

Returning C++26 for the Evaluation It Skipped



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Abstract

Contracts entered C++26 through procedural moves that broke no rule yet left no record of having reconciled the sustained technical opposition to the design.

WG21 decides by consensus, which ISO defines as the reconciliation of conflicting arguments rather than a count of votes. The Contracts proposal advanced via a roadmap for which forward motion was the default. The Technical Specification path was closed, and papers were merged faster than many members could review them. The accumulation of incremental polls was treated as a mandate that no single vote had granted. When the design advanced over a sustained Strongly Against minority, the poll and its recorded result, "Consensus," were all that entered the record. No record indicates that the opposition had been answered, and the papers that serve as the history do not always match the meeting record.

None of this broke a rule, so the working group has no way to catch it from inside: A process built to produce consensus on time will produce it, whether or not the underlying design was audited. The one audit that ISO places outside the working group is the National Body ballot, and the C++ Alliance's position is that the National Bodies vote No on the C++26 DIS ballot, with technical comments, and return the draft for the evaluation it skipped, at the cost of one cycle. The same procedural maneuvers are being practiced again on a successor proposal, so the ballot check should be exercised now rather than deferred to a later cycle.

The C++ Alliance maintains a governance research program that analyzes the effectiveness of WG21 C++ standardization: its procedures, its consensus practices, and its output. When the Alliance publishes an official position on committee matters, that position reflects the findings of this research program. It does not represent a poll of Alliance staff, nor does it bind the personal views of any engineer, contractor, or board member.

The authors of P4238R1 request no floor time, no poll, and no committee action; they state a position and offer two recommendations to the National Bodies and the convener.

Revision History

R0

- Initial version.

R1

- Added a Disclosure section recording each author's interest, a References section, and inline citations throughout; replaced wg21.link URLs with canonical URLs.
- Corrected several poll tallies, dates, and attribution details against the public record, and re-attributed quotations to the polls they addressed.
- Extended the account to the June 2026 Brno session and incorporated the SG21 chair's published account of the period (P4381R0).
- Clarified the ballot criteria, the cost of returning the draft, and the status of the comment disposition record.
- Added the Ballot Compression analysis of SD-4's ballot guidance in support of the second recommendation, and contemporaneous quotations from the meeting record to Section 4.

1. Introduction: The Alliance Position

The C++ Alliance's position is that the National Bodies should vote No, with technical comments, on the C++26 DIS ballot.

ISO/IEC Directives Part 1, clause 2.6.2 requires a negative vote to state its technical reasons, clause 2.6.3 sets the approval criteria, and clause 2.6.4 returns a draft that fails them to the committee, which would allow the Contracts design to receive the technical evaluation it skipped. The cost of that return is one ballot cycle: a revised draft and a second vote. That is a delay of months; it does not push the release back by years. The Alliance further recommends that the convener state that the committee's officers will not penalize any delegate or National Body for casting that vote, because SD-4's ballot guidance attaches a social penalty to that vote that the Directives do not (Section 5).

The case for a No vote rests on two independent grounds. A National Body persuaded only that the Contracts design is not ready, based on the technical record alone and setting aside any account of how the design advanced, has sufficient basis to vote No. The procedural findings that follow explain how a design facing sustained technical opposition reached the ballot without that opposition being reconciled; they strengthen the case but are not a precondition for it.

This paper first states the model of consensus determination it uses (Section 2), and then contributes

- an account of the procedural path by which Contracts entered C++26 (Section 3);
- an analysis of how vote counts came to stand in for the chair's reasoned determination (Section 4); and
- the constitutional basis for the National Body ballot as the remaining external check (Section 5).

The paper assumes that the procedural moves it describes were compliant with SD-4 and the ISO Directives. It further assumes that the poll tallies it cites are accurate as recorded.

2. How Consensus Is Supposed to Work

WG21 decides by consensus, not by majority rule. The chair, a subject-matter expert, weighs the arguments of every side.

Where those arguments can be reconciled, the chair reconciles them. Where the arguments cannot be reconciled, the chair is the decision-maker and may decide against the numerical majority. This empowerment is deliberate: the electronic straw poll proposal written by the LEWG and EWG chairs and thirteen other members states that "the chair's determination of consensus is authoritative, not the straw poll" and that "we make decisions by consensus, not majority" (P2195R2^[1]). ISO defines consensus as a process that takes all views into account and reconciles conflicting arguments (ISO/IEC Directives Part 1, clause 2.5.6). The chair's authority is broad by design, and rightly so; a committee that decides technical questions by votes rather than expert judgment would be technically unsound.

The counterpart of that authority is a recorded reason for decisions. Authority to declare consensus over a sustained objection is justifiable only if the chair states why such a decision was reached. As the SG21 chair for the period examined here puts it, "Chairing a group does not require endorsing every paper it forwards. It does require that serious objections be visible to the people who are being asked to decide" (P4381R0^[2]). This record of decisions and the reasons for them allows a body outside the working group to understand how a decision was made. ISO builds this review into the process by directing the leadership to register, at the committee-draft stage, any sustained opposition and to resolve it in good faith. At the ballot, the National Bodies can then read the result and judge whether the call was sound. The authority to decide, a recorded rationale

for that decision, and external review of that rationale and decision compose one mechanism; remove any part and the rest does not function as intended.

Measured against that model, the record shows a process that retained the authority but omitted the accountability: consensus was declared from vote ratios over sustained opposition, with no rationale recorded for review. The committee substituted polls for the chair's reasoned determination. The switch to polling alone was not explicit; reconciliation simply faded from practice. The remedy is to restore the review that always accompanied the chair's power (Section 5).

3. The Procedural Path of P2900

Every move in this section was available within SD-4 and the ISO Directives; no rule was broken. The Contracts authors' own published rationale, P2899, ^[3] and the recorded poll results depict P2900's path as follows.

The Consensus Ratchet. In November 2022, SG21 adopted a roadmap for a Contracts MVP targeting C++26, recorded in P2899 ^[3] with the clause that the roadmap will "need consensus in SG21 to revise" (Kona, 2022-11-12: 10/10/5/1/1). From then on forward motion was the default: any proposal to slow down was itself a revision of the roadmap, subject to the same consensus determination the chair controlled, and the direction of travel was fixed before the design was settled. Under that roadmap P2900 advanced through a long series of incremental polls, no one of them decisive. Each merged change became the settled baseline upon which the next poll was built. P2899 records over two hundred such polls, and the 63 papers in ten months counted by P3443R0 ^[4] fed that accumulation, at a pace the SG21 chair now writes "made it impossible for many key contributors (such as Bjarne) to participate," adding that he heard the complaints and did not change course (P4381R0 ^[2]). No poll ever asked the room to approve the design as a whole; approval was assembled one seemingly reversible increment at a time, until the accumulation of polls was itself treated as a mandate. The polls that did forward the design were themselves vote counts recorded as consensus over a standing minority: EWG sent P2900R11 to CWG for C++26 (Wroclaw, 2024-11-19: 25/17/0/3/12, cplusplus/papers #1648 ^[36]), and LEWG forwarded it the same week (Wroclaw, 2024-11-21: 23/9/1/0/5), each with a Strongly Against bloc (12 and 5, respectively) and neither recording a finding that the opposition had been answered. The roadmap's co-author has since written that "the schedule itself became part of the next failure mode" (P4381R0 ^[2]).

The Reversed Burden. Once the incremental approvals had accumulated, removing the feature required a fresh consensus the objectors could not assemble. The motion to remove P2900 from C++26 failed in EWG (Hagenberg, 2025-02-11: 9/8/3/19/41, recorded as "Consensus against" cplusplus/papers #1648 ^[36]). Seventeen delegates voted to remove a design that had been forwarded three months earlier over twelve Strongly Against, and the objectors now needed a consensus of their own. Adding Contracts to the standard and removing it from the standard both require consensus, and every accumulated approval shifted the burden further onto whoever wished to stop it, independent of the technical merits.

The Closed TS Path. A Technical Specification would have let implementations ship Contracts and gather field experience before the design entered the International Standard, and SG21 twice declined that path (SG21, 2022-12-01: 15 for, 3 neutral, 0 against, regarding following the roadmap rather than pursuing a TS; SG21, 2024-05-30: 1/3/3/12/10 against a TS). At the 2024 session, the single paper proposing to pursue a TS was answered by two papers from Contracts authors scheduled against it. P3443R0 ^[4] records what SG21 had before it that day: The TS paper P3265R2 was published on 2024-05-28 and on

the agenda on 2024-05-30, two days later, while the Contracts authors' responses P3269R0 and P3276R0 had circulated for nine and thirteen days. The motion was put as a motion for the TS and lost ([cplusplus/papers #1931](#).^[5]) That compression was not peculiar to this session: Across 2024, P3443R0 finds that 56.1% of SG21's binding polls were taken on papers published less than a week earlier. With the TS route closed, the only remaining path was the International Standard pipeline, where the impending C++26 deadline supplied the pressure that later complaints described. Gabriel Dos Reis, who favored more field experience, wrote that "rushing the current P2900 into the IS is among the worse mistakes we could make, ranking way ahead of a TS that permits evaluation of the various conjectures in P2900" ([SG21 reflector, 2024-05-23](#)).^[^reflector] Co-author John Spicer, who chaired SG21 through this period, has concluded that "P2900 doesn't make anything better, and makes quite a lot worse" ([ext reflector, 2025-10-24](#)).

[^reflector]: All reflector comments and quotations from meeting notes are shared with their author's permission.

Rebuttal by Volume. Objections to P2900 were met with rebuttals, authored by the same people who controlled scheduling, longer than the objections. [P3327R0](#)^[6] took up function-pointer concerns as a design-space exploration that, by its own account, gives no answer, and the eighteen-page [P3591R0](#)^[7] (by Berne and Doumler) and the forty-two-page, twenty-two-author [P3846R0](#)^[8] answered design and national-body concerns. Those two papers run to sixty pages between them, against the seven pages of [P3173R0](#),^[9] [P3506R0](#),^[10] and [P3573R0](#)^[11] combined, a ratio of more than eight to one; the shorter of the two rebuttals is six times the longest of the three objections. When these papers were presented alongside the objection and the question was then put to a vote, what settled it was volume and authorship rather than any recorded reconciliation. The companion paper [P4272R0](#)^[30] assesses the longer rebuttal response by response and finds its responses largely supported by the record, yet sixteen of the eighteen objections still unsettled. It also finds no attempt at reconciliation anywhere on the record: no entry naming which objector sustained which objection, no finding in words beside any tally, and no disposition of comments published for the committee draft. A future response paper can settle objections; only the committee can supply that record. The record has no shortage of argument; what it lacks is closure. Stroustrup, reviewing the virtual-function record in 2026, wrote that "the opposition and the opposing arguments seem drowned in words" ([ext reflector, 2026-06-12](#)). The SG21 chair records the same pattern from the receiving end: "The paper authors gave lip-service to my concerns and then undermined them when the papers that were intended to address those concerns came up for discussion" ([P4381R0](#)^[2]). Co-author Ville Voutilainen has described the pattern as "multiple other such rebuttal papers that end up being dismissal papers" ([ext reflector, 2025-02-03](#)).

Contradictory Consensus. The treatment of contracts on virtual functions was decided and reversed repeatedly. EWG merged the caller/callee model ([P3097](#)^[12]) into [P2900](#)^[13] (St. Louis EWG, 2024-06-28: 18/15/5/1/2, [cplusplus/papers #1822](#)^[14]), then removed virtual functions again (Hagenberg EWG, 2025-02-11: 20/24/13/14/2, [cplusplus/papers #1648](#)^[36]), and then forwarded a revived model for C++29 (Brno EWG, 2026-06: P3097R2, 8/14/4/1/5^[14]). Each poll was recorded as consensus, yet the first two were opposites and the third revived what the second had removed. Each result recorded what the room decided on a given day rather than a stable technical position. C++26 does not include contracts on virtual functions, and their merits are not at issue here; what the record shows is consensus declared for a decision, its reversal, and its revival within two years. Bjarne Stroustrup, reviewing the model revived at Brno, wrote that it "is novel, unique, untried, untested, and unimplemented. That alone should disqualify it from inclusion in an international standard" ([ext reflector, 2026-06-12](#)).

4. When Votes Replace Judgment

Section 2 described the usual ISO mechanism: the chair's reasoned determination, recorded, and open to review at the ballot. In the P2900 record, that protocol was only partly followed. The determinations were made, but the reasoning behind them was not written down; the votes were labeled as consensus, and the votes are all that survives. Yet the missing rationale violated no requirement.

The reasons were never recorded. At the subgroup level, where these determinations were made, [SD-4](#) leaves the determination of consensus to the chair and requires no record of the reasons for it. A subgroup chair who declared consensus over sustained opposition violated no rule. But the reconciliation the model calls for is missing from the record: Consensus was declared over sustained Strongly Against blocs with only the tally recorded and no finding that the opposition was addressed. Recording that finding is best practice, not a subgroup requirement, so the omitted rationale cannot be corrected from inside the process. Vinnie Falco, a co-author of this paper, wrote of the Brno poll on contracts for virtual functions (22 for, 6 against): "The chair may have excellent reasons for determining consensus after a 3.7:1 poll, but those reasons aren't documented. The number stands alone as the artifact" ([ext reflector, 2026-06-12](#)).

The record shows the same at the moments of decision. Twelve days before the Wroclaw poll, an SG21 telecon poll of 2/5/7/1/2 was recorded as "Consensus but less than Poll 9"; co-author Ville Voutilainen said "There is no consensus," and co-author John Spicer, chairing, answered "Chairs have latitude. Strictly based on SD4 this is consensus" (SG21 telecon, November 2024). The chair was right that SD-4 permitted the call; the objector was right that nothing required it. At Wroclaw, after EWG polled one of the two objections the SG21 chairs had named as sustained, Gabriel Dos Reis asked the chair to "add more context to the result statement." The recorded result is "consensus against, but P2900 would be in danger of failure in plenary," and that clause is all the context the record holds (EWG, Wroclaw, 2024-11-19).^[^reflector] The plenary that adopted P2900R14 into the working draft is minuted in full as "No discussion. Objection to unanimous consent," followed by the tally: 100 in favor, 14 opposed, 12 abstaining ([N5007](#)^[34]). The fourteen opposed was the largest opposition to any motion at that meeting; the next largest, eleven, was against P2786, the feature removed after National Body comments.

Consensus is not a majority vote. Consensus, as Section 2 described, is reached when objections are resolved. The IETF states the same for its own process ([RFC 7282](#)). In the Contracts and P3100 records, consensus was instead called from vote ratios over sustained Strongly Against minorities. Co-author J. Daniel García states the distinction plainly: "There is a difference between consensus and majority that should not be ignored" ([SG21 reflector, 2025-10-17](#)). Bjarne Stroustrup, reviewing the Brno poll that forwarded P3097R2 (contracts on virtual functions) for C++29 at 8/14/4/1/5, wrote that he "would not have called consensus": "5 strongly against is significant, and the opposition has been sustained" ([ext reflector, 2026-06-12](#)). The same practice that moved P2900 into C++26 governs the C++29 extension already in flight.

Poll Curation. The record the Contracts authors publish does not always match the record of the meeting. The committee's public poll record marked all ten Tokyo EWG polls on P2900R6 as "not meant to be binding, but rather to offer a first set of feedback to the authors" and recorded no result for any of them; Poll 8 is one (Tokyo EWG, 2024-03-20: 17/12/12/12/5, [cplusplus/papers #1648](#)^[15]). The Contracts authors' rationale paper reproduces that poll, without the qualification, beside polls that have a recorded result, such as "Result: Consensus against" ([P2899R1](#)^[3]; the same tally is also printed in [P3197R0](#)^[16]). From the published Contracts papers alone, a reader cannot determine which polls were binding and which the committee had explicitly set aside as nonbinding feedback.

The consequence of inaction: P3100. The clearest sign that the working group cannot correct this pattern from inside the process is that the same maneuvers are recurring now, unchallenged: forward motion by default, accumulated incremental polls taken as a mandate, calendar pressure, and rebuttal by volume. P3100 is not part of C++26, and no National Body action on it is requested here; it is cited only as evidence that the pattern of Section 3 is a repeatable method.

Timur Doumler and Joshua Berne, authors of the Contracts rationale [P2899R1](#) ^[3] and [P2900R14](#), ^[13] are the authors of [P3100R6](#). ^[17] The method has been sharpened; EWG voted to review the paper one clause at a time in telecons (Sofia, 2025-06-20: 15/27/2/0/0, "per-clause approval ... in telecons" [cplusplus/papers #1901](#) ^[18]). When the poll to forward P3100R5 to CWG for C++29 failed (Croydon EWG, 2026-03-26: 1/17/10/18/14, recorded as "not consensus" alongside the same-day 39/19/5/2/1 poll to continue case-by-case review, both on [cplusplus/papers #1901](#) ^[19]), the paper's own published history does not record the adverse result: [P3100R8](#) ^[20] includes only the 39/19/5/2/1 tally and describes the session as EWG having "encouraged this direction," and the omission persists unchanged through R6, R7 and R8. Once a design has been moved by these means over sustained opposition and no one has pushed back, the method becomes precedent, and a precedent that worked is used again. No rules were broken, and in such cases, only pressure from outside the process can restore established norms.

5. The Remedy: The National Body Ballot

Determinations that were never recorded or published can be scrutinized only from outside the working group, and the National Bodies at the ballot are that audience. A chair who can declare consensus over sustained opposition has every reason to reconcile in good faith knowing the rationale will be read and weighed at the ballot; remove that oversight and the incentive disappears. The position and recommendations offered here restore the intended check.

The Subtractive Last Line of Defense. The National Body ballot is the only mechanism in the ISO system that can remove a feature after a working group has adopted it. Sitting outside the working group by design, the National Body is a counterbalance so that the people closest to the work are not the only ones who check it. A negative vote accompanied by technical comments is unconditionally valid. It is also the one stage at which the Reversed Burden of Section 3 does not apply: returning the draft does not require the objectors to assemble a fresh consensus inside the working group. Approval of the draft requires both a two-thirds majority of P-member votes in favor and no more than one quarter of all votes cast in opposition; failing either returns the document ([ISO/IEC Directives Part 1, clauses 2.6.2, 2.6.3, 2.6.4, 2.6.5](#)).

The power is real and recent; the trivial-relocation feature ([P2786](#) ^[21]) was removed from C++26 after National Bodies objected. [P4043R0](#) ^[22] counts more than twenty National Body comments on Contracts at the Committee Draft stage, and the ballot record itself ([N5028](#) ^[23]) contains at least seven, from Spain, the United States, France, and Finland, asking that the feature be removed from C++26 or deferred. Deferral under National Body pressure is ordinary practice in C++ itself. In 2008, the head of the UK delegation declared, as minuted, that "the BSI intends to vote 'No' on any C++0x FCD ballot that contains concepts and that is issued within the next two years" ([N2697](#) ^[24]), and concepts were removed from C++0x the following year. The committee has applied the same norm to contracts before: The 2019 removal paper, co-authored by two authors of this paper, stated that "if there is not consensus that a feature is in acceptable form when the train is about to depart that the feature must be taken off the train" ([P1823R0](#) ^[25]), and contracts left C++20. In 2006, National Body opposition from the UK

and Germany defeated the C++/CLI fast-track ballot outright: 11 of 20 P-members voted in favor, short of the required two-thirds, and 9 of 26 votes cast were negative (Weir, 2007^[28]). A National Body that votes No with technical comments performs the oversight function for which the ballot exists. J. Daniel García has warned that "there is a serious risk that for C++26 we get NB voting abstention or even against the IS," which "would be the first time for ISO 14882" (ext reflector, 2026-03-08).

The return threshold is not the only reason to cast the No vote. Every C++ approval ballot from the C++11 FDIS through the C++20 DIS passed unanimously by the convener's public account, and the C++23 DIS drew only editorial comments (N4965^[37]); the C++26 Committee Draft consultation, by contrast, drew comments from nineteen National Bodies, including the removal requests noted above (N5028^[23]). A negative vote with technical comments, even short of the one-quarter that returns the draft, is a determination the committee cannot set aside; clause 2.6.5 directs that "every attempt shall be made to resolve negative votes," which places the objection and the committee's answer on the permanent record and lowers the cost of the same scrutiny in later cycles. Nor can a returned draft simply stall: If two or more P-members disagree with the Chair's decision within eight weeks of the dispatch of the ballot report, "the draft shall be discussed at a meeting" (clause 2.6.5). An indefinite impasse is reachable only if WG21 declines what the Directives require of it. The return does not itself settle the objections P4272R0^[30] finds open; it moves them to the level where the Directives' resolution obligation applies and a disposition of comments must be produced, which is the record the working-group stage did not leave.

The technical comments attached to such a vote stand on their own. Finland's Committee Draft comment and co-author Ville Voutilainen both pressed the absence of deployment experience ("Bring me deployment experience. Then we have a basis for voting" ext reflector, 2026-07-17). The central gap is conceded in the design's own defense. P3846R1, written largely by the designers of P2900, states that non-ignorable checks "serve a fundamentally different need: providing a guarantee that certain conditions are always verified" and that such guarantees "can be expressed today with ordinary control flow (e.g., if statements)" (P3846R1^[29]). The SG21 chair reports that several large C++ organizations, including those associated with the contracts design, cannot use the feature in its current form (P4381R0^[2]). Either objection is worthy of a No vote on its own, regardless of the procedural concerns. Returning the draft targets one contested feature at the cost of a single cycle; it does not reject reflection, execution, or the rest of C++26, which continue on their published paths.

The comment stage is not a substitute for the vote. The formal disposition of comments and its per-comment tracker are not public. WG21 published a disposition-of-comments document as an N-document for the C++14, C++17, and C++20 Committee Draft ballots; it published none for C++23, and as of the August 2026 mailing, none for C++26. The Contracts comments that were addressed at all were dispositioned by poll rather than by a recorded reconciliation. The public tracker entry for P4043R0,^[22] the paper asking whether Contracts were ready to ship, closes with one sentence: "Contracts were confirmed in EWG Croydon to stay in the CD" (cplusplus/papers #2673^[35]). P4044R0,^[26] the response paper to Romania's comment RO 2-056, failed (Croydon EWG, 2026-03-23, poll "Forward P4044R0 to CWG for inclusion in C++26 as a response to RO 2-056": 3/4/0/22/33, not consensus, cplusplus/papers #2674^[27]). A comment stage whose dispositions are neither published nor reconciled, only polled, has produced no auditable record; if National Body comments were answered by default with no change, the ballot would be a rubber stamp rather than a review. Because the comment stage was resolved this way, the ballot vote is the check that remains.

Ballot Compression. The Directives ask a National Body one question. Clause 2.6.2: "If a National Body finds an enquiry draft unacceptable, it shall vote negatively and state the reasons by submitting comments of a technical nature." SD-4^[31] asks a different one: a Disapproval vote "should be used only to express that the national body does not want the work (TS or IS) to progress at all in any form," so that "No should mean 'No, we don't want this TS or IS at all.'" The first asks for a judgment about a draft; the second, about whether C++26 should exist. SD-4 undertakes to "call out with 'ISO' or similar" wherever it states an ISO rule; this passage is not so marked, and the Directives contain no counterpart to it. The Directives are explicit on the boundary: "the concept of sustained opposition is not applicable in the context of member body votes on enquiry or approval ballots since these are subject to the applicable voting rules" (2.5.6). The ballot is such a vote, and SD-4's overlay of the working group's consensus obligations onto it has no basis in the text. The one vote ISO gives a National Body for saying "not this draft" has been recast as a vote to abolish the project, leaving a choice between approving the draft as it stands and being the country that killed C++26.

SD-4 then constrains the reasons. A No vote must state technical reasons (2.6.2). SD-4 declares a comment requesting "a change that was already considered and decided otherwise at a WG21 meeting" to be "out of harmony with the ISO Code of Conduct's commitment to 'accept group decisions.'" Every substantive comment on Contracts requests such a change, because WG21 polled every one of them. The Directives say the opposite: "there are no constraints on the types of comments that national bodies may submit with their votes" (2.6.2). They also close the workaround SD-4 recommends, since a National Body "shall not cast a positive vote which is conditional on the acceptance of modifications" (2.6.2), and a Yes vote with required changes attached is that vote relabeled. And they make the No matter in exactly the way SD-4 says it does not: comments on a positive vote are handled as the leadership decides, while for negative votes "every attempt shall be made to resolve" them (2.6.5). SD-4 calls that distinction "ineffective." SD-4 does not prohibit the vote; it disqualifies the reasons a National Body could give for it.

SD-4 then attaches a cost. Escalation is "inappropriate" when withheld "until plenary session or formal ballot time," and a National Body that escalates regularly "erodes their credibility." The Directives attach no such cost to an unconditional ballot right (clauses 1.7.1, 2.6.2). SD-4's own exception permits "a No With Comments" from a National Body that has "informed the committee all along of the strength of their feeling," and that condition is met: P3173R0^[9] in early 2024, P3573R0^[11] with nine authors in January 2025, and the seven Committee Draft comments noted above. Nor is SD-4 merely descriptive. It is cited as procedural authority in P3276R0^[32] against a TS, in P3846R1^[29] to rule a concern out of bounds because "we do not significantly delay progress on concrete proposals," and in P3912R0^[33] against new syntax during ballot resolution. Each of those papers advances P2900; the authors find no paper opposing it that cites SD-4 the same way.

Removing the Penalty for Voting No. A right with a cost attached is used least when it is needed most, and the convener has the standing to remove that cost. The C++ Alliance recommends that the convener publicly state that the committee's officers will not penalize a delegate or a National Body for voting No. If the cost SD-4 names does not exist, the statement is free. This is a suggestion the committee may adopt without floor time; it is not a demand.

6. Conclusion

The set of procedural moves that brought Contracts into C++26 is now doing the same for P3100, and each of them was within the rules. A process that followed every rule can still deliver a feature with no record of having reconciled its sustained opposition. The working group cannot detect the missing record because nothing in its own rules requires the reconciliation to be written down. The National Body ballot is the one review ISO placed outside the working group to audit this kind of case.

The question at the ballot is not whether C++26 ships but whether sustained opposition from senior members with serious technical objections is to be overridden by numbers as a matter of course. A Yes vote ratifies the process that produced this draft and makes it the norm; the next such objection is then answered with "we voted, you lost," which is the one answer [SD-4](#) ^[31] itself says the majority may not give.

The C++ Alliance's position is that the National Bodies return C++26, at the cost of a single cycle, to complete the technical evaluation it has not yet received. The return affects one contested feature; reflection, execution, and the rest of the standard would continue on their published paths. The Alliance further recommends that the convener state plainly that no officer will penalize a delegate or a National Body for a No vote, so that the check on which the system depends is available in practice. Acting on these two suggestions will give C++ a feature that has been evaluated before implementations ship it and its ABI commitments lock in. If the draft is instead rubber-stamped, C++ will pay for any defect that consensus procedure alone could not surface.

Disclosure

The authors provide information and serve at the pleasure of the committee.

Co-author John Spicer chaired SG21 during the period this paper examines and has published his own account of that chairing and its failures ([P4381R0](#) ^[2]). Co-author Ville Voutilainen participated in the P2900 polls this paper cites. Co-author Vinnie Falco is president of the C++ Alliance, whose position the paper states. Co-author José Daniel García Sánchez is Head of Delegation for Spain.

This paper was prepared with the assistance of generative tools. The authors are responsible for its content.

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- [1] [P2195R2](#) - "Electronic Straw Polls" (Bryce Adelstein Leibach et al., 2021).
- [2] [P4381R0](#) - "Chairing SG21 and then objecting to Contracts" (John Spicer, 2026).
- [3] [P2899R1](#) - "Contracts for C++ - Rationale" (Joshua Berne, Timur Doumler, Rostislav Khlebnikov, Andrzej Krzemiński, 2025).
- [4] [P3443R0](#) - "Reflection on SG21's 2024 Process" (Ran Regev, 2024).
- [5] [cplusplus/papers issue 1931](#) - SG21 telecon poll record of 2024-05-30 on the Contracts MVP ship vehicle, posted by the SG21 assistant chair, 2024-06-20.

- [6] [P3327R0](#) - "Contract assertions on function pointers" (Timur Doumler, 2024).
- [7] [P3591R0](#) - "Contextualizing Contracts Concerns" (Joshua Berne, Timur Doumler, 2025).
- [8] [P3846R0](#) - "C++26 Contract Assertions, Reasserted" (Timur Doumler, Joshua Berne, et al., 2025).
- [9] [P3173R0](#) - "P2900R6 may be minimal, but it is not viable" (Gabriel Dos Reis, 2024).
- [10] [P3506R0](#) - "P2900 Is Still not Ready for C++26" (Gabriel Dos Reis, 2025).
- [11] [P3573R0](#) - "Contract concerns" (Michael Hava, J. Daniel García Sánchez, Ran Regev, Gabriel Dos Reis, John Spicer, Bjarne Stroustrup, J.C. van Winkel, Daveed Vandevoorde, Ville Voutilainen, 2025).
- [12] [P3097R0](#) - "Contracts for C++: Support for Virtual Functions" (Timur Doumler, Joshua Berne, Gašper Ažman, 2024).
- [13] [P2900R14](#) - "Contracts for C++" (Joshua Berne, Timur Doumler, Andrzej Krzemieński, 2025).
- [14] [cplusplus/papers issue 1822](#) - EWG poll records for P3097 (St. Louis 2024-06-28, 18/15/5/1/2; Brno 2026-06-10, 8/14/4/1/5).
- [15] [cplusplus/papers issue 1648](#) - EWG Tokyo poll record for P2900R6, posted by an EWG vice-chair, 2024-03-20.
- [16] [P3197R0](#) - "A response to the Tokyo EWG polls on the Contracts MVP" (Timur Doumler, John Spicer, 2024).
- [17] [P3100R6](#) - "A framework for systematically addressing undefined behaviour in the C++ Standard" (Timur Doumler, Joshua Berne, 2026).
- [18] [cplusplus/papers issue 1901](#) - EWG Sofia poll record for P3100R2, posted by an EWG vice-chair, 2025-06-20.
- [19] [cplusplus/papers issue 1901](#) - EWG Croydon poll record for P3100R5, both polls, posted by an EWG vice-chair, 2026-03-26.
- [20] [P3100R8](#) - "A framework for systematically addressing undefined behaviour in the C++ Standard" (Timur Doumler, Joshua Berne, 2026).
- [21] [P2786R13](#) - "Trivial Relocatability For C++26" (Alisdair Meredith, Mungo Gill, Joshua Berne, Corentin Jabot, Pablo Halpern, Lori Hughes, 2025).
- [22] [P4043R0](#) - "Are C++ Contracts Ready to Ship in C++26?" (Darius Neațu, 2026).
- [23] [N5028](#) - "C++26 CD summary of voting and comments" (Herb Sutter, 2025).
- [24] [N2697](#) - "Minutes of WG21 Meeting, June 9-15, 2008" (Robert Klarer, 2008).
- [25] [P1823R0](#) - "Remove Contracts from C++20" (Nicolai Josuttis, Ville Voutilainen, Roger Orr, Daveed Vandevoorde, John Spicer, Christopher Di Bella, 2019).
- [26] [P4044R0](#) - "Just pre!. Mandatory precondition for contracts" (Lucian Radu Teodorescu, 2026).
- [27] [cplusplus/papers issue 2674](#) - EWG Croydon poll record for P4044R0, posted by an EWG vice-chair, 2026-03-23.

- [28] **Rob Weir**, "**Fast Track to Wrong Direction**" - vote figures for the 2006 C++/CLI (DIS 26926) fast-track ballot, 2007.
- [29] **P3846R1** - "C++26 Contract Assertions, Reasserted" (Timur Doumler, Joshua Berne, et al., 2026). Title page dated 2025-11-03; published in the April 2026 mailing.
- [30] **P4272R0** - "Addressed but Unresolved: P3846R1's Eighteen Responses on C++26 Contract Assertions" (Vinnie Falco, 2026). Companion paper in the same mailing.
- [31] **SD-4** - "WG21 Practices and Procedures" (Guy Davidson, Convenor, standing document, revised 2026-05-11).
- [32] **P3276R0** - "P2900 Is Superior to a Contracts TS" (Joshua Berne, Steve Downey, Jake Fevold, Mungo Gill, Rostislav Khlebnikov, John Lakos, Alisdair Meredith, 2024).
- [33] **P3912R0** - "Design considerations for always-enforced contract assertions" (Timur Doumler, Joshua Berne, Gašper Ažman, Oliver Rosten, Lisa Lippincott, Peter Bindels, 2025).
- [34] **N5007** - "WG21 02/2025 Hagenberg Minutes of Meeting" (Nina Ranns, 2025).
- [35] **cplusplus/papers issue 2673** - EWG tracker entry for P4043R0, closed by an EWG vice-chair, 2026-03-23.
- [36] **cplusplus/papers issue 1648** - EWG poll records for P2900 (Wroclaw 2024-11-19, 25/17/0/3/12; Hagenberg 2025-02-11, 9/8/3/19/41 and 20/24/13/14/2), posted by the EWG chair.
- [37] **N4965** - "Editors' Report - Programming Languages - C++" (Thomas Köppe et al., 2023). Records that "All comments on the ballot were editorial" for the C++23 DIS.