



Ecma/TC39/2023/048

## Report from the TC39 Secretariat

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# 2024 list of candidates for Ecma Management and ExeCom

The current Management and ExeCom members can be found here: <https://www.ecma-international.org/about-ecma/organisation/>

The Ecma GA is going to discuss and appoint the Ecma Officers for 2024 at the General Assembly on 5 December 2023. Last minute nominations are possible at the meeting.

## MANAGEMENT:

- President: **Jochen Friedrich (IBM)**
- Vice-President: **Daniel Ehrenberg (Bloomberg)**
- Treasurer: **Luoming Zhang (Huawei)**

## EXECUTIVE COMMITTEE:

- Chair: appointed at the GA after ExeCom election
- Members:

### From the Ordinary members:

- *Jochen Friedrich (IBM) if not elected to the management*
- *Michael Saboff (Apple)*
- *Waldemar Horwat (Google)*
- *Luoming Zhang (Huawei) if not elected to the management*

### From the Non-Ordinary members:

- *Touradj Ebrahimi (EPFL)*
- *Peter Hoddie (Moddable)*

## ECMA-262 Approval Timelines:

- ExeCom 24-25 April
- 60-day Opt-out period (*RF Policy*)
- 60-day Review Publication period
- *Suggestion:* early-April to freeze specification
  
- Approval at GA 26-27 June 2024
  - *ECMA-262 15th edition – ECMAScript® 2024 Language Specification*
  - *ECMA-402 11th edition – ECMAScript® 2024 Internationalization API specification*

***Two approval possibilities June and December***

- JTC1 requires that every 5 years a Periodic Review of Fast-Tracked Standard
  - *ECMA-414 (ISO/IEC 22275)*
  - *Voting ended: 03 September 2023*
  - *Voting result: Approved for another 5-year period*
  - *Undated normative reference for ECMA-262 and ECMA-402*
  - *Similar to the approval of JSON for another 5-year period*
  - *Next Periodic Review in 2028*

# TC53 workshop on the future of embedded software

Embedded software is critical to the many digital devices in our world. For decades, the development of embedded software has relied on ad-hoc solutions, often based on fragile and proprietary technologies. This approach has been stretched to the breaking point by the many demands of the Internet of Things. Standardization is the solution. Standardizing software interfaces, allows embedded software to reap the benefits of a rich ecosystem, as software development has achieved on the web, desktops, servers, and mobile.

During this workshop, participants will explore proposals and contemplate various aspects of embedded JavaScript standardization. These discussions will encompass new APIs, interoperability, packaging, and the concept of Hardened JavaScript (aka Secure ECMAScript). Attendees will gain insights into the current state of embedded systems development with JavaScript, how it helps you create better products, and how you can begin evaluating that within your organization today. You can help ensure the standard meets your products needs by participating in the workshop and joining Ecma International to contribute to its development.

The presenters are contributors to ECMA-419. They include:

- Donovan Buck, BrandExtract
- Nick Hehr, Viam
- Peter Hoddie, Moddable
- Mark Miller, Agoric
- Carlos Montalvo, LytEn
- Josh Siegel, Michigan State University
- Patrick Soquet, Moddable

The workshop is on 6 December 2023 from 10:00 to 16:00 at the Apple Park in Cupertino, USA and is kindly hosted by Apple. The workshop is open to Ecma members and non-members and is free to attend. However, seats are limited and registration is required.

To secure your spot, please send an e-mail to [helpdesk@ecma-international.org](mailto:helpdesk@ecma-international.org) with your full name, affiliation and your preference for attending in person or remotely.

# Workshop on opportunities for data and cloud standardization

**7 December 2023 from 9:00 – 12:00 Pacific Standard Time (PST)**

This live hybrid event will kick-off a discussion on Ecma International as the ideal home for members to develop standards, and then fast-track into formal European standards or promote for acceptance as open interoperability specifications.

The requirements of the Draft EU Data Act will be highlighted, in particular the need for standards to support the implementation of the Data Act and to achieve and demonstrate compliance.

Areas to be covered:

- Regulating cloud services
- Market access requirements for Cloud interoperability
- Cloud switching and Cloud portability

Ecma can be instrumental in addressing the upcoming challenges:

- Members can better leverage Ecma's fast and effective process for developing standards;
- Members can work under the respective commonly agreed Ecma IPR policy option; and,
- Members can engage and collaborate with other standards bodies to support their efforts to address the upcoming requirement of Draft EU Data Act.

This hybrid event is hosted by Apple and will take place at the Apple Park in Cupertino, USA. The attendance to the workshop is open to Ecma members and non-members and is free of charge.

For planning purposes, participants should register via an e-mail to [helpdesk@ecma-international.org](mailto:helpdesk@ecma-international.org) with their full name and affiliation as soon as possible.

- New NFP member OWASP
- New TC54 Cyclone/DX
- New Proposal?
  
- Ad hoc “*Ecma Growth*”, looking at future activities and strategy
  - *Voting*
  - *Membership*
  - *Governance*

For ES2024 and beyond a solution is needed

- *Feedback on the recommendations and procedures*
- *What are the next steps?*

# Challenge: Commemorate 100<sup>th</sup>



Design a special limited edition.

Include:

- TC39 logo
- Ecma logo



- 100<sup>th</sup>
- ECMA Script
- Something else?

**Final items and design: 18 Dec 2023**

# Annex

# Lists of Ecma documents of interest to TC39

*(As a reminder....)*

- GA documents provide general Ecma information (policy matters, activities of other TCs, liaison with other SDOs, etc.).
  - GA documents are not automatically available to TC39 members. Ask your GA Representative for copy.
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- Ecma TC39 documents are the “official” Ecma TC39 documentation within Ecma (both for “long-term archival” and as information to other Ecma TC and GA members).
  - It is linked to TC39 as an Ecma TC (includes new formal Ecma members in TC39, status of ES20xx approval in Ecma etc.)

*There are overlaps to what is also available on TC39 GitHub*

- Ecma/TC39/2023/039      Guide to converting an Ecma standard from an ecmarkup generated HTML file into an Ecma format printable PDF
- Ecma/TC39/2023/040      Report from the TC39 Secretariat, September 2023
- Ecma/TC39/2023/041      Systematic Review voting results of ISO/IEC 22275:2018 (ECMA-414)
- Ecma/TC39/2023/042      Responses to the Ecma Contribution License Agreement (CLA), 22 September 2023
- Ecma/TC39/2023/043      Slides for the 98th TC39 meeting, September 2023 (Rev. 1)
- Ecma/TC39/2023/044      Venue for the 99th TC39 meeting, November 2023
- Ecma/TC39/2023/045      TC39 chair group's report to the ExeCom, October 2023 (Rev. 1)
- Ecma/TC39/2023/046      Minutes of the 98th TC39 meeting, September 2023 (Rev. 1)
- Ecma/TC39/2023/047      Agenda for the 99th TC39 meeting, November 2023
- Ecma/TC39/2023/048      Meeting notes of the 98th TC39 meeting, September 2023

- Ecma/GA/2023/035 Ecma TC39 extensive meeting notes – guidelines for implementation
- Ecma/GA/2023/065 Minutes of the 125th General Assembly, Geneva, June 2023
- Ecma/GA/2023/071 Agenda for the 98th TC39 meeting, September 2023 (Rev. 1)
- Ecma/GA/2023/072 Application of OWASP for NFP membership
- Ecma/GA/2023/085 Minutes of the 98th TC39 meeting, September 2023 (Rev. 1)
- Ecma/GA/2023/094 Agenda for the 99th TC39 meeting, November 2023
- Ecma/GA/2023/109 Draft scope and PoW for a new TC on Software and system transparency  
(Rev. 1)

# TC39 Meeting Participation

<b>Meeting 2019-2023</b>	<b>Total</b>	<b>Local</b>	<b>Remote</b>	<b>Companies</b>
July2019 Redmond	76	46	30	24
Oct2019 New York	70	46	24	26
Dec2919 San Francisco	73	52	21	28
Feb2020Honolulu	58	27	31	23
April2020 Remote	73	0	73	28
June2020 Remote	66	0	66	21
July2020 Remote	76	0	76	28
Sept2020 Remote	66	0	66	25
Nov2020 Remote	62	0	62	22
Jan2021 Remote	95	0	95	27
March2021 Remote	80	0	80	25
April2021 Remote	81	0	81	26
May2021 Remote	74	0	74	27
July2021 Remote	57	0	57	23
Aug2021 Remote	80	0	80	28
Oct2021 TRemote	54	0	54	22
Dec2021 Remote	69	0	69	24
Jan2022 Remote	66	0	66	29
March2022 Remote	92	0	92	30
June2022 Remote	59	0	59	23
July2022 SanFran Hybrid	62	19	43	24
Sept2022 Remote	44	0	44	20
Nov2022 A Coruña Hybrid	62	19	43	23
Jan2023 Remote	68	0	68	27
March2023 Seattle Hybrid	65	20	45	24
May2023 Remote	61	0	61	27
July2023 Bergen	55	32	23	20
Sept2023 Toyko	57	25	31	23
Nov2023 Remote				

# Top 5 Download Ecma Standards

## 1 January – 31 October 2023

Standard	(1 Jan-28 Feb)	(1 Jan-31 May)	(1 Jan-31 Aug)	(1 Jan-31 Oct)
• ECMA-262 ECMAScript Language Specification	4'778	11'814	17'794	20'615
• ECMA-404 The JSON Data Interchange Format	1'972	5'063	7'633	8'711
• ECMA-376 Office Open XML File Formats, all parts and editions	1'808	4'699	7'054	8'480
• ECMA-334 C# Language Specification	677	1614	2308	2787
• ECMA-335 Common Language Infrastructure (CLI)	607	1492	2323	2674
Total	9'842	24'682	37'112	43'267
<b>Total Downloads - All Standards</b>	<b>13'058</b>	<b>32'659</b>	<b>49'341</b>	<b>58'303</b>

<i>List of the most popular standards html access in 2023</i>				
ECMA-262 ECMAScript Language Specification editions	(1 Jan-28 Feb)	(1 Jan-31 May)	(1 Jan-31 Aug)	(1 Jan-31 Oct)
• ECMA-262 5.1th	12'678	33'466	50'339	51'155
• ECMA-262 6th	21'479	48'592	73'444	75'110
• ECMA-262 7th	8'954	49'426	97'844	98'082
• ECMA-262 8th	3'784	9'972	17'501	17'592
• ECMA-262 9th	2'087	4'896	7'085	7'218
• ECMA-262 10th	2'992	5'836	8'088	8'274
• ECMA-262 11th	2'379	5'452	8'433	8'565
• ECMA-262 12th	3'401	7'283	10'789	10'952
• ECMA-262 13th	13'926	27'934	45'572	49'024
• ECMA-262 14th			14'355	26'504
<b>Total ECMA-262</b>	<b>71'680</b>	<b>192'857</b>	<b>333'450</b>	<b>352'476</b>

<i>List of the most popular standards html access in 2023</i>				
ECMA-402 ECMAScript Internationalization API editions	(1 Jan-28 Feb)	(1 Jan-31 May)	(1 Jan-31 Aug)	(1 Jan-31 Oct)
•ECMA-402 1st	1'500	3'766	4'392	4'408
•ECMA-402 2nd	347	1'213	1'531	1'533
•ECMA-402 3rd	39	85	91	92
•ECMA-402 4th	45	106	127	127
•ECMA-402 5th	27	62	71	78
•ECMA-402 6th	16	43	48	55
•ECMA-402 7th	31	77	113	118
•ECMA-402 8th	89	217	244	248
•ECMA-402 9th	549	1'358	1'674	1'740
•ECMA-402 10th			551	949
<b>Total ECMA-402:</b>	<b>2'643</b>	<b>6'927</b>	<b>8'842</b>	<b>9'348</b>
•ECMA-419 ECMAScript® embedded systems API editions				
•ECMA-419 1st	141	325	459	480
•ECMA-419 2nd			300	520
<b>•Total ECMA-419:</b>	<b>141</b>	<b>325</b>	<b>759</b>	<b>1000</b>

<i>List of the most popular downloads in 2023</i>	(1 Jan-28 Feb)	(1 Jan-31 May)	(1 Jan-31 Aug)	(1 Jan-31 Oct)
Technical Reports				
•TR/111 Overview of Universal Archive Disk Format (UADF)	19	52	81	102
•TR/98 JPEG File Interchange Format (JFIF)	20	52	78	86
•TR/104 ECMAScript Test Suite 2nd Edition	13	35	54	64
•TR/109 Class specifications for embedded hardware components	8	17	31	35
•TR/110 Recommendations and best practices for scripts on connected sensing devices	7	16	28	34
•TR/84 CLI - Information derived from Partition IV XML file		65		130
<b>Download of Ecma Memento 2023*</b>	29	120	169	205

\***External** download of the "public" version (without personal addresses).

**Internal** distribution reaches about some 600 Ecma member participants. Sent out at the beginning of the year per email with the full internal version (using mailing lists).

**Print copy** (done internally) on demand per post. Low numbers.

# Download of Ecma Standards

## 1 January – 31 October 2023

Standard	Download
• ECMA-262 ECMAScript Language Specification	20'615
• ECMA-404 The JSON Data Interchange Format	8'711
• ECMA-376 Office Open XML File Formats, all parts and editions	8'480
• ECMA-335 Common Language Infrastructure (CLI)	2'787
• ECMA-334 C# Language Specification	2'674
• ECMA-48 Control Functions for Coded Character Sets, 5th edition	897
• ECMA-74 Measurement of Airborne Noise Emitted by ICT Equipment	832
• ECMA-418 Psychoacoustic metrics for ITT equipment	733
• ECMA-388 Open XML Paper Specification	723
• ECMA-402 ECMAScript Internationalization API	529
• ECMA-370 TED The Eco Declaration	528
• ECMA-422 C# Specification Suite	522
• ECMA-414 ECMAScript® Specification Suite	499
• ECMA-119 Volume and File Structure of CDROM for Information Interchange	408
• ECMA-408 Dart Programming Language Specification	337
• ECMA-363 Universal 3D File Format, 4th edition	279
• ECMA-340 Near Field Communication Interface and Protocol (NFCIP-1)	264
• ECMA-6 7-Bit Coded Character Set	229
• <b>Total downloads</b>	<b>58'303</b>

# TC39 Plenary Schedule 2024

Meeting	Dates	Location	Host
99	2023-11-27 to 2023-11-30	Remote: "SF"	
<b>100</b>	<b>2024-02-06 to 2024-02-08</b>	<b>San Diego, US</b> 	<b>ServiceNow</b>
101	2024-04-08 to 2024-04-11	Remote: "Baltimore"	n/a
102	2024-06-11 to 2024-06-13	Helsinki, Finland 	Mozilla & Aalto University
103	2024-07-29 to 2024-08-01	Remote: "Los Angeles"	n/a
104	2024-10-08 to 2024-10-10	Tokyo, Japan 	Sony
105	2024-12-02 to 2024-12-05	Remote: "Albuquerque"	n/a

- *6 meetings per-year*
- *3 remote, 3 hybrid (one US, one Europe, one Asia)*
- *Remote meetings are up to four days  
...and sometimes we rejoice when we can end early and claim a day back*
- *In-person meetings are three days  
...to permit Monday/Friday as travel days*

- **GA 126:** 5-7 December 2023 (Cupertino, US, hosted by Apple)
  - 6 Dec: TC53 meeting co-located
  - 6 Dec: TC53 Workshop co-located
  - 7 Dec: Workshop on opportunities for data and cloud standardization
- **GA 127:** 26-27 June 2024 (Geneva, Switzerland)
- **GA 128:** 11-12 December 2024 (US, TBD)

## **ExeCom:**

- **24-25 April 2024**, Geneva
- **1-2 October 2024**, Geneva

*Starting at 9:00. TC Chairs are invited to report on their activities.*

**Thank you**

## Recommendations::

- “Summary and Conclusion” of each contribution at the plenary meeting should be included both in the Minutes of the TC39 meeting and in the Technical Notes. It is needed for accurate meeting Minutes.
- *It is also convenient for all to see the key points and next steps as agreed by the committee during the plenary meeting.*
- “Summary and Conclusion” text should be completed at the plenary with the support of the contributor and agreement of the committee.

# Current ECMA-262 authoring and publication process

- **ECMA-262** is authored on GitHub in a plaintext source format **Ecmarkup**.
  - *Ecmarkup is an HTML and Markdown dialect that provides a framework and toolset for authoring ECMAScript specifications in plaintext and processing the specification into a full-featured HTML rendering that follows the editorial conventions for this document.*
  - *Ecmarkup builds on and integrates a number of other formats and technologies including Grammarkdown for defining syntax and Ecmarkdown for authoring algorithm steps.*
- **ECMA-262** is currently published in **interactive html** and in a **book-like PDF format**. The yearly download of the PDF version is between 30-40K
  - *html format is built in the process*
  - ***PDF format is a manual process***
- **ECMA-262** is in need of a solution to produce a **book-like PDF format**.