

1 logs

```
sbmake -distcc DEBUG=1 CTB="sl_main sl_compile shared_simulink_block sl_mask  
sl_libraries sl_link_bd simulink_core shared_simulink_lang_blocks sl_utility  
sl_graphical_classes sl_services sl_proxy_desktop sl_LogLoadBlockAPI  
simulink_core_blocks sl_continuous_blocks sl_event_engine  
shared_simulink_lang_blocks";sbmake -distcc DEBUG=1 CTB="sl_main sl_compile  
shared_simulink_block sl_mask sl_libraries sl_link_bd simulink_core  
shared_simulink_lang_blocks sl_utility";sbmake -distcc DEBUG=1 CTB="sl_main sl_compile share
```

```
mex -v -client engine engdemo.c  
export LD_LIBRARY_PATH=/local-ssd/ppatil/t1/matlab/cefclient/sys/os/glnxa64:/local-ssd/ppat  
export PATH=$PATH:/mathworks/devel/sandbox/ppatil/installs/appqi1/bin/
```

```
\begin{itemize}  
  \item type punning using union, reinterpret case, strict aliasing rule  
  \item union type punning, size of constexpr int == 4B or less than 4B afl-fuzz  
  \item hardening  
  \item ADL  
  \item exceptions:https://monoinfinito.wordpress.com/series/exception-handling-in-c/  
    https://itanium-cxx-abi.github.io/cxx-abi/  
    http://www.logix.cz/michal/devel/gas-cfi/dwarf-2.0.0.pdf  
https://lse.epita.fr/data/lt/2016-12-13/lt-2016-12-13-Francis\_Visoiu\_Mistrih-c++\_internals.pdf  
https://gcc.gnu.org/onlinedocs/libstdc++/manual/using\_exceptions.html  
https://github.com/gcc-mirror/gcc/blob/master/libstdc++/v3/include/std/any
```

```
https://blog.regehr.org/archives/1520  
\end{itemize}
```

```
std::bitset<5> intA;  
struct s1 {  
    int a:6;  
}  
#include <iostream>  
#include <stdexcept>  
#include <functional>  
#include <bitset>  
#include <locale>  
#include <stdio.h>  
#include <codecvt>  
#include <assert.h>  
using namespace std::string_literals;  
auto s1 = "abc";  
auto s1 = L"abc";  
auto s1 = u8"abc";
```

```

auto s1 = u"abc";
auto s1 = U"abc";
auto s1 = "abc";
auto s1 = "abc";
auto s1 = 42;
auto s1 = 42l;
auto s1 = 42ul;
auto s1 = 42ull;
auto s1 = 42.f;
auto s1 = 42.;
auto s1 = 42;
auto s1 = 0b11
auto s1 = 0123;
auto s1 = 0x123;
std::cout << std::hex << std::dec << std::oct << std::boolalpha
std::cout << std::bitset<5>(19) << std::endl;
std::setlocale(LC_ALL, "en_US.UTF-8");
std::u32string p1 = U"abc"s;
std::string p2 = "abc"s;
std::u16string p3 = u"abc"s;
enum e1{R,RED,YELLOW};
enum class e1{R,RED,YELLOW};
#define RED1 1
enum class e1:uint8_t
{
    R=253,
    RED,
    YELLOW
};

template <typename T> void type_name(){
    std::cout << __PRETTY_FUNCTION__ << std::endl;
}
string toUTF8(const basic_string<T, char_traits<T>, allocator<T>>& source)
{
    string result;
    wstring_convert<codecvt_utf8_utf16<T>, T> convertor;
    result = convertor.to_bytes(source);
    return result;
};

template <typename T>
auto fromUTF8(string source)
{
    wstring_convert<codecvt_utf8_utf16<T>, T> convertor;
    basic_string<T, char_traits<T>, allocator<T>> result =

```

```

        convertor.from_bytes(source); return result; }

//UB, no exception
int x = 20;
auto p = reinterpret_cast<float*>(&x);

cout << (void*)main << endl;

union
{
    float input; // assumes sizeof(float) == sizeof(int)
    int output;
} data;
data.input = 1*sqrt(-1); // 1*pow(2,-127-22)/2; /// 1e-45; // 0b00000000100000000000001000000000
cout << data.input << endl;

std::bitset<sizeof(float) * CHAR_BIT> bits(data.output);
std::cout << bits << std::endl;

// or
std::cout << "BIT 4: " << bits[4] << std::endl;

print floating point raw bits
auto floatValue = numeric_limits<float>::max();
int* intVal = reinterpret_cast<int*>(&floatValue);
std::bitset<sizeof(float) * 8> bits1(*intVal);

1. shared folder ubuntu guest:
sudo vmhgfs-fuse -o nonempty -o allow_other .host:/data ./testmnt
2. cmake llvm
cmake -DCMAKE_EXPORT_COMPILE_COMMANDS=ON -DCMAKE_VERBOSE_MAKEFILE=ON ../llvm
-DLLVM_ENABLE_PROJECTS='clang;clang-tools-extra;lldb;compiler-rt;lld;polly'

>> !printenv LD_LIBRARY_PATH

```

```

#include <stdio.h>
#include <stddef.h>
#include "rtwtypes.h"
#include "slx1.h"
extern void slx1_initialize(void);
extern void slx1_step(void);
extern void slx1_terminate(void);
//create slx model named "slx1" with outport named "Outport" and generated code and package
//gcc -L./slx1/debug2/ -I./slx1/matlab/simulink/include -I./slx1/matlab/rtw/c/src -I./slx1/c
//LD_LIBRARY_PATH=/home/ppatil/Downloads/debug2/slx1/debug2:$LD_LIBRARY_PATH
int main()
{
    int i;
    scanf("%d", &i);
    printf("abdczs start\n");
    slx1_initialize();
    for(int v=0;v<i;++v){
        slx1_step();
        printf("v12 %f\n", slx1_Y.Outport);
    }

    slx1_terminate();
}

/* End of file */

```