

Technical Executive Summary

Site Navigation : [Introduction of Home Edge Project](#) | [Home Edge Platform Architecture and Modules](#) | [YouTube Webinar](#) | [Technical Requirements Details and Use Cases \(TBD\)](#)

Definition : Technologies of Home Edge Project

- Technologies that compute and proceed user data in **real-time** by using **distributed edge devices at home network**.
- BENEFIT** : Reinforcement of user privacy, low latency
- Performance examples when employing Home Edge Project technologies

	Smart TV	Home Edge **
* # of Cores	4	28
* Memory	2 GB	12 GB
Service examples	Voice recognition for device control (Required anticipated size of ML Model : 20 MB)	Voice recognition for contents searching (e.g. media, retail, etc.) (Required anticipated size of ML model : 100 MB)

* Given number is an example referring from the product specification available from the Market (TV, Refrigerator, Air Conditioner, Speaker, and Mobile Phone).

** It is assumed that there are 5 edge devices at home enabling the Home Edge Project technologies in this example.

Highlights : Required Technologies

- Edge Orchestration** : for deploying / searching / and managing services for distributed edge devices at home.

Key Features	Description
Edge Device / Service Discovery	Discovery on edge devices and their services (e.g. voice recognition, device control, etc.)
Resource Capability Exchange	Exchange the available (computing) resource information (e.g. CPU, GPU, NPU, Storage, type of connected devices, etc.)
Topology Decision	Decision on Master / Slave device roles, devices that are able to interoperate with cloud
Real-time Monitoring	Offers network connection status (e.g. power on / off), services based on (computing) resource at home

- Distributed & Parallel Machine Learning** : for enabling inference / model learning at home with low latency.

Key Features	Description
Data Parallelism	Distribution and Parallel ML through data partition into multiple edge devices at home
Service Parallelism	Distribution and Parallel ML through multiple services into multiple edge devices at home
Model Parallelism	Distribution and Parallel ML through knowledge model partition into multiple edge devices at home