

Chap 4 . Visual C++



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1. Main Objectives

- Visual C++ 6.0 ATL COM Programming
 - - Chap 4. Visual C++

2. Overview or Introduction

- 1. Initialization of COM libraries
 - `CoInitialize()`
- 2. Creation of COM Object
 - By passing the object's CLSID to the `CoCreateInstance()`.
 - return a pointer to an interface that you specify.
- 3. Uninitialization of COM libraries
 - `CoUninitialize()`

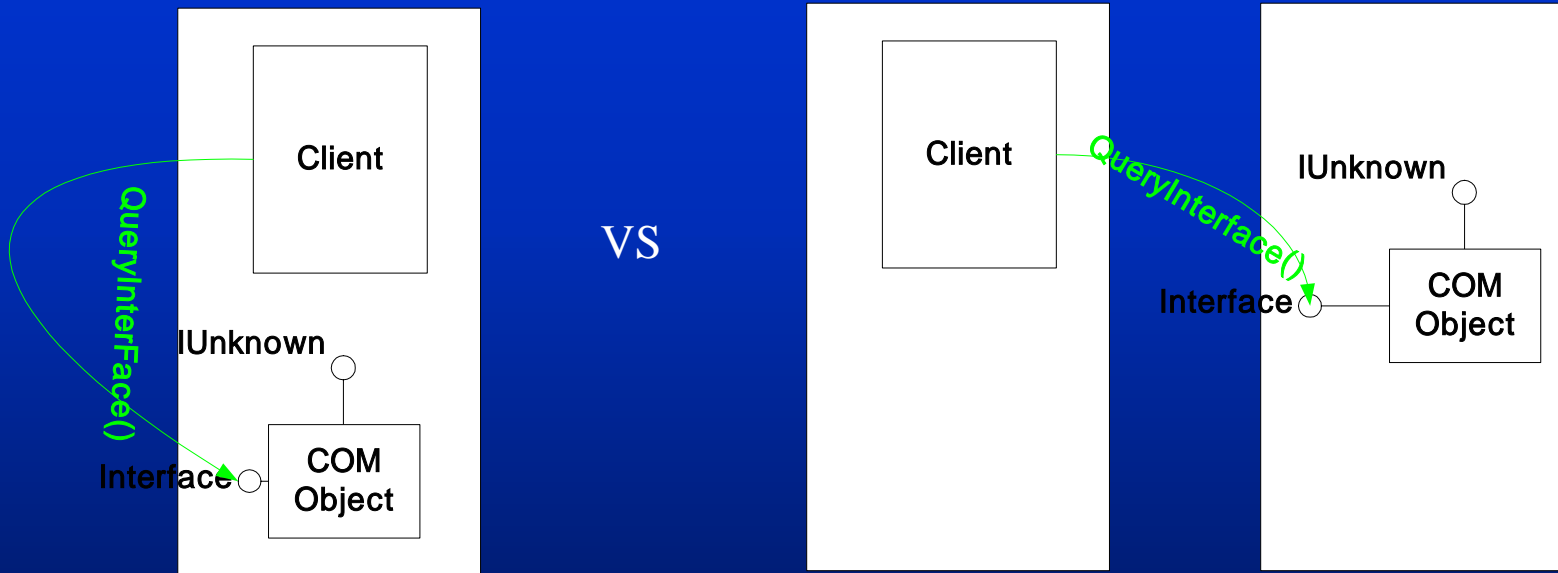
Marshalling ?

- QueryInterface() interface 가 가 COM Object ?

- In-Process VS Local or Remote

- In-Process

- Local Remote
COM 가 Interface 가



IN-PROCESS

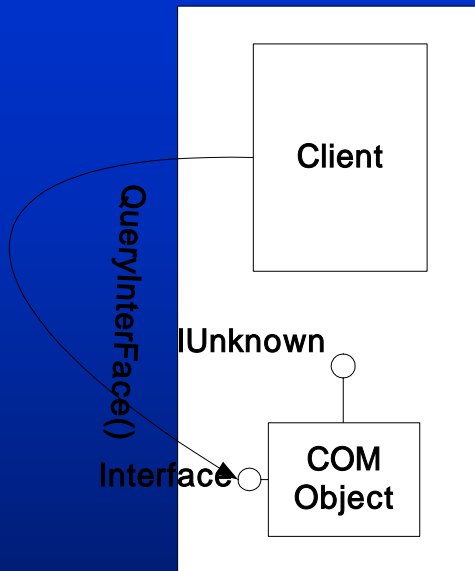
Marshalling ?

- QueryInterface() interface 가 가 COM Object ?

- In-Process VS Local or Remote

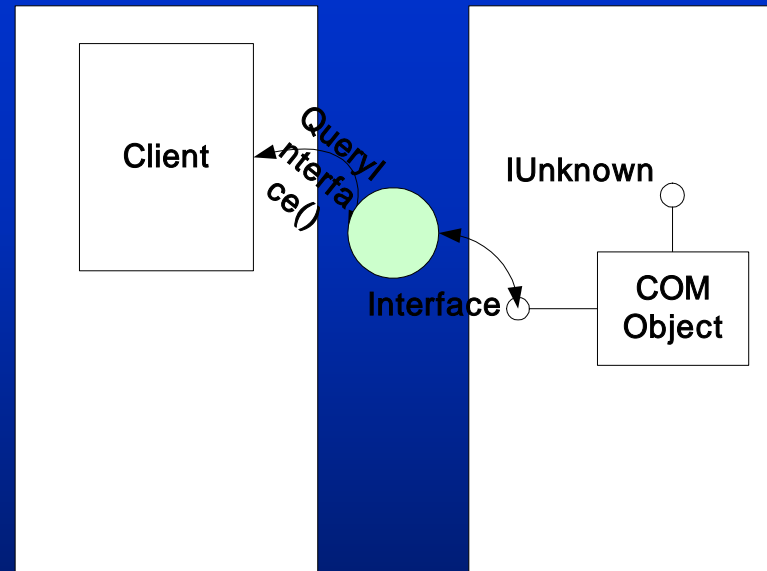
- In-Process

- Local Remote COM 가 가 Interface 가



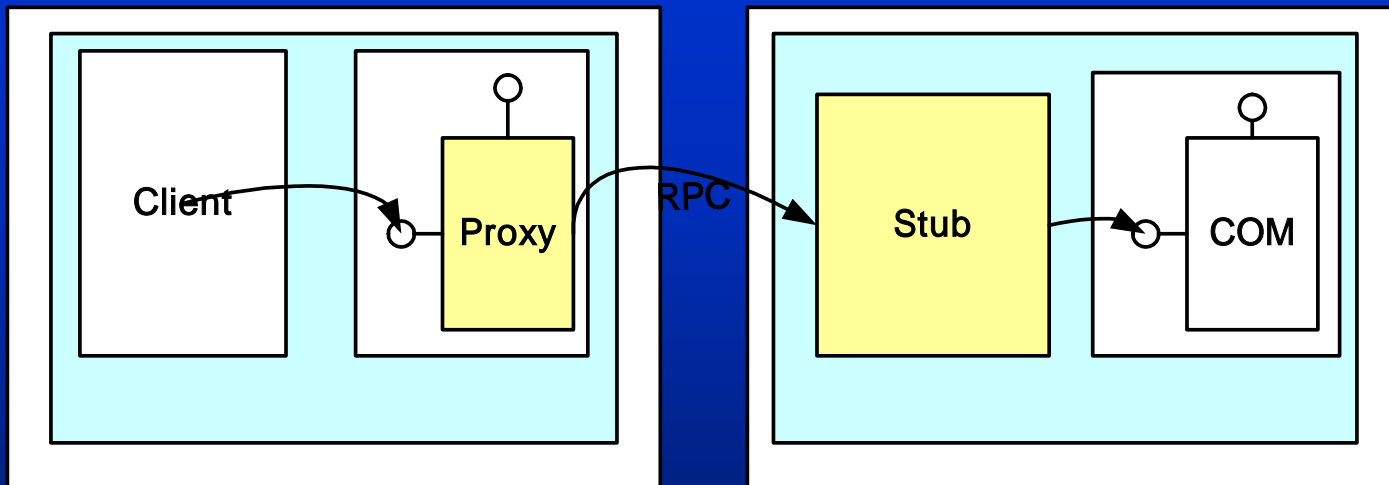
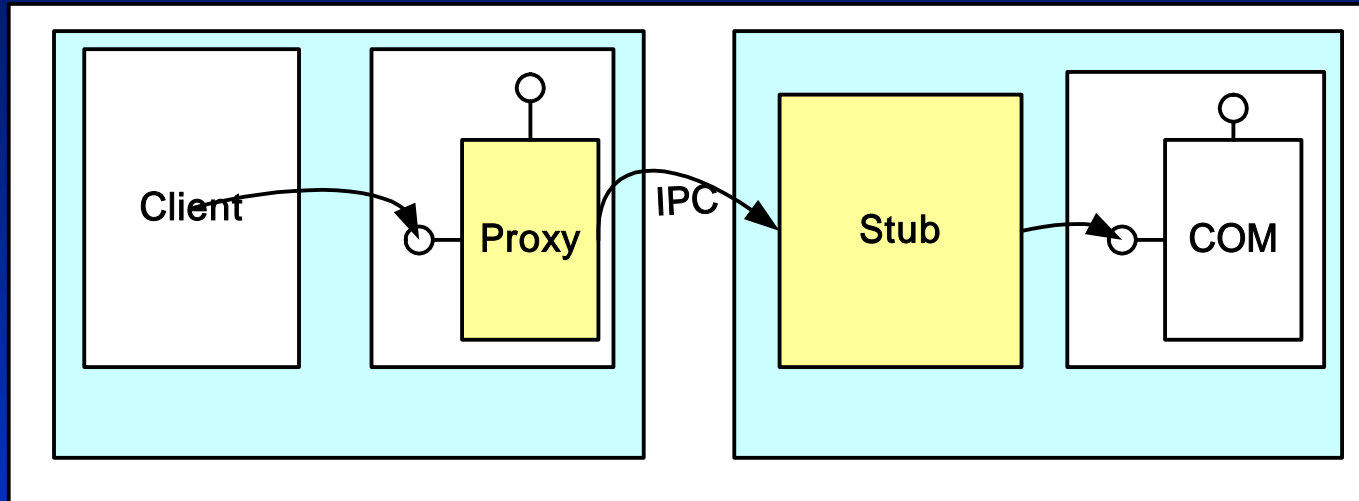
IN-PROCESS

VS



LOCAL Server

Marshalling ?



A

B

Type library

- (Type Library) ?
 - COM component가 COM
.TLB
(compound document)
 - *.odl -> *.tlb , *.idl compile.
 - compile
 - COM
 - ActiveX Automation .
 - "Chap.6 " .

#import

- ~incorporate information from a type library

- (type library) COM

가 C++

-

• *.TLH : MIDL

-

• *.TLI : *.TLH 가

-

가

- ex)

__declspec(uuid(" ComObjectGUID")) declarator

*struct __declspec(uuid("00000000-0000-0000-c000-
000000000046")) IUnknown;*

__uuidof(I Unknown); => return GUID of "I Unknown"

- `__com_ptr_t` class
 - declared in COMIP.H
 - smart pointer class
 - Microsoft Specific
 - ~ encapsulates a COM interface pointer and is called a "smart" pointer. (by MSDN Library)
 - `_COM_SMARTPTR_TYPEDEF(IAddEnd, __uuidof(IAddEnd));`
 - = `typedef __com_ptr_t <_com_IID <IAddEnd, __uuidof(IAddEnd)> > IAddEndPtr;`

- example of “__com_ptr_t”

```
I AddEndPtr pI AddEnd(__uuidof(AddBack));
```

```
I AddPtr pI Add = pI AddEnd;
```



```
⇒ I AddPtr pI Add;
```

```
pI Add.QueryInterface(__uuidof(I Add), &pI Add);
```

- `_com_error` class
 - declared in `COMDEF.H`
 - ~defines the error object thrown by `_com_raise_error`
 - C++(try(),catch()..) , `_com_ptr_t`
 - `COM` ,
 - .

```

try {
    IAddEndPtr pIAddEnd (__uuidof(AddBack));
    m_nAddEnd = pIAddEnd->AddEnd;
    ...
}
catch(__com_error& e){
    _bstr_t bstrSource(e.Source());
    _bstr_t bstrDescription(e.Description());
    CString szMsg = "      가      !\n";
    CString szTemp;
    szTemp.Format("      : %081x\n", e.Error());
    ...
    szTemp.Format("      : %s\n",
        bstrDescription.length() ? (LPCTSTR)bstrDescription :
        _T("      "));
    szMsg += szTemp;
    AfxMessageBox(szMsg);
}

```

Summary or Conclusion

- Chap.4 source code : "04.AddFront"
- Thank You.