Norwegian Centre for Research-based Innovation

NORCICS — SFI Norwegian Centre for Cybersecurity in Critical Sectors

Joining hands: academia-industry collaboration for patch management digital twin in energy sector

Paper resulting from internship at Siemens Energy

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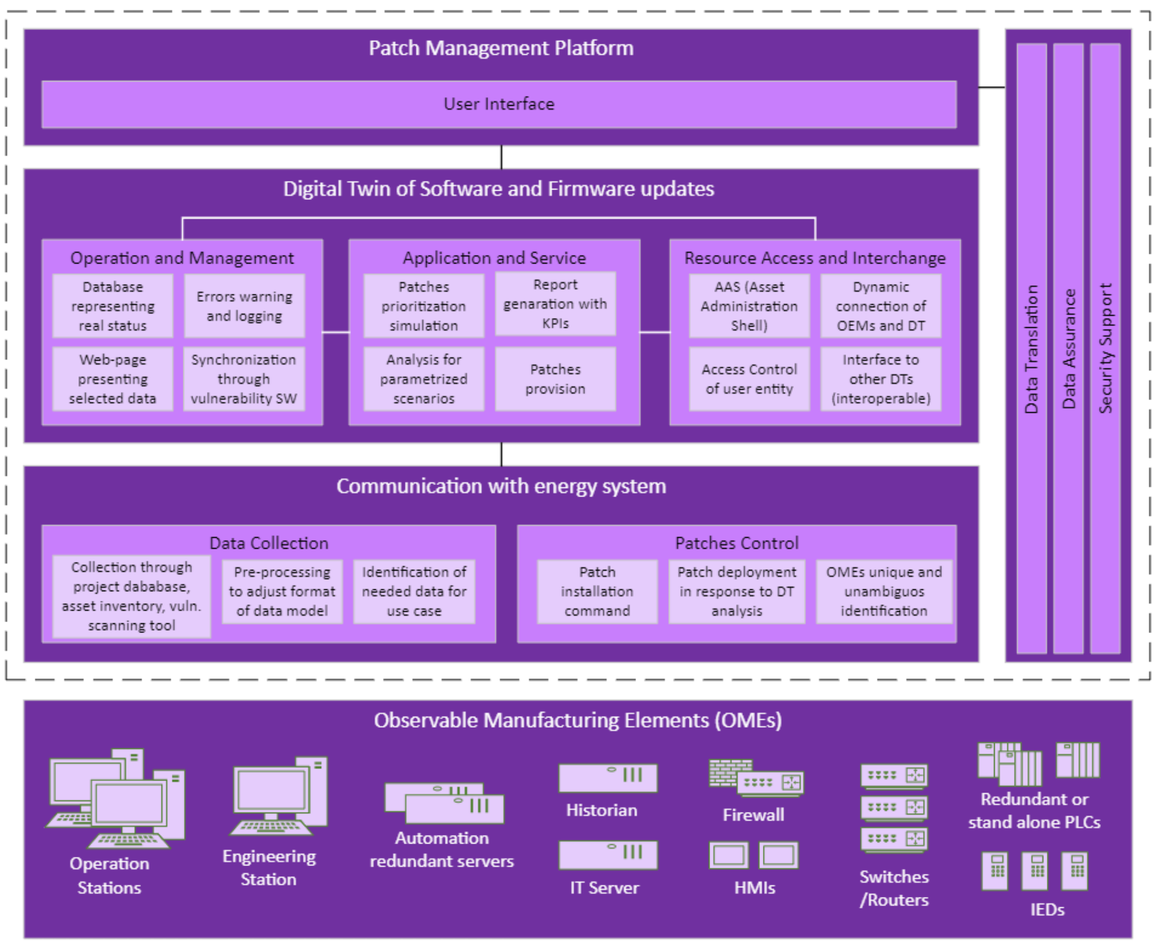
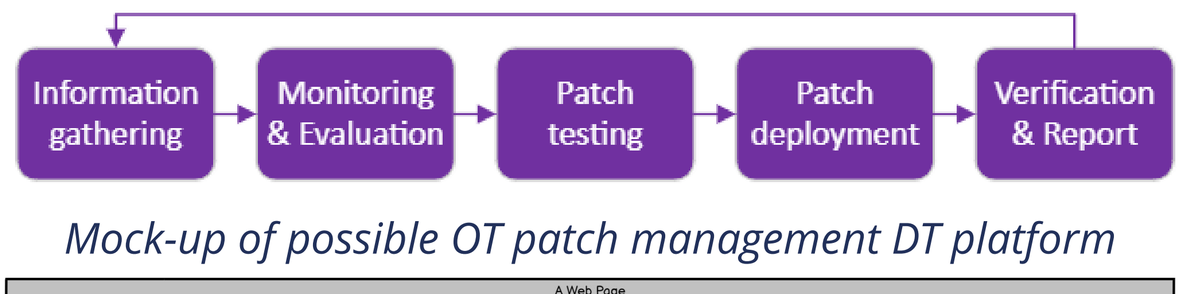
We followed the ISO 23247 digital twin framework and assumed the vulnerability management workflow suggested by IEC 61443-2-3. We took a comprehensive approach to identify and illustrate a wide range of data with a use case, regardless of the specific functionalities of each phase of vulnerability management.

Our goal for the last phase is to get insights from the energy sector on criteria to guide the development of algorithms that result in suggestions for prioritization and deployment strategies beyond current practices. The aim is to support asset owners in optimizing resources and give them room to customize the suggestions based on their unique environment. The question guiding the next steps is: *"What strategies can support managing an ever-growing patch and firmware security notifications database without evaluating their applicability one by one?"*

ISO 23247 Digital Twin framework customized for PM



VM workflow from IEC 62443-2-3



Mock-up of possible OT patch management DT platform