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I EXECUTIVE SUMMARY

The international Java community develops and evolves Java™ technology specifications using the Java Community Process (JCP). The JCP produces high-quality specifications using an inclusive, Consensus building approach that produces a Specification, a Reference Implementation (to prove the Specification can be implemented), and a Technology Compatibility Kit (a suite of tests, tools, and documentation that is used to test implementations for compliance with the Specification).

Experience has shown that the best way to produce a technology specification is to gather a group of industry experts who have a deep understanding of the technology in question and then have a strong technical lead work with that group to create a first draft. Consensus around the form and content of the draft is then built using an iterative review process that allows an ever-widening audience to review and comment on the document.

This version of the JCP was developed using the Java Community Process itself by means of JSR 348, led by Oracle and the combined Executive Committees as the Expert Group.

An Executive Committee (EC) representing a cross-section of both major stakeholders and other members of the Java community is responsible for approving the passage of Specifications through the JCP’s various stages and for reconciling discrepancies between Specifications and their associated test suites. There are two ECs: one to oversee the Java technologies for the desktop/server space (with responsibility for the Java SE™ and Java EE™ Specifications) and the other to oversee the Java technologies for the consumer/embedded space (with responsibility for the Java ME™ Specification). The EC’s are considering merging the two bodies into a single one in the near future, so newly elected EC members should be aware that their terms may vary from what is specified in section 6.4, “EC SELECTION PROCESS AND LENGTH OF TERM”

There are four major stages in this version of the JCP:

1. INITIATION: A Specification targeted at the desktop/server or consumer/embedded space is initiated by community member(s) and approved for development by the responsible EC. A group of experts is formed to assist the Spec Lead with the development of the Specification.

2. DRAFT RELEASES: The Expert Group develops the Specification through an iterative process, releasing drafts for public review and comment. After the formal Public Review the EC holds a ballot on whether the JSR should proceed to the Final Release stage.

3. FINAL RELEASE: The Spec Lead submits the Specification to the PMO for publication as the Proposed Final Draft. When the RI and TCK are completed, and the RI passes the TCK, the Specification, the RI, and the TCK are submitted to the PMO, who circulates them to the responsible EC for final approval.

4. MAINTENANCE: The Specification, Reference Implementation, and Technology Compatibility Kit are updated in response to ongoing requests for clarification, interpretation, enhancements, and revisions. The responsible EC reviews proposed changes to the Specification and indicates which can be carried out immediately and which will require the changes to be implemented in a new JSR.

II DEFINITIONS

Appeal Ballot: The EC ballot to override a first-level decision on a TCK test challenge.

Change Log: An area accessible from the JSR Page that lists all changes made to the Specification, RI, TCK, and licenses since the previous Release. A Change Log has six sections: PROPOSED (changes not yet made to the Specification), ACCEPTED (changes made to the Specification), DEFERRED (changes to be considered in a new JSR), RI (changes made to the RI), TCK (changes made to the TCK) and LICENSING (changes to
Consensus: The use of the word “consensus” refers always to “rough consensus” as defined in section 3.3 of the IETF's RFC 2418: “[...] consensus does not require that all participants agree although this is, of course, preferred. In general, the dominant view of the working group shall prevail. (However, “dominance” is not to be determined on the basis of volume or persistence, but rather a more general sense of agreement). [...] Note that 51% of the working group does not qualify as “rough consensus” and 99% is better than rough. It is up to the Chair to determine if rough consensus has been reached (IETF Working Group Guidelines and Procedures).

Contribution Agreement: A legal agreement defining the terms, particularly those concerning the grant of intellectual property rights, under which contributions are made to a project.

Dormant Specification (Dormant): A Specification that does not have an identified Specification Lead or Maintenance Lead. All Specifications become Dormant at the end of their life cycles.

Early Draft Review: A 30 to 90 day period during which the public reviews and comments on the draft Specification.

Elected Seat: An EC seat filled by the election process described in section 6.4.4.

Executive Committee (EC): The Members who guide the evolution of the Java technologies. The EC represents a cross-section of both major stakeholders and other Members of the Java Community. EC members are appointed in an annual election process. The EC Policies and Procedures are in the EC Standing Rules, which is a separate document.

Expert: A Member or Member Representative who has expert knowledge and is an active practitioner in the technology covered by the JSR.

Expert Group (EG): The group of Experts who develop or make significant revisions to a Specification.

Final Approval Ballot: The 14-day EC ballot to approve the Final Draft along with its associated RI and TCK.

Final Approval Reconsideration Ballot: The 14-day EC ballot to reconsider an initial rejection of a Final Draft, RI, and TCK.

Final Draft: The final draft of the Specification that will be put forward for EC approval.

Final Release: The final stage in the JSR development process when the Specification, RI, and TCK have been completed and can be licensed by implementors.

First-Level TCK Appeals Process: The process defined by the Spec Lead that allows implementers of the Specification to appeal one or more tests defined by the Specification's TCK.
**Item Exception Ballot:** The EC ballot to determine whether or not to include specific change items in a Maintenance Release.

**Java Community Process (JCP):** The formal process described in this document for developing or revising Java technology Specifications.

**Java Community Process Member (Member):** A company, organization, or individual that has signed the JSPA and is abiding by its terms. In the case of an individual, that person may represent himself/herself, or may represent or be otherwise empowered to act on behalf of a company or organization. No more than five individual Members are permitted at any one time as representatives of a company or organization.

**Java Specification (Specification):** A written specification for some aspect of the Java technology. This includes the language, virtual machine, Platform Editions, Profiles, and application programming interfaces.

**Java Specification Request (JSR):** The document submitted to the PMO by one or more Members to propose the development of a new Specification or significant revision to an existing Specification.

**Java Specification Participation Agreement (JSPA):** A one-year renewable agreement between Oracle America and a company, organization or individual that allows the latter entities to participate in the Java Community Process.

**JCP Web Site:** The web site where anyone can stay informed about JCP activities, download draft and final Specifications, and follow the progress of Specifications through the JCP.

**JSR Approval Ballot:** The EC ballot to determine if the JSR should be approved.

**JSR Reconsideration Ballot:** The EC ballot to determine if a revised JSR should be approved.

**JSR Page:** Each JSR has a dedicated public web page on the JCP Web Site where the JSR’s history is recorded and where other relevant information about the JSR is published.

**JSR Renewal Ballot:** An EC ballot to confirm that a JSR should continue in its work.

**JSR Renewal Reconsideration Ballot:** An EC ballot to determine if a revised JSR should continue its work.

**JSR Review:** A 4 week period during which the public can review and comment on a new JSR.

**Maintenance Lead (ML):** The Expert responsible for maintaining the Specification.

**Maintenance Release:** The final stage in the JSR maintenance process when the Specification, RI, and TCK have been updated and can be licensed by implementors.

**Maintenance Review:** A period of at least 30 days prior to finalization of a Maintenance Release when Members and the public consider and comment on the change items listed...
in the PROPOSED section of the Change Log.

**Maintenance Review Ballot:** An EC ballot to determine whether the changes proposed by a Maintenance Lead are appropriate for a Maintenance Release.

**Member Representative:** A person who is an employee or agent of a Member company or a Member organization and who has been authorized by that Member to represent its interests within the JCP.

**Platform Edition Specification (Platform Edition):** A Specification that defines a baseline API set that provides a foundation upon which applications, other APIs, and Profiles can be built. There are currently three Platform Edition Specifications: Java SE, Java EE, and Java ME.

**Profile Specification (Profile):** A Specification that references one of the Platform Edition Specifications and zero or more other JCP Specifications (that are not already a part of a Platform Edition Specification). APIs from the referenced Platform Edition must be included according to the referencing rules set out in that Platform Edition Specification. Other referenced Specifications must be referenced in their entirety.

**Program Management Office (PMO):** The group within Oracle America that is responsible for administering the JCP and chairing the EC.

**Proposed Final Draft:** The version of the draft Specification that will be used as the basis for the RI and TCK.

**Public Draft Specification Approval Ballot:** The EC ballot to determine if a draft should proceed after Public Review.

**Public Draft Specification Reconsideration Ballot:** The EC ballot to determine if a revised draft should proceed after Public Review.

**Public Review:** A 30 to 90 day period when the public can review and comment on the draft Specification.

**Ratified Seat:** An EC seat filled by the ratification process described in section 6.4.3.

**Reference Implementation (RI):** The prototype or "proof of concept" implementation of a Specification.

**Release:** A Final Release or a Maintenance Release

**Specification Lead (Spec Lead):** The Expert responsible for leading the effort to develop or make significant revisions to a Specification and for completing the associated Reference Implementation and Technology Compatibility Kit. A Spec Lead (or the Spec Lead's host company or organization) must be a Java Community Process Member.

**Spec Lead Member:** The individual JCP member who is a Spec Lead, or otherwise the company or organization that employs, and is represented by, the Spec Lead.

**Technology Compatibility Kit (TCK):** The suite of tests, tools, and documentation that
allows an organization to determine if its implementation is compliant with the Specification.

Transfer Ballot: The EC ballot to approve transfer of ownership of a Specification, RI, and TCK from one Member to another Member. ¹

Umbrella Java Specification Request (UJSR): A JSR that defines or revises a Platform Edition or Profile Specification. A UJSR proceeds through the JCP like any other JSR.

The use of the term day or days in this document refers to calendar days unless otherwise specified.

III THE JAVA COMMUNITY PROCESS ™ PROGRAM

1. GENERAL PROCEDURES

1.1 EXPERT GROUP TRANSPARENCY

Each Expert Group is free to use the working style that it finds most productive and appropriate, so long as this is compatible with the requirements specified in this document. For example, EGs may choose to operate by seeking Consensus or by voting on issues where there is disagreement.

As specified below, Expert Groups must operate in a transparent manner, enabling the public to observe their deliberations and to provide feedback. All feedback must be taken into consideration and public responses must be provided. In the initial JSR submission the Spec Lead must specify the transparency mechanisms (for example, the mailing lists and issue tracker) that the Expert Group intends to adopt, and must provide the URLs for accessing the chosen collaboration tools. The PMO will publish this information on the public JSR Page. The Spec Lead must also provide a pointer to any Terms of Use required to use the collaboration tools so that the EC and prospective EG members can judge whether they are compatible with the JSPA.

If the EG changes its collaboration tools during the life of the JSR these changes must be reported to the PMO, who will update the relevant information on the JSR Page. Any such changes must ensure that previously-published information is incorporated into the new tools. When voting to approve a JSR’s transition to the next stage EC members are expected to take into consideration the extent to which the Spec Lead is meeting the transparency requirements.

Spec Leads should be aware of their obligations under the JSPA to license the output of their JSR on Fair, Reasonable, and Non Discriminatory terms, and to make certain patent grants. Incorporating feedback provided through public email lists or forums without ensuring that the provider has signed the JSPA or an equivalent Contribution Agreement (the JSPA is preferable, and sufficient) may make it impossible to meet these requirements or may expose the Spec Lead Member to legal liability.

The use of Confidential materials (as defined in the JSPA) by Expert Groups limits transparency, is strongly discouraged, and will be prohibited in a future version of the Process. If the Spec Lead intends to permit the use of Confidential materials (such as emails, drafts or submissions marked as Confidential), this must be specified in the initial Java Specification Request. Expert Groups may also choose to keep information private by means other than marking it as Confidential (for example, by not publishing it on a publicly available site).²

¹ Transfer of ownership does not mean transfer of IP rights, only transfer of the right to start again. The new Spec Lead can, however, negotiate a transfer of IP with the old Spec Lead.
² The EC intends to remove the Confidentiality language from the next version of the JSPA.
1.1.1 MAILING LISTS

All substantive business must be carried out on a public mailing list designated by the Spec Lead. The purpose of this list is to keep observers aware of important issues and, minor administrative issues that distract from substantive business should therefore be kept private. A private mailing list should be used for minor administrative matters. Significant business includes, for example, eliminating or adding new features to the JSR, changes to the membership of the Expert Group, publication of the agenda, and on-going debate about JSR specifics. Non-substantive administrative matters such as notifications of meeting schedules, messages directing Expert Group members to particular documents or URLs, and reminders about voting or task assignments should be excluded from the public mailing list.

If the Expert Group uses a mailing list writable only by Expert Group members, then the EG must also provide a publicly readable and writable email list or a forum to enable feedback and comments from the public.

1.1.2 ISSUE TRACKING

Issues must be tracked through a publicly readable issue tracking mechanism. Formal comments must be entered into the issue-tracker, and all open issues must be responded to publicly before the JSR moves to the next stage. If the EG decides to reject a suggested change then the response in the issue-tracker must include a rationale for rejection. Responses stating that the suggested change will be made at a later date (but before the JSR or Maintenance Release is finalized) are permissible; in these cases the issue should be kept open until the change has actually been made. The issue-tracking mechanism must make a clear distinction between open, responded-to, and closed issues so the EC can clearly judge whether the EG has met its obligation to respond to all issues.

EC members, when voting to approve a JSR’s advance to the next stage, should take into consideration the EG’s responses to comments, and may insist that a suggestion or issue the EG considers resolved be re-addressed before the JSR moves on.

1.1.3 CHANGES TO LICENSING TERMS

As described in Section 2.2.1 below, the proposed licensing terms must be disclosed during JSR submission. The Specification License must not be modified after initial submission since to do so could invalidate IP grants. It may be necessary, however, to modify the proposed RI or TCK license. Any such changes must be disclosed when the Specification is next submitted to the PMO for public posting or review.

During the lifetime of the JSR the Spec Lead must continue to offer the RI and TCK licenses that were published at the time of Final Release, with the exception that reasonable increases in price are permitted. At subsequent Maintenance Releases alternate RI or TCK licenses may also be offered so long as all changes are disclosed in the Change Log, but licensees must be free to choose the original terms if they wish. For example, existing licensees who do not wish to accept a modified license when required to adopt a newer TCK will have the option to license the updated TCK under the previous terms.

When a newer version of a technology is created through a follow-on JSR the Specification, RI, and TCK license terms for the new JSR may differ from those offered for the previous JSR, but any such changes must be disclosed during JSR submission. The original terms for the previous JSR must be offered for the lifetime of that JSR.
1.2 EXPERT GROUP MEMBERSHIP

1.2.1 WITHDRAWAL OF AN EXPERT FROM THE EXPERT GROUP

An Expert may withdraw from the Expert Group at any time. If the withdrawing Expert is the Spec Lead, the Expert Group, with the help of the PMO, should approach the Member who originally contributed the Expert, if any, and request them to provide a suitable replacement; if no such replacement is forthcoming, the Expert Group should choose one of its members as the new Spec Lead. If the withdrawing Expert is not the Spec Lead, the Spec Lead should approach the Member who originally contributed the Expert, if any, and work with that organization to find a suitable replacement. If no replacement is offered or is not otherwise available, the Spec Lead may recruit a replacement from amongst other Members.

1.2.2 DISRUPTIVE, UNCOOPERATIVE OR UNRESPONSIVE EXPERT GROUP MEMBERS

There may be rare instances when members of the Expert Group feel that one of their fellow Experts is not acting in ways that advance the work of the Expert Group, and is being disruptive, uncooperative or unresponsive. EG members are expected to make a reasonable effort to resolve any such issues among themselves, with the active help of the Spec Lead. However, if the situation cannot be resolved in a timely manner, any three members of the EG can approach the Spec Lead and request that the EG member in question be excluded from further participation in the EG. If the Spec Lead agrees to the request he can then do so. In the case where the EG Member in question is a Member Representative, the Spec Lead must first request that the Member replace its representative. If the Member does not do so in a timely manner, the Spec Lead can exclude the Member itself from further EG participation. The Spec Lead's decision as to whether or not to exclude can be appealed to the EC by following the process outlined in Section 1.7, “Escalation and Appeals”

1.2.3 UNRESPONSIVE OR INACTIVE SPEC LEAD

There may be rare instances when members of the Expert Group feel that the Spec Lead is not acting in ways that advance the work of the Expert Group and is being unresponsive or inactive. These concerns should be brought to the attention of the EC as quickly as possible so they may be proactively addressed and resolved. The EC is expected to make a reasonable effort to resolve any such issues in a timely manner. However, if the situation cannot be resolved in a timely manner, any three members of the EG may request the EC to replace the Spec Lead for cause (which should be made clear and documented to the EC). If the EC agrees that there is cause, it may ask the PMO to replace the Spec Lead. In the case where the Spec Lead is a Member Representative the PMO should ask the Member to replace the Spec Lead, or it may seek to put in place an alternative Spec Lead, in which case the EC must conduct a Transfer Ballot as specified in section 5.1.1 of this document. If no Spec Lead replacement can be found, the EC will initiate a JSR Renewal Ballot to determine whether the JSR should be shut down.

1.3 JSR DEADLINES

If a JSR does not begin Early Draft Review within the first 12 months following the completion of its initial JSR Approval Ballot (JSR Approval), or does not begin Public Review within 2 years of JSR Approval, or has not achieved Final Release within 3 years of JSR Approval, then the EC should initiate a JSR Renewal Ballot unless it is agreed that there are extraordinary circumstances that justify the delay. The PMO will inform the Spec Lead and Expert Group of this decision and will request the Spec Lead and Expert Group to prepare a public statement to the EC. The JSR Renewal Ballot will start 30 days after the request. If the JSR Renewal Ballot is approved by the EC, then another renewal ballot cannot be initiated for that JSR for an additional year.
If the JSR Renewal Ballot fails, the Expert Group will have 30 days to update the JSR in response to the concerns raised by the EC, and may submit a revised version to the PMO. If a revised JSR is not received by the end of the 30 days, the original decision by the EC will stand and the JSR will be closed. If a revision is received, then the PMO will forward it to the EC and initiate a JSR Renewal Reconsideration Ballot. At the close of balloting, all comments submitted by EC members, together with their ballots will be circulated to the Expert Group by the PMO. If this ballot fails, the JSR will be closed and the Expert Group will disband. If the JSR was a revision to an existing Specification, the Spec Lead will resume the role of Maintenance Lead of the current Specification (see section 5).

1.4 COMPATIBILITY TESTING

The Spec Lead is responsible for defining the process whereby the TCK is used to certify implementations of the JSR as compatible. The Maintenance Lead must submit to the PMO at least quarterly, and at every Maintenance Release, a list of all implementations that have been certified as compatible and that have been released publicly or commercially. The PMO will publish this information on the JCP website. If the Spec Lead submits the information in the form of a pointer to an already published list the PMO may choose simply to reference that list rather than duplicate it. TCK license terms must permit implementors to freely and publicly discuss the testing process and detailed TCK test results with all interested parties.

1.5 EXECUTIVE COMMITTEE DUTIES

1.5.1 TRANSPARENCY

All substantive Executive Committee business should be conducted in the most transparent manner possible. EC transparency requirements are specified in a separate document, EC Standing Rules.

1.5.2 DRAFT REVIEWS

During Draft Review periods EC members are strongly encouraged to have one or more technical members of their organizations review the draft in order to uncover possible duplication of features or services between the draft and other Specifications. EC members should inform the Expert Group of any such discoveries using the feedback mechanism specified by the Spec Lead. EC feedback is particularly important to the Expert Group, and EC members are encouraged not to wait until ballot periods to raise concerns and issues.

1.6 PMO RESPONSE TIMES

Materials to be posted on the JCP website for review, comment, or any other official EG or EC business should be submitted to the PMO, which will post them on the website and announce their availability to Members and the public within seven days of receipt.

1.7 ESCALATION AND APPEALS

Unless otherwise specified in this document, any EG member can appeal to the EC regarding a decision, an action or inaction by the PMO, a Spec Lead, or a Maintenance Lead that affects EG participation or issue-resolution and which cannot be resolved by other reasonable means. An appeal must be initiated by sending an email message to the PMO (pmo@jcp.org) in all cases, even if it affects the PMO. The message must describe the issue under appeal clearly and concisely, with a short and relevant Subject: line, and provide all relevant documentation to support the appeal. The PMO shall transmit the message to the EC no later than seven days after receipt. The EC shall then
respond to the appellant within 30 days, either with a resolution or with a request for clarification and/or further documentation.

2. INITIATE A NEW OR REVISED SPECIFICATION

2.1 INITIATE A JAVA SPECIFICATION REQUEST

One or more Members can initiate a request to develop a new Specification, or carry out a significant revision to an existing one, by submitting the JSR Proposal through the JCP website, as described in the Spec Lead Guide. Any JSR under consideration can be withdrawn by its submitter(s) without explanation at any time prior to the completion of the JSR Approval Ballot (see section 2.3) upon request by the submitter(s) to the PMO.

The following is some of the information required to be included with each JSR:

- the Members making the request (the submitters), the proposed Spec Lead, and the initial members of the Expert Group.
- a description of the proposed Specification.
- the reason(s) for developing or revising it.
- the primary Platform Edition, as well as any consideration given to other Platform Editions.
- an estimated development schedule.
- any preexisting documents, technology descriptions, or implementations that might be used as a starting point.
- a transparency plan, which outlines the tools and techniques that the Spec Lead will use, during the creation and development of the Specification, and for communicating the progress within the Expert Group to Community Members, EC Members and the public. The EC will expect the Spec Lead to operate the JSR in accordance with this plan.

2.1.1 REVISE EXISTING SPECIFICATIONS

Existing Specifications, together with their associated RIs and TCKs, are maintained by a designated Maintenance Lead using the processes described in section 5 of this document. Maintenance Lead Members are expected to assume long term ownership of the Specification, RI, and TCK while respecting the wishes of the Java Community Members with regard to evolution. Maintenance Leads will therefore be the Spec Leads for all significant revisions to their Specifications, but they will not have the exclusive right to decide when a significant revision will take place. That will be decided by the EC in response to a revision JSR that can be initiated by any Java Community Member. Submitter(s) should make a reasonable effort to get some of the members of the previous Expert Group to join the revision effort.

2.1.2 PROTECT THE INSTALLED BASE AND GUARD AGAINST FRAGMENTATION

Changes to the Java programming language, the Java virtual machine (JVM), the Java Native Interface (JNI), packages in the “java.” space, or other packages delivered only as part of Java SE, have the potential to seriously disrupt the installed base if carried out inconsistently across the Platform Editions. In order to protect the installed base, any such changes can only be accepted and carried out within a UJSR for Java SE.

In order to guard against fragmentation, new Platform Edition Specifications will not substantially duplicate existing Platform Editions or Profiles.
2.1.3 PROFILES AND API SPECIFICATIONS TARGET CURRENT PLATFORM EDITIONS

All new or revised Specifications must be compatible with the most recent versions of the targeted Platform Edition Specifications. In order to achieve this, all UJSRs to define new Profile Specifications or revise existing Profile Specifications must reference the latest version of the Platform Edition Specification they are based upon.

2.1.4 PLATFORM INCLUSION

The technology that a JSR defines can be delivered as part of a Profile or Platform Edition, it can be delivered stand-alone, or both. The JSR submission form requires the submitter to state whether the JSR's RI and TCK should be delivered as part of a Profile or Platform Edition, in stand-alone manner, or both. The final decision whether a specific JSR is included in a Profile or a Platform Edition is made by the Spec Lead and Expert Group of that Platform Edition JSR or Profile JSR, and confirmed by the EC ballots on those JSRs. If the Platform Edition or Profile JSR turns down the request for inclusion, then the JSR for the API will be required to deliver a stand-alone RI and TCK.

Technologies may be incorporated into a Profile or Platform Edition after having been initially delivered standalone. A JSR for a new version of an API that proposes to become part of a Profile or Platform Edition and is considering discontinuing stand-alone availability must state the rationale for this change. The public must be informed of the intention to discontinue the availability of the standalone RI and TCK one JSR submission in advance.

2.2 JSR REVIEW

When a JSR is received, the PMO will give it a tracking number, assign the JSR to the appropriate EC (or to both ECs if so requested by the submitter), create its JSR Page, announce the proposed JSR to the public, and begin JSR Review. Comments on the JSR should be sent to the JSR’s public feedback mailing list. Comments will be forwarded to the EC for its consideration and will be made available from the JSR Page (similar comments may be consolidated.). Members who are interested in joining the Expert Group (should the JSR be approved) should identify themselves by submitting a nomination form to the PMO.

2.2.1 DISCLOSURE OF LICENSING TERMS

The Spec Lead Member is responsible for developing the Reference Implementation and Technology Compatibility Kit and for licensing them as described in the JSPA. The Spec Lead Member must provide the EC with complete copies of the proposed Specification, RI and TCK licenses no later than the start of JSR Review. The licenses will be published on the public JSR page. EC members should provide feedback on the terms as an indication of how the community as a whole might react to the terms. If the EC Consensus is that the proposed licensing terms are not compatible with the licensing guidelines established for use within the JCP, then balloting on the proposed JSR will be delayed until Oracle legal provides an opinion on the matter. The opinion of Oracle legal will be the final decision on the matter.

2.3 JSR APPROVAL BALLOT

After the JSR Review, EC members will review the JSR and any comments received, and cast their ballot to decide if the JSR should be approved.

If the JSR Approval Ballot fails, the PMO will send all EC comments to the JSR submitter(s) who may revise the JSR and resubmit it within 14 days. If a revised JSR is not received in that time, the original EC decision will stand and the JSR will be closed. If a revised JSR is received, the PMO will post it to the JSR Page, announce the revised JSR to the public, and send it to all EC members for a JSR
Reconsideration Ballot. If that ballot fails, the JSR will be closed.

2.4 FORM THE EXPERT GROUP

Within 14 days of a JSR being approved, the PMO instructs the identified Spec Lead to form the Expert Group. If the Member contributing the Spec Lead withdraws from the Community before the JSR is approved, the PMO will request the preliminary Expert Group to choose a replacement from among themselves who is willing to take on the duties defined in this document.

There is no size limit on the Expert Group. The Spec Lead may add additional Experts at any time provided the existing EG members are consulted. New members may be added, for example, to increase diversity of opinion.

Any JCP Member or Member Representative can request to join an Expert Group at any time by submitting their nomination via the online form provided on the JSR Page. The nomination, together with the Spec Lead's official response, substantive deliberations within the EG about this matter, and any other official decision related to EG composition, including decisions to remove or replace EG members, must be made public via the EG's public mailing list.

3. DRAFT RELEASES

3.1 WRITE THE FIRST DRAFT OF THE SPECIFICATION

The Expert Group should begin work by considering the requirements set forth in the JSR, any contributed documents or technology descriptions, comments received during JSR Review and, if this is a revision of an existing Specification, the Change Log kept by the Maintenance Lead (see section 5). Additional input can be obtained from discussions with other Members, industry groups, software developers, end-users, and academics. The goal is to define requirements and then write a draft Specification suitable for review by the Community and the public.

When the Expert Group decides that the first draft is ready for review, the Spec Lead will send the draft, along with any additional files required for review, to the PMO. The Spec Lead should also suggest the length of the Early Draft Review period if the Expert Group feels it should go beyond the minimum 30 days.

Multiple Early Drafts (and Early Draft Reviews) are encouraged where the Expert Group feels that this would be helpful.

3.2 EARLY DRAFT REVIEW

Refinement of the draft Specification begins when the PMO posts it to the JCP Web Site and announces the start of Early Draft Review. Anyone can download and comment on the draft. The goal of Early Draft Review is to get the draft Specification into a form suitable for Public Review as quickly as possible by uncovering and correcting major problems with the draft. Early Draft Review is an early access review, and should ideally take place when the Specification still has some unresolved issues. The public's participation in Early Draft Review is an important part of the JCP. In the past, comments from the public have raised fundamental architectural and technological issues that have considerably improved some Specifications.

3.2.1 UPDATING THE DRAFT DURING EARLY DRAFT REVIEW

If the Expert Group makes major revisions to the draft during Early Draft Review, the Spec Lead should send the revised draft, along with a synopsis of the changes, to the PMO who publish these online and make them available for download by the public.
After the Early Draft Review period has ended, the Expert Group can make any additional changes to
the draft it deems necessary in response to comments before submitting the draft to the PMO for the
next review.

3.3 PUBLIC REVIEW

Public Review begins when the PMO posts a new draft Specification on the JCP Web Site and
announces its availability for public review and comment.

The Spec Lead is responsible for ensuring that all comments are read and considered. If those
comments result in revisions to the draft, and those revisions result in major changes (in the opinion of
the Expert Group), then the Spec Lead must send an updated draft (with a summary of the changes)
to the PMO before the review period ends. The PMO will post the new draft and the change summary
on the JCP Web Site and will notify the public that the new draft is available.

3.4 PUBLIC DRAFT SPECIFICATION APPROVAL BALLOT

The Public Draft Specification Approval Ballot starts when the Public Review closes. At the close of
balloting, all comments submitted by EC members with their ballots will be circulated to the Expert
Group by the PMO.

If the Public Draft Specification Ballot fails, the Expert Group will have 30 days to update the draft in
response to the concerns raised by the EC and to submit a revised version to the PMO. If a revised
draft is not received within 30 days, the original decision by the EC will stand and the JSR will be
closed. If a revision is received, the PMO will forward it to the EC and initiate a Public Draft
Specification Reconsideration Ballot. At the close of balloting, all comments submitted by EC members
with their ballots will be circulated to the Expert Group by the PMO. If this ballot fails, the JSR will be
closed and the Expert Group will disband. If the JSR was a revision to an existing Specification, the
Spec Lead will resume the role of Maintenance Lead of the current Specification (see section 5).

4. FINAL RELEASE

4.1 PROPOSED FINAL DRAFT

If the Public Draft Specification Approval Ballot (or Reconsideration Ballot) is successful, the Expert
Group will prepare the Proposed Final Draft of the Specification by completing any revisions it deems
necessary in response to comments received. The Spec Lead will then send the Proposed Final Draft
to the PMO, who will post it on the JCP Web Site for public download.

4.1.1 COMPLETE THE RI AND TCK

The Spec Lead Member is responsible for the completion of both the RI and the TCK. JSRs that are
assigned to both ECs are required to support both environments, which may require a separate RI and
TCK for each environment. If the RI and TCK uncover areas of the Specification that were under-
defined, incomplete, or ambiguous, the Spec Lead will work with the Expert Group to correct those
deficiencies and then send a revised Specification together with a summary of the changes to the
PMO. Information will be posted to the JCP Web Site. The Expert Group will continue to consider any
further comments received during this time.

4.1.2 ESTABLISH A FIRST-LEVEL TCK APPEALS PROCESS

The Spec Lead is also responsible for establishing a clearly defined First Level TCK Appeals Process
to address challenges to tests contained in the TCK. This process must be described in the TCK
documentation. Implementers who are not satisfied with a first level decision should appeal to the EC by documenting their concerns in an email message to the PMO. The PMO will circulate the request to the EC, together with any information received from the ML concerning the rationale for the first-level decision, and initiate a 7-day Appeal Ballot.

4.1.3 UPDATE THE DELIVERABLES IN RESPONSE TO THE APPEAL BALLOT

Depending on the nature of the problem, a successful TCK challenge will require updating one or more of the TCK, the Specification, or the RI. Within one month of the close of a successful TCK Appeal Ballot the Maintenance Lead must update these deliverables as necessary and record the changes in the relevant sections of the Change Log. The modified Change Log, the Specification (if changed,) and URLs for the updated RI and/or TCK must be delivered to the PMO, who will publish them on the JCP website.

4.2 FINAL APPROVAL BALLOT

When the Expert Group is satisfied that the TCK provides adequate test coverage, the RI correctly implements the Specification, and the RI passes the TCK, the Spec Lead will send the Final Draft of the Specification to the PMO together with instructions on how EC members can obtain the RI and TCK for evaluation. The PMO will circulate the materials to the EC and initiate the Final Approval Ballot. At the close of balloting, all EC comments will be sent to the Expert Group by the PMO.

The TCK submitted as part of the Final Draft must meet the following requirements:

- Include documentation covering configuration and execution of the TCK, a definition and explanation of the First-level TCK Appeals Process, the compatibility requirements that must be met in addition to passing the TCK tests, and any other information needed to use the TCK (e.g. Tools documentation).

- Include requirements that all compatible implementations
  a) fully implement the Spec(s) including all required interfaces and functionality, and
  b) do not modify, subset, superset, or otherwise extend the Licensor Name Space, or include any public or protected packages, classes, Java interfaces, fields or methods within the Licensor Name Space other than those required/authorized by the Spec or Specs being implemented.

  These requirements must apply unless the Spec or TCK explicitly allows exceptions.

- Be accompanied by a test harness, scripts or other means to automate the test execution and recording of results.

- Include a TCK coverage document that will help EC members to evaluate the TCK's quality. This document should include an overview of the documentation included in the TCK, a description of means used to validate the quality of the TCK, the criteria used to measure TCK test coverage of the Specification, test coverage numbers achieved, and a justification for the adequacy of TCK quality and its test coverage.

- Provide 100% signature test coverage. These tests must ensure that all of the required API signatures of the spec are completely implemented and that no non-specified APIs are included in the JSR's namespace.

If the Final Approval Ballot fails, the Spec Lead will have 30 days to revise the Specification, RI, and TCK in response to EC concerns and to resubmit modified materials to the PMO.

If no responses are received within 30 days the original decision of the EC will stand, the PMO will close the JSR, and the Expert Group will disband. If the JSR was a revision to an existing
Specification, the Spec Lead will resume the role of Maintenance Lead of the current Specification (see section 5).

If a response is received, the PMO will circulate it to all EC members for a Final Approval Reconsideration Ballot. At the close of balloting, all ballot comments submitted by EC members will be circulated to the Expert Group by the PMO. If the reconsideration ballot fails, the JSR will be closed and the Expert Group will disband. If the JSR was a revision to an existing Specification, the Spec Lead will resume the role of Maintenance Lead of the current Specification.

4.3 FINAL RELEASE

Within 14 days of a successful Final Approval Ballot or Reconsideration Ballot, the PMO will publish on the JCP website the Specification and links to information on how to obtain the RI and TCK and will announce the availability of these materials to both Members and the public. The published TCK information must include a means for any interested party to obtain a copy of the TCK documentation at no charge. Upon Final Release, the Expert Group will have completed its work and disbands. The Spec Lead will typically be the Maintenance Lead and may call upon Expert Group members and others for aid in that role.

The Maintenance Lead must ensure that the links to the RI and TCK remain valid through the lifetime of the Specification. If the links become broken or non-functional, the Maintenance Lead will have 30 days following notification from the PMO of the invalid links to correct them. If the problems are not corrected within 30 days, the Specification must reenter the Process at the Proposed Final Draft or Maintenance Review stage as appropriate, and complete the Final Release or Maintenance Release process again. NOTE: IP rights granted when the JSR made any previous Releases are not affected by such a change in status.

5. MAINTENANCE

5.1 MAINTENANCE LEAD RESPONSIBILITIES

The Maintenance Lead Member is expected to assume long term ownership of the Specification, RI, and TCK while respecting the wishes of the Java Community Members with regard to evolution. A Maintenance Lead will therefore automatically be the Spec Lead for all significant future revisions to their Specification but will not have the exclusive right to decide when a significant revision will take place (see section 2.1.1).

The public may submit requests for clarification, interpretation, and enhancements to the Specification by logging issues through the JSR's issue-tracking mechanism.

The ML will consider all requests and will decide how and if the Specification should be updated in response. The ML is not required to do all these tasks alone, but is free to consult with the former members of the Expert Group, or any other sources, to assist with the Maintenance duties.

All changes proposed by the ML will make their way into the Specification by either the Maintenance Release process (described below) or through a new JSR. Changes appropriate for a Maintenance Release include bug-fixes, clarifications of the Specification, changes to the implementation of existing APIs, and implementation-specific enhancements. Modifications to existing APIs or the addition of new APIs should be deferred to a new JSR.

5.1.1 RELINQUISHING OWNERSHIP

If the ML decides to discontinue his or her work at any time (including discontinuing maintenance activities or declining to take on the role of Spec Lead during a significant revision initiated by a JSR) the ML, with the assistance of the PMO, should make a reasonable effort to locate another Member
who is willing to take on the task. If a replacement is identified, the PMO must initiate a Transfer Ballot within one month to enable EC members to approve the transfer of responsibilities. If the ballot succeeds, the new ML must assume his or her responsibilities within 30 days. If no replacement can be found, or if the Transfer Ballot fails, then the PMO will declare the Specification to be Dormant and no further maintenance can be carried out. No further Transfer Ballots will be initiated by the PMO unless a Member volunteers as ML, in which case the PMO will have again a month to initiate a Transfer Ballot.

5.2 MAINTENANCE REVIEW

The ML will document all proposed Specification changes in the PROPOSED section of the Change Log and then send a request to the PMO to initiate a Maintenance Review. Before the Maintenance Review begins, the ML must summarize comments received through the issue tracker and must indicate the disposition of each comment (e.g. deferred with a brief explanation, rejected with a brief explanation, included in the Change Log proposal.) This summary will be posted along with the Change Log on the JSR Page. The PMO will then make a public announcement and begin the review. The ML may choose to modify one or more of the proposed changes based on comments received during the review.

At the close of the Maintenance Review the PMO will initiate a 7-day Maintenance Review Ballot. During this ballot EC members should vote "yes" if they agree that the Maintenance Release should go ahead as the Spec Lead has proposed, and "no" if they believe that one or more of the changes proposed by the ML is inappropriate for a Maintenance Release and should be deferred to a follow-on JSR. "No" votes must be accompanied by comments in which the offending changes are identified and the reasons for the objection are explained.

If there are any "no" votes the PMO will within two weeks initiate an Item Exception Ballot for each change that EC members have objected to.

NOTE: there is no minimum number of "yes" votes required to move forward with the proposed Maintenance Release, and "no" votes cannot prevent a Release unless the ML is unwilling to defer items subsequently disallowed in an Item Exception Ballot.

At the end of Maintenance Review and any subsequent Item Exception Ballots, the ML will update the Specification, moving all approved revisions from the PROPOSED to the ACCEPTED section of the Change Log. Items voted down in an Item Exception Ballot must be moved to the DEFERRED section of the log. Other changes not incorporated into the Specification may be left in the PROPOSED section or moved to the DEFERRED section at the ML’s discretion.

5.3 MAINTENANCE RELEASE

At any time after a Maintenance Review Ballot and possible Item Exception Ballot the Spec Lead will update the Specification, RI, TCK, and Change Log as necessary and submit them to the PMO for publication in a Maintenance Release. The PMO verifies that the necessary changes have been made, and publishes the Specification, the Change Log, and pointers to the RI and TCK on the JSR Web Page.

NOTE: until the Maintenance Release stage is reached any proposed changes should be considered preliminary and subject to change, and therefore should not be implemented in shipping products.
6. EXECUTIVE COMMITTEE POLICIES AND PROCEDURES

6.1 SCOPE

The Executive Committee (EC) oversees the development and evolution of the Java technologies within the JCP.

6.2 MEMBERSHIP

There are currently two Executive Committees: one responsible for Java ME and one for Java SE and EE together. Each EC is composed of 16 Java Community Process Members. Oracle America, Inc. has a permanent voting seat on each EC. (Oracle representatives must not be members of the PMO.) The ECs are led by a non-voting Chair from the Program Management Office.

Should one Member on the EC acquire a majority ownership of another EC member, one of those members must resign his or her seat by the effective date of the acquisition.

NOTE: In the near future the EC intends to merge the two ECs, and modify the number of members and possibly their terms of office.

6.3 EC DUTIES AND RESPONSIBILITIES

1. Select JSRs for development within the JCP.
2. Review and provide guidance on proposed licensing terms of proposed JSRs.
3. Approve draft Specifications after Public Review.
4. Ensure that publicly expressed issues/concerns with a JSR are addressed by the Expert Group.
5. Give final approval to completed Specifications and their associated RIs and TCKs.
7. Review proposed maintenance revisions and possibly require some to be carried out in a new JSR.
8. Approve the transfer of maintenance duties between Members.
9. Decide when JSRs that have not made sufficient progress through the Process should be withdrawn.
10. Provide guidance to the PMO and JCP Community to promote the efficient operations of the organization and to guide the evolution of Java platforms and technologies. Such guidance may be provided by mechanisms such as publishing white papers, reports, or comments as the EC deems appropriate to express the opinions of one or both Executive Committees.

Members of the Executive Committee shall be dedicated to the principles of full and open competition, in full compliance with all applicable laws, including all antitrust laws of the United States and other nations and governmental bodies as appropriate. Violations of such laws can result in criminal as well as civil penalties for individuals as well as employers, depending on the jurisdiction. In particular, any discussion related to product pricing, methods or channels of distribution, division of markets or allocation of customers, among other subjects, should be avoided.

6.4 EC SELECTION PROCESS AND LENGTH OF TERM

EC members serve three-year terms, which are staggered so that a third of the seats are up for election each year.

On each EC there are two Ratified Seats for every Elected Seat (currently 10 Ratified Seats and 5 Elected Seats) plus one permanent seat held by Oracle America, Inc.
6.4.1 RESIGNATION OF EC SEATS
EC Members may resign their seats at any time during their term.
EC members who fail to remain Java Community Members forfeit their EC seat.
Vacated seats will be filled for the remainder of their term by a special election ballot that will be held
no later than two months after the resignation (unless the resignation is less than six months before
the next scheduled annual election ballot).

6.4.2 ELECTION PROCESSES
All JCP Members are eligible to vote in ballots for Ratified and Elected Seats subject to the provision
that if a Member has majority-ownership of, or is the employer of, one or more other Members, then
that group of Members will collectively have 1 vote, which will be cast by the person they designate to
be their representative for the ballot in question.
Annual elections for Ratified and Elected Seats will be held simultaneously. Voting in these elections
will start in the third week of October.
In the interests of promoting transparency and participation in the election process the PMO shall
organize teleconferences at which the Members have an opportunity to hear from and to ask
questions of the candidates. If a suitable venue such as JavaOne is available the PMO shall also
organize a public meeting with the same purpose.

6.4.3 SELECTION PROCESS FOR RATIFIED SEATS
Members are selected for the Ratified Seats using a ratification ballot which is carried out as follows:
• The PMO nominates Members to fill the vacant Ratified Seats with due regard for balanced
  community and regional representation.
• Eligible Members will vote to ratify each nominee over a 14-day ballot period.
• A nominee is ratified by a simple majority of those who cast a vote.
• If one or more of the nominees are not ratified by the vote, the PMO will nominate additional
  Members as needed and hold additional ratification ballots until the vacant seats are filled.

6.4.4 SELECTION PROCESS FOR ELECTED SEATS
Members are selected for the Elected Seats using an open election process that is carried out as
follows:
• Four weeks before the voting period the PMO will post on the public JCP site a complete
description of all materials that will be provided to voters (e.g. any candidate statements,
position papers, candidate forums, etc. that will be posted during the election).
• Four weeks before the ballot period the PMO will accept nominations from the Community for a
period of 14 days. Any Member may nominate themselves except that employees of JCP
Members cannot run for Elected Seats as individuals and the PMO shall reject such
nominations.
• Eligible Members may vote for as many nominees as there are vacant Elected Seats over a
14-day ballot period.
• The nominees who receive the most votes will fill the vacant Elected Seats.
• If there is only one nominee for an Elected Seat voters will be given the opportunity to vote
“yes” or “no” for that candidate. To be elected, the candidate must obtain a simple majority.
• Ties will be decided by following the procedure defined in http://www.ietf.org/rfc/rfc2777.txt and
using the calculator provided by W3C in http://www.w3.org/2001/05/rfc2777.
7. EXECUTIVE COMMITTEE JSR VOTING RULES

1. All JSR ballots will be conducted electronically and the results made public.
2. JSR balloting periods last 14 days except where noted in this document.
3. EC Members may cast three types of votes: "yes", "no" and "abstain". Explicit abstentions are strongly discouraged. In the extreme and most undesirable case, an EC Member may not vote at all.
4. Any vote may be accompanied by comments. When comments include specific suggestions for change these should be logged in the issue-tracking mechanism to ensure that they are addressed.
5. Only "yes" and "no" votes count in determining the result of a JSR ballot.
6. JSR ballots are approved if (a) a majority of the votes cast are "yes" votes, and (b) a minimum of 5 "yes" votes are cast. Ballots are otherwise rejected.
7. Ballots to approve UJSRs that define the initial version of a new Platform Edition Specifications or JSRs that propose changes to the Java language are approved if (a) at least a two-thirds majority of the votes cast are "yes" votes, (b) a minimum of 5 "yes" votes are cast, and (c) Oracle casts one of the "yes" votes. Ballots are otherwise rejected.
8. Maintenance Review ballots are advisory only, as indicated in section 5.1.
9. "No" votes must be accompanied by references to the issue tracker items (if any) that if resolved would persuade the member to change the vote to "yes".
10. It is highly recommended that abstentions be accompanied by comments.
11. When a failed JSR ballot results in the closing of a JSR, at least 1 month must pass before the JSR can be reinitiated.
12. EC ballots to override a first-level decision on a TCK challenge are approved if (a) at least a two-thirds majority of the votes cast are "yes" votes, and (b) a minimum of 5 "yes" votes are cast.
13. An item listed in an Item Exception Ballot will be deferred to the next JSR if at least one-third of the EC Members cast "no" votes for that item.
14. When more than one EC is voting on any JSR ballot, the ballot will be approved only if each EC approves it separately.

IV APPENDIX A: REVISING THE JCP AND THE JSPA

Revisions to the Java Community Process (this document) and the Java Specification Participation Agreement will be carried out using the Java Community Process with the following changes:

1. Only EC members can initiate a JSR to revise one of these documents.
2. Each EC must approve the JSR.
3. The Expert Group consists of both ECs with a member of the PMO as Spec Lead.
4. There is no Reference Implementation or Technology Compatibility Kit to be delivered and no TCK appeals process to be defined.