目标模型简介：SPTP

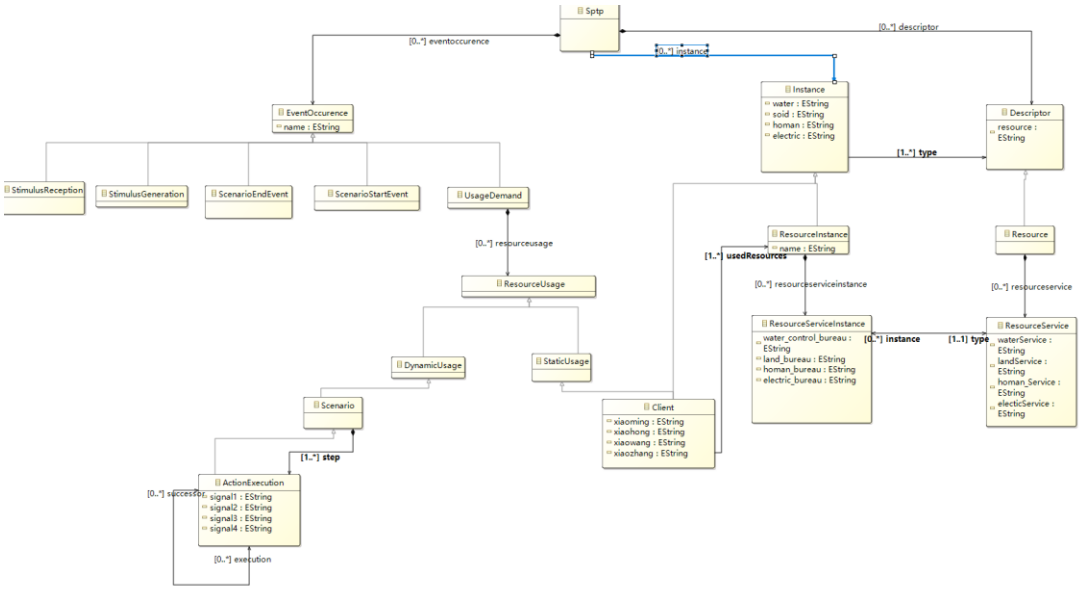
UML Profile for Schedulability, Performance, and Time Specification

用于可调度性、性能和时间规范的 UML 配置文件

核心部分： General Resource Modeling

通用资源建模：该框架的核心是服务质量（QoS）的概念，它为将定量信息附加到 UML 模型提供统一的基础。具体地说，QoS 信息直接或间接地表示物理层由表示的应用程序的硬件和软件环境的属性模型

目标模型元模型



元模型含义

Instance and Descriptor：The dashed-line dependencies between the top-level association connecting Instance and Descriptor and the lower associations are meant to convey that the latter are specializations of the former.

resource instance：A *resource instance* represents a run-time entity that offers one or more *services* for which we need to express a measure of effectiveness or quality of service (QoS).

resource service instance：A *resource service instance* is a specific incarnation of a resource service description that is provided by a specific resource instance.

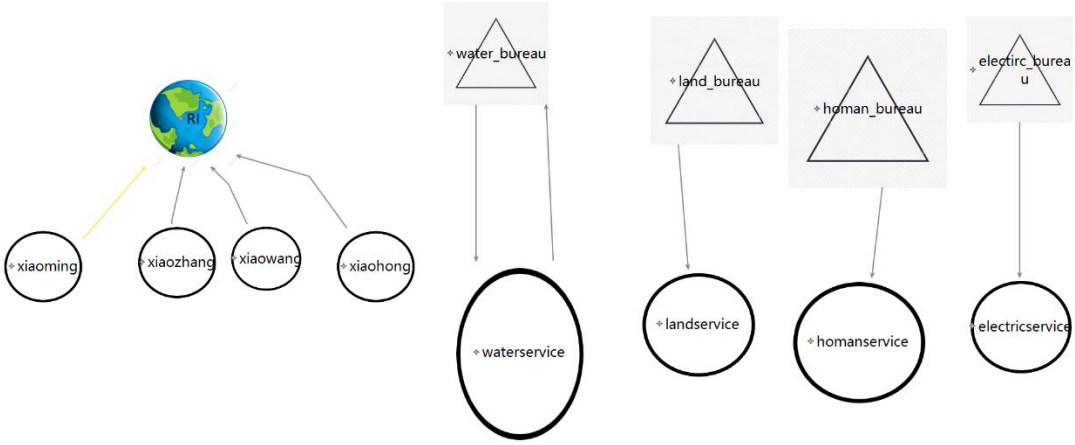
stimulus generation and *stimulus reception*：A stimulus generation event occurs when an

object executes an action that invokes an operation on another object (the *receiver*) or sends a signal to it. The effect of the stimulus generation event is the creation and dispatching of a stimulus that identifies the parameters of the communication (the operation invoked, the values of the parameters, etc.).

scenario start event and *scenario end event* ： In addition to the stimulus generation and stimulus reception events, in a number of analyses it is also useful to consider the events that occur when a scenario starts and ends its execution (*scenario start event* and *scenario end event* respectively).

client：This model is used in cases where the relationship between the clients and resources can be viewed as static. This does not necessarily mean that it is static, but simply that the dynamics of usage are not relevant to the model analysis on hand. The domain model in this case includes an explicit *client*, which is also a kind of instance. In this case, however, the notion of resource services is not required.

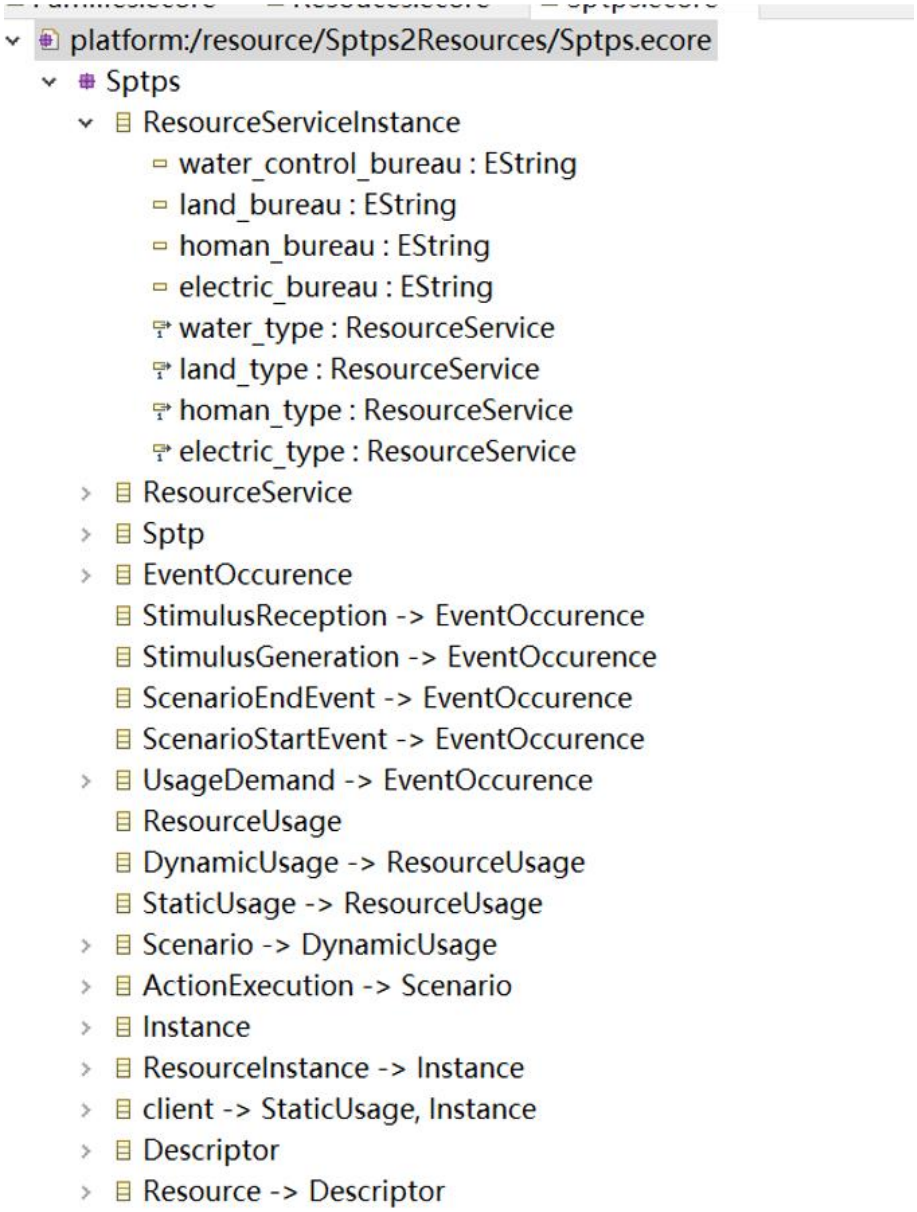
目标模型图形建模:



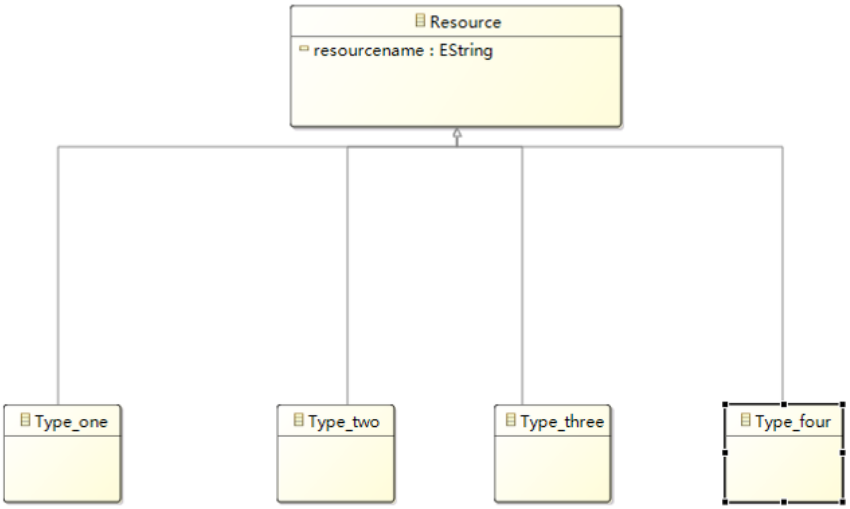
说明：做了几个简单的图形建模，将 client 类中的四个属性与 resourceinstance 类相连接，然后将 resourceserviceinstance 中的四个属性和 resourceinstance 中的四个属性相对应连接。

目标模型与 OMG 标准模型转换:

元模型 sptp.ecore


platform:/resource/Sptps2Resources/Sptps.ecore
Sptps
ResourceServiceInstance
water_control_bureau : EString
land_bureau : EString
homan_bureau : EString
electric_bureau : EString
water_type : ResourceService
land_type : ResourceService
homan_type : ResourceService
electric_type : ResourceService
ResourceService
Sptp
EventOccurence
StimulusReception -> EventOccurence
StimulusGeneration -> EventOccurence
ScenarioEndEvent -> EventOccurence
ScenarioStartEvent -> EventOccurence
UsageDemand -> EventOccurence
ResourceUsage
DynamicUsage -> ResourceUsage
StaticUsage -> ResourceUsage
Scenario -> DynamicUsage
ActionExecution -> Scenario
Instance
ResourceInstance -> Instance
client -> StaticUsage, Instance
Descriptor
Resource -> Descriptor

输出端模型



说明：输出端元模型是四种资源类型，用于转换原模型中 resourceserviceinstance 部分和 resourceinstance 部分

模型截图、映射关系说明、源码及视频演示链接 、模型转换，包含详细的说明转换的内容和依据、源码及视频演示链接：

https://github.com/hzy1721/ParkShare.git