

# CORBA::XS

(20')

## another way between Perl and C

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# Ways between Perl & C

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- PerlXS
  - perlxs, perlguts, POSIX
- Inline::C
- P5NCI, P5NCI::Library
  - back port from Parrot

# Another way ...

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- Data exchange & Interoperability
- CORBA **OMG**
- IDL : Abstract Syntax
- CDR : Transfert Syntax
- GIOP/IIOP : Protocole
- Language Mapping : Concrete Syntax
  - C, C++, Java, Python, Perl

# CORBA::XS is not alone

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- ❑ CORBA::IDL (used Parse::Yapp)
- ❑ CORBA::HTML
- ❑ CORBA::C
- ❑ CORBA::JAVA
- ❑ CORBA::Perl
- ❑ CORBA::Python
- ❑ CORBA::XMLSchemas

# CORBA::XS user side

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- Uses IDL specifications
- Generates OO Perl
- Generates C
- Adds exception support to C
- Supports no trivial types
  - Struct
  - Union
  - Array
  - Sequence

# CORBA::XS example

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```
// Calc.idl
```

```
interface Calc {  
    exception DivisionByZero { /* no member */ };  
  
    long Add(in long val1, in long val2);  
  
    long Sub(in long val1, in long val2);  
  
    long Mul(in long val1, in long val2);  
  
    long Div(in long val1, in long val2) raises  
        (DivisionByZero);  
};
```

# CORBA::XS generated files

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```
$ idl2xs_c Calc.idl
```

- a Perl stub *Calc.pm* (deals with CDR serialization, and autoload)
- a C stub *Calc.c* (deals with Perl API)
- a C stub *cdr\_Calc.c* (deals with CDR serialization)
- a include file *Calc.h* (following the language C mapping rules)
- a C skeleton *skel\_Calc.c* (with automatic merge)
- *Makefile.PL* & *Makefile*
- *test.pl*
- *MANIFEST*
- *Changes*

# CORBA::XS C skeleton

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```
// skel_Calc.c fragment
```

```
CORBA_long  
Calc_Add(  
    Calc_o,  
    CORBA_long val1, // in (fixed length)  
    CORBA_long val2, // in (fixed length)  
    CORBA_Environment * _ev  
)  
{  
    /* START_EDIT (Calc_Add) */  
    return val1 + val2;  
    /* STOP_EDIT (Calc_Add) */  
}
```



# CORBA::XS Perl side

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```
use Calc;
```

```
my $calc = new Calc();
```

```
my $result = $calc->Add(5, 2);
```

```
ok($result == 7, "5 + 2");
```

# CORBA::XS

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- Questions ?