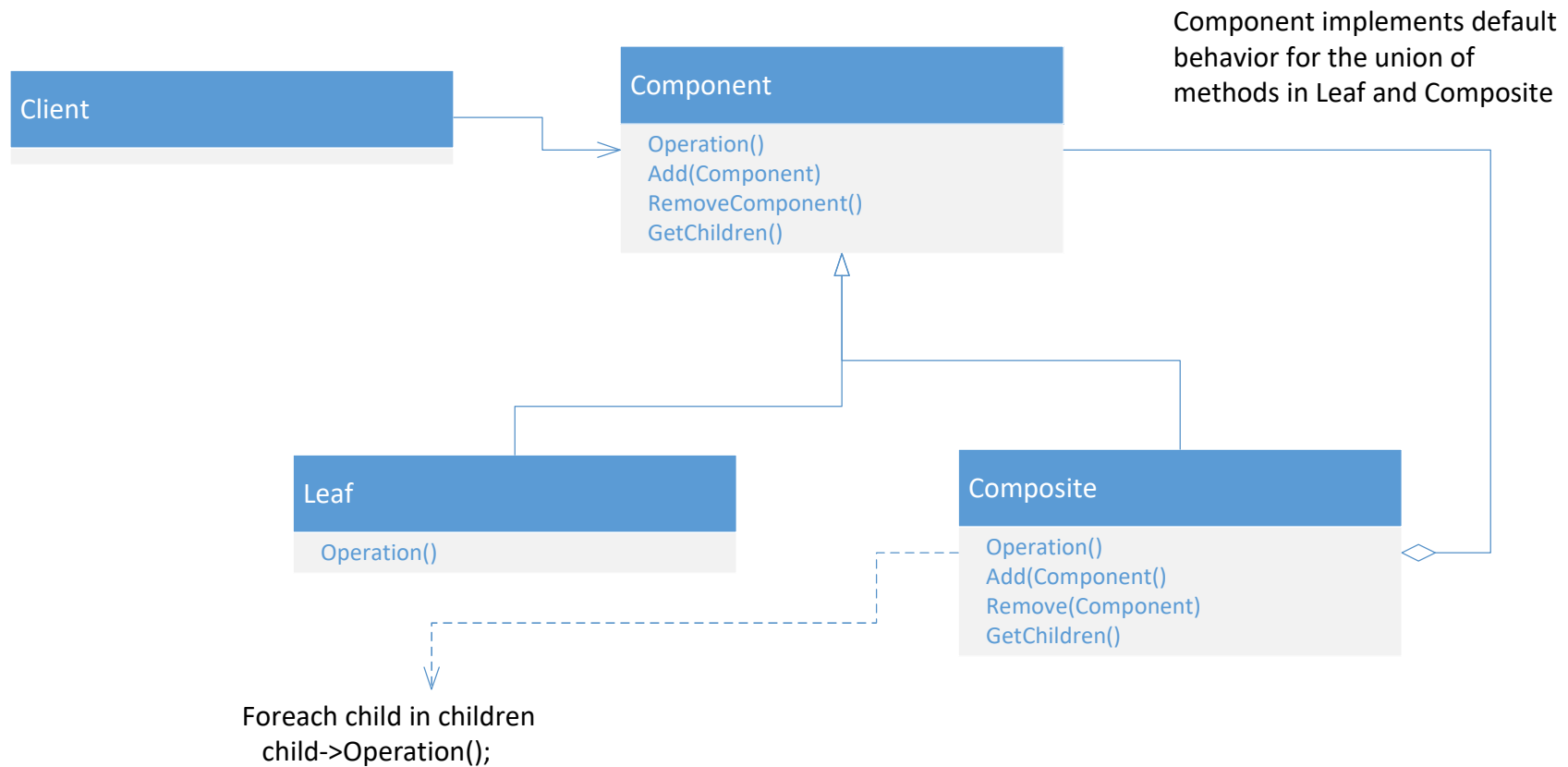Compose objects into tree structures to represent part-whole hierarchies. Composite let's clients treat individual objects and compositions uniformly.

Component implements default behavior for the union of methods in Leaf and Composite

Client

Component

Operation()
Add(Component)
RemoveComponent()
GetChildren()

Leaf

Operation()

Composite

Operation()
Add(Component()
Remove(Component)
GetChildren()

Foreach child in children
child->Operation();

Component declares the interface for objects in the composition, implements default behavior for the interface common to all classes, and declares an interface for accessing and managing child components. Leaf represents represents leaf objects in the composition and has no children. Composite defines behvavior for components having children, stores child components, and implements child related operations in the component's interface.