Fast delegates

Fast delegates

```
public delegate void AddDelegate(int a, int b, out int result);
```

Fast delegates

```
public delegate void AddDelegate(int a, int b, out int result);

public AddDelegate addFunction;
```

Fast delegates

```
private static void Add(int a, int b, out int result)
{
    result = a + b;
}
```

Fast delegates

```
private static void Add(int a, int b, out int result)
{
    result = a + b;
}

public static void Main(object[] args)
{
   addFunction = Add;
}
```

Fast delegates

```
private static void Add(int a, int b, out int result)
{
    result = a + b;
}

public static void Main(object[] args)
{
    addFunction = Add;
    addFunction(100, 200, out result);
}
```

Multicast delegates

```
public AddDelegate multiAddFunction;

public static void Main(object[] args)
{
    multiAddFunction = Add1;
    multiAddFunction += Add2;
}
```

Multicast delegates

```
public AddDelegate multiAddFunction;

public static void Main(object[] args)
{
    multiAddFunction = Add1;
    multiAddFunction += Add2;
    multiAddFunction(100, 200, out result);
}
```

Advice

```
public delegate void MyDelegate();

public MyDelegate myFunc = () => { };
```

Advice

```
public static void Main(object[] args)
{
    myFunc = GetDelegateOrMaybeNull();
    if (myFunc != null)
    {
        myFunc();
    }
}
```

Advice

```
public static void Main(object[] args)
{
    myFunc = () => { };
    myFunc += GetDelegateOrMaybeNull();
    myFunc();
}
```

Advice

```
public static void Main(object[] args)
{
    myFunc = () => { };
    myFunc += GetDelegateOrMaybeNull();
    myFunc();
}
```

Don't do this! The code is twice as slow now. Always use unicast delegates and check for null

Fast delegates

- Use delegates in your code where it's convenient.
- Remove delegates from mission critical code sections for a 9% performance boost.

- Always avoid multicast delegates in mission critical code, they are more than twice as slow as unicast delegates.