### Proposal for C23
### WG14 N 3112

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<td><strong>Author, affiliation:</strong></td>
<td>Robert C. Seacord, Woven Planet</td>
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<td><strong>Date:</strong></td>
<td>2023-2-13</td>
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Compatible Types

Reply-to: Robert C. Seacord (rcseacord@gmail.com)
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Reference Document: N 3019
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Change Log
2023-2-17:

• Initial version

1.0 Introduction and Rationale

The aliasing rules Subclause 6.5, paragraph 7 allows “the signed or unsigned type” to alias another object but fails to mention type compatibility. Consequently, it is unclear if a compatible enumeration type can alias such an object.

2.0 Proposed Solution

The proposed solution is to allow compatible types to alias in all cases.

3.0 Wording

Subclause 6.5, “Expressions”, paragraph 7:

Change:

— a type that is the signed or unsigned type corresponding to the effective type of the object,

— a type that is the signed or unsigned type corresponding to a qualified version of the effective type of the object,

to:

— the signed or unsigned type compatible with the underlying type of the effective type of the object,

— the signed or unsigned type compatible with a qualified version of the underlying type of the effective type of the object,

Make the following changes to subclause 7.16.1.1, “The va_arg macro”, paragraph 2:

— one type is compatible with a signed integer type, the other type is compatible with the corresponding unsigned integer type, and the value is representable in both types;

4.0 Acknowledgements

I would like to recognize the following people for their help with this work: Martin Uecker, Jens Gustedt, and Joseph Myers.

5.0 References

None.