KNX OF THINGS
CONNECTS TO SMART THINGS

KNX IoT opens for web designers the way to building automation by standardised interfaces.

Task

The "Internet of Things" opens new possibilities and challenges for the modern KNX building automation. The keyword (IoT) defines the interconnection of several decentralised intelligent components, which communicate directly and autonomously via the internet. In the same way they have to exchange bidirectional data with the KNX building automation respectively they shall be integrated into it. For that purpose a new interface has been created by the new KNX Web Service IoT (Internet of Things). The application of Michael Eudenbach and Bernhard Huessy, Nomos System AG, Switzerland, shows, how the world of KNX can nowadays be connected to the virtual word of the IoT.

Solution

The application shows exemplarily how a cloud based Smart Home System (Samsung "SmartThings") can communicate with the KNX System. The IoT eco system "nomos Box" serves as gateway between those two worlds. The multiprotocol gateway provides as one of a few systems of this type a KNX connection. As a new feature, the existing real time REST API of the "nomos operating System" (nOS) has been amended by KNX Web Services, by means of which both systems can exchange data.
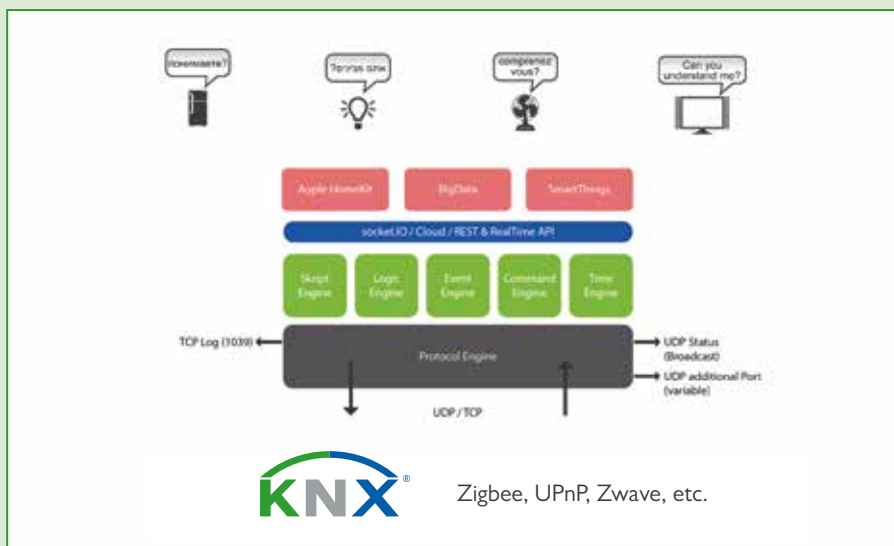
Realisation

KNX applications for lighting, shutters and heating as well as a KNX/IP interface are installed in order to simulate a home automation. The "nomos Box" is integrated as central gateway and has access to the internet via the local network. The KNX object table, generated by the ETS WS Exporter App, is deposed in this web service/multiprotocol gateway. The "nOS" generates automatically from this object list web objects for the smart home system and ensures the bidirectional data exchange between both systems. The web services "SmartThings" have direct access to the KNX Web Services via the multiprotocol gateway. In turn the "nOS" transforms this protocol into the KNXnet/IP protocol.

Functions

The KNX functions of the exemplarily installation like lighting control, display and modification of the room temperature as well as shutter control are detected by the corresponding App of the smart home system and thus become operable. In the same way status changes in the KNX world are automatically sent respectively synchronised.

Advantages

With the new KNX Web Services a further interface has been defined, which enables web designers, to get easily access to the world of KNX building automation by common protocols like CoAP, HTTP etc.

Zigbee, UPnP, Zwave, etc.

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