

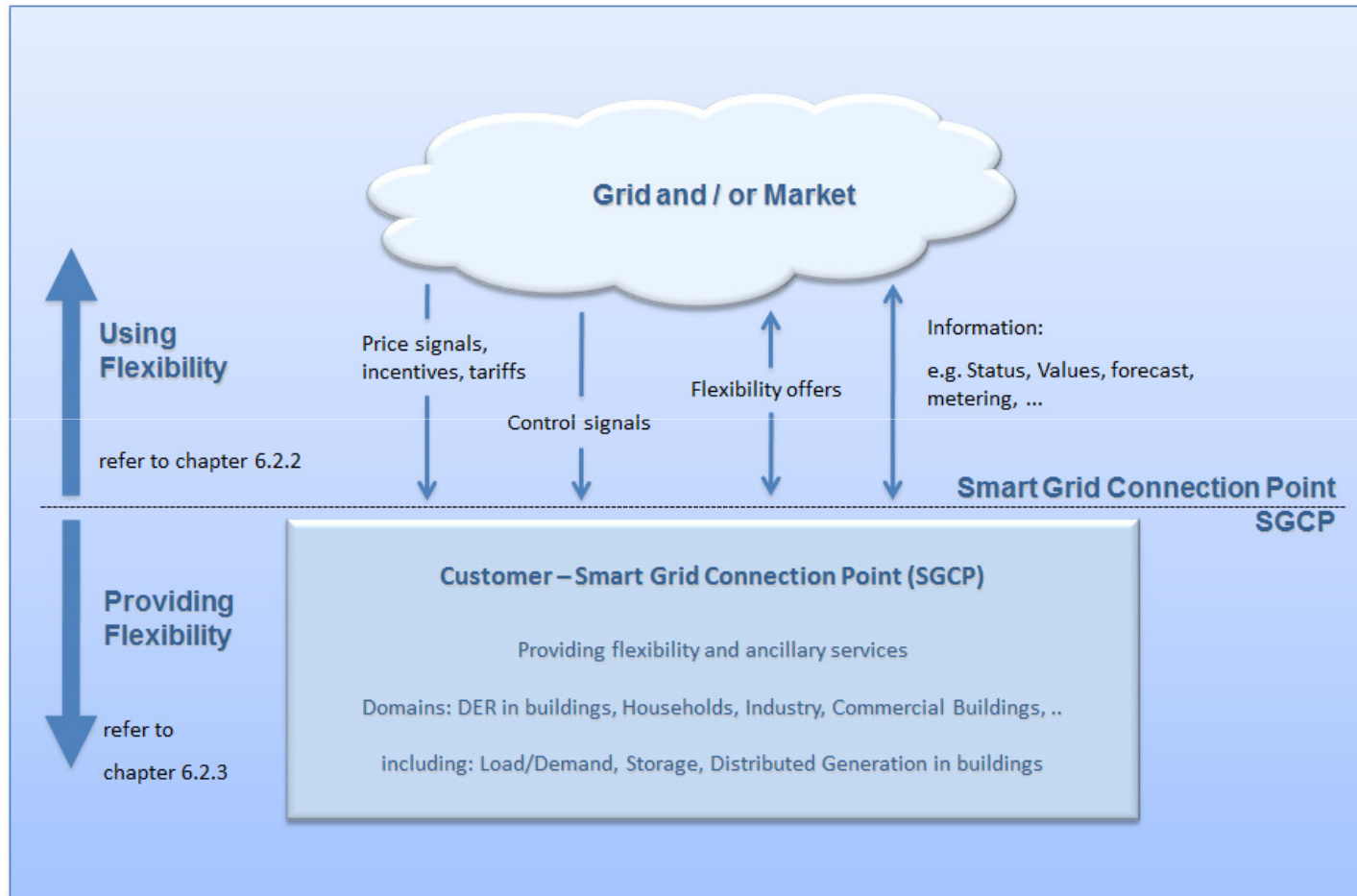
# Smart grid connection point between smart grid and smart building

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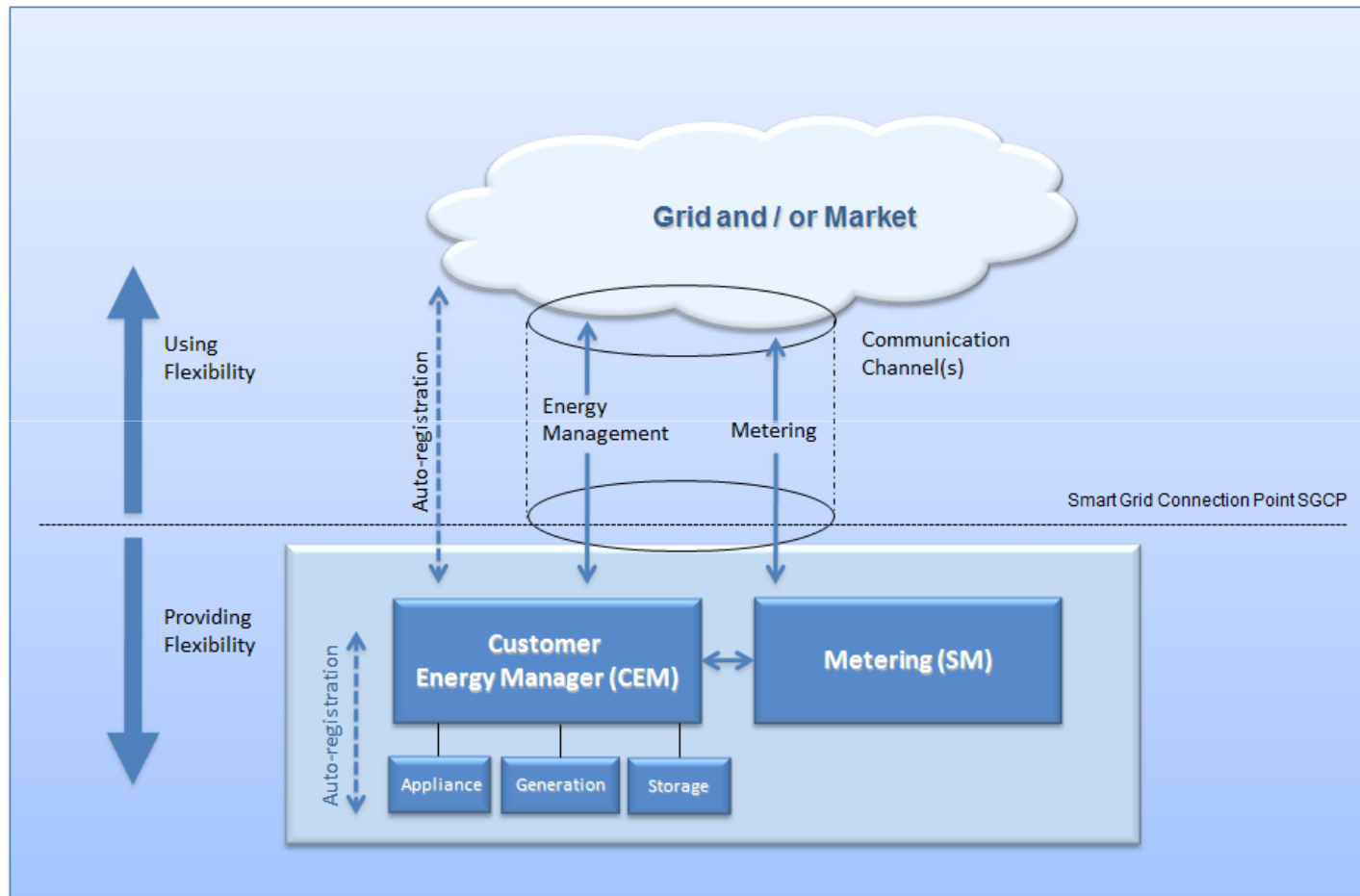
# Smart Grid Connection Point (SGCP) according to M490

See document „Use Case Collection, Management, Repository, Analysis and Harmonization“ Draft ver. 0.65

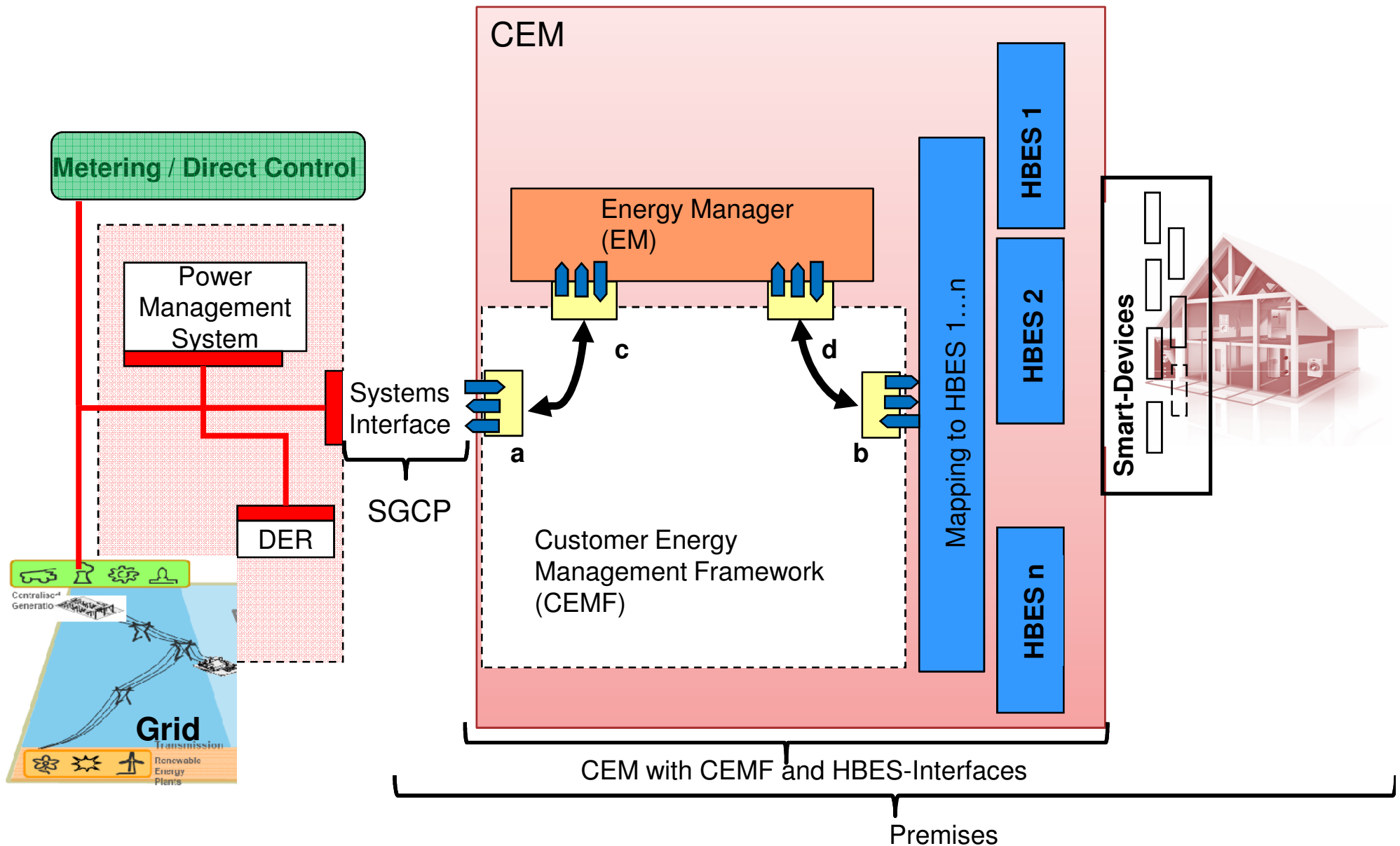


# Smart Grid Connection Point (SGCP) according to M490

Simplified struktur of a SGCP with Customer Energy Manager (CEM) and Smart Metering

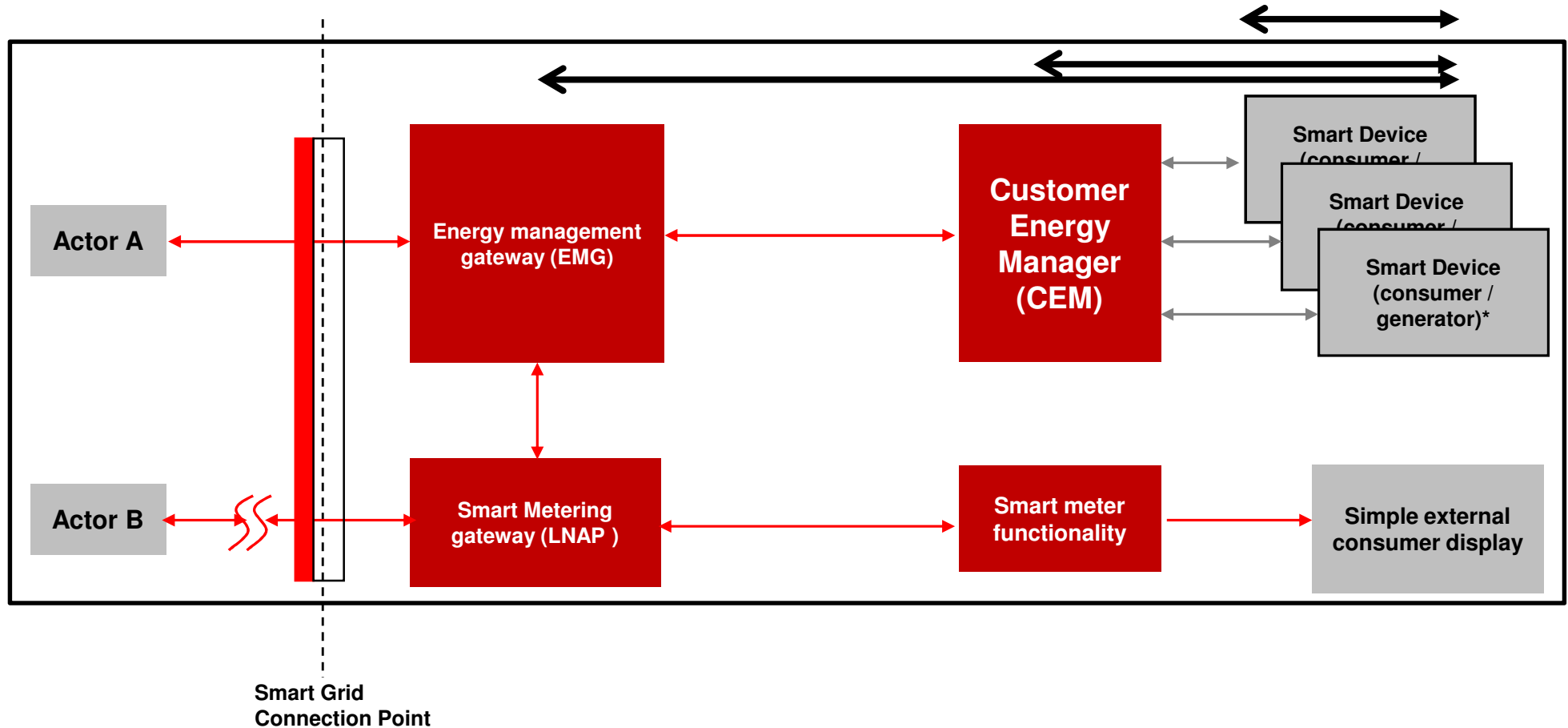


# Customer Energy Management Framework (WG 18 / TC 205)



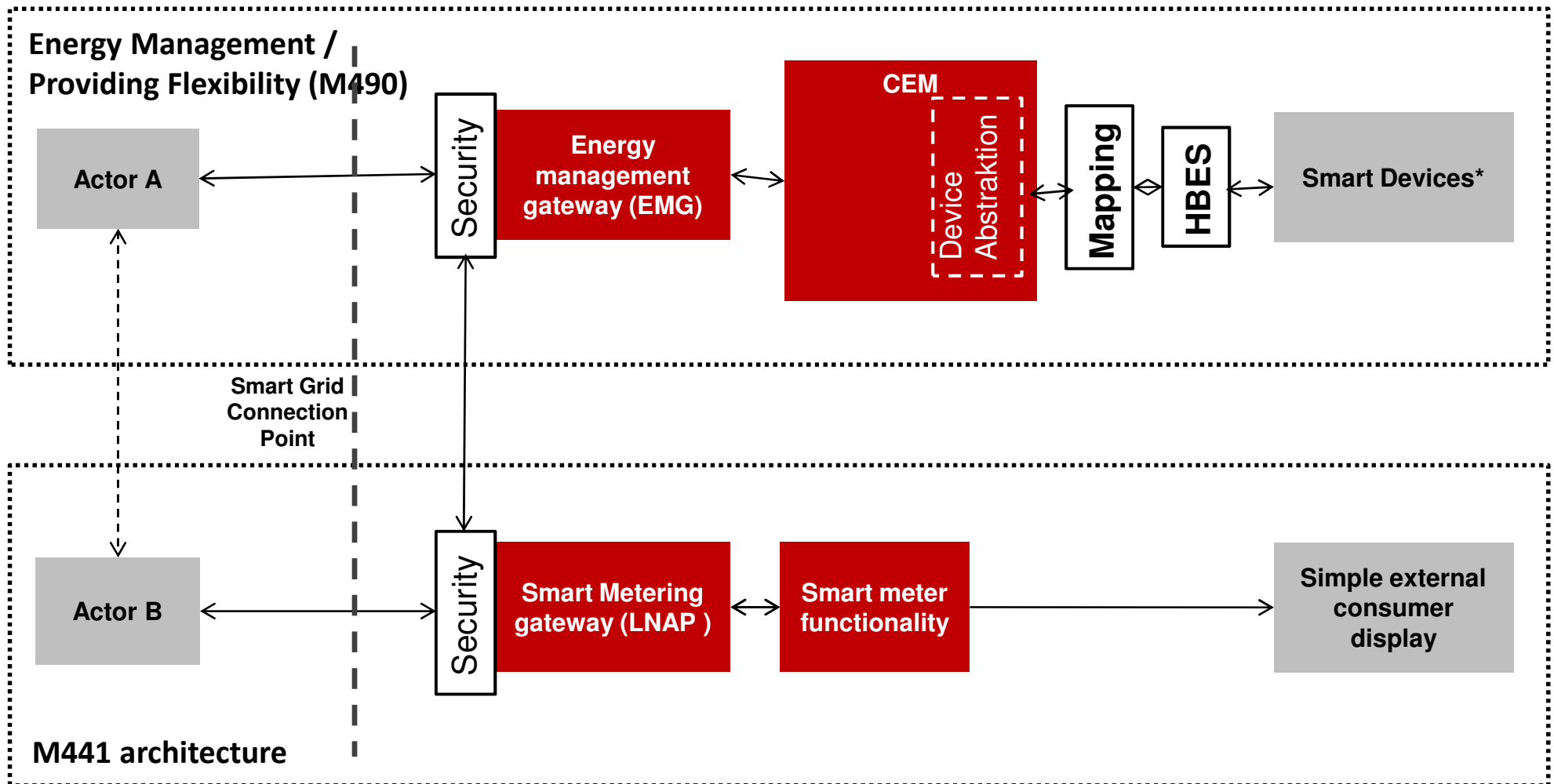
# Cooperation of two interfaces into the premises according to M490

Simplified struktur of a SGCP with Customer Energy Manager (CEM) and Smart Metering



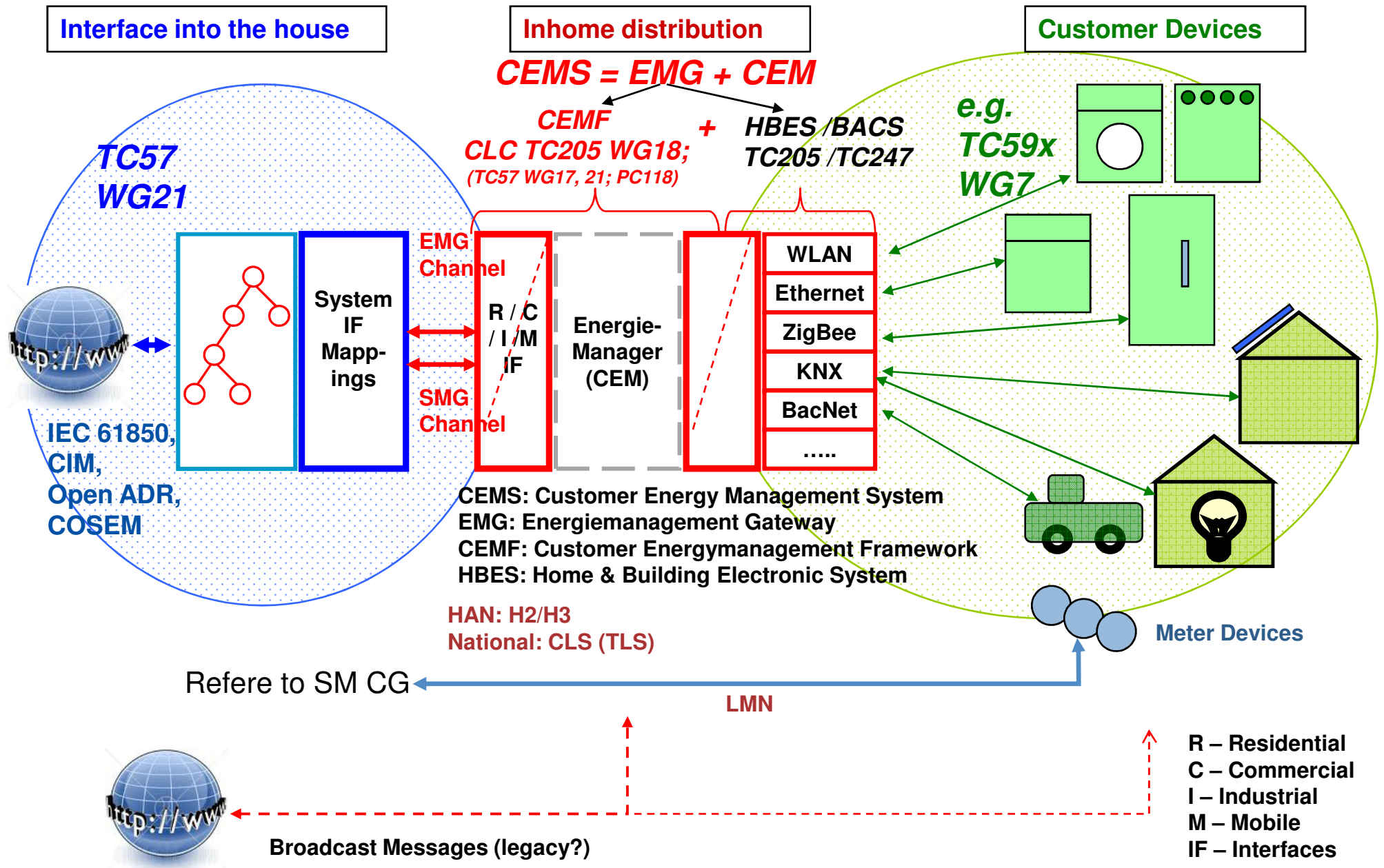
\* e.g. HBES-Devices, smart appliances, heat pump, storage, generator, domestic charger for EV

# Security architecture



\* e.g. HBES devices (until 60,000 and more) , smart appliances, storage, generator, domestic charger for EV, complex display

# Interfaces between Grid - and Inhouse World (DKE / EEnergy)



## Summary:

- A CEM is typically responsible for the Energy Management of several Smart Devices in a premise
- A CEM needs a defined customer energy management framework (CEMF) for functionalities of many actors
- Parts of CEMF are
  - Communication models for device abstractions (DER – IEC61850-7-420, but no models for household devices, in work storages, electro mobile)
  - Standardarized communication stacks (lack of communication profiles, approach in Germany EE-Bus)
  - Security mechanisms (lack of regulations for CEMF, in Germany regulations for smart meter gateway)



# **CEMS = EMG + EM with CEMF in the OGEMA-realisation**

**(open platform - Standards for device models, communication profiles – core services for EM services and security mechanisms)**

