

**Better Generative Programming
with Generic Aspects**

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Contents

- ✦ Generic Aspects
- ✦ Generic Model Transformations and Generic Aspects

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Generics

- ✦ Ada, Eiffel
- ✦ C++ Templates
- ✦ ...
- ✦ Java: GJ, JSR14, [BCK+01]
- ✦ C#: Gyro, [KS01]
- ✦ ...
- ✦ **Generic Aspects**

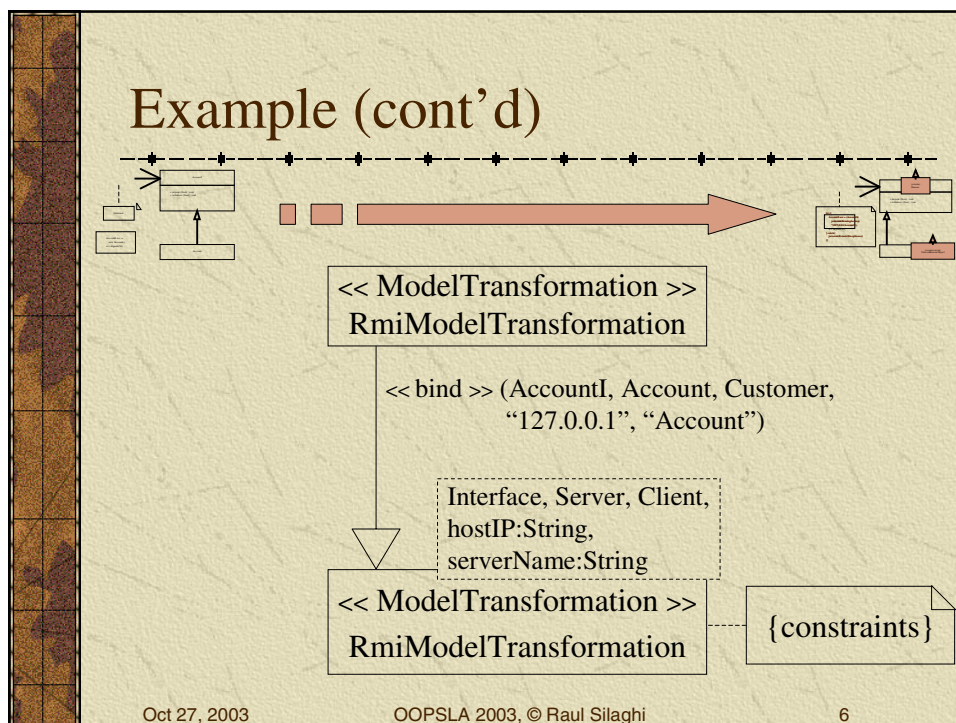
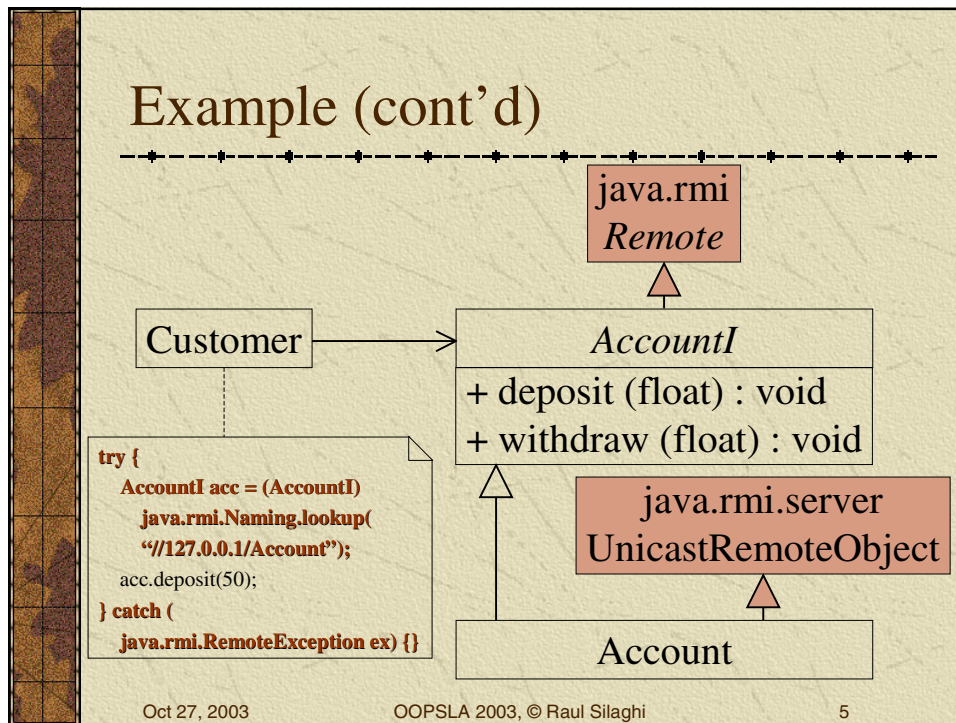
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Example

```
classDiagram
    class AccountI {
        + deposit (float) : void
        + withdraw (float) : void
    }
    class Account
    class Customer
    AccountI <|-- Account
    Customer --> AccountI
```

AccountI acc =
new Account();
acc.deposit(50);

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Example (cont'd)

```

aspect RmiDistributionAspect <Interface, Server, Client>
where Server implements Interface {

    String ipAddress = "serverHostIPAddressGoesHere";
    String serverName = "desiredServerNameGoesHere";

    declare parents: Interface extends java.rmi.Remote;
    declare throws: (public * Interface.*(..))
        throws java.rmi.RemoteException;
    public static void Server.main(String[] args) {...};

    pointcut serverNews(): call(Server.new(..)) && this(Client);
}

```

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7

Current Support

✦ Model Transformations

- ◆ Procedural or Logic Programming Languages
- ◆ Graph Transformation Theory
- ◆ XMI / XSLT, OCL
- ◆ OMG MOF 2.0 QVT RFP
- ◆ Gmorph, ATL, UMLX, GMT

✦ AOP

- ◆ AspectJ, AspectWerkz, Javassist, AspectC++,
- ...

Oct 27, 2003

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8

