
Subject: clamp() function crashes apps on Linux, gets warning from GCC and CLANG

Posted by [Oblivion](#) on Sat, 15 Aug 2020 21:10:38 GMT

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Hi,

clamp function in the latest SVN build (rev. 14827) crashes apps.

GCC and CLANG complains about a reference to local variable addr.

Example:

```
#include <Core/Core.h>
```

```
using namespace Upp;
```

```
Size fn1()
```

```
{  
    Size sz1(Random(100), Random(100));  
    Size sz2(Random(1000), Random(1000));  
    Size sz3(Random(1000), Random(1000));  
    return clamp(sz1, sz2, sz3);  
}
```

```
Size fn2()
```

```
{  
    Size sz1(Random(100), Random(100));  
    Size sz2(Random(1000), Random(1000));  
    Size sz3(Random(1000), Random(1000));  
    return min(max(sz1, sz2), sz3);  
}
```

```
CONSOLE_APP_MAIN
```

```
{  
    // both GCC and CLANG warns about reference to local-addr.
```

```
    Size sz1 = fn1(); // Crashes the app with invalid memory access.
```

```
    DUMP(sz1);
```

```
    Size sz2 = fn2(); // Does not crash.
```

```
    DUMP(sz2);
```

```
}
```

Best regards,
Oblivion

Subject: Re: clamp() function crashes apps on Linux, gets warning from GCC and CLANG

Posted by [mirek](#) on Sun, 16 Aug 2020 10:27:33 GMT

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Oblivion wrote on Sat, 15 August 2020 23:10Hi,

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GCC and CLANG complains about a reference to local variable addr.

Example:

```
#include <Core/Core.h>
```

```
using namespace Upp;
```

```
Size fn1()
{
    Size sz1(Random(100), Random(100));
    Size sz2(Random(1000), Random(1000));
    Size sz3(Random(1000), Random(1000));
    return clamp(sz1, sz2, sz3);
}
```

```
Size fn2()
{
    Size sz1(Random(100), Random(100));
    Size sz2(Random(1000), Random(1000));
    Size sz3(Random(1000), Random(1000));
    return min(max(sz1, sz2), sz3);
}
```

```
CONSOLE_APP_MAIN
```

```
{
    // both GCC and CLANG warns about reference to local-addr.

    Size sz1 = fn1(); // Crashes the app with invalid memory access.
    DUMP(sz1);
    Size sz2 = fn2(); // Does not crash.
    DUMP(sz2);
}
```

Best regards,
Oblivion

Interesting one. The real reason is that it goes to overloaded min/max.

For now fixed by changing singnature

```
template <class T>  
constexpr T clamp(const T& x, const T& min_, const T& max_)
```

Hopefully this will not explode anywhere else...

Mirek
