

Forth to .NET Bridge

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EuroForth 2013

Stacks

Number n and d

Float

Bool

String

Type allow casting, `τ` "System.Windows.Forms.Form"

Object "data" stack, no meaningfull operations

Forth-System in .NET

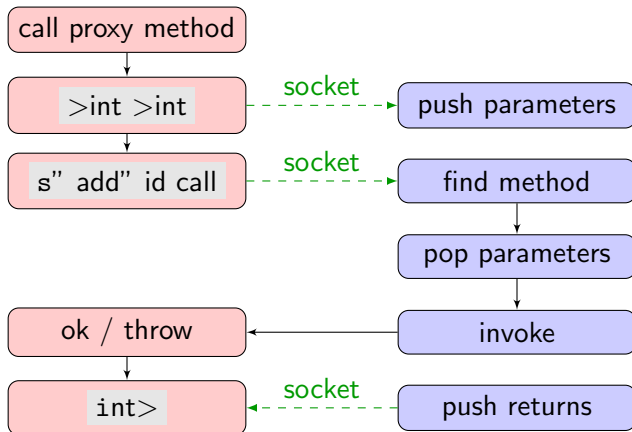
- interpretation mode only
- simple type conversion: `>o o>s`
- primitives by reflection of classes:

```
class math{ public int add( int a, int b ) { return a+b; } }
```
- load assemblies at runtime
- inspect types and activate (instance) them

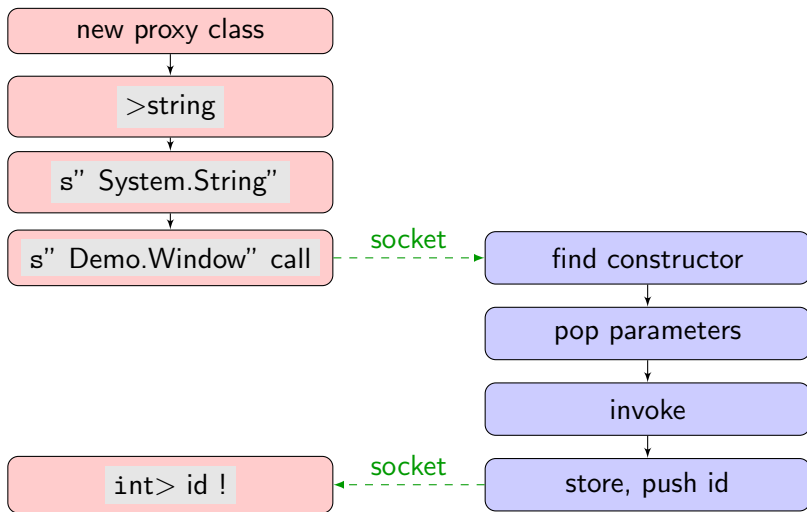
Protocol

- 2 TCP-connections per thread (ok+exceptions, events)
- Netstring based `2:s",5:hello;`
- Stack interface `>int, int>, >string, string>`

Calling a function



Instance Class



Overloading

```
class math {  
    public int add( int a, int b ) {  
        return a+b;  
    }  
    public float add( float a, float b, float c ) {  
        return a+b+c;  
    }  
}
```

- Distinguish between signatures
 - add:n-n
 - add:r-r-r

Overloading

```
class math {  
    public int add(params int[] numbers ) {  
        int sum = 0;  
        foreach( int number in numbers )  
            sum += number;  
        return sum;  
    }  
}
```

- Distinguish between signatures
 - add:o

Demo

Inspector - GlueForth

Scan Load Assemblies Types Client Run Client Debug Protocol Help

Type	Vers...	Name	Cli...	IP
Server	0.5.1.0	THEMIS	?	192.16...

Types: Forth Client C# Client Debug Shell

Assemblies

Name	Version	Runtime	Filename
DemoTarget	1.0.0.0	v2.0.50727	file:///C:/Users/Ge...

Types

- ✓ DemoClass
 - ✓ Constructors
 - ✓ Methods
 - ✓ add(Int32, Int32) : int
 - ✓ sub(Int32, Int32) : int
 - ✓ concat(String, String) : string
 - ✓ replace(String, String, String) : string
 - ✓ messageBox
 - ✓ messageBoxYesNo : bool
 - ✓ customMessageBox(String, String)
 - ✓ customMessageBoxYesNo(String, String) : bool
 - ✓ getName : string
 - ✓ newDemoWindow : DemoWindow
 - ✓ newPoint : Point
 - ✓ get_LowerText : string
 - ✓ get_UpperText : string
 - ✓ get_Text : string

All Interfaces Classes Properties Enums

Passive

Future Work

- Construct Classes on the fly in .NET
- coexistence of COM and .NET:
 - switch calling convention
 - wrap COM into .NET class