

ACE Use Cases

draft-seitz-ace-usecases-02

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Use Cases

- ▶ Container Monitoring
- ▶ Home Automation (additional scenario)
- ▶ Building Automation
- ▶ Personal Health Monitoring
- ▶ Smart Metering (additional scenario)
- ▶ Sport and Entertainment (new)
- ▶ Industrial Control Systems (new)

Changes in -02

- ▶ Used the provided Feedback to update the use cases.
- ▶ New Focus: Which device owner / resource owner problems are we trying to solve in ACE?
- ▶ Scenario sections for each use case point out representative problems.
- ▶ Requirements are no longer in scope.
- ▶ Security Considerations section provides recommendations for solution designers.

Scenarios

- ▶ Monitoring and cooling of bananas during transport of containers.
- ▶ Home Automation
 - ▶ Controlling a smart home infrastructure.
 - ▶ Configuration of authorization policies for new devices.
 - ▶ Remotely letting in a visitor (Spontaneously granting authorizations).
- ▶ Personal Health Monitoring: Controlling a heart rate monitor.
- ▶ Building Automation
 - ▶ Installation and Commissioning: Rollout of lighting system.
 - ▶ Operational: Normal operation.
 - ▶ Maintenance: Change the configuration of devices.
 - ▶ Decommissioning: Removing devices from the network.

Scenarios (2)

- ▶ Smart Metering
 - ▶ Drive-by Metering: Collect metering data using mobile base-stations.
 - ▶ Meshed Topologies: Metering data is transferred using nodes that belong to other owners.
 - ▶ Advanced Metering Infrastructure: Storing and forwarding of metering data.
- ▶ Sports and Entertainment: Dynamically connecting smart sports equipment of different owners.
- ▶ Industrial Control System: Controlling an oil platform.

Summary of Owner's Main Authorization-Related Problems

- ▶ Grant different access rights for a resource to different parties (Server side).
- ▶ Control which devices are authorized to present data to a device (Client Side).
- ▶ Device owner / resource owners want to be able to grant temporary access permissions
- ▶ Device owner / resource owners want to be able to grant context-based authorization

Summary of Owner's Main Authorization-Related Problems (2)

- ▶ Device owner / resource owner is not always present at the time of access.
- ▶ Messages between constrained devices or between constrained devices and their authorization servers might need to be forwarded over multiple hops.
- ▶ The constrained devices might only have local connectivity.
- ▶ Provisioning of authorization information might be cumbersome.

Home Use

- ▶ Administrators in home scenarios (home automation, personal health monitoring, sport and entertainment) might have no technical skills.
- ▶ Usability is especially important.
- ▶ Configuration must be easy and require little effort.
- ▶ Devices should – where possible – fulfill their purpose seamlessly and often even unnoticeably.
- ▶ Privacy is especially important.

Lifecycle

- ▶ Commissioning: Configure authorization policies for new devices.
- ▶ Operation: Most of the described problems.
- ▶ Maintenance: Revoking / changing access permissions.
- ▶ Decommissioning: Revoke access permissions for a device.
- ▶ Which stages in the lifecycle of a constrained device are in scope?

How to proceed?

- ▶ Are the main use cases / scenarios for ACE covered? (Feel free to volunteer your use case!)
- ▶ Are the main authorization problems covered that device owners / resource owners have?
- ▶ Ready for WG adoption?