



Terms of Reference of the Open Source Group TeraFlowSDN (OSG TFS) as approved by the Director-General on 31 March 2022

Original clause numbering retained from ETSI Board document [ETSI/BOARD\(22\)137_007](#) for simplicity of referencing.

4.1 Scope

OSG TFS defines a framework for the development of a cloud native SDN controller for high-capacity networks aiming to support future networks beyond 5G. Based on a cloud-native, micro-services architecture, the software will be able to integrate with existing frameworks (NFV, MEC) and provide a toolbox for different ETSI groups to experiment with new features for flow aggregation, management (service layer), network equipment integration (infrastructure layer), AI/ML-based security, and forensic evidence for multi-tenancy.

The software developed by OSG TFS aims for interoperability with the code developed by OSG OSM. It will also liaise with other relevant standards bodies and projects such as the IETF, the Open Networking Foundation and the ONOS project. The OSG TFS will not perform standardisation or develop ETSI Deliverables as defined in Annex A of the ETSI Technical Working Procedures.

OSG TFS is established on the initiative of a group of ETSI Full, Associate and/or Applicant members. The project will have its own programme/project management for internal priority-setting and agreed delivery dates for its results. It will be responsible for defining its own detailed Working Procedures within the limits of these Terms of Reference. It will be responsible for the validation of the source code it produces, together with any associated documentation.

OSG TFS will report on progress to the Director-General, General Assembly, and the Board upon request.

4.2 Membership in OSG TFS

Membership in OSG TFS is restricted to ETSI Full/Associate members and applicants for Full/Associate membership [hereafter "OSG TFS Member(s)"], who have signed the OSG TFS Membership Agreement.

Observer members and non-members of ETSI [hereafter "OSG TFS Participant(s)"] may participate in OSG TFS according to the rules as described in the OSG TFS Participant Agreement. Participation of OSG TFS Participants is subject to signature of the OSG TFS Participant Agreement, and payment of a participation fee as described in the OSG TFS Participant Agreement.

Individual Contributors may contribute to the project according to the rules as described in the OSG TFS Individual Contributor Agreement. Contribution is subject to the signature of the OSG TFS Individual Contributor Agreement.

4.3 Dues

At the time of creation of the project, no annual dues are anticipated for OSG TFS Members and TFS Participants, beyond the participation fees paid by OSG TFS Participants.

4.4 Duties and Rights of OSG TFS Members and TFS Participants

OSG TFS Members and TFS Participants have the duty to constructively cooperate in compliance with all applicable competition law rules on the development of OSG TFS deliverables within the scope of the OSG TFS as described in 4.1 above.



OSG TFS TERMS OF REFERENCE

OSG TFS Members have the right to qualify for Leadership Group positions and participate in decision-making according to the principles described in section 4.7.7 of below.

OSG TFS Members and TFS Participants have the right to appeal directly to the Director-General to challenge a Chair's decision and shall inform the OSG TFS Chair beforehand.

4.5 Participant Fee

The OSG TFS Participants shall pay to ETSI an annual participant fee amounting to 1000.- Euros per year per Participant organization. Participant fees are waived in the case of SMEs, Universities, Public Research Bodies and User and Trade Associations.

OSG Members are not required to pay a participant fee.

The participant fee may be revised by the ETSI Secretariat after consultation with the OSG TFS chair.

4.6 Licenses

4.6.1 Contributor's License Agreement

Code contributed to OSG TFS is done under terms compliant with the Apache 2.0 license (see <http://www.apache.org/licenses/LICENSE-2.0>). A Corporate Contributor's License Agreement (CCLA) is included in the Member and Participant Agreements. An individual Contributor's License Agreement (CLA) is included in the Individual Contributor agreement.

4.6.2 Outbound License

Code published by OSG TFS is made available under the Apache 2.0 license (see <http://www.apache.org/licenses/LICENSE-2.0>). Contributors retain copyright on their individual contribution. Software is distributed under an ETSI Copyright with acknowledgement of contributors' rights on their contributions.

4.6.3 Documentation Copyright

Project documentation, when not covered by the Apache 2.0 license, is published under the Creative Commons Attribution 4.0 International license (<https://creativecommons.org/licenses/by/4.0/>).

4.6.4 Licensing-in policy

Contribution rules should define which Open Source Licenses are accepted when Contributors wish to reuse pre-existing open source components.

4.6.5 Trademark

TeraFlowSDN shall be registered as a trademark by ETSI. The trademark TeraFlowSDN may only be used to identify and distribute the version of TeraFlowSDN edited and maintained by ETSI.

4.7 Rules governing the OSG TFS

4.7.1 Lifecycle of OSG TFS

The duration of OSG TFS is fixed at the outset with an initial period of no more than two (2) years.

On request from OSG TFS, the Director-General may extend the duration for subsequent periods of up to two (2) years each, after a review taking into account the original objectives of the OSG.

The Director-General is responsible for terminating the OSG TFS and informing the ETSI members.

Before termination, the OSG TFS will prepare, in coordination with the ETSI Secretariat, recommendations concerning the maintenance of its work.

4.7.2 Structure of OSG TFS

The project may be structured into various groups and subgroups. The detailed Working Procedures of the project will describe its structure, the right to participate in each of these groups, together with the decision-making process applied in each.

4.7.3 Appointment of OSG TFS Leadership

4.7.3.1 Appointment of OSG TFS Chair

Only representatives of ETSI Full or Associate members may hold the role of OSG TFS Chair.

The OSG TFS Chair shall be appointed by the group for a period of two (2) years. After each period they may be re-appointed. The appointment shall be confirmed by the Director-General.

When justified, the Director-General may ask the OSG TFS Chair to step down from his position of office.

If more than one (1) candidate exists for the position of OSG TFS Chair, and the group is unable to decide on one (1) candidate using simple majority secret balloting, the matter shall be referred to the Director-General for resolution.

4.7.3.2 Appointment of Vice-Chairs and other roles

Only representatives of Full or Associate members may hold the role of a Vice-Chair of OSG TFS.

A Vice-Chair is appointed for a period of two (2) years, using simple majority secret balloting. After each period they may be re-appointed.

Other official roles and leadership positions, if any, and the process for their appointment shall be described in the detailed Working Procedures.

4.7.3.3 Responsibilities of OSG TFS Chair

The OSG TFS Chair is responsible for the overall management of the work and the efficient working of the project. The Chair has an overall responsibility to ensure that the activities of the project follow the appropriate ETSI policies and procedures.

The Chair may nominate individuals to assist in the work.

The Chair is responsible for reporting to the ETSI General Assembly and the Board on the activities of the project upon request.

In performing their tasks, the Chair shall maintain strict impartiality and act in the interest of ETSI and its members.

4.7.4 Participation in the work of the OSG TFS

Participation in the work of OSG TFS is subject to signature of the OSG TFS Member or Participant Agreement.

Full and Associate members who have signed the OSG TFS Member Agreement have the right to attend meetings of OSG TFS and to participate in the work. The right to vote is governed by the OSG TFS Member Agreement and the Working Procedures.



OSG TFS TERMS OF REFERENCE

ETSI Observer members may attend meetings of the OSG TFS and participate in the work subject to having signed the OSG TFS Participant Agreement, including having paid the appropriate participation fee.

ETSI Counsellors may attend meetings of the OSG TFS without the right to vote or contribute. In order to contribute to the code, ETSI Counsellors must agree to be bound by the terms of the Contributor's License Agreement.

ETSI Partners may attend meetings of the OSG TFS and participate in the work subject to having signed the OSG TFS Participant Agreement, including having paid the appropriate participation fee.

Non-ETSI member organizations may attend meetings of the OSG TFS and participate in the work subject to having signed the OSG TFS Participant Agreement, including having paid the appropriate participation fee.

Private individuals may contribute to the OSG TFS code subject to having signed the OSG TFS Individual Participant Agreement. Such individuals may also be invited by the OSG TFS Chair to attend meetings of the group.

The Director-General may authorize the provisional participation of applicants for ETSI Full or Associate membership within the OSG TFS before the application for membership is formally approved by the General Assembly, subject to signature of the OSG TFS Member Agreement by the applicant.

4.7.5 Convening an OSG TFS plenary meeting

4.7.5.1 Invitation to an OSG TFS plenary meeting

The invitation to an OSG TFS plenary meeting and the necessary logistical information shall be disseminated by the hosting organization at least twenty-one (21) days before the meeting to all on the OSG TFS membership list (a single mailing list for all TFS Members and TFS Participants).

The kick-off meeting of the OSG TFS plenary will be announced in a Collective Letter by the ETSI Secretariat.

4.7.5.2 Agenda for an OSG TFS plenary meeting

The draft agenda shall be disseminated by the Chair to the OSG TFS membership list at least twenty-one (21) days before an OSG TFS plenary meeting. The draft agenda shall include any details of subject matters where voting may be required.

The draft agenda for the first OSG TFS plenary meeting will be announced in a Collective Letter by the ETSI Secretariat at least twenty-one (21) days before the date of the meeting.

4.7.5.3 Documentation for an OSG TFS plenary meeting

Documents shall be numbered as shown in the following example:

ETSI/TFS(nn)x

This numbering system has four (4) logical elements:

- 1) **ETSI:** to indicate that it is an ETSI document;
- 2) **TFS:** the name of the OSG;
- 3) **(nn):** to indicate the year, e.g. (22);
- 4) **x:** to indicate any additional information concerning the unique number of the document or its status, etc.

The format for the code version/ release numbering will be decided at the kick-off meeting.

4.7.5.4 Registration for an OSG TFS plenary meeting

Every attendee shall register prior to the meeting or on arrival at the meeting on the [ETSI Portal](#). An attendee may only represent one (1) OSG TFS Member or one (1) OSG TFS Participant or themselves if they are an Individual Participant.

An attendee may not change their registration from one organization to another during the meeting, nor may they change their registration to or from Individual Participant during the meeting. Individual Participants may not also represent an OSG TFS Member or Participant organization.

Proxy voting is not permitted in OSG TFS meetings.

4.7.5.5 Maintaining the OSG TFS membership list

OSG TFS shall maintain a membership list used for the dissemination of information and for decision-making within the group. Any individual may join this membership list if they are a representative of a legal entity that has signed an OSG TFS Member or TFS Participant agreement, or they have signed the Individual Participant agreement and have an ETSI user account.

4.7.6 Work Programme

The OSG TFS shall describe its own workflows and processes for tracking and managing its work in its detailed Working Procedures.

The OSG TFS shall not create ETSI Work Items as defined in Annex A of the Technical Working Procedures.

4.7.7 Decision-making**4.7.7.1 Principles of decision-making**

The OSG TFS, being a software development activity, may face situations where consensus cannot be applied to decision-making, especially concerning the code. Nevertheless, the OSG TFS shall endeavour to reach consensus on all issues where consensus is applicable. If consensus cannot be achieved, the Chair can decide to take a vote which may be performed by a secret ballot. A vote may be conducted during a meeting or by correspondence.

OSG TFS Members are only eligible for voting (voting members) if they have been present during at least two (2) out of the previous three (3) plenary meetings.

Founding members of the OSG TFS as identified in section 12 below shall be eligible to vote during and up to the end of the first three (3) plenary meetings following the creation of the OSG TFS.

OSG TFS Participants shall not be entitled to vote at plenary level. OSG TFS Participants may be permitted to participate in decision-making at other levels of the OSG TFS, as described in the detailed Working Procedures.

Individual Participants may be consulted for their opinion, but they shall not have the right to vote.

Abstentions or failure to submit a vote shall not be included in determining the number of votes cast.

For the election for the Chair, the procedures in Article 4.7.7.1.3 below shall apply.

For the purpose of voting on changes to the Terms of Reference or on changes to the Working Procedures, a proposal shall be approved when the percentage of positive votes is at least seventy one percent (71 %) of the votes cast.

In case of changes to the OSG TFS Member, Participant or Individual Participant agreements, and decisions concerning operational costs, unanimous agreement of all OSG TFS Members is required.



Further details of the process for modifications to these agreements are contained within the agreements themselves.

In all other cases where voting is used at plenary level, vote results shall be evaluated by the Chair using the principle of a simple majority of the votes cast on the basis of one vote per OSG TFS Member.

In all other cases of decision-making, the process applied shall be described in the OSG TFS detailed Working Procedures.

4.7.7.1.1 Voting during a meeting

The following procedures apply for voting during a meeting:

- before voting, a clear definition of the issues shall be provided by the Chair;
- if an OSG TFS member has more than one (1) representative, only one (1) may vote;
- if manual voting procedures are used, each OSG TFS member may only cast the vote once;
- if electronic voting procedures are used, votes may be changed prior to the closure of the vote;
- voting by proxy is not permitted;
- there are no quorum requirements and vote splitting is not permitted;
- the result of the vote shall be recorded in the meeting report.

4.7.7.1.2 Voting by correspondence

The following procedures apply for voting by correspondence:

- before voting, a clear definition of the issues shall be provided by the Chair and disseminated to all on the OSG TFS membership list;
- if electronic voting procedures are used, votes may be changed prior to the closure of the vote;
- there are no quorum requirements and vote splitting is not permitted;
- at the end of the voting period, the Chair shall count the votes;
- the result of the vote should be disseminated to the OSG TFS membership list within fifteen (15) days.

4.7.7.1.3 Voting for the election of the OSG TFS Chair

For the purpose of electing the Chair of OSG TFS, the procedures given in Clauses 4.7.7.1, 4.7.7.1.1 and 4.7.7.1.2 shall apply.

In the case where there is more than one (1) candidate, a secret ballot shall be used. When, in the first ballot, no candidate has exceeded 50% (fifty) of the votes cast, a second ballot shall be held. In the second ballot, in cases where there are only two (2) candidates, the candidate obtaining the higher number of votes is elected. In cases where there are more than two (2) candidates, if none of them has exceeded 50% (fifty) of the votes, a third and final ballot shall be held among the two (2) candidates who have obtained the highest number of votes in the second ballot. The candidate obtaining the higher number of votes in the third ballot is then elected.

The outgoing Chair shall be responsible for the voting process and shall ensure that confidentiality is maintained.

If the vote is conducted during a meeting, only the final result shall be recorded in the meeting report.

If the vote is conducted by correspondence, only the final result of the vote shall be disseminated.

4.7.7.2 Appealing against a Chair's decision

Any OSG TFS Member who is against the OSG TFS Chair's ruling on a vote may submit its case to the Director-General for decision. In such cases the member shall also inform the OSG TFS Chair.

When the OSG TFS Chair has made a ruling, their decision shall be taken as the basis for future operations, unless overturned by the Director-General.

4.7.7.3 Decision-making in the code development activity

Decision-making related to code development and software release activities will be described in the detailed Working Procedures (i.e., the TFS Working Procedures), adopted by the OSG TFS at the kick-off meeting and submitted for integration on the ETSI development platform.

4.7.8 Reporting obligations

It is the responsibility of the OSG TFS Chair to ensure that information is given on the items outlined in the following Clauses. Support may be negotiated with the ETSI Secretariat.

4.7.8.1 Changes in organizational structure

The OSG TFS Chair shall inform the ETSI Secretariat of organizational changes, allowing the maintenance of an organizational diagram showing its structure.

4.7.8.2 Changes to Working Procedures

The OSG TFS Chair shall notify the ETSI Secretariat of any changes to its Working Procedures, thus allowing the relevant documentation to be maintained.

4.7.8.3 Meeting reports

The OSG TFS Chair shall prepare a report of each meeting. The report shall contain the proceedings of the meeting, including summaries of essential discussions and the decisions made. The report requires the approval of the OSG TFS, and it should then be made available within fifteen (15) days of the meeting.

4.7.8.4 Calendar of meetings

The OSG TFS Chair shall inform the ETSI Secretariat of the dates and venues of future meetings. The ETSI Secretariat shall use the information provided to update the ETSI Calendar of Meetings.

4.7.8.5 Financial reporting

The OSG TFS Chair shall provide the ETSI Secretariat with a monthly financial status report indicating: planned expenditure, actual expenditure, and the situation concerning contributions from group members.

4.7.9 ETSI Secretariat support

The OSG TFS shall receive basic administrative and IT support from the ETSI Secretariat.

The OSG TFS may receive additional support where the group agrees to provide voluntary contributions to cover the cost (as defined in their membership agreement) or if resources are approved by the Director-General on a case-by-case basis).

The Director-General, in consultation with the ETSI Board, may allocate additional support staff to the OSG TFS.



4.7.10 Access to OSG TFS working documents and code

All ETSI members shall be granted access to all OSG TFS working documents and code upon request.

Code produced by the OSG TFS shall be made publicly available at least periodically.

4.7.11 Code of Conduct

The OSG TFS adopts the following Code of Conduct:

Our Pledge

We as members, contributors, and leaders pledge to make participation in our community a harassment-free experience for everyone, regardless of age, body size, visible or invisible disability, ethnicity, sex characteristics, gender identity and expression, level of experience, education, socio-economic status, nationality, personal appearance, race, caste, colour, religion, or sexual identity and orientation.

We pledge to act and interact in ways that contribute to an open, welcoming, diverse, inclusive, and healthy community.

Our Standards

Examples of behaviour that contributes to a positive environment for our community include:

- Demonstrating empathy and kindness toward other people
- Being respectful of differing opinions, viewpoints, and experiences
- Giving and gracefully accepting constructive feedback
- Accepting responsibility and apologizing to those affected by our mistakes, and learning from the experience
- Focusing on what is best not just for us as individuals, but for the overall community

Examples of unacceptable behaviour include:

- The use of sexualized language or imagery, and sexual attention or advances of any kind
- Trolling, insulting or derogatory comments, and personal or political attacks
- Public or private harassment
- Publishing others' private information, such as a physical or email address, without their explicit permission
- Other conduct which could reasonably be considered inappropriate in a professional setting

Enforcement Responsibilities

Community leaders are responsible for clarifying and enforcing our standards of acceptable behaviour and will take appropriate and fair corrective action in response to any behaviour that they deem inappropriate, threatening, offensive, or harmful. This may include reporting this behaviour to the Official Contact of the OSG TFS Member or Participant represented by the contributor.

Community leaders have the right and responsibility to remove, edit, or reject comments, commits, code, wiki edits, issues, and other contributions that are not aligned to this Code of Conduct, and will communicate reasons for moderation decisions when appropriate.

Scope

This Code of Conduct applies within all community spaces, and also applies when an individual is officially representing the community in public spaces. Examples of representing our community include using an official e-mail address, posting via an official social media account, or acting as an appointed representative at an online or offline event.



OSG TFS TERMS OF REFERENCE

Enforcement

Instances of abusive, harassing, or otherwise unacceptable behaviour may be reported directly to the Chair or to the ETSI Legal Advisor (legal@etsi.org). All complaints will be reviewed and investigated promptly and fairly.

All community leaders are obligated to respect the privacy and security of the reporter of any incident.

Attribution

This Code of Conduct is adapted from the Contributor Covenant, version 2.1, available at https://www.contributor-covenant.org/version/2/1/code_of_conduct/.