

Nested Namespace Definition (rev 1)

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Reply-to: Andrew Tomazos<andrewtomazos@gmail.com>, Robert Kawulak <Robert.Kawulak@gmail.com>

Summary

EWG did meet and discuss N4026 in Rapperswil, including each of the open issues. Several different votes were taken. By far the strongest consensus was for just the basic facility with no attributes, no aliases and no inline:

SF: 11 F: 5 N: 3 A: 0 SA: 0

Furthermore, if it is implemented in this configuration, these extra features can always be added later by a separate proposal.

We therefore formally propose that the following wording corresponding to the “basic facility” be added to the working draft:

Wording

(A) Add to [namespace.def] and [gram.dcl]:

namespace-definition:

named-namespace-definition
unnamed-namespace-definition
nested-namespace-definition

nested-namespace-definition:

namespace nested-namespace-specifier :: identifier { namespace-body }

nested-namespace-specifier:

identifier
nested-namespace-specifier :: identifier

(B) Add new paragraph to [namespace.def]:

X. A *nested-namespace-definition* with a *nested-namespace-specifier* **N**, *identifier* **I** and *namespace-body* **B** is identical (by definition) to **namespace N { namespace I { B } }**

Consequences

The only minor issue not discussed was name lookup.

Currently this doesn't work:

```
namespace A { }
using namespace B = A;
namespace B { } // ill-formed: B isn't a namespace-name
```

and so neither does this:

```
namespace A { namespace C {} }
using namespace B = A;
namespace B { namespace C {} } // ill-formed: B isn't a
                               // namespace-name
```

So we think this shouldn't work either:

```
namespace A::C {}
using namespace B = A;
namespace B::C {} // ill-formed by wording: B isn't a
                  // namespace-name
```

By the wording, `namespace B::C` does not entail a name lookup, it is purely a syntactic short-cut for `namespace B { namespace C`

We think the wording matches what EWG was voting on as “the basic feature”, but want to do one final checking phase at Urbana before proceeding to Core.