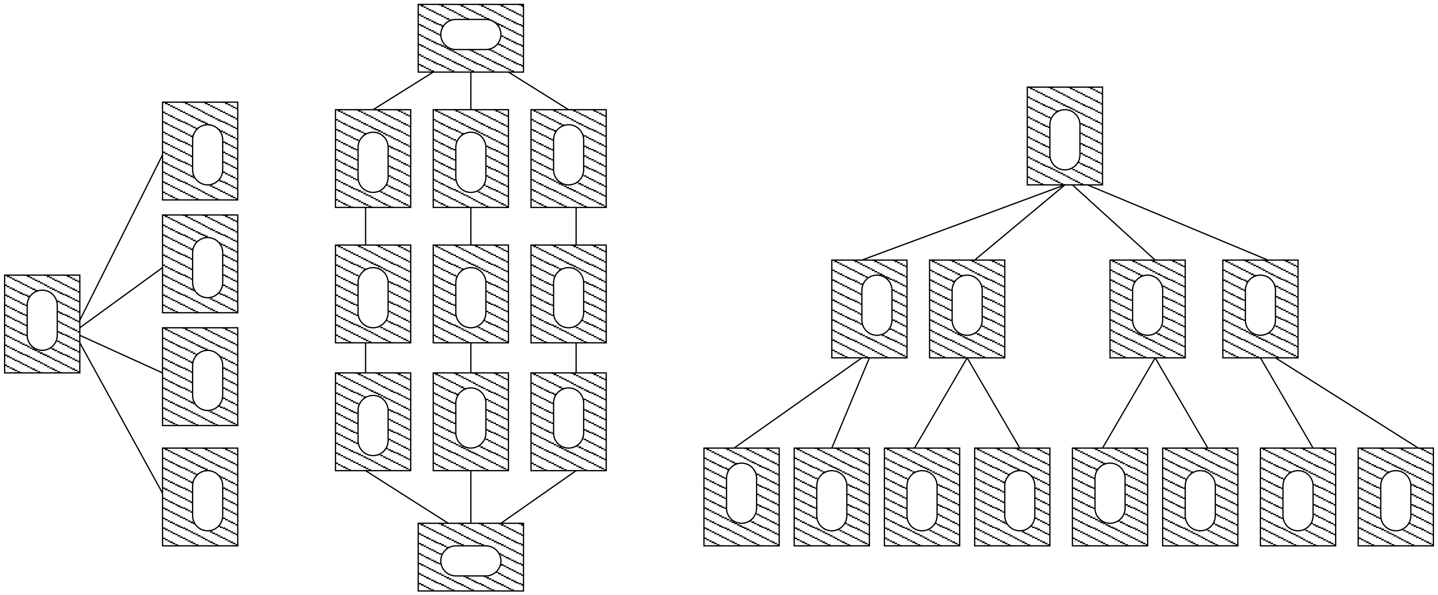
HOCs: Higher-Order Components for grids

University of Münster, Germany

What are HOCs and HOC-SA ?

➜ HOCs are partially implemented components, i.e. code parameterized by other pieces of code ⇒ higher-oder



Farm–HOC

Pipeline–HOC

Divide & Conquer–HOC

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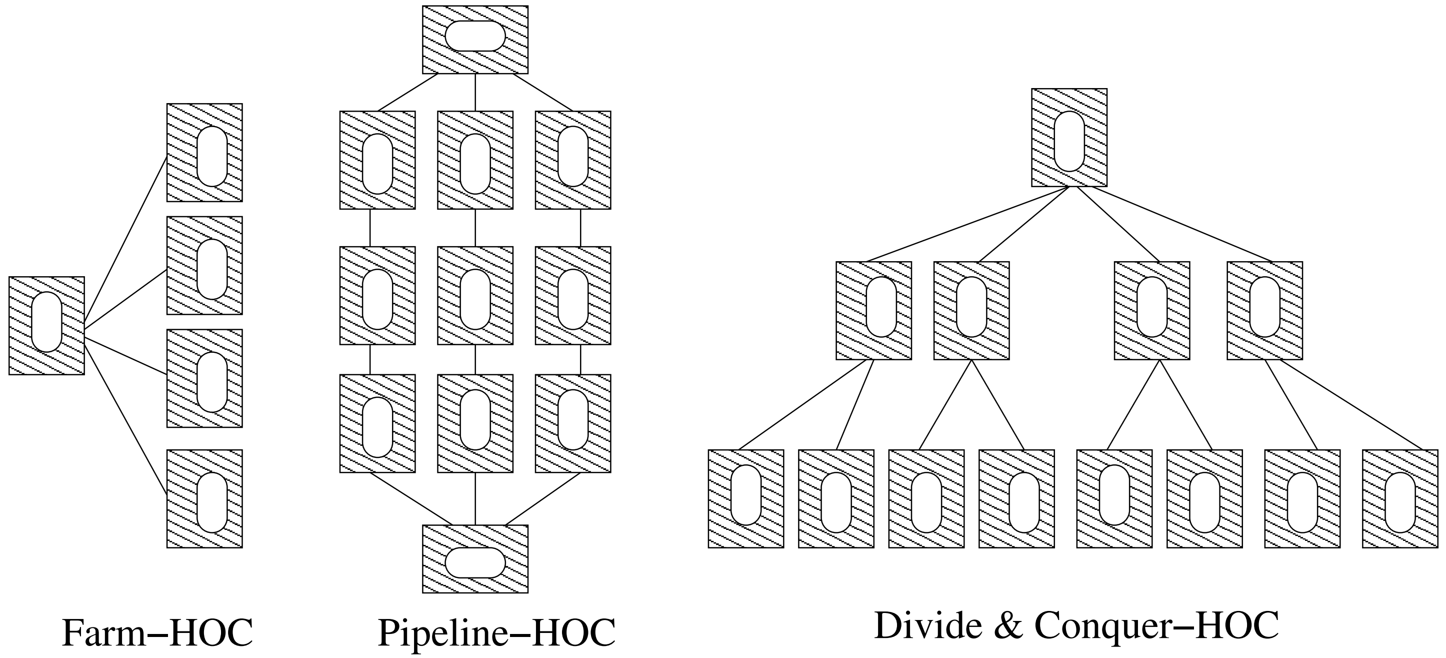
- ➜ Parameters carry application specific code for a concrete application and are shipped via the network



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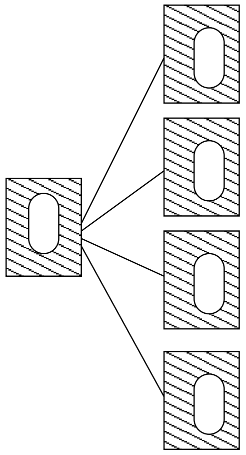
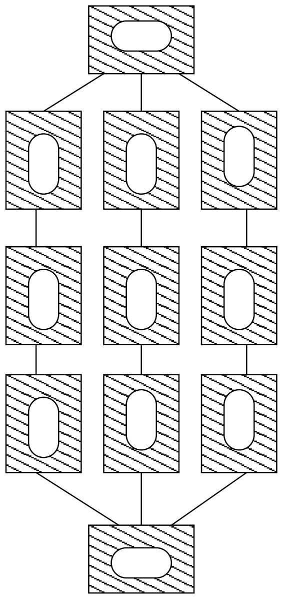
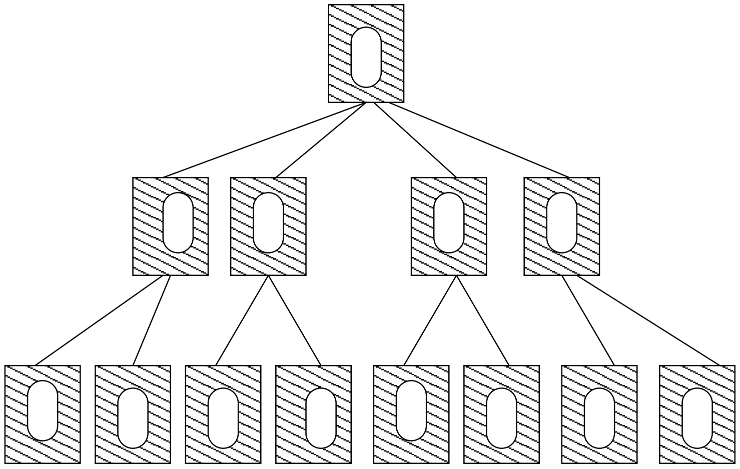
- ➜ Parameters carry application specific code for a concrete application and are shipped via the network
- ➜ The HOC-Service Architecture is an add-on for GT 4 ⇒ introduces OGSA-compliant means for partially implemented services and code mobility in the grid



Farm–HOC



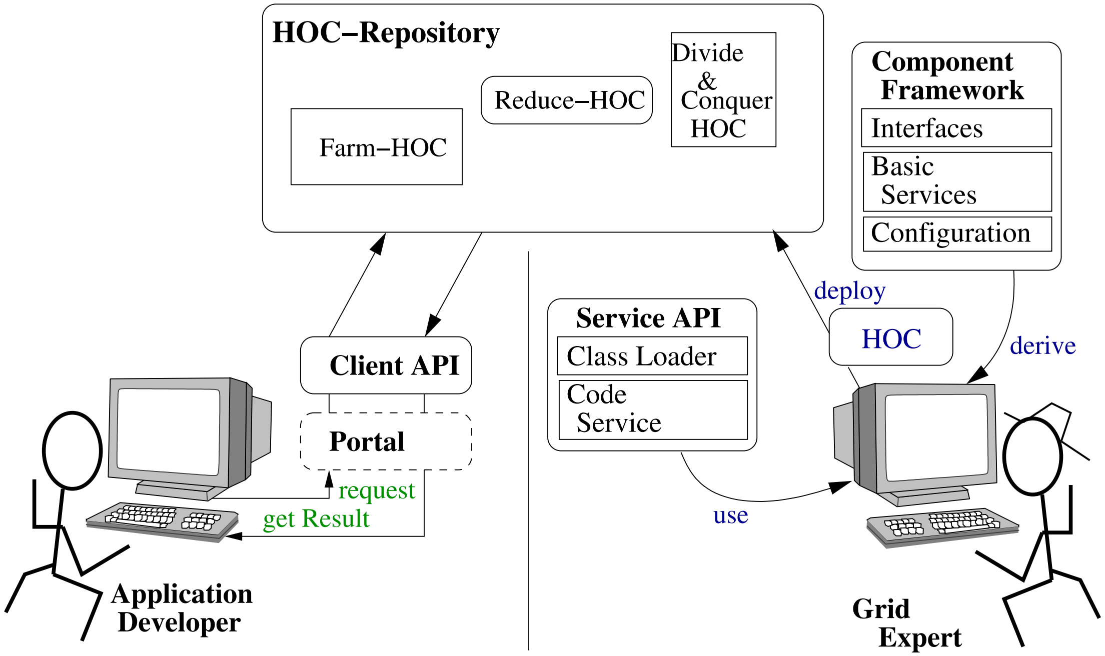
Pipeline–HOC



Divide & Conquer–HOC

The HOC Programming Model

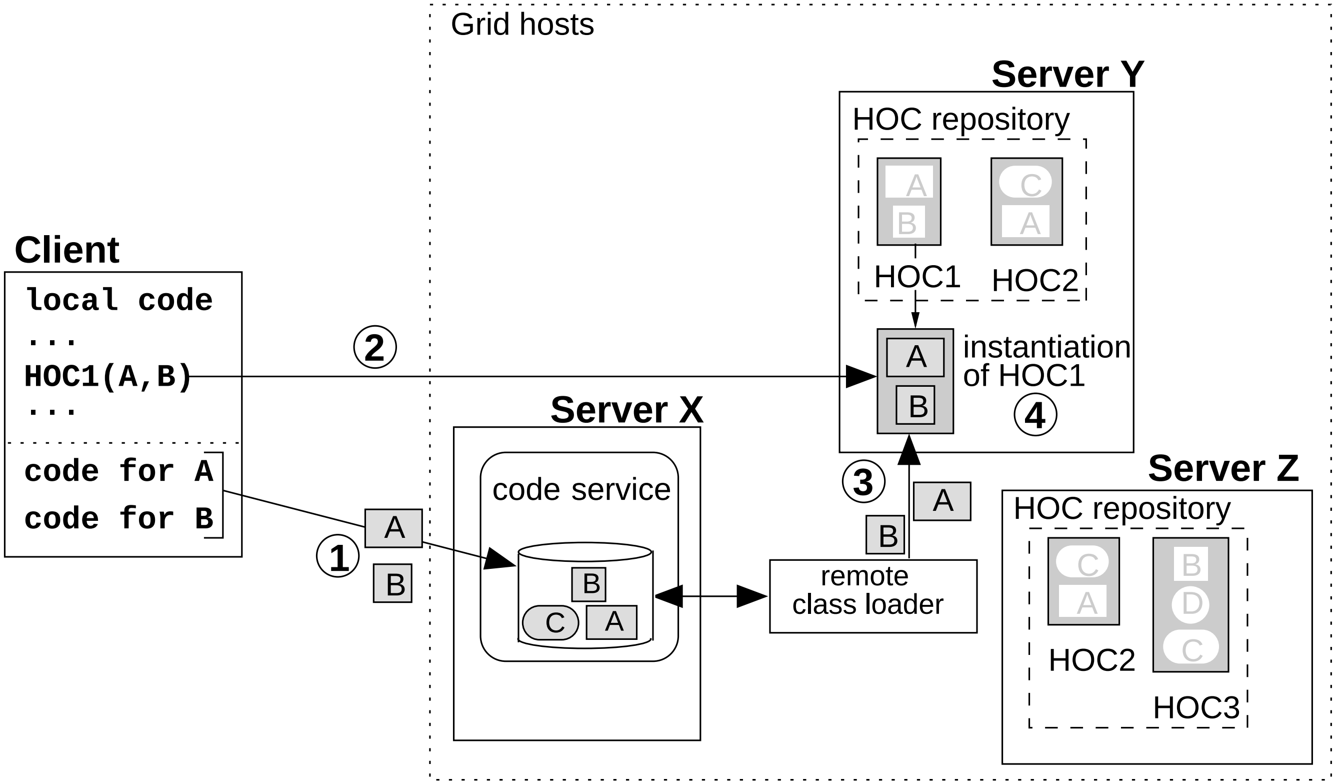
- ➜ HOCs ⇒ separation of concerns ⇒ distribution of roles
- ➜ Role 1: grid experts ⇒ build and deploy efficient HOCs
- ➜ Role 2: application developers select, parameterize and combine HOCs in an application



HOC-SA: How it works

➜ The substantial elements of HOC-SA are

- The code service: to upload and download code via SOAP
- The remote class loader: to create instances of uploaded classes



more details, documentation, code examples etc.:
http://wwwmath.uni-muenster.de/pvs/forschung/hoc