

aspect OptimalResourceSearch depends on ResourceSearch

IResourceWithFitness
ICapability

structural view

ICapability

IResourceWithFitness

real fitness
+ create(.., real Fitness, ..)
+ setFitness(real Fitness)
+ real getFitness()

Request

+ Set<IResource> findFittest()

ResourceSearch instantiation
IResource → IResourceWithFitness
ICapability → ICapability
Request → IRequest

state view IResourceWithFitness

Pointcut

Advice

SetAllowed

Existing

Binding
SetAllowed → *
Existing → *

SetAllowed

setFitness

Existing

getFitness

ResourceSearch instantiation
Existing → Existing

state view ICapability is ResourceSearch.ICapability

state view Request

Pointcut

Advice

Any

Any

findFittest

ResourceSearch binding
Any → Existing

message view findFittest instantiates findResources, getCapabilities, getNumber, isAllocated, insert

Advice

caller: Caller

target: Request

solution := findFittest()

Pointcut

Binding
caller → *
Caller → *
target → *

caller: Caller

target: Request

solution := findFittest()

solution := create()

solution:
Set<IResource
WithFitness>

keys := getCapabilities()

loop [k within keys]

temp := create()

temp:
PriorityQueue

num :=
getNumber(k)

k: ICapability

resSet := findResources()

loop [r within resSet]

r: IResourceWithFitness

allocated := isAllocated()

opt [not allocated]

fit := getFitness()

insert(r, fit)

loop [i = 0; i < num; i++]

chosenRes := removeFirst()

insert(chosenRes)

delete()

