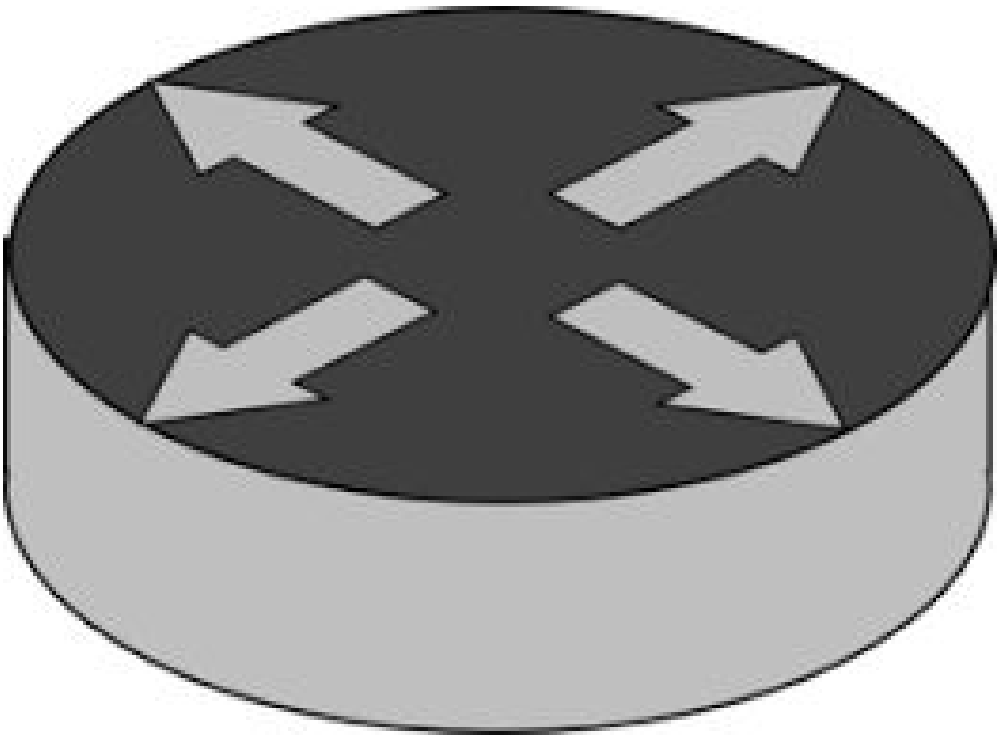

# Open Service Gateways

22.11.2017

— **CS3500 Software Engineering**


## Team L

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# Open Service Gateways

The purpose of the residential gateways is to provide an interface between the world wide web and the internal network of the home while allowing to dynamically loading services for the user and home appliances.

**Technical Constraints**

- Java virtual machine must be used
- Embedded systems

**Top Quality Attributes**

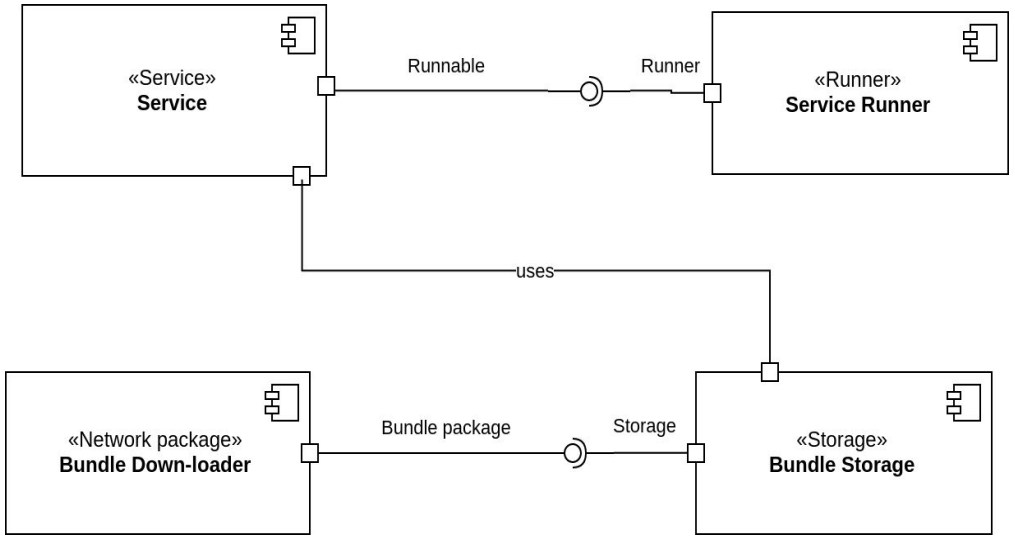
- Platform independence over Performance - Java is an interpreted language, but is slower
- Security
- Availability
- Maintainability
- Future-proofing

**Functional Requirements**

- As a user I want the gateway to manage services to reduce complexity of configuration.
- As a user I want the gateway to detect the presence or absence of services in order to utilise them.
- As a user I can change between different vendors and provisioned by different service providers without changing internal networking.
- As a user I want the gateway to integrate into my existing network and to communicate with appliances in a meaningful way.

**Design Decisions**

- Java was chosen because of “write once, run everywhere” principle, extensibility, ease of developing features or services, and it’s security architecture. The drawbacks of choosing Java are performance issues and increased memory usage.
- Bundling the services and corresponding files has the advantages of an easy installation, configuring installation and allowing to specify a context of the packages.
- Providing a framework for handling and generating events of three granularity: ServiceEvent, BundleEvent and FrameworkEvent.




## Responsibilities

**Service:** represents a component in the system.
**Service Runner:** executes the service.
**Bundle Downloader:** connects to the internet and downloads the JAR file.
**Bundle Storage:** stores all of the bundles of services (JAR file).

# Contributions

We made this document together.