**1 Description of the Use Case**

**1.1 Name of Use Case**

|  |  |  |
| --- | --- | --- |
| ***Use Case Identification*** | | |
| ***ID*** | ***Domain(s)/ Zone(s)*** | ***Name of Use Case*** |
| OpenNES\_COM03 | Station | Security |

**1.2 Version Management**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ***Version Management*** | | | | |
| ***Version No.*** | ***Date*** | ***Name of Author(s)*** | ***Changes*** | ***Approval Status*** |
| 0.1 | 27.02.2015 | Oliver Langthaler | Initial version |  |
| 0.2 | 03.03.2015 | Armin Veichtlbauer | Description complemented |  |

**1.3 Scope and Objectives of Use Case**

|  |  |
| --- | --- |
| ***Scope and Objectives of Use Case*** | |
| ***Scope*** | Any communicating system within the OpenNES network |
| ***Objective(s)*** | Enable secure transmission of data within the OpenNES System |
| ***Related business case(s)*** | Enable access to resources with confidentiality requirements |

**1.4 Narrative of Use Case**

|  |
| --- |
| ***Narrative of Use Case*** |
| ***Short description*** |
| In order to enable secure transmission of data within the OpenNES System, it must be possible to encrypt all transmissions. |
| ***Complete description*** |
| In order to enable access to resources with special confidentiality requirements, transmitted data has to be encrypted to avoid sniffing or manipulation from unauthorized persons.  This applies especially to all actions where physical devices are directly or indirectly controlled. Also, all actions for administrating devices and/or user rights databases have to be secured to avoid damages to the target system’s integrity.  This can be achieved by implementing state-of-the-art cryptographic protocols such as TLS. Also, encryption of the data itself has to be considered (as it is requested e.g. by the Smart Meter Gateway Protection Profile from the German Bundesamt für Sicherheit in der Informationstechnik).  Appropriate methods for key exchange have to be provided; thus, a combination of symmetric and asymmetric cryptography has to be considered (Public Key Infrastructure, PKI). |

**1.5 General Remarks**

|  |
| --- |
| ***General Remarks*** |
| This is a high level use case. Decomposition into channel encryption, data encryption, signatures, and key exchange could be beneficial. |

**2 Diagrams of Use Case**

|  |
| --- |
| ***Diagram(s) of Use Case*** |
|  |

**3 Technical Details**

**3.1 Actors**

|  |  |  |  |
| --- | --- | --- | --- |
| ***Actors*** | | | |
| ***Grouping*** *(e.g. domains, zones)* | | ***Group Description*** | |
|  | |  | |
| ***Actor Name***  *see Actor List* | ***Actor Type***  *see Actor List* | ***Actor Description***  *see Actor List* | ***Further information specific to this Use Case*** |
| End User | User |  |  |
| PKI-Service | Service |  |  |

**3.2 Triggering Event, Preconditions, Assumptions**

|  |  |  |  |
| --- | --- | --- | --- |
| ***Use Case Conditions*** | | | |
| ***Actor/System/Information/Contract*** | ***Triggering Event*** | ***Pre-conditions*** | ***Assumption*** |
| End User | User Action | User is authorized to access resource |  |
|  |  |  |  |

**3.3 References**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| ***References*** | | | | | | |
| ***No.*** | ***References Type*** | ***Reference*** | ***Status*** | ***Impact on Use Case*** | ***Originator / Organisation*** | ***Link*** |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

**3.4 Further Information to the Use Case for Classification / Mapping**

|  |
| --- |
| ***Classification Information*** |
| ***Relation to Other Use Cases*** |
| OpenNES\_COM05, OpenNES\_COM01, OpenNES\_COM02 |
| ***Level of Depth*** |
|  |
| ***Prioritisation*** |
|  |
| ***Generic, Regional or National Relation*** |
|  |
| ***Viewpoint*** |
|  |
| ***Further Keywords for Classification*** |
|  |

**4 Step by Step Analysis of Use Case**

**4.1 Steps – Scenario Name**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Scenario Conditions** | | | | | |
| **No.** | **Scenario Name** | **Primary Actor** | **Triggering Event** | **Pre-Condition** | **Post-Condition** |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

**4.2 Steps – Scenarios**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Scenario*** | | | | | | | | |
| ***Scenario Name :*** | | ***No. 1 - …*** | | | | | | |
| ***Step No.*** | ***Event*** | ***Name of Process/ Activity*** | ***Description of Process/ Activity*** | ***Service*** | ***Information Producer (Actor)*** | ***Information Receiver (Actor)*** | ***Information*** | ***Requirements , R-ID*** |
| ***Exchanged*** |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |

**5 Information Exchanged**

|  |  |  |
| --- | --- | --- |
| ***Information Exchanged*** | | |
| ***Name of Information (ID)*** | ***Description of Information Exchanged*** | ***Requirements to information data*** |
|  |  |  |
|  |  |  |

**6 Requirements (optional)**

|  |  |
| --- | --- |
| **Requirements (optional)** | |
| **Categories for Requirements** | **Category Description** |
|  |  |
| **Requirement ID** | **Requirement Description** |
|  |  |
|  |  |

**7 Common Terms and Definitions**

|  |  |
| --- | --- |
| **Common Terms and Definitions** | |
| **Term** | **Definition** |
|  |  |

**8 Custom Information (optional)**

|  |  |  |
| --- | --- | --- |
| ***Custom Information (optional)*** | | |
| ***Key*** | ***Value*** | ***Refers to Section*** |
|  |  |  |
|  |  |  |