

Const correctness in unordered associative containers

Doc no: N1549= 03-0132

Date: 10/29/03

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Robert Klarer's message c++std-lib-12095 raises four const-correctness issues in unordered associative containers (section 6.2 of the TR). Three of them are real bugs. This paper provides the fixes.

1. In section 6.4.2 [tr.unord.unord], remove the const qualification in the parameters of the nonmember swap functions for all four unordered associative containers, both in the header synopses and in the text.
2. In section 6.4.2 [tr.unord.unord], in the class declarations of all four unordered associative containers, declare the bucket and bucket_size member functions as const.
3. In section 6.2.1 [tr.unord.req], in table 6.1, all occurrences of "for const a" in the "Return Type" column of the requirements table should actually read "for const b." Also, under the "assertion/note/pre/postcondition" column, the phrase "out of which a was constructed." should be "out of which b was constructed" for b.hash_function() and b.key_eq(). Similarly, "a.end()" should be "b.end" for b.find(k), and "std::make_pair(a.end(), a.end())" should be "std::make_pair(b.end(), b.end())" for b.equal_range(k).