [David Kinsey](#): try to establish it during the maintenance release timeframe.
      4. [user-30c9d](#): I have a question about how the grandmaster is connected and configured?
      5. [David Kinsey](#): It's connected to the IXR and it's just that we don't have the configuration that the IXR to use that clock and provide the S plane to both the O-RU and O-DU. Internally AT&T uses the IXR for such capacity so we know there can be the O-DU to O-RU connectivity through an IXR device.
      6. [James Li](#): Prof. Ray's student is drafting a paper about the 3 OSC labs and invited [David Kinsey](#) and me to provide status on each of our labs.
  - c. 5G Super Blueprint status - tabled for D and E, will be re-evaluated for F release.
    - i. 11/10/21: [Tracy Van Brakle](#) 5G super blueprint is already taking advantage of the OSC initiated developments in ONAP (but not just ONAP). Jack: There are new functionalities that are needed that we need to make sure that gets into the roadmap.
    - ii. 1/5/22: [user-59b16](#) RSAC didn't discuss on the Super Blueprint yet.
    - iii. 1/12/22: [David Kinsey](#) haven't received any request regarding the F release on the Super Blueprint.
  - d. "F" Release:
    - i. 10/27/21: Rittwik: will focus on O-Cloud usecase in F release, as well as the continuation of network slicing use case. Will reach out to PTLs to check if any more use cases. And might divide use cases between Taiwan lab and New Jersey lab.
    - ii. 11/03/21: Jack: please reach Rittwik and David to get early information into the planning process of F release.
    - iii. 12/15/21: Planning discussion
      1. There are multiple smaller contributions planned for F release.
      2. NTT Docomo proposes to leverage Tacker OpenStack as upstream project for O2 implementation in SMO project but there is also WindRiver contribution on O2 so alignment will be needed in F release planning.
      3. Testing of Slicing E2E should be one of the goals of OSC Lab in release F to validate work done in E.



- iv. 1/5/22: [user-59b16](#) planning discussions:
    1. [David Kinsey](#) is trying to harness the OTF to do a lot of integration testing
    2. O-DU-high will carry over some work items left over from E
    3. NonRT-RIC: rApp onboarding and deployment
    4. NTT Docomo proposed on the Tacker
    5. Infrastructure project: we want to try to bring up the infrastructure in simplex/duplex/duplex+ modes
    6. Network slicing basic use case did not finish right, so we want to finish that upon the lab progress – once we finish the lab getting all installed we want to finish that up.
    7. RICAPP project: the RIC xApp is just using a basic handoff right now we want to see if we can extend that to slice level management
    8. [user-30c9d](#): I just uploaded the final approved F release plan
    9. [John Murray](#): I'd like to have some kind of table or something that represents what's working and not working. So this would allow each of the labs and other places who want to set up the system know what's able to do.
    10. [Bin Yang](#): want to share our vision on the INF project: install the INF platform as O-Cloud and start integration of the O2 service to support the lifecycle management with SMO, and also want to see how other components, such as the RIC works on O-Cloud
    11. [Mahesh Jethanandani](#): I also want to highlight the SMO integration, such as the one with O-DU-high which is still in working progress
    12. [user-59b16](#): we can go after project by project to see some of them can register with SMO and then be brought up by SMO via the Helm chart.
    13. [Manoop Talasila](#): can have a few binary with O1 compliance available by end of February, and will check and update at next TOC meeting about the E2 interface.
    14. [user-59b16](#): E2AP v2.0 is not backward compatible. Some of the information on what spec version is being adopted is in the documentation page on a per project basis.
    15. [user-59b16](#): One thought: a lot of operators are asking for integration of NW and the RIC, also the enrichment information that is coming from outside of the RAN
  - v. 1/12/22: [David Kinsey](#): One focus in F release is for the SMO to be able to use the O-Cloud to deploy our products, but it's more of a Hello World type of example of deployment in F and it's really going to be like the G release where we're doing it for everything. In F the O-Cloud out of the INF project is more on the O2 interface and the pre-spec for the DMS.
    1. [user-59b16](#): Wind River has some sample implementation.
    2. [David Kinsey](#): In F release there are 2 flavors of pre-sepc DMS: one on Kubernetes and one on the ETSI.
    3. [user-59b16](#): the coordination is important, and the SMO project needs to take the lead on such activities.
    4. [Mahesh Jethanandani](#): we haven't received any request from Wind River about containerized solution. In the F release the plan is to bring in the O2 interface, instantiate and upgrade as Jack mentioned.
    5. [David Kinsey](#): didn't have enough quorum from the end of the last year to make the RSAC call until this week. Wind River is deviating into the INF project but the SMO needs to integrate it to simplify the lab so we can get the SMO to launch through the lab, rather than to handle lab request for any resource change.
    6. [John Murray](#): we need to push for it in F so we don't need to do it all in G. Need to pull in the life cycle management piece in F.
    7. [David Kinsey](#): We have some contributions from VMWare on APP deployments; Tacker from DoCoMo for ETSI based deployments and Wind River, which is a bare Kubernetes deployment in parallel to the specifications. It's just like when we were doing A1 at the same time as they were developing that spec. This will help drive those specifications in O-RAN.
    8. [John Murray](#): we want to make sure that we're including support for cluster management, because the DUs are pushed out, towards the edge.
    9. [David Kinsey](#): : : going to start off with simplex where they can start with a vm initially rather than waiting for physical server. After that it's duplex so a 2 server cluster and then it's duplex Plus, which is a 3+ server cluster. Once we have those three, we will start looking at harvesting some of the resources we're using and can add them to the duplex plus cluster with cluster management possibly.
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## 2022 01 05

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<a href="#">Orange</a>	William Diego		Vincent Danno	
<a href="#">Radisys</a>	Ganesh Shenbagaraman	x	Manasi Padhy	
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    - 1. Jinri: What is the status of defining the process for moving eg. YANG files under SCCL license. There was also question if OSC charter needs update to reflect SCCL.
    - 2. Jack: I am working on writing the process description but it needs further work on streamlining of the process and automation. Only O-RAN SCP charter controlled by O-RAN will need update and there is ongoing discussion with legal team.
  - 2. 12/08/21:
    - 1. Jack: Progress on CLA was made. Ongoing work on the processes.
- 8. O-RAN-related business (marketing, WG interaction, TSC/EC update etc.)
  - 1. 12/01/21:
    - 1. Jinri: There will be no physical O-RAN F2F meeting in Feb 21. If it happens as virtual meeting is not decided yet.
    - 2. Jinri: Most of the new specs targeting November train are under review of O-RAN TSC.
    - 3. Jack: There is to be confirmed plan to have 2 PRs. First one will be about plug-fest. Second one that will include OSC release E and other 2021 achievements is now planned for Jan 22.
    - 4. Jack: **Last TOC meeting of 2021 will happen on 15th Dec and then we will resume on 5th Jan.**
  - 2. 12/08/21:
    - 1. PR for release E:
      - 1. **Action point:** Jinri asks PTLs to provide quote and highlight of 2-3 new features or improvements in their project.
      - 2. Tracy: This year's joined O-RAN/TIP Plugfest used release E software. PR message should be aligned. [Link](#) to release D PR message.
      - 3. Please contact Jinri if your company is interested in providing quote. There is process to balance the quotes and include quotes from one company in every other PR instead of consecutively.
  - c. 12/15/21
    - i. Rittwik and David Kinsey will sync with Jinri about release overview
    - ii. Our PR is likely to be published together in O-RAN Alliance 2021 summary and possibly other pieces.
  - d. 1/5/22:
    - i. PR release for E: people should be working with Jinri on that. Per Jinri's email sent before the TOC meeting: "I got the input from SMO, near-RT RIC platform, INF, O-DU-HIGH, and SIM. For those PTLs (xAPP, NRT RIC, O-CU-LOW) who have not sent me the content, please do this ASAP."
- 9. Old business and Status of Open Action
  - a. "E" Release timeline / maintenance release:
    - i. [James Lisent](#) out an email to TOC mailing list regarding E release status before new year. Near-RT RIC, NonRTRIC, O-DU-High, OAM, RICAPP and Simulation projects have their docker image list published. SMO is working on the image list, and an IT ticket [IT-23440](#) was created. In RICAPP, the bouncer and RC xApps have problem with Jenkins jobs and therefore the final docker image is not ready. Documentations are pretty much done. **Action point:** [James Lisent](#) sends an email to [Mahesh Jethanandan](#) and CC to [Trishan de Lanerolle](#), [John Murray](#) and [Jinri Huang](#) regarding the issue.
    - ii. [user-30c9d](#) : are ready for the maintenance release but are waiting for other projects.
    - iii. [John Murray](#) : let's carry that conversation into next week and and get input from others and see if there's any other.
  - b. OSC lab in Taiwan (Prof Ray's lab):
    - i. 11/24/21 : [user-30c9d](#) initial configurations (TDD specs) is ongoing.
  - c. 5G Super Blueprint status - tabled for D and E, will be re-evaluated for F release.
    - i. 11/10/21: [Tracy Van Brakle](#) 5G super blueprint is already taking advantage of the OSC initiated developments in ONAP (but not just ONAP). Jack: There are new functionalities that are needed that we need to make sure that gets into the roadmap.
    - ii. 1/5/22: [user-59b16](#) RSAC didn't discuss on the Super Blueprint yet.
  - d. "F" Release:
    - i. 10/27/21: Rittwik: will focus on O-Cloud usecase in F release, as well as the continuation of network slicing use case. Will reach out to PTLs to check if any more use cases. And might divide use cases between Taiwan lab and New Jersey lab.
    - ii. 11/03/21: Jack: please reach Rittwik and David to get early information into the planning process of F release.
    - iii. 12/15/21: Planning discussion
      - 1. There are multiple smaller contributions planned for F release.
      - 2. NTT Docomo proposes to leverage Tacker OpenStack as upstream project for O2 implementation in SMO project but there is also WindRiver contribution on O2 so alignment will be needed in F release planning.
      - 3. Testing of Slicing E2E should be one of the goals of OSC Lab in release F to validate work done in E.
    - iv. 1/5/22: [user-59b16](#) planning discussions:
      - 1. [David Kinsey](#) is trying to harness the OTF to do a lot of integration testing
      - 2. O-DU-high will carry over some work items left over from E
      - 3. NonRT-RIC: rApp onboarding and deployment
      - 4. NTT Docomo proposed on the Tacker
      - 5. Infrastructure project: we want to try to bring up the infrastructure in simplex/duplex/duplex+ modes
      - 6. Network slicing basic use case did not finish right, so we want to finish that upon the lab progress – once we finish the lab getting all installed we want to finish that up.
      - 7. RICAPP project: the RC xApp is just using a basic handoff right now we want to see if we can extend that to slice level management
      - 8. [user-30c9d](#): I just uploaded the final approved F release plan
      - 9. [John Murray](#): I'd like to have some kind of table or something that represents what's working and not working. So this would allow each of the labs and other places who want to set up the system know what's able to do.
      - 10. [Bin Yang](#): want to share our vision on the INF project: install the INF platform as O-Cloud and start integration of the O2 service to support the lifecycle management with SMO, and also want to see how other components, such as the RIC works on O-Cloud
      - 11. [Mahesh Jethanandani](#): I also want to highlight the SMO integration, such as the one with O-DU-high which is still in working progress
      - 12. [user-59b16](#): we can go after project by project to see some of them can register with SMO and then be brought up by SMO via the Helm chart.

13. [Manoop Talasila](#): can have a few binary with O1 compliance available by end of February, and will check and update at next TOC meeting about the E2 interface.
14. [user-59b16](#) E2AP v2.0 is not backward compatible. Some of the information on what spec version is being adopted is in the documentation page on a per project basis.
15. [user-59b16](#) One thought: a lot of operators are asking for integration of NW and the RIC, also the enrichment information that is coming from outside of the RAN
- e. Access to the lab, raised by [Mahesh Jethanandani](#)
  - i. Mahesh: SMO and ODU high have different access levels to the lab and VMs.
  - ii. [John Murray](#) : Please send me the e-mail with details and I will help with the access to the lab. Access to the VMs is more dependent on each project but we can work on that.
10. Standing Agenda Items (Brief Status of Ongoing Activities)
  - a. Release Manager [Trishan de Lanerolle /Release Planning](#): Weekly TOC Scheduling
  - b. Requirements Software Architecture Committee
  - c. OSC lab
    - i. Update on 11/24/21 [user-59b16](#) :
      1. Lab is now running, all equipments are there, cables have been delivered last week. Next week, if we can get all PTP running, then the work can continue.
      2. For the Slicing UCs we need some of this preliminary work, but december seems to be short.
      3. O2 pre-spec implementation is available ([James Li](#)), tests could be scheduled on december - E release. [Bin Yang](#) wanted a server that he can stand up in the OC lab to do this O2 validation. [Jackie Huang](#) An email was send with hardware requirements.
      4. [James Li](#) is documented on the wiki that's going on with the New Jersey lab, the Taiwan lab and also I think CMCC want to send that set up a lab in the West Coast.
    - ii. Update on 12/01/21:
      1. E2E slicing use-case cannot be executed fully but we are progressing. Should be functional in F release.
  - a. Report out from PTL: Stand-Up & Report Out on Blockers
    - i. [James Li](#) Integration and Testing (INT)
    - ii. [Mahesh Jethanandani](#) Service Management and Orchestration (SMO)
    - iii. [John Keeney](#) Non-Real Time RIC (RAN Intelligent Controller) (NONRTRIC)
    - iv. [SUNIL SINGH](#) RIC Applications (RICAPP)
    - v. [Thoralf Czichy](#) RIC Platform (RIC)
    - vi. (TBD) O-RAN Centralized Unit (OCU)
    - vii. [user-30c9d](#) O-RAN Distributed Unit High (ODUHIGH)
    - viii. [Zhimin Yuan](#) O-RAN Distributed Unit Low (ODULOW)
    - ix. [Martin Skorupski](#) Operations and Maintenance (OAM)
    - x. [Alex Stancu](#) Simulations (SIM)
    - xi. [Jackie Huang](#) Infrastructure (INF)
    - xii. [weichen ni](#) Documentation (DOC)
    - xiii. (TBD) O-RAN Radio Unit (ORU)
11. New Agenda Items (New Business): New Items Submitted (+speaker) & Open Call to TOC For Additional Items
  - a. TOC vote on O-RAN SC software release E. see point 9.a for details
12. Planning for Next Meeting
13. Any Other Business (AOB)
14. Meeting Summary (resolutions, new action items, etc.)