C++ static code analysis: Digit separators should be used

2 minutes

C++14 adds the ability to write numbers with digit separators for better readability. Splitting a number that has more than 4 consecutive digits improves readability.

This rule verifies that numbers are written using digit separators when they have more than 4 consecutive digits.

Noncompliant Code Example

```
long decimal_int_value     = 5543124;            // Noncompliant; insert ' between groups of 3 digits.
double decimal_float_value = 7918714.3456;       // Noncompliant; insert ' between groups of 3 digits.
long hexadecimal_value     = 0x83A32486E2;       // Noncompliant; insert ' between groups of 2 or 4 digits.
long octal_value           = 04420343313726;     // Noncompliant; insert ' between groups of 2, 3 or 4 digits.
long binary_value          = 0b0101011011101010; // Noncompliant; insert ' between groups of 2, 3 or 4 digits.
```

Compliant Solution

```
long decimal_int_value     = 5'543'124;
double decimal_float_value = 7'918'714.3456;
long hexadecimal_value     = 0x83'A324'86E2;
long octal_value           = 04'4203'4331'3726;
long binary_value          = 0b0101'0110'1110'1010;
```

Exceptions

No issue is raised on the fractional or exponent part of floating point numbers, only the integral part should comply.